Table of Contents

Preamble FM-3
Delta's MEL/CDL Authority and Scope FM-4
Revision Effectivity FM-4
Change Requests FM-4
Definitions…….. ..... FM-5
MEL/CDL Format FM-10
MEL Videos…… FM-12
Repetitive Check Requirements FM-13
Placard Instruction Table FM-14
Performance Instructions FM-16
MEL/CDL Use (Maintenance) FM-18
MEL/CDL Use (Pilots) FM-20
MEL Expiration/Removal……. FM-22
Navigation Equipment NE-1
EICAS Messages EM-1
05 - ER (ETOPS) Status 5-1
11 - Placards… 11-1
21 - Air Conditioning 21-1
22 - Autoflight… 22-1
23 - Communications 23-1
24 - Electrical Power 24-1
25 - Equipment / Furnishings 25-1
26 - Fire Protection 26-1
27 - Flight Controls 27-1
28 - Fuel 28-1
29 - Hydraulic Power 29-1
30 - Ice & Rain Protection 30-1
31 - Indicating / Recording Systems 31-1
32 - Landing Gear 32-1
33 - Lights 33-1
34 - Navigation 34-1
35 - Oxygen 35-1
36 - Pneumatic 36-1
38 - Water / Waste 38-1
46 - Information Systems 46-1
47 - Inert Gas System 47-1
49 - Auxiliary Power Unit (APU) 49-1
52 - Doors 52-1
53 - Fuselage …… 53-1
56 - Windows 56-1
73 - Engine Fuel & Control 73-1

74 - Engine Ignition 74-1
75 - Engine Bleed Air 75-1
77 - Engine Indicating 77-1
78 - Engine Exhaust 78-1
79 - Engine Oil 79-1
80 - Engine Starting 80-1
Index IN-1
List of Effective Pages LP-1

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. The approved flight manual is the source document for operational limitations and performance parameter for an aircraft.
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. **Continuing Authorization (Single Extension)** – An aircraft operator who has the authorization to use an FAA – approved MEL may also have the authority to use a continuing authorization to approve a single (one-time) extension to the repair interval for category B or C items in accordance with Operations Specification D095. Continuing Authorization (Single Extension) is not authorized for repair category A and D items.
9. **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.
10. **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.
11. **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).
12. **Deactivated and Secured** - The specified component must be put into an acceptable condition for safe flight. An acceptable method of deactivating and securing will be established by the operator.

13. **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.
14. **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 A319/320/321, A330:
    - Airbus aircraft equipped with Electronic Centralized Aircraft Monitoring (ECAM) provide different levels of system condition messages {WARNING (red), CAUTION (amber)}. On A319/320/321 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 A319/320/321, 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 A319/320/321) 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.

15. **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.
16. **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.
17. **Extended Overwater Operation or Flight** - An operation overwater at a horizontal distance of more than 50 nautical miles from the nearest shoreline.
18. **Flight Cycle** - One aircraft takeoff and subsequent landing.
19. **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.
20. **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.
21. **Heavy Maintenance Visit (HMV)** - As used in this MEL is a scheduled L/H/M, PSV, HMV or C-check.
22. **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).
23. **Instrument Meteorological Conditions (IMC) –** Meteorological conditions such as to require the flight to be conducted under Instrument Flight Rules.
24. **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).
25. **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).
26. **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 must 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.
27. **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.

28. **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)
29. **Local calendar day** - Means a 24-hour period (from midnight to midnight local time).
30. **(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.
31. **Non-Combustible Materials** - Materials that will not take fire and burn, ignite, support combustion or give off flammable vapors (e.g., sand).
32. **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

33. **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.
34. **(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.
35. **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”.
36. **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 or Exceptions”.
37. **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
38. **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.
39. **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.
40. **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.
41. **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).
42. 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.
43. **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.
44. **Visual Flight Rules (VFR)** - Is as defined in 14 CFR. This precludes a pilot from filing an Instrument Flight Rules (IFR) flight plan.
45. **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 4 and 5: 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

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 as stated in the Placard Types section, and the Captain must ensure that required repetitive checks are accomplished by the appropriate personnel per the instructions for the MEL.

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. The Repetitive Check is accomplished when the item is deferred on the 'Day of Discovery' (see Definitions), and fulfills the requirement of the Repetitive Check for that flight day.

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.

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 Checks maintenance personnel will review the aircraft log book for the previous 10 days to ensure any open MEL deferrals are active in LMOS, reference the service check AMDS work card for each fleet. Maintenance personnel 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.

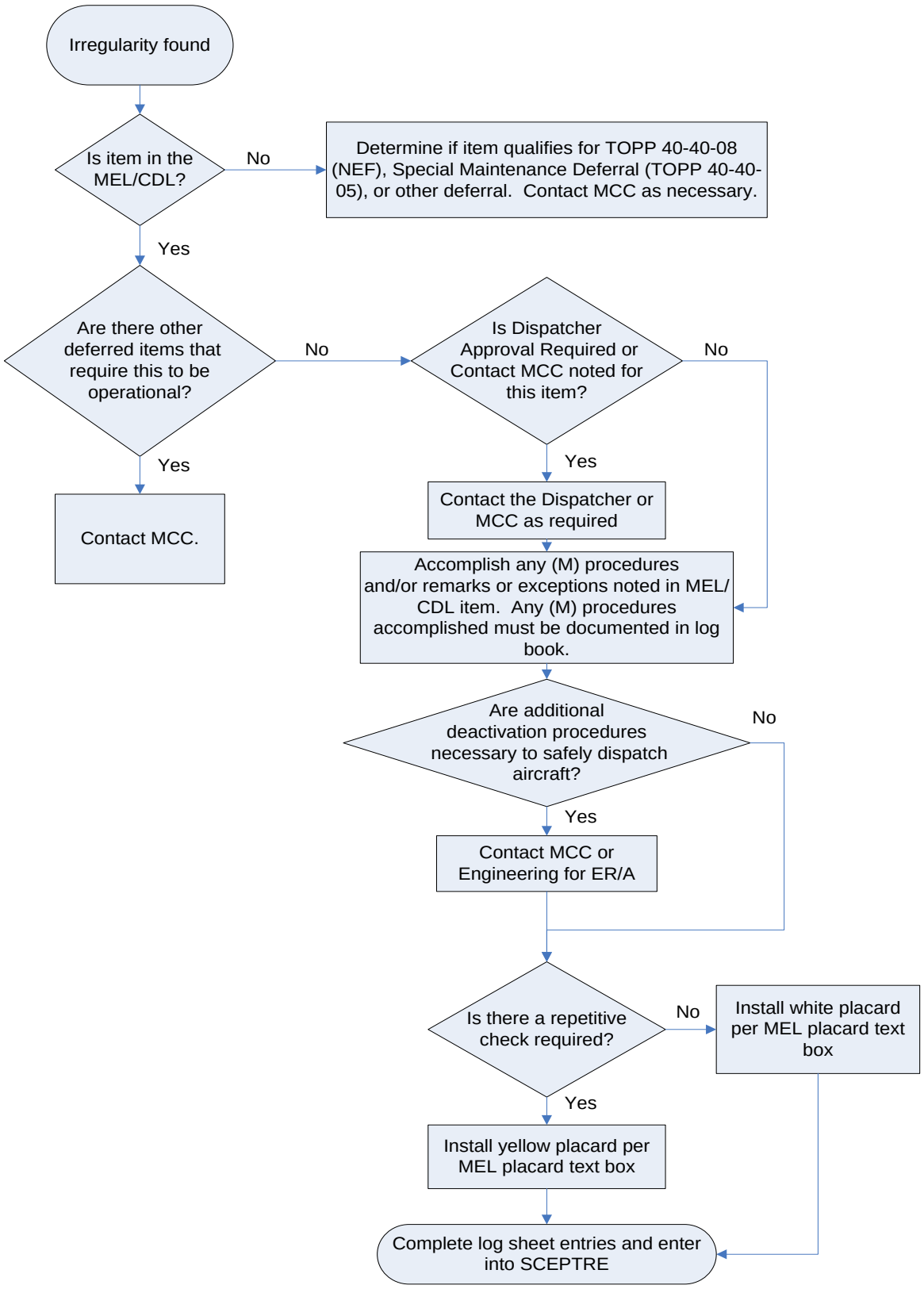
   If a procedure requires a circuit breaker(s) to be pulled and secured, use the orange circuit breaker collar(s). If orange collars are not available, secure the required circuit breaker(s) via alternate means (e.g., Tyrap or other positive securing means) and annotate in the IRO section of the log book,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

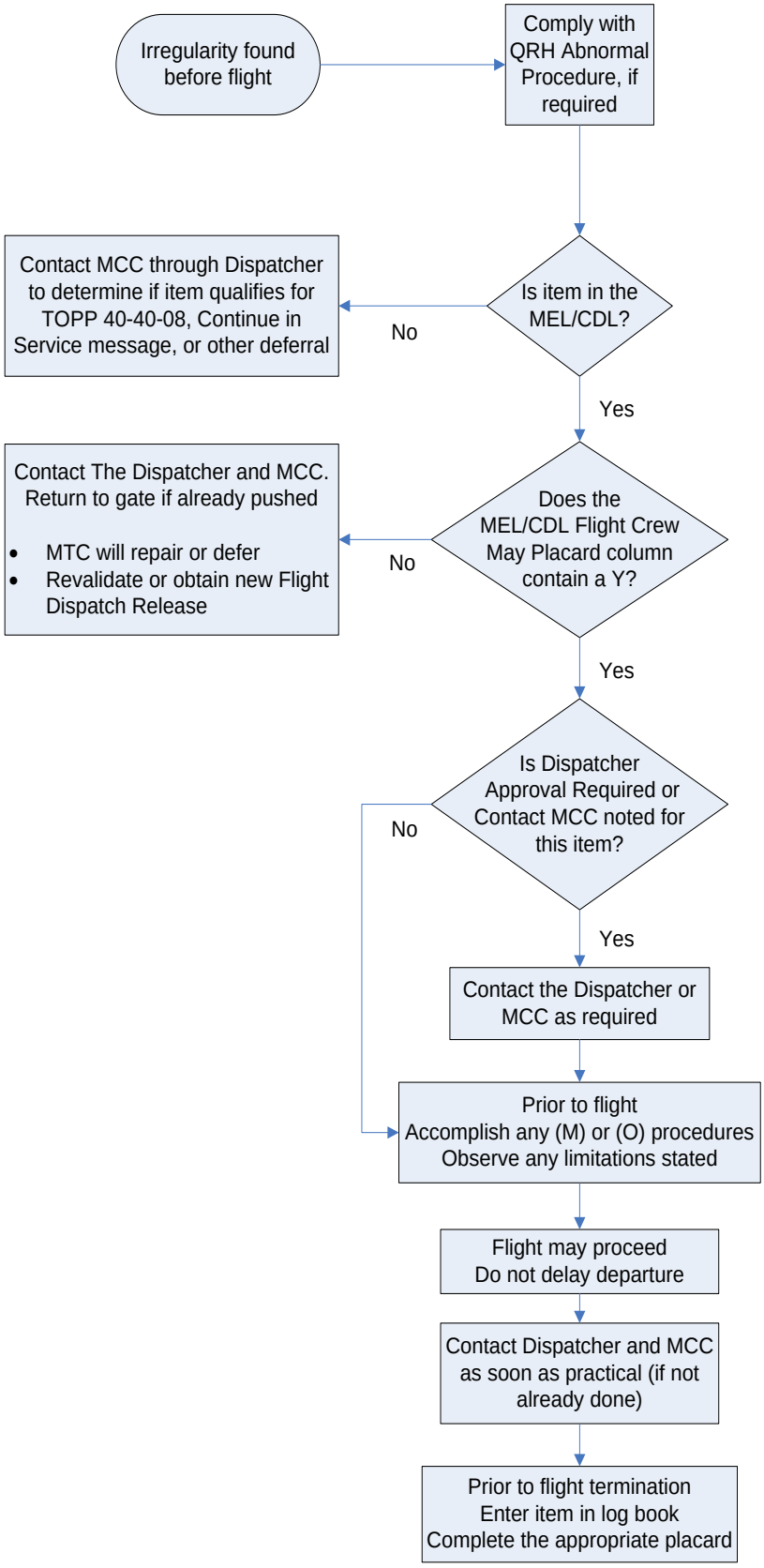
4. If the item contains a 'Y', determine if "Dispatch Approval Required" or "Contact MCC" is indicated. Contact Dispatch and/or MCC as required.

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 Placard Instruction Table, this manual) must be completed prior to flight termination as follows:

   The log book must have the discrepancy written in the IRF block. Under the direction of MCC, complete the IRO "Correction/Deferral" portion of the Aircraft Maintenance Log. Flight crews completing the deferral will enter the phrase, "Flight Crew Placard Installed at (station) per MEL (xx-xx-xx) followed by the captain's title, name, six digit employee number, the Maintenance Coordinator's title, name, and six digit employee number in the IRO block. The Mech. Signature or SIGNATURE block will be signed by the 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

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 may 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. Refer to 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).

.

INTENTIONALLY LEFT BLANK

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	2 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	2
22-11-01: A/P 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 System	0	1	0	1	1	1
34-33-01: Radio Altimeter Systems	0	0	0	0	0	2
34-46-01: Terrain Mode (EGPWS)	0	0	0	0	0	1
34-53-01: ATC Transponders	1	0	0	0	0	0
34-53-01: ADS-B Extended Squitter Transmissions	1	0	0	0	0	0
34-55-01: Distance Measuring Equipment (DME) 34-60-03: Global Positioning System (GPS)	0 1	0 2	1 or 1	2 or 1	1 1	0 2
34-61-01: Flight Management Computer System (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 on Maintenance Carry Over (MCO)	**Basic Turbojet Min.**	**CAT I Non-ILS**	**CAT I ILS**	**CAT II**	**CAT III**
22-10-01: Autopilot Systems & / 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
34-21-01 Inertial Reference Systems (ADIRU)	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 on Maintenance Carry Over (MCO)	**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: DME	❹	❹	1	1	1
34-57-01: ADF Systems	❹	❹	0	0	0
34-60-03: Global Positioning System	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.

INTENTIONALLY LEFT BLANK

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 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 at status level or higher 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.

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.
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: White message displayed on ECS/MSG page of EICAS, for use of maintenance personnel.

Continued Next Page

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.

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.

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	Level	Condition / Possible Meaning	MEL Item
ACARS	Comm E	A comm medium uplink has been received by the ACARS	N/A
ACARS	Comm F	A comm low uplink has been received by the ACARS or ACARS requires crew attention.	N/A
ACCESS DOORS	Advisory	Fwd and E/E access doors unlatched.	52-71-01
AFT CABIN TEMP	Advisory	Aft cabin supply duct temperature excessive or zone temperature aft cabin channel failure or switched off.	21-61-01 21-61-04 21-61-06
AFT CARGO DET 1	Status	Aft cargo detector loop 1 unsatisfactory test or smoke detected.	26-16-01
AFT CARGO DET 2	Status	Aft cargo detector loop 2 unsatisfactory test or smoke detected.	26-16-01
AFT CARGO DOOR	Advisory	Aft cargo door not closed and locked.	52-71-01
AFT CARGO FAN	Status	Aft cargo compartment fan failure.	21-40-02
AFT CARGO FIRE	Warning	Aft cargo fire.	26-16-01
AFT EQ EXH FAN 1	Status	Aft Equipment Exhaust Fan 1 Failure.	21-58-05
AFT EQ EXH FAN 2	Status	Aft Equipment Exhaust Fan 2 failure.	21-58-05
AFT EQPT SMOKE	Advisory	Smoke in aft equipment cooling exhaust duct.	21-58-05
AFT FUEL X-FEED	Advisory	Aft fuel crossfeed valve disagreement with switch position.	28-22-03
AIR/GND DISAGREE	Status	System 1 and system 2-air/ground logic disagree – main gear tilt.	None
AIR/GND SYS	Advisory	System 1 or system 2 air ground logic fails to “air” while on ground (below 80 KCAS) OR the main Battery Bus is not powered causing the loss of System 1.	None
ALT CALLOUT	Advisory	Loss of Enhanced Ground Proximity Warning System altitude callouts function.	34-46-01
ALT DISAGREE	Caution	Altitude difference of 200 feet between the Captain/First Officer air data sources.	34-26-01
ALTITUDE ALERT	Caution	Deviation of 300 feet from selected altitude.	N/A
ALTN ANTISKID	Status	Antiskid system detects fault in alternate system.	32-42-01 32-42-02
ANTISKID	Advisory	Antiskid system detects fault in normal system (or alternate if selected).	32-42-01
ANTISKID OFF	Advisory	Parking brake valve closed with parking brake released or loss of power to all 4 antiskid channels or parking brake switch set to off.	32-42-01
APU BAT CHGR	Status	APU battery charger failure with 90 minute standby system.	24-31-02
APU BAT DISCH	Advisory	APU battery discharging at 4 amps or more with 90 minute standby system.	24-31-01
APU BAT NO STBY	Status	APU battery is not paralleled with main battery for standby power when commanded with 90 minute standby system.	24-31-01 24-31-03

EICAS Message	Level	Condition / Possible Meaning	MEL Item
APU BLEED VAL	Advisory	APU bleed valve not in commanded position.	36-11-04
APU BTL	Advisory	APU bottle low pressure.	26-22-01
APU BTL 1	Advisory	APU bottle 1 low pressure.	26-22-01
APU BTL 2	Advisory	APU bottle 2 low pressure.	26-22-01
APU DOOR	Status	APU door disagree with selected position.	49-15-01
APU FAULT	Advisory	APU automatic fault shutdown.	49-11-01
APU FIRE	Warning	APU fire.	26-15-01
APU FIRE LP 1	Status	APU fire loop 1 fire or fault output.	26-15-01
APU FIRE LP 2	Status	APU fire loop 2 fire or fault output.	26-15-01
APU FUEL VAL	Advisory	APU fuel valve disagrees with commanded position.	28-25-02
APU GEN OFF	Advisory	APU generator auxiliary power breaker (APB) open with APU running and external power contactor (EPC) open or APU generator control switch off.	24-00-02
APU OIL QTY	Status	APU oil quantity low-level switch detects 30 hours run time remaining with APU running.	49-94-01
ATC FAULT	Advisory	Air traffic control transponder fault.	34-53-01
ATT DISAGREE	Caution	Instrument comparator senses left and right attitude disagreement.	34-21-01 34-22-05
AUTO SPEEDBRAKE	Advisory	Auto speedbrake system detects fault.	27-62-01
AUTOBRAKES	Advisory	Autobrake disarmed or inoperative.	32-42-04
AUTOPILOT	Caution	Loss of ADC, Stab Trim, ILS, or RA inputs to active autopilot.	22-10-01 34-31-01 34-33-01 34-61-01
AUTOPILOT DISC	Warning	Loss of all engaged autopilots.	22-10-01
AUTOTHROT DISC	Caution	Manual or automatic disengagement of autothrottle or failure to remove power from autothrottle servo.	22-30-01
BATTERY OFF	Advisory	Battery switch off.	N/A
BLEED ISLN VAL	Advisory	Bleed isolation valve not in commanded position.	36-11-06
BODY DUCT LEAK	Advisory	Duct leak between APU and isolation valve.	None
BRAKE LIMITER	Status	Brake torque limiting control system fault.	N/A
BRAKE SOURCE	Advisory	Hydraulic brake pressure supplied by accumulator only.	N/A
C ADIRU PITOT	Advisory	Center ADIRU pitot heat power or continuity loss or incorrect power level.	30-31-01 30-31-02
C AIR DATA	Advisory	Center Air Data self-detected fault.	34-26-01
C FLT CONT HYD	Advisory	Center hydraulic flight control valves closed.	27-03-01
C HYD 1 OVHT	Advisory	Center electrical pump 1 temperature excessive.	29-32-01
C HYD 2 OVHT	Advisory	Center electrical pump 2 temperature excessive.	29-32-01
C HYD ELEC 1	Advisory	Center electrical pump 1 output pressure low.	29-11-02 29-31-02

EICAS Message	Level	Condition / Possible Meaning	MEL Item
C HYD ELEC 2	Advisory	Center electrical pump 2 output pressure low.	29-11-02 29-31-02
C HYD QTY	Advisory	Center reservoir low quantity.	29-33-01 29-33-02
C HYD RSVR PRES	Advisory	Center hydraulic reservoir pressure low with both engines running.	None
C HYD SYS MAINT	Status	Center hydraulic pressure low with both engines running.	None
C HYD SYS PRESS	Caution	Center system pressure low.	None
C IRS DC FAIL	Advisory	Center Inertial Reference System DC failure.	34-21-01
C IRS FAULT	Advisory	Center Inertial Reference System fault.	34-21-01
C IRS ON DC	Advisory	Center Inertial Reference System on DC power.	34-21-01
CABIN ALERT	Comm E	Alert call received over cabin interphone.	N/A
CABIN ALTITUDE	Warning	Cabin altitude above 10,000 feet.	None
CABIN ALT AUTO 1	Status	Automatic pressurization controller 1 self-detected failure.	21-31-01
CABIN ALT AUTO 2	Status	Automatic pressurization controller 2 self-detected failure.	21-31-01
CABIN AUTO INOP	Caution	Loss of automatic pressurization controllers 1 and 2 or manual selected.	21-31-01
CABIN CALL	Comm E	Interphone call received from the passenger cabin.	N/A
CAPT INSTR XFER	Status	Captain's instrument bus transferred with left main bus still powered.	None
CAPT PITOT	Advisory	Captain's main pitot heat power or continuity loss or incorrect power level.	30-31-01 30-31-05
CARGO BTL 1	Advisory	Cargo bottle 1 low pressure.	26-23-01
CARGO BTL 2	Advisory	Cargo bottle 2 low pressure.	26-23-01
CARGO DET AIR	Status	Low pressure downstream of forward or aft cargo smoke detector blowers.	26-16-01
CARGO DOORS	Advisory	Two or more doors not closed and locked.	52-71-01
COMPARATOR BITE	Status	Instrument comparator unit self-detected fault or no output.	34-22-05 34-25-01
CTR L FUEL PUMP	Advisory	Low fuel pump output pressure.	28-22-02
CTR R FUEL PUMP	Advisory	Low fuel pump output pressure.	28-22-02
DATALINK AVAIL	Comm F	Return of ACARS datalink capability after loss of it.	N/A
DATALINK LOST	Advisory	VHF radio is in VHF NO COMM or in Voice and SATCOM or HFDL has not been available for more than 90 seconds, and Mode S datalink is not available.	N/A
DATALINK SYS	Advisory	Loss of datalink system due to ACARS MU failure.	23-22-01
DUCT LEAK LP	Status	Duck leak/wheel well fire system logic card self detected fault.	26-17-01 26-18-01
E/E ACCESS DOOR	Advisory	E/E bay door unlatched.	52-71-01
EICAS CONT PNL	Advisory	EICAS display select control panel fault.	None

EICAS Message	Level	Condition / Possible Meaning	MEL Item
EICAS DISAGREE	Status	Computer fault causing an engine parameter disagreement code (between left and right EICAS computers) or a computer fault affecting the caution alerting function.	31-41-01 73-31-01 79-34-02
EICAS DISPLAY	Advisory	EICAS upper or lower pilots display unit failed, off, or blank due to computer fault.	31-41-01
EICAS SOFTWARE	Status	EICAS detects an incompatible OPC/OPS (Operational program configuration/Operational program software) configuration.	31-41-01
ELEC FILTER	Status	One or more of the electronic filters for the IFE (Inflight Entertainment System) has failed.	25-20-01
ELEV ASYM	Status	Elevator asymmetry protection system fault.	None
ELEV C HYD PRESS	Status	Center elevator hydraulic system pressure reducer valve senses high or low pressure.	None
ELEV FEEL	Status/ Advisory	Elevator feel system detects fault.	None
ELEV FEEL LIM	Status	The Elevator Feel Limit function has become inoperative.	27-31-01
ELEV L HYD PRESS	Status	Left elevator hydraulic system pressure reducer valve senses high or low pressure.	None
ELEV R HYD PRESS	Status	Right elevator hydraulic system pressure reducer valve senses high or low pressure.	None
EMER DOORS	Advisory	Two or more emergency doors unlatched.	52-71-01
EMER LIGHTS	Advisory	Emergency light switch in off or on position.	N/A
ENG BTL 1	Advisory	Engine bottle 1 low pressure.	26-20-01
ENG BTL 2	Advisory	Engine bottle 2 low pressure.	26-20-01
ENGINE CONTROLS	Advisory	Two or more EEC channels inoperative on the ground with both engines running, or stator vane position cross check failure, or thrust reverser position sensor crosscheck failure, or EEC detected air data failure condition.	None
EQPT CLG FAN	Status	One or more equipment cooling supply fans failed in either the forward, flight deck, or aft blow through system.	21-58-03 21-58-08
EQPT CLG FLOW	Status	Low flow detected in forward, flight deck, or aft cooling ducts on the ground.	21-58-03 21-58-08 21-58-13
EQPT CLG SENSOR	Status	One or more low flow sensor(s) failed test.	21-58-13
EQPT CLG TEST	Status	Equipment cooling system automatic self test not performed or not completed.	21-58-13
EQPT OVHT	Advisory	Both forward or both aft supply fans not running or left recirculation fan failed and overboard exhaust valve not open after 10 seconds.	21-25-01 21-58-07
EQPT SMOKE TEST	Status	Forward equipment smoke detection system failed automatic test.	None
FIRE/OVHT SYS	Advisory	Fire/overheat system failure.	26-15-01 26-16-01

EICAS Message	Level	Condition / Possible Meaning	MEL Item
FLAPS	Warning	LE and TE flaps not in takeoff position for a takeoff and takeoff thrust selected on either engine.	N/A
FLAPS ISLN VAL	Status	Flap isolation valve open when uncommanded or failed.	27-51-02
FLAP LD RELIEF	Advisory	Flaps fail to relieve at proper airspeed or fail to recover.	27-51-01
FLAP/SLAT ELEC	Status	FSEU 1 self-detected loss of normal asymmetry and disagree alerts.	27-59-01
FLT CONT VALS	Advisory	Two or more flight control valves closed.	27-03-01
FLT DATA ACQ	Status	Flight data recorder data acquisition unit fault with both engines running.	31-31-01
FLT DATA REC	Status	Flight data recorder off with both engines running.	31-31-01
FLT DECK DOOR	Advisory	Flight deck door unlocked.	52-71-01
FLT DECK TEMP	Advisory	Flight deck supply duct temperature excessive or zone temperature flight deck channel failure or switched off.	21-61-02 21-61-04 21-61-06
FLT REC OFF	Status	Flight data recorder off.	31-31-01
FMC	Comm E	A displayable AOC uplink has been received by the FMCS.	N/A
FMC MESSAGE	Advisory	Flight management system detects one of several high priority FMC messages.	N/A
F/O INSTR XFER	Status	First Officer's instrument bus transferred with right main bus still powered.	None
F/O PITOT	Advisory	First Officer's main pitot heat power or continuity loss or incorrect power level.	30-31-01 30-31-05
FUEL CONFIG	Advisory	Both center pumps switched off with more than 600 kgs (1,200 lb.) remaining in center tank. or A fuel imbalance of 900 kgs (2,000 lb.) +/- 200 kgs (500 lb.) between the main tanks.	28-22-02 28-41-01 28-41-02
FUEL CROSSFEED	Advisory	Switch/valve disagree.	None
FUEL QTY BITE	Status	Unknown accuracy in one or more fuel tank quantity indicators before incorporation of PRR N52987 (SB 757-28-A7), or all three quantity indicators after PRR, or any FQIS fault coupled with loss of valid digital data.	28-41-01 28-41-02
FUEL QTY CHANNEL	Status	Fuel quantity indication fault in either channel with valid digital data.	28-41-02 31-61-04
FUEL QTY IND	Status	Unknown accuracy in one or two fuel tank quantity indicators with valid digital data.	28-41-01
FWD ACCESS DOOR	Advisory	Forward access door unlatched.	52-71-01

EICAS Message	Level	Condition / Possible Meaning	MEL Item
FWD CABIN TEMP	Advisory	Forward cabin supply duct temperature excessive, or zone temperature fwd cabin channel failure or switched off.	21-61-01 21-61-04 21-61-06
FWD CARGO DET 1	Status	Forward cargo detector loop 1 unsatisfactory test or smoke detected.	26-16-01
FWD CARGO DET 2	Status	Forward cargo detector loop 2 unsatisfactory test or smoke detected.	26-16-01
FWD CARGO DOOR	Advisory	Forward cargo door not closed and locked.	52-71-01
FWD CARGO FAN	Status	Forward cargo compartment fan failure.	21-40-01
FWD CARGO FIRE	Warning	Forward cargo compartment fire detected.	26-16-01
FWD EQPT SMOKE	Advisory	Smoke in forward equipment cooling supply or exhaust ducts.	None
FWD FUEL X-FEED	Advisory	Forward fuel crossfeed valve disagreement with switch position.	28-22-03
GEAR DISAGREE	Caution	System 1 and 2 both indicate any gear disagree up or down.	None
GEAR DOORS	Advisory	Any landing gear door not closed and locked (systems 1 and 2).	None
GEAR NOT DOWN	Warning	Either throttle at idle and below 800 feet radio altimeter and any gear not down and locked, or landing flaps and any gear not down and locked.	N/A
GND PROX BITE	Status	Ground proximity system fault.	34-33-01 34-46-01
GND PROX SYS	Advisory	Basic GPWS or enhanced features are failed.	34-33-01 34-46-01
GND PROX SYS	Status	Basic Ground Proximity Warning System has failed.	34-33-01 34-46-01
GPS	Advisory	Left and Right GPS failure	34-60-03
GROUND CALL	Comm E	Interphone call received from nose gear APU Remote Control Panel.	N/A
HDG DISAGREE	Advisory	Instrument comparator unit senses left and right heading disagreement.	34-21-01
HDG FAIL	Advisory	Instrument comparator unit senses invalid heading data.	34-25-01
HF DATALINK	Advisory	Failure of the data function of the HF data radio(s).	23-11-02
HF DATALINK OFF	Comm F	Master HFDR is in voice mode. Message is reset when Master HFDR is in data mode.	N/A
HYD GEN ON	Status	Hydraulic driven generator powered.	24-25-01 24-25-02
HYD GEN VAL	Status	Hydraulic driven generator supply valve not fully closed.	24-25-01 24-25-02
IAS/ALT DIFF	Advisory Status	Airspeed difference of 5 kts or altitude difference of 200 feet between the Captain / First Officer air data sources.	None

EICAS Message	Level	Condition / Possible Meaning	MEL Item
IAS DISAGREE	Caution	Airspeed difference of 5 kts between the Captain / First Officer air data sources.	None
ICE DET OFF	Advisory	Icing conditions no longer detected by Ice Detector.	30-80-01
ICE DET ON	Advisory	Icing conditions detected by Ice Detector.	30-80-01
ICE DETECTORS	Advisory	Self detected fault in both automatic ice detection units	30-80-01
ICING ENGINE	Caution	Engine icing conditions detected with left or right engine TAI switch off in air.	30-80-01
ICING WING	Advisory	Wing icing conditions detected with wing TAI switch off in air.	30-80-01
INSTR SWITCH	Caution	Any instrument switched to ALTN source on both Captain and F/O instrument source select switches.	34-00-01
L AC BUS OFF	Caution	Left AC main bus unpowered.	None
L AFT EMER DOOR	Advisory	Left aft emergency door unlatched on overwing exit.	52-71-01
L AFT ENT DOOR	Advisory	Left aft entry door unlatched.	52-71-01
L AFT FUEL PUMP	Advisory	Low fuel pump output pressure.	28-22-01
L AFT WING DOOR	Advisory	The left aft overwing door is not closed, latched, and locked.	52-71-01
L AIR DATA	Advisory	Left Air Data self-detected fault.	34-26-01
L AOA PROBE	Advisory	Left angle of attack probe heat power or continuity loss.	30-32-01
L AUX PITOT	Advisory	Left auxiliary pitot heat power or continuity loss or incorrect power level.	30-31-01
L BLD DUCT LEAK	Caution	Duct leak between left engine (or APU) and isolation valve.	26-18-01
L BUS ISOLATED	Advisory	Left isolation bus tie automatically or manually locked open.	None
L CTR ENT DOOR	Advisory	Left center entry door unlatched.	52-71-01
L DATALINK SYS	Status	The left ACARS MU failed or wiring between the left ACARS MU and EICAS has failed.	23-22-01
L EICAS CMPTR	Status	Left EICAS computer failed or off.	31-41-01
L ELEC HYD OVHT	Advisory	Left electrical pump temperature excessive.	None
L ELEV PCU	Status	Valve jammed in one or more left elevator power control units.	27-21-02
L EMER DOOR	Advisory	Left emergency door unlatched.	52-71-01
L ENG ANALOG N2	Status	Digital left N2 above idle and analog left N2 less than 40%.	None
L ENG ANTI-ICE	Advisory	Left engine cowl anti-ice valve/switch disagree with engine running.	30-21-01
L ENG BLEED OFF	Advisory	Left engine Pressure Regulating & Shutoff Valve closed with engine running.	36-11-01
L ENG BLEED VAL	Caution	Left engine bleed air overheat.	36-11-02
L ENG CASE COOL	Status	Left engine EEC channel-in-control indicates both core vent valves failed open	75-24-01
L ENG EEC POWER	Advisory	Left EEC powered by ground test power.	N/A

EICAS Message	Level	Condition / Possible Meaning	MEL Item
L ENG FIRE LP 1	Status	Left engine fire loop 1 fire or fault output.	26-11-01
L ENG FIRE LP 2	Status	Left engine fire loop 2 fire or fault output.	26-11-01
L ENG FUEL FILT	Advisory	Differential pressure across left engine fuel filter approaches bypass.	None
L ENG FUEL FILT	Status	Differential pressure across left engine fuel filter approaches bypass.	None
L ENG FUEL VAL	Advisory	Left engine fuel valve disagree with commanded position.	73-21-03
L ENG HI STAGE	Advisory	Left engine bleed air overpressure.	36-11-02 36-22-02
L ENG HYD OVHT	Advisory	Left primary hydraulic pump case drain overheat.	None
L ENG LIM PROT	Caution	Left engine control in Alt mode and thrust setting exceeds 83 degrees.	73-21-01
L ENG LIM PROT	Advisory	Left engine EEC using N2 as control parameter.	None
L ENG LOW N1	Status	Left engine fan speed below minimum flight limit.	73-21-05
L ENG OH LP 1	Status	Left engine nacelle overheat detector loop 1 overheat or fault output.	26-11-03
L ENG OH LP 2	Status	Left engine nacelle overheat detector loop 2 overheat or fault output.	26-11-03
L ENG OIL COOL	Status	Left EEC channel in control indicates air/oil or fuel/oil cooler control loop fault.	None
L ENG OIL PRESS	Advisory Status	Left engine oil pressure below limit with engine running.	None
L ENG OIL SEAL	Status	Left engine #4 bearing oil seal leaking at takeoff power.	79-21-01
L ENG OVHT	Caution	Left engine strut or nacelle over-temperature.	None
L ENG PRI CONT	Status	Left EEC primary channel is not independently capable of engine control.	73-21-01
L ENG PROBE HEAT	Status	Left engine P2/T2 probe heat inoperative.	30-34-01
L ENG REV CONT	Status	Left EEC thrust reverser control fault (primary or secondary).	78-31-01
L ENG SEC CONT	Status	Left EEC secondary channel is not independently capable of engine control.	73-21-01
L ENG SEC SEL	Status	Left EEC secondary channel selected by automatic system.	73-21-01
L ENG SHUTDOWN	Caution	Left engine fire switch pulled or left fuel control switch in cutoff.	N/A
L ENG SPEED CARD	Status	Left engine N2 speed sensing relay fault.	None
L ENG START EGT	Status	Airplane is in air, left engine is not running, the ground start limit is exceeded on the left engine.	None
L ENG STARTER	Advisory	Left starter valve/switch disagree.	80-00-02 80-11-02

EICAS Message	Level	Condition / Possible Meaning	MEL Item
L ENG STATOR	Caution	Left EEC is incapable of controlling the left stator vane actuator. Left EEC depowers the SVA to the fail-safe position (full open).	None
L ENG TAI VALVE	Status	Left engine thermal anti-ice high pressure.	30-21-01
L ENG TURB COOL	Status	Left engine EEC channel-in-control indicates both turbine cooling valves failed closed.	75-24-02
L ENGINE FIRE	Warning	Left engine fire.	None
L ENTRY DOORS	Advisory	Two or more left entry doors unlatched.	52-71-01
L FCU FAILSAFE	Status	Left EEC incapable of controlling the left Fuel Control Unit (FCU); Left EEC depowers the FCU to fail-safe position (minimum fuel flow 400 lbs/hr).	None
L FLT CONT HYD	Advisory	Left hydraulic flight control valves closed.	27-03-01
L FMC FAIL	Advisory	Left Flight Management Computer Fault.	34-61-01
L FUEL SPAR VAL	Advisory	Left spar valve disagrees with commanded position.	None
L FUEL SYS PRESS	Caution	Both left main pumps and center aux tank pump low pressure and fuel crossfeed valve closed or all six pumps low pressure or turned off.	28-22-01 28-22-02 28-42-01
L FWD EMER DOOR	Advisory	Left forward emergency door unlatched on overwing exit.	52-71-01
L FWD ENT DOOR	Advisory	Left forward entry door unlatched.	52-71-01
L FWD FUEL PUMP	Advisory	Low fuel pump output pressure.	28-22-01
L FWD WINDOW	Advisory	Left forward window heat temperature excessive or power loss.	30-41-01
L FWD WING DOOR	Advisory	The left forward overwing door is not closed, latched, and locked.	52-71-01
L GEN DRIVE	Advisory	Left generator drive low oil pressure or high oil temperature with engine running.	24-00-01
L GEN OFF	Advisory	Left generator control breaker (GCB) open with engine running.	24-00-01
L GPS	Advisory	Left GPS failure of GPS RF input failure.	34-60-03
L HF DATALINK	Status	Failure of data function of the left HF data radio.	23-11-02
L HYD ELEC PUMP	Advisory	Left electrical pump output pressure low.	29-31-02
L HYD ENG PUMP	Advisory	Left engine driven pump output pressure low with engine running.	29-31-02
L HYD QTY	Advisory	Left reservoir low quantity.	29-33-01 29-33-02
L HYD RSVR PRES	Advisory	Left hydraulic reservoir pressure low with both engines running.	None
L HYD SYS MAINT	Status	Left hydraulic pressure low with both engines running.	None
L HYD SYS PRESS	Caution	Left system pressure low.	None
L ICE DETECTOR	Status	Left automatic ice detection unit self detected fault	30-80-01
L ILS	Advisory	Left ILS has failed.	34-31-01
L IRS DC FAIL	Advisory	Left Inertial Reference System DC failure.	34-21-01
L IRS FAULT	Advisory	Left Inertial Reference System fault.	34-21-01

EICAS Message	Level	Condition / Possible Meaning	MEL Item
L IRS ON DC	Advisory	Left Inertial Reference System on DC power.	34-21-01
L OIL FILTER	Advisory	Left engine oil filter differential pressure approaches bypass.	None
L OIL FILTER	Status	Left engine oil filter differential pressure approaches bypass.	None
L OIL SCAV CLOSE	Status	Left engine #4 bearing scavenge valve closed at engine cruise thrust.	79-21-02
L OIL SCAV VAL	Status	Left engine #4 bearing scavenge valve stuck open and leaking carbon seal when takeoff power selected.	31-61-04
L PACK OFF	Advisory	Left pack switched off or compressor outlet temperature excessive.	21-51-01 21-51-03
L PACK TEMP	Advisory	Left pack outlet or compressor outlet temperature excessive, or critical system failure detected by pack controller.	21-51-01 21-51-03
L RECIR FAN	Advisory	Left recirculation / electrical equipment exhaust fan failed.	21-25-01
L REV ISLN VAL	Advisory	Left thrust reverser system fault.	78-31-01
L REV ISLN VAL	Status	Left thrust reverser isolation valve fault.	78-31-01
L REV STOW SIG	Status	Left reverser auto-stow sensor fault.	78-31-01
L SIDE WINDOW	Advisory	Left side window heat over-temperature or power loss.	30-41-01
L STARTER CUTOUT	Caution	Left engine starter valve open above engine RPM at which cutout should occur.	80-00-02 80-11-02
L SVA FAILSAFE	Status	Left EEC is incapable of controlling the left stator vane actuator. Left EEC depowers the SVA to the fail-safe position (full open).	None
L TAT PROBE	Advisory	Left Total Air Temperature probe heat power or continuity loss.	30-33-01
L UTIL BUS OFF	Advisory	Left utility bus unpowered with left AC main bus powered.	24-51-01
L WING ANTI-ICE	Advisory	Left wing anti-ice valve/switch disagree.	30-11-01 30-11-02
L WING SLIDE	Advisory	Left wing slide door unlatched.	52-71-01
L YAW DAMPER	Advisory	Left yaw damper failure, power loss or switched off.	22-21-01
LAVATORY SMOKE	Caution	Smoke in lavatory.	26-26-03
LAVATORY SMOKE	Advisory	Smoke in lavatory.	26-26-03
LDG GEAR MONITOR	Status	System 1 and system 2 landing gear position indications disagree.	32-61-02
LE SLAT ASYM	Caution	Leading edge slat asymmetry or slat loss.	27-81-01
LE SLAT DISAGREE	Caution	Leading edge slat disagreement with selected position.	None
LE SLAT SHUTDOWN	Status	Leading edge slat failure protection shutdown – inhibited by LE SLAT ASYM message.	None
LOC DISAGREE	Advisory	Instrument comparator unit senses left and right localizer disagreement.	34-31-01
LOC FAIL	Advisory	Instrument comparator unit senses invalid localizer data.	34-31-01

EICAS Message	Level	Condition / Possible Meaning	MEL Item
LOW CREW OXYGEN	Advisory	Crew oxygen low pressure.	35-11-02
LOW FUEL	Caution	Low fuel quantity in main tanks.	None
MACH/SPD TRIM	Advisory	Mach/speed trim system failure.	None
MAIN BAT CHGR	Status	Main battery charger failure.	None
MAIN BAT DISCH	Advisory	Main battery discharging at 4 amps or more.	None
MAIN CARGO DOOR	Caution	Main cargo door not closed and locked.	52-71-01
MAIN CARGO FIRE	Warning	Main cargo fire.	26-16-02
MID CABIN TEMP	Advisory	Mid or aux mid cabin supply duct temperature greater than 88 deg C or zone temperature mid or aux mid cabin channel failure or switched off.	21-61-01
MN CARGO DR SYS	Status	Hydraulic pressure downstream of shutoff valve.	52-71-01
NITROGEN GEN PERF	Status	Degraded NGS	47-11-01
NITORGEN GEN SYS	Status	Inoperative NGS	47-11-01
NORM ANTISKID	Status	Antiskid system detects fault in normal system.	32-42-01
NOSE A/G DISAGREE	Status	System 1 and system 2 air / ground logic disagree – nose wheel compressed.	None
NOSE A/G SYS	Advisory	Nose A/G System 2 On Ground While Nose A/G System 1 Fails To “In Air” While On The Ground (Cas<80 kts).	None
OVBD EX VAL OPEN	Status	Old cooling system: overboard exhaust valve open in air; New cooling system: overboard exhaust valve open and cooling system not in test.	21-58-07
OVBD EX VAL TEST	Status	Overboard exhaust valve or control failed automatic test.	21-58-07
OVERSPEED	Warning	Aircraft speed exceeds VMO/MMO.	N/A
PARKING BRAKE	Warning	Parking brake set and takeoff thrust selected on either engine.	N/A
PARKING BRAKE	Advisory	Parking brake set.	32-44-03
PASS OXYGEN LOW	Advisory	Pass oxygen pressure is less than 500 psi.	35-21-01
PASS OXYGEN ON	Advisory	Oxygen passenger service unit latch energized.	35-21-01
PILOT RESPONSE	Warning Caution Advisory	No MCDU, EFIS/EICAS, Radio Control Panel, MCP activity and no HF/VHF flight deck transmission detected by Airline’s requested time delay or in coupled LNAV/VNAV cruise operations, NAV integrity is suspect of excessive deviation from lateral flight plan, cruise altitude, predicted thrust or target airspeed is detected, or reaching TOD and no crew activity for Airline’s requested time delay.	N/A
POWER XFER UNIT	Status	Power transfer unit protection circuitry failure.	31-61-04
PRINTER	Comm E	Data link printer message is printing for crew review.	N/A
PRINTER	Comm F	Data link printer message is printing for crew review. Message is set for a minimum of 10 seconds.	N/A

EICAS Message	Level	Condition / Possible Meaning	MEL Item
PROBE HEAT	Advisory	Two or more probe heat failures or continuity loss.	30-31-01 30-31-02 30-31-05 30-32-01 30-33-01
R AC BUS OFF	Caution	Right AC main bus unpowered.	None
R AFT EMER DOOR	Advisory	Right aft emergency door unlatched on overwing exit.	52-71-01
R AFT ENT DOOR	Advisory	Right aft entry door unlatched.	52-71-01
R AFT FUEL PUMP	Advisory	Low fuel pump output pressure.	28-22-01
R AFT WING DOOR	Advisory	The right aft overwing door is not closed, latched, and locked.	52-71-01
R AIR DATA	Advisory	Right Air Data self-detected fault.	34-26-01
R AOA PROBE	Advisory	Right angle of attack probe heat power or continuity loss.	30-32-01
R AUX PITOT	Advisory	Right auxiliary pitot heat power or continuity loss or incorrect power level.	30-31-01
R BLD DUCT LEAK	Caution	Duct leak between right engine and isolation valve.	26-18-01
R BUS ISOLATED	Advisory	Right isolation bus tie automatically or manually locked open	None
R CTR ENT DOOR	Advisory	Right center entry door unlatched.	52-71-01
R DATALINK SYS	Status	The right ACARS MU failed or wiring between the right ACARS MU and EICAS has failed.	23-22-01
R EICAS CMPTR	Status	Right EICAS computer failed or off.	31-41-01
R ELEC HYD OVHT	Advisory	Right electrical pump temperature excessive.	None
R ELEV PCU	Status	Valve jammed in one or more right elevator power control units.	27-21-02
R EMER DOOR	Advisory	Right emergency door unlatched.	52-71-01
R ENG ANALOG N2	Status	Digital right N2 above idle and analog right N2 less than 40%.	None
R ENG ANTI-ICE	Advisory	Right engine cowl anti-ice valve switch disagree with engine running.	30-21-01
R ENG BLEED OFF	Advisory	Right Engine Pressure Regulating and Shutoff Valve closed with engine running.	36-11-01
R ENG BLEED VAL	Caution	Right engine bleed air overheat.	36-11-02
R ENG CASE COOL	Status	Right engine EEC channel-in-control indicates both core vent valves failed open.	75-24-01
R ENG EEC POWER	Advisory	Right EEC powered by ground test power.	N/A
R ENG FIRE LP 1	Status	Right engine fire loop 1 fire or fault output.	26-11-01
R ENG FIRE LP 2	Status	Right engine fire loop 2 fire or fault output.	26-11-01
R ENG FUEL FILT	Advisory	Differential pressure across right engine fuel filter approaches bypass.	None
R ENG FUEL FILT	Status	Differential pressure across right engine fuel filter approaches bypass.	None

EICAS Message	Level	Condition / Possible Meaning	MEL Item
R ENG FUEL VAL	Advisory	Right engine fuel valve disagrees with commanded position.	73-21-03
R ENG HI STAGE	Advisory	Right engine bleed air overpressure.	36-11-02 36-22-02
R ENG HYD OVHT	Advisory	Right primary hydraulic pump case drain overheated.	None
R ENG LIM PROT	Caution	Right engine control in Alt mode and thrust setting exceeds 83 degrees.	73-21-01
R ENG LIM PROT	Advisory	Right EEC using N2 as control parameter.	None
R ENG LOW N1	Status	Right engine fan speed below minimum flight limit.	73-21-05
R ENG OH LP 1	Status	Right engine nacelle overheat detector loop 1 overheat or fault output.	26-11-03
R ENG OH LP 2	Status	Right engine nacelle overheat detector loop 2 overheat or fault output.	26-11-03
R ENG OIL COOL	Status	Right EEC channel-in-control indicates air/oil or fuel/oil cooler control loop fault.	None
R ENG OIL PRESS	Advisory Status	Right engine oil pressure below limit with engine running.	None
R ENG OIL SEAL	Status	Right engine #4 bearing oil seal leaking at takeoff power.	79-21-01
R ENG OVHT	Caution	Right engine strut of nacelle overtemperature.	None
R ENG PRI CONT	Status	Right EEC primary channel is not independently capable of engine control.	73-21-01
R ENG PROBE HEAT	Status	Right engine P2/T2 probe heat inoperative.	30-34-01
R ENG REV CONT	Status	Right EEC reverser control fault (primary or secondary).	78-31-01
R ENG SEC CONT	Status	Right EEC secondary channel is not independently capable of engine control.	73-21-01
R ENG SEC SEL	Status	Right EEC secondary channel selected by automatic system.	73-21-01
R ENG SHUTDOWN	Caution	Right engine fire switch pulled or right engine fuel control switch in cutoff.	N/A
R ENG SPEED CARD	Status	Right engine N2 speed sensing relay fault.	None
R ENG START EGT	Status	Airplane is in air, right engine is not running, the ground start limit is exceeded on the right engine.	None
R ENG STARTER	Advisory	Right starter valve/switch disagree.	80-00-02 80-11-02
R ENG STATOR	Caution	Right EEC is incapable of controlling the right stator vane actuator. Right EEC depowers the SVA to the fail-safe position (full open).	None
R ENG TAI VALVE	Status	Right engine thermal anti-ice high pressure.	30-21-01
R ENG TURB COOL	Status	Right engine EEC channel-in-control indicates both turbine cooling valves failed closed.	75-24-02
R ENGINE FIRE	Warning	Right engine fire.	None
R ENTRY DOORS	Advisory	Two or more right entry doors unlatched.	52-71-01

EICAS Message	Level	Condition / Possible Meaning	MEL Item
R FCU FAILSAFE	Status	Right EEC incapable of controlling the right Fuel Control Unit, Right EEC depowers the FCU to the fail-safe position (minimum fuel flow 400 lbs/hr).	None
R FLT CONT HYD	Advisory	Right hydraulic flight control valves closed.	27-03-01
R FMC FAIL	Advisory	Right Flight Management Computer fault.	34-61-01
R FUEL SPAR VAL	Advisory	Right spar valve disagrees with the commanded position.	None
R FUEL SYS PRESS	Caution	Both right main pumps and center aux tank right pump low pressure with crossfeed closed or all six pumps low pressure or turned off.	28-22-01 28-22-02 28-42-01
R FWD EMER DOOR	Advisory	Right forward emergency door unlatched on overwing exit.	52-71-01
R FWD ENT DOOR	Advisory	Right forward entry door unlatched.	52-71-01
R FWD FUEL PUMP	Advisory	Low fuel pump outlet pressure.	28-22-01
R FWD WINDOW	Advisory	Right forward window heat temperature excessive or power loss.	30-41-01
R FWD WING DOOR	Advisory	The right forward overwing door is not closed, latched, and locked.	52-71-01
R GEN DRIVE	Advisory	Right generator drive low oil pressure or high oil temperature with engine running.	24-00-01
R GEN OFF	Advisory	Right generator control breaker (GCB) open with engine running.	24-00-01
R GPS	Advisory	Right GPS failure or GPS RF input failure.	34-60-03
R HF DATALINK	Status	Failure of data function of the right HF data radio.	23-11-02
R HYD ELEC PUMP	Advisory	Right electric pump output pressure low.	29-31-02
R HYD ENG PUMP	Advisory	Right engine driven pump output pressure low with engine running.	29-31-02
R HYD QTY	Advisory	Right reservoir quantity low.	29-33-01 29-33-02
R HYD RSVR PRES	Advisory	Right hydraulic reservoir pressure low with both engines running.	None
R HYD SYS MAINT	Status	Right hydraulic pressure low with both engines running.	None
R HYD SYS PRESS	Caution	Right system pressure low.	None
R ICE DETECTOR	Status	Right automatic ice detection unit self detected fault	30-80-01
R ILS	Advisory	Right ILS has failed.	34-31-01
R IRS DC FAIL	Advisory	Right Inertial Reference System DC failure.	34-21-01
R IRS FAULT	Advisory	Right Inertial Reference System fault.	34-21-01
R IRS ON DC	Advisory	Right Inertial Reference System on DC power.	34-21-01
R OIL FILTER	Advisory	Right engine oil filter differential pressure approaches bypass.	None
R OIL FILTER	Status	Right engine oil filter differential pressure approaches bypass.	None

EICAS Message	Level	Condition / Possible Meaning	MEL Item
R OIL SCAV CLOSE	Status	Right engine #4 bearing scavenge valve closed at engine cruise thrust.	79-21-02
R OIL SCAV VAL	Status	Right engine #4 bearing scavenge valve stuck open and leaking carbon seal when takeoff power selected.	31-61-04
R PACK OFF	Advisory	Right pack switched off or compressor outlet temperature excessive.	21-51-01 21-51-03
R PACK TEMP	Advisory	Right pack outlet or compressor outlet temperature excessive, or critical system failure detected by pack controller.	21-51-01 21-51-03
R RECIR FAN	Advisory	Right recirculation fan failed.	21-25-01
R REV ISLN VAL	Advisory	Right thrust reverser system fault.	78-31-01
R REV ISLN VAL	Satus	Right thrust reverser isolation valve fault.	78-31-01
R REV STOW SIG	Status	Right reverser auto-restow sensor fault.	78-31-01
R SIDE WINDOW	Advisory	Right side window heat over-temperature or power loss.	30-41-01
R STARTER CUTOUT	Caution	Right engine starter valve open above engine RPM at which cutout should occur.	80-00-02 80-11-02
R SVA FAILSAFE	Status	Right engine EEC incapable of controlling the right stator vane actuator. Right EEC depowers the SVA to the fail-safe position (full open).	None
R TAT PROBE	Advisory	Right Total Air Temperature probe heat power or continuity loss.	30-33-01
R UTIL BUS OFF	Advisory	Right utility bus unpowered with right AC main bus powered.	24-51-01
R WING ANTI-ICE	Advisory	Right wing anti-ice valve/switch disagree.	30-11-01 30-11-02
R WING SLIDE	Advisory	Right wing slide door unlatched.	52-71-01
R YAW DAMPER	Advisory	Right yaw damper failure, power loss, or switched off.	22-21-01
RADIO TRANSMIT	Advisory	VHF or HF transmitter is selected and a push to talk switch is keyed for 30 seconds or longer.	23-11-01 23-51-04
RAT	Status	Ram air turbine system inhibited from deployment or deployed on the ground.	None
RAT UNLOCKED	Advisory	Ram air turbine unlocked.	None
REV ISLN VAL	Advisory	Either thrust reverser isolation valve fault.	78-34-01
RUDDER PCU	Status	Valve jammed in one or more rudder power control units.	27-21-02
RUDDER RATIO	Advisory	Rudder ratio system failure.	None
SELCAL	Comm E	Call is received via VHF, HF or SATCOM.	N/A
SINGLE AIR DATA	Advisory	Both pilots have selected the same source of air data (ADIRU) using their air data instrument source select switches.	N/A
SPEEDBRAKES EXT	Caution	Speedbrakes deployed during descent.	27-62-02

EICAS Message	Level	Condition / Possible Meaning	MEL Item
SPOILERS	Warning	Spoilers not down for takeoff and takeoff thrust selected on either engine.	N/A
SPOILERS	Advisory	Spoiler system has detected on or more faults and has shutdown one or more spoiler panel pairs.	27-61-01
STABILIZER	Warning	Stabilizer not in correct range for takeoff and takeoff thrust selected on either engine.	N/A
STAB TRIM	Advisory	One-half drive speed in flight or on ground.	27-41-02
STANDBY BUS OFF	Advisory	Standby bus unpowered.	None
STBY INST PITOT	Advisory	Standby Instruments pitot heat power or continuity loss or incorrect power level.	30-31-01 30-31-02
STBY INVERTER	Status	Standby inverter voltage output outside normal limits with main battery switch on.	None
T-R UNIT	Status	Left or right transformer rectifier failure (DC bus tie closed).	None
TAIL STRIKE	Caution	Landing Gear #1 and #2 body contact sensors detect aft body contact from tailstrike.	32-72-01
TAIL STRIKE CH 1	Status	Landing Gear #1 sub-assembly card detects a broken or sheared body contact sensor.	32-72-01
TAIL STRIKE CH 2	Status	Landing Gear #2 sub-assembly card detects a broken or sheared body contact sensor.	32-72-01
TAILSKID	Advisory	Tail skid not in commanded position.	32-71-01
TAT PROBE	Advisory	Total Air Temperature probe heat power or continuity loss.	30-31-02 30-33-01
TCAS	Advisory	A component of TCAS (any one of LRU, antenna, radio altimeter, or display) has failed.	34-61-02
TCAS FAIL	Advisory	Traffic Collision Avoidance System self detected fault.	34-61-02
TCAS OFF	Advisory	TCAS has not been placed in “TA” or “TA/RA” mode by crew.	N/A
TE FLAP ASYM	Caution	Flap asymmetry.	None
TE FLAP DISAGREE	Caution	Flap disagreement with selected position.	None
TERR OVRD	Advisory	The EGPWS terrain awareness function (alerting & display) has been manually switched off.	34-46-01
TERR POS	Advisory	EGPWS has determined that horizontal position uncertainty exceeds limit.	34-46-01
TERR SYS	Status	Terrain awareness functionality of Enhanced Gnd Prox Sys has failed.	34-46-01
TIRE PRESSURE	Advisory	Tire pressure monitor unit (TPMU) detects any main or nose gear tire low pressure.	None
TIRE PRESSURE	Status	Tire pressure monitor unit (TPMU) detects any main or nose gear tire low pressure.	None
THERAP OXY ON	Advisory	Therapeutic Oxygen System activated.	N/A
TRACK DISAGREE	Advisory	Instrument Comparator Unit senses left or right track disagreement.	34-21-01
TRACK FAIL	Advisory	Instrument Comparator Unit senses invalid track data.	34-25-01

EICAS Message	Level	Condition / Possible Meaning	MEL Item
TRIM AIR	Advisory	Trim air valve selected closed (75°F fixed temperature pack mode selected).	21-61-03
UNABLE RNP	Advisory	Required navigation performance accuracy not met during RNP operations other than approach phase. Actual Performance exceeds Required Performance.	N/A
UNABLE RNP	Caution	Required navigation performance accuracy not met during an RNP based approach. Actual Performance exceeds Required Performance.	N/A
UNSCHD STAB TRIM	Caution	Uncommanded stabilizer motion in autopilot or Mach/Speed Trim modes.	None
VHF DATA OFF	Comm F	VHF radio is in voice mode and ACARS cannot communicate via VHF.	N/A
WARN ELEX	Status	Warning electronics system single power supply failure or stall warning unit failure.	34-61-01 27-32-02
WHEEL WELL FIRE	Warning	Wheel well fire.	26-17-01
WINDOW HEAT	Advisory	Two or more window heater failures.	30-41-01
WINDSHEAR PRED	Status	Predictive Windshear function of the Weather Radar unit is failed.	34-43-01
WINDSHEAR REAC	Status	Reactive Windshear function has failed.	34-46-01
WINDSHEAR SYS	Advisory	Either the predictive or the reactive windshear functions have failed, and their associated alerting is no longer available.	34-43-01 34-46-01
WXR SYS	Status	WXR display is not present when WXR selected on EFIS control panel.	34-43-01
YSM	Status	Failure of one YSM.	27-09-01

INTENTIONALLY LEFT BLANK

ATA 5 Contents

05-00-60 ER (ETOPS) Status 5-2
05-00-12 ER (ETOPS) Status 5-3

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED	FLIGHT CREW MAY PLACARD	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
05-00-60	ER (ETOPS) Status **"DISP.APPR.REQ'D"** (Effective at ETOPS Program Integration) 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	TAB LOCATION	PLACARD TEXT
05-00-60	Adjacent To Each PFD	ER (ETOPS) OPERATIONS BEYOND 60 MINUTES – NOT AUTHORIZED

NOTE: The reason for deferral (i.e. repetitive writeups on a system or inability to exercise a system, etc.) should also be stated in the discrepancy.

(O) PROCEDURES

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

(M) PROCEDURES

1. Create a new log page in the aircraft logbook using the appropriate MEL Item Number (contact MCC for instructions).
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.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD		REPAIR CATEGORY		
05-00-12	ER (ETOPS) Status **"DISP.APPR.REQ'D"** (Effective at ETOPS Program Integration) 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	TAB LOCATION	PLACARD TEXT
05-00-12	Adjacent To Each PFD	ER (ETOPS) OPERATIONS BEYOND 120 MINUTES – NOT AUTHORIZED

NOTE: The reason for deferral (i.e. repetitive writeups on a system or inability to exercise a system, etc.) should also be stated in the discrepancy.

(O) PROCEDURES

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

(M) PROCEDURES

1. Create a new log page in the aircraft logbook using the appropriate MEL Item Number (contact MCC for instructions).
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.

INTENTIONALLY LEFT BLANK

ATA 11 Contents

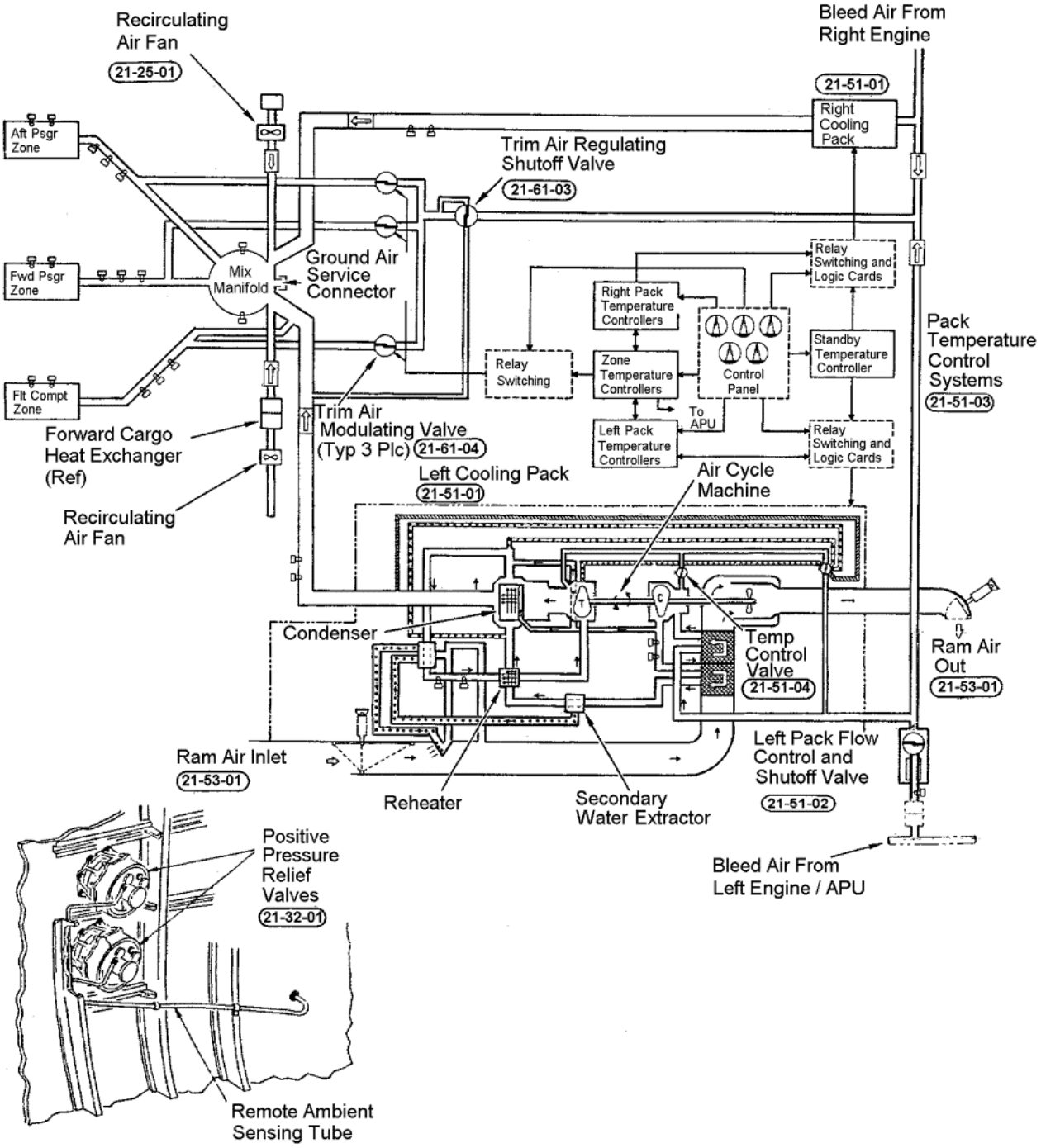
11-00-01 Aircraft Placards/Markings Repair Installed 11-2

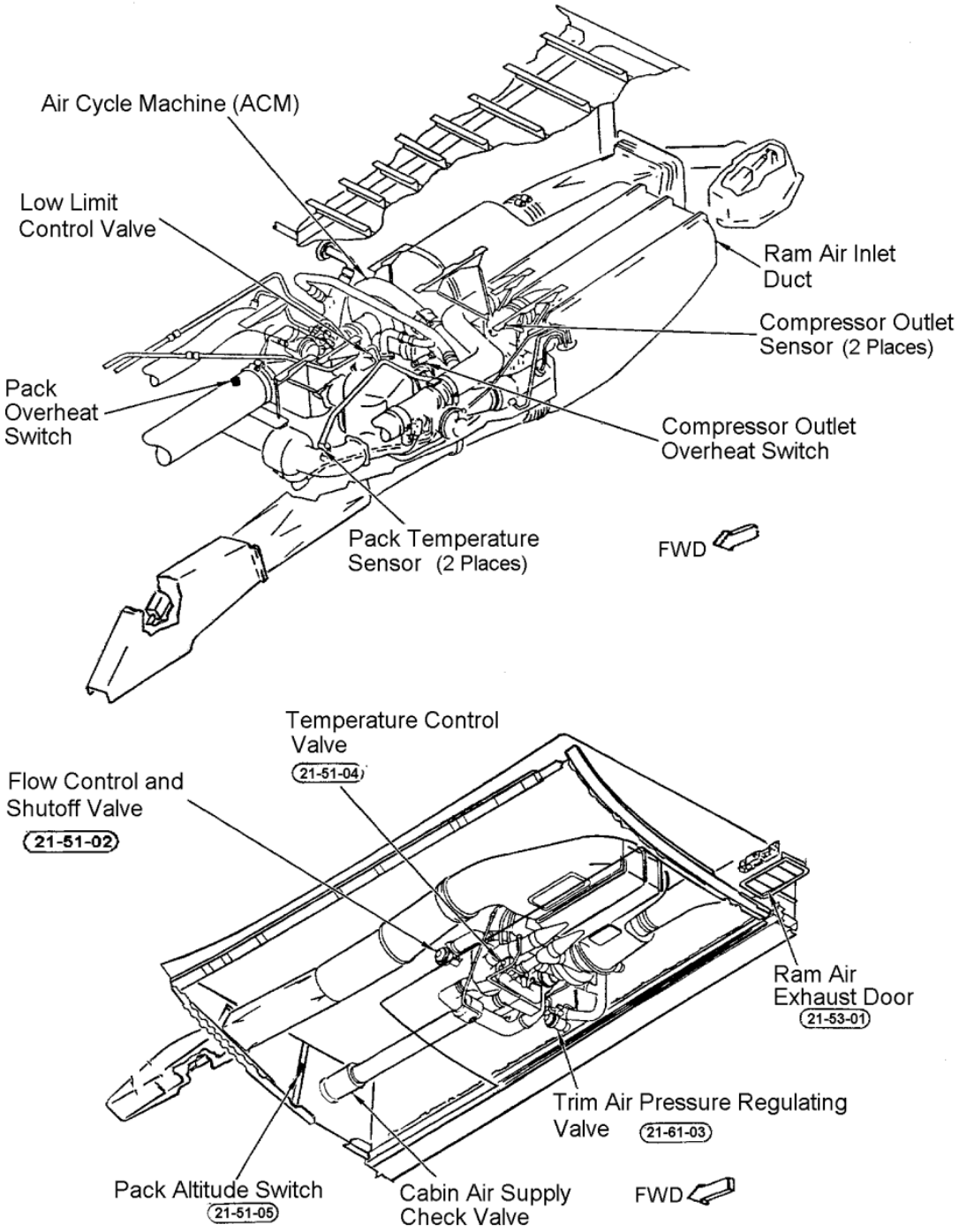
NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
11-00-01 Aircraft Placards/Markings Repair Installed **"Contact MCC"** Administrative Control Item	**N**	**-**	**-**	**-**	Item may be used to track repair provided: a) MCC determines that placard is FAA required, b) Install repair per TOPP 40-40-05, c) Enter in logbook repair is applied per TOPP 40-40-05, and d) Enter in logbook 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

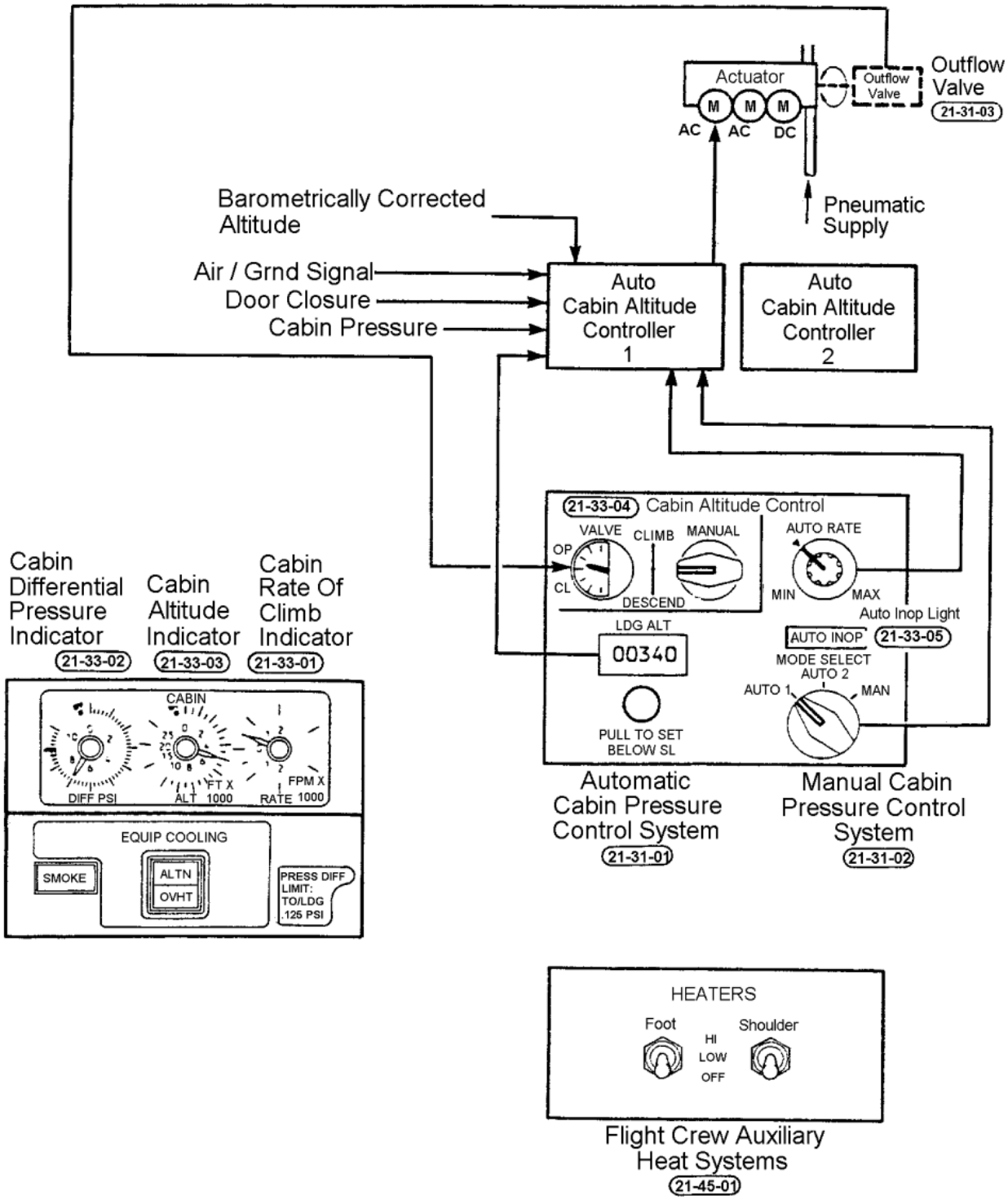
21-23-01 Return Air Grille 21-7
21-25-01A Recirculation Fans Right Fan 21-8
21-25-01B Recirculation Fans Left Fan (-200) 21-8
21-25-01C Recirculation Fans Left Fan (-300) 21-9
21-25-02 Recirculation Fan INOP Lights 21-12
21-31-01A Auto Cabin Pressure Control Systems 21-13
21-31-02 Manual Cabin Pressure Control System 21-17
21-31-03 Outflow Valve 21-18
21-32-01A Positive Pressure Relief Valves 21-19
21-33-01A CABIN RATE of Climb Indicator 21-21
21-33-02A CABIN DIFF Pressure Indicator 21-22
21-33-03A CABIN ALT Indicator 21-24
21-33-04 Outflow VALVE Position Indicator 21-26
21-33-05 AUTO INOP Light (Cabin Altitude Control) 21-27
21-33-06 Cabin Altitude Warning System 21-28
21-40-01 Fwd Cargo Heating System 21-29
21-40-02 Aft Cargo Heating System 21-30
21-45-01A Flight Crew Auxiliary Heat Systems 21-31
21-45-03 Door Heater Systems (Type I, III Doors) 21-32
21-51-01 Air Conditioning Packs 21-33
21-51-02A Pack Flow Control/Shutoff Valves 21-34
21-51-03A Pack Temperature Control Systems 21-36
21-51-04A Pack Temperature Control Valves 21-37
21-51-05 Pack Altitude Switches 21-39
21-51-07 Air Cycle Machine 21-40
21-52-01A Pack RESET Switches 21-41
21-52-02 Pack INOP Lights 21-42
21-52-03 Air Conditioning Pack OFF Lights 21-43
21-53-01A Ram Air Inlet / Exhaust Door Systems 21-44
21-58-03A Forward Equipment Cooling Supply Fans 21-48
21-58-05A Aft Equipment / Lav / Galley Exhaust (Vent) Fans 21-49
21-58-07A Forward Equipment Cooling Overboard Exhaust Valve 21-50
21-58-08 Aft Equipment Cooling Supply Fans 21-52
21-58-13 Equipment Cooling Airflow Detection System 21-53
21-58-14 Forward Equipment Cooling Auxiliary Supply Fan 21-54
21-58-15 Forward Equipment Cooling Air Filter 21-55
21-61-01 Cabin COMPT TEMP Control Systems 21-56
21-61-02 Flight Deck COMPT TEMP Control System 21-58
21-61-03 Trim Air Regulating / Shutoff Valve System 21-60
21-61-04A Zone Trim Air Modulating Valves 21-61
21-61-05 Trim Air OFF Light 21-63
21-61-06A COMPT TEMP INOP Lights 21-64
21-61-07 Trim Air Check Valves 21-66
21-65-01 COMPT TEMP Indications 21-69


Recirculating Air Fan
21-25-01
Bleed Air From Right Engine
21-51-01
Right Cooling Pack
Aft Psgr Zone
Trim Air Regulating Shutoff Valve
21-61-03
Fwd Psgr Zone
Mix Manifold
Ground Air Service Connector
Relay Switching and Logic Cards
Right Pack Temperature Controllers
Pack Temperature Control Systems
21-51-03
Relay Switching
Zone Temperature Controllers
Control Panel
Standby Temperature Controller
Flt Compt Zone
To APU
Left Pack Temperature Controllers
Relay Switching and Logic Cards
Forward Cargo Heat Exchanger (Ref)
Trim Air Modulating Valve (Typ 3 Plc)
21-61-04
Left Cooling Pack
21-51-01
Air Cycle Machine
Recirculating Air Fan
Condenser
Temp Control Valve
21-51-04
Ram Air Out
21-53-01
Ram Air Inlet
21-53-01
Reheater
Secondary Water Extractor
Left Pack Flow Control and Shutoff Valve
21-51-02
Bleed Air From Left Engine / APU
Positive Pressure Relief Valves
21-32-01
Remote Ambient Sensing Tube



Cooling Pack

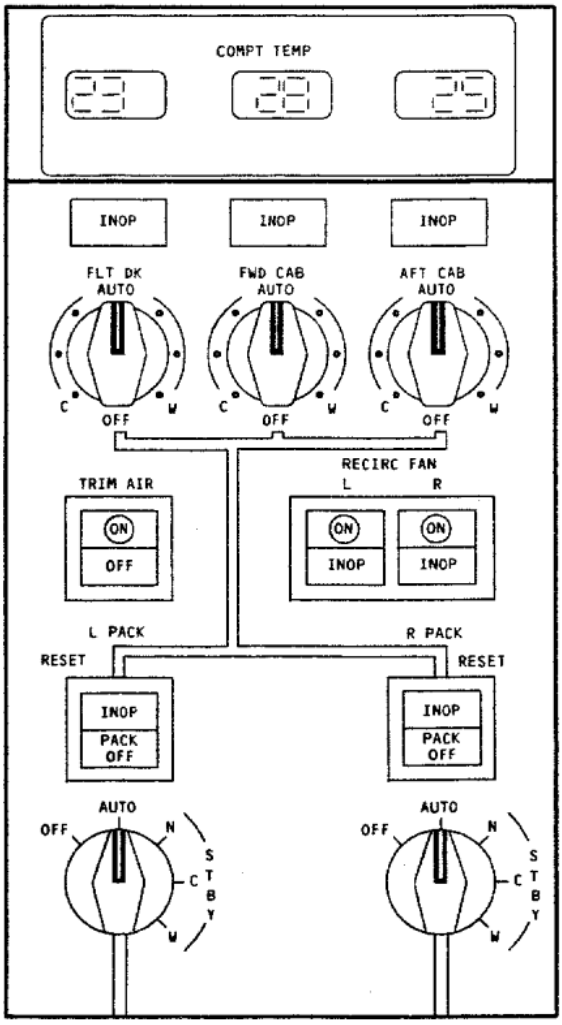
(Left Side Shown - Right Side Similar)


Actuator
M M M
AC AC DC
Outflow Valve
Outflow Valve
21-31-03
Pneumatic Supply
Barometrically Corrected Altitude
Air / Grnd Signal
Door Closure
Cabin Pressure
Auto Cabin Altitude Controller 1
Auto Cabin Altitude Controller 2
21-33-04 Cabin Altitude Control
VALVE
CLIMB
MANUAL
OP
CL
DESCEND
AUTO RATE
MIN
MAX
Auto Inop Light
LDG ALT
00340
AUTO INOP
21-33-05
MODE SELECT
AUTO 2
AUTO 1
MAN
PULL TO SET BELOW SL
Automatic Cabin Pressure Control System
21-31-01
Manual Cabin Pressure Control System
21-31-02
Cabin Differential Pressure Indicator
21-33-02
Cabin Altitude Indicator
21-33-03
Cabin Rate Of Climb Indicator
21-33-01
CABIN
DIFF PSI
FT X ALT 1000
FPM X RATE 1000
EQUIP COOLING
SMOKE
ALTN
OVHT
PRESS DIFF LIMIT: TO/LDG .125 PSI
HEATERS
Foot
Shoulder
HI
LOW
OFF
Flight Crew Auxiliary Heat Systems
21-45-01

Compartment Temperature Inop Lights
21-61-06

Flight Deck Temperature Control System
21-61-02

Trim Air OFF Light
21-61-05



Compartment Temperature Indications
21-65-01

Compartment Temperature Control Systems
21-61-01

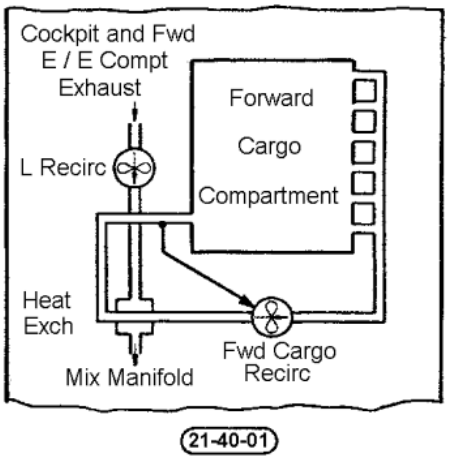
Recirc Fan
21-25-01

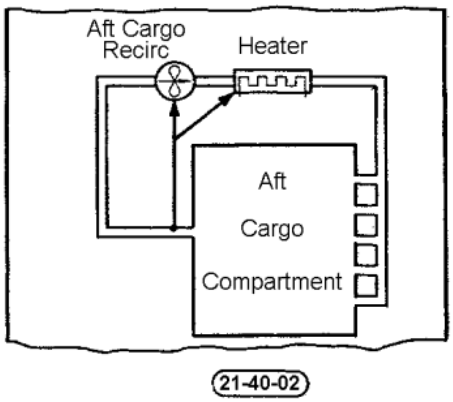
Recirc Fan Inop Lights
21-25-02

Pack Reset Switches
21-52-01

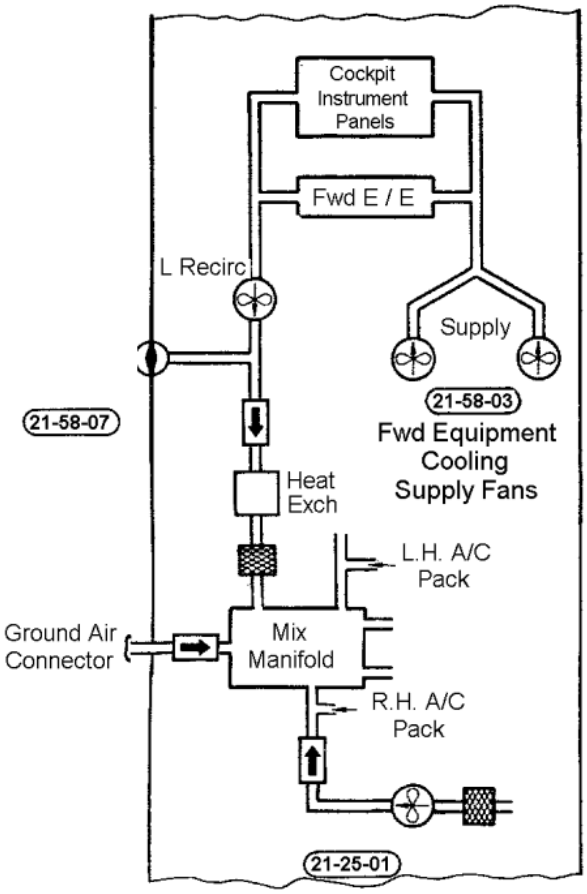
Pack Inop Lights
21-52-02

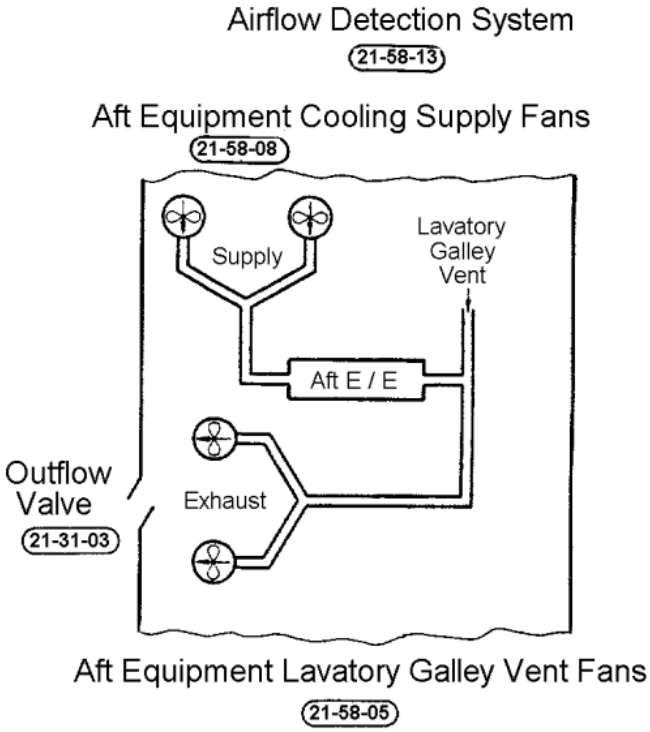
AIR CONDITIONING CONTROL MODULE (P5)





CARGO HEAT SCHEMATICS





EQUIPMENT COOLING SCHEMATICS

	NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH	
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-23-01 Return Air Grille	**N**	-	-	**C**	**(M)** One may be broken or missing provided: a) Broken or missing grille is located within a designated area, and b) Grille is removed and replaced with a blanking plate.

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-23-01	Logbook	____ Return Air Grille Broken / Missing

(M) PROCEDURES

757-200 designated blocked return air grille locations:

- Station 1260 to 1360 both left and right sides
- Station 1600 - 1720 right side only
- Station 1620 - 1720 left side only

757-300 designated blocked return air grille locations:

- Station 1300 - 1380 right side only
- Station 1300 - 1460 left side only
- Station 1580-1620 both sides

NOTE 1: Only ONE return air grille may be blocked at any one time.

NOTE 2: Grille must be replaced by a panel that completely blocks the area.

NOTE 3: Some locations may not have return air grilles due to doors and monuments.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
21-25-01A	Recirculation Fans Right Fan **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	**(O)(M)** May be inoperative provided performance corrections are applied.
21-25-01B	Recirculation Fans Left Fan (-200) **"DISP.APPR.REQ'D"**	**N**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Both A/C packs and pressurization system operate normally, b) Dispatch is prohibited for OAT above 41 degrees C at departure and destination, c) Airplane remains at or below FL 350, d) Aft lower cargo compartment remains empty or is verified to contain only empty cargo handling equipment, ballast, and/or Fly Away Kits (see MEL Instructions), e) During ground operations, at least one pack is operating for OAT above 18 degrees C, f) During ground operations, both packs are operating for OAT above 32 degrees C, g) During ground operations, weather radar remains OFF except for weather evaluation just before takeoff, and h) Performance corrections are applied. NOTE 1: When Left Fan is unpowered, DIM function of Indicator Lights system will be inoperative. NOTE 2: For a pack to be operating normally, certain items associated with that system must be operative. See Note for MEL Item 21-51-01 for a listing of those items.

Continued Next Page

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-25-01C Recirculation Fans Left Fan (-300) **"DISP.APPR.REQ'D"**	**N**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Both A/C packs and pressurization system operate normally, b) Dispatch is prohibited for OAT above 41 degrees C at departure and destination, c) Airplane remains at or below FL 350, d) During ground operations, at least one pack is operating for OAT above 18 degrees C, e) During ground operations, both packs are operating for OAT above 32 degrees C, f) During ground operations, weather radar remains OFF except for weather evaluation just before takeoff, and g) Performance corrections are applied. NOTE 1: When Left Fan is unpowered, DIM function of Indicator Lights system will be inoperative. NOTE 2: For a pack to be operating normally, certain items associated with that system must be operative. See Note for MEL Item 21-51-01 for a listing of those items.

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-25-01A	Near Right Recirculation Fan Switch	Right Recirc Fan INOP
21-25-01B	Near Left Recirculation Fan Switch	Left Recirc Fan INOP
21-25-01C	Near Left Recirculation Fan Switch	Left Recirc Fan INOP

Continued Next Page

(O) PROCEDURES

21-25-01A

NOTE: When one recirculation fan is turned off, or is inoperative, the associated pack automatically goes to the high flow mode thus increasing fuel burn.

21-25-01A	**RECIRCULATION FAN / RIGHT FAN**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 0.3% for one recirculation fan inoperative. *or* Increase BLOCK FUEL by 0.7% for two recirculation fans inoperative.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None

21-25-01B, 21-25-01C

NOTE 1: When one recirculation fan is turned off, or is inoperative, the associated pack automatically goes to the high flow mode thus increasing fuel burn.

NOTE 2: Once airborne, the EICAS status message OVBD EX VAL OPEN will be displayed. This indicates that the equipment cooling overboard exhaust valve is in the SMOKE position ensuring cooling airflow due to differential pressure. Erase these messages prior to each flight using the maintenance message erase procedure (Aircraft Operating Manual, Vol. 1, SP.15, Warning Systems, EICAS Status Message Erase Procedure). If these messages cannot be erased, maintenance action is required.

21-25-01B **21-25-01C**	**RECIRCULATION FAN / LEFT FAN**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 0.3% for one recirculation fan inoperative. *or* Increase BLOCK FUEL by 0.7% for two recirculation fans inoperative.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None

Continued Next Page

(M) PROCEDURES

21-25-01A

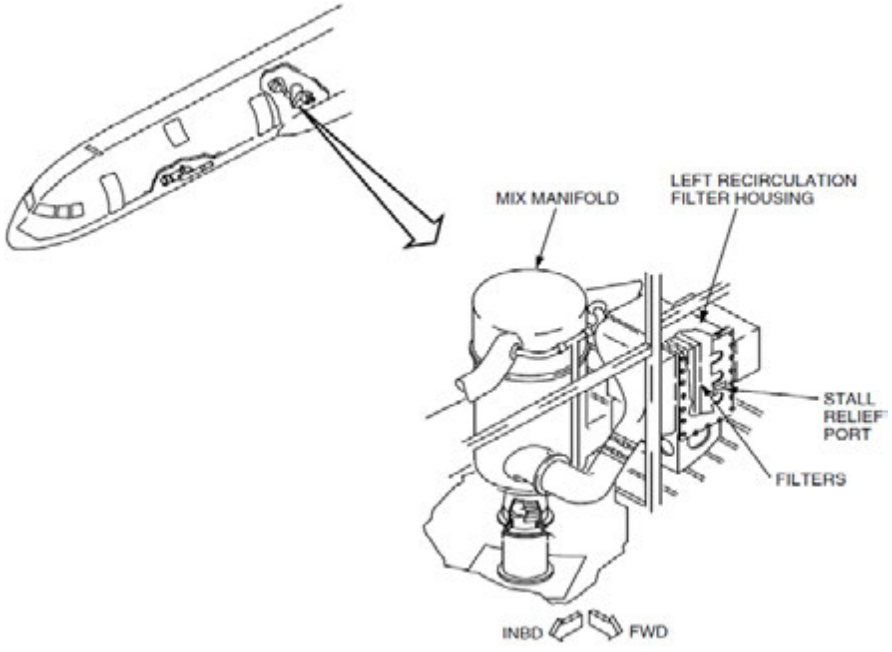
MTC NOTE: For fans equipped with fan monitoring systems, troubleshooting and **return to service** must be conducted in accordance with FIM/AMM procedures. In the event of a nuisance trip, the fan monitor reset procedure (AMM 21-25-01) is authorized one time only. The procedures referenced in this MTC NOTE are not required during initial deferral of this MEL Item.

21-25-01B, 21-25-01C

MTC NOTE: For fans equipped with fan monitoring systems, troubleshooting and **return to service** must be conducted in accordance with FIM/AMM procedures. In the event of a nuisance trip, the fan monitor reset procedure (AMM 21-25-01) is authorized one time only. The procedures referenced in this MTC NOTE are not required during initial deferral of this MEL Item(s).

1. Open circuit breakers EQUIP COOLING LOW FLOW DET and EQUIP COOL SMOKE DET/CONT on the P11 overhead circuit breaker panel.
2. Open circuit breaker EQUIP COOLING GROUND WARN & TEST in the P6 main power distribution panel.

   NOTE: Perform steps 3 and 4 at panel P36 or perform steps 5 and 6 at panel P70.
3. Access the P36 left miscellaneous relay panel. Locate wire W1260-6506-24 at either pin 26 or 27 of connector D40910J in position 4 of the AP0036 disconnect bracket. Remove wire W1260-6506-24 from D40910J. Cap and stow wire.
4. Restore the P36 Panel.
5. Access the P70 miscellaneous electrical equipment panel. Locate wire W1250-0095-22 at either pin 10 or 25 of connector D41746J in position 2 of the AP0070 disconnect bracket. Remove wire W1250-0095-22 from D41746J. Cap and stow wire.
6. Restore the P70 Panel.
7. Close circuit breakers EQUIP COOLING LOW FLOW DET and EQUIP COOL SMOKE DET/CONT on the P11 overhead circuit breaker panel.
8. Close circuit breaker EQUIP COOLING GROUND WARN & TEST in the P6 main power distribution panel.



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	**N**	2	0	**C**	**(M)** May be inoperative provided associated EICAS message is verified to operate normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-25-02	Near Associated Recirculation Fan Switch	____ Recirculation Fan INOP light 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 P70 panel (or P31 panel).
3. If the EICAS advisory message L RECIR FAN is displayed, the message operates normally.
4. Close circuit breaker RECIRC FAN L on P70 panel (or P31) 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.

		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**	One 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) Lower cargo compartments remain empty or are verified to contain only empty cargo handling equipment, ballast, and/or Fly Away 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) Lower cargo compartments remain empty or are verified to contain only empty cargo handling equipment, ballast, and/or Fly Away Kits (see MEL Instructions).

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-31-01A	Near Cabin Pressure Control Panel	____ Auto Cabin Pressure Control System INOP
21-31-01B	Near Cabin Pressure Control Panel	Both Auto Cabin Press. Control Systems INOP
21-31-01C	Near Cabin Pressure Control Panel	Both Auto Cabin Press. Control Systems INOP

(O) PROCEDURES

21-31-01B, 21-31-01C

For unpressurized flight:

1. Single Pack operations required for all phases of the flight.
2. With passengers on board, enroute altitude must be limited to 10,000 feet.
3. To avoid passenger discomfort after takeoff obstacle clearance has been assured, airplane climb and descent rates should not exceed 500 feet per minute.
4. If MAN mode operates normally, extended overwater flight may be conducted. Flight crew should not change outflow valve position with manual control except as required for non-normal procedures. If MAN mode does not operate normally, extended overwater flight is prohibited.

Continued Next Page

(M) PROCEDURES

21-31-01B, 21-31-01C

For unpressurized flight:

1. One of the following procedures (a or b) must be used to establish correct Outflow Valve position and ensure that smoke clearance capability exists during unpressurized flight.
   a) If manual (MAN) mode operates normally:
      1) Establish communication between the flight deck and ground crew stationed at the outflow valve.
      2) Place the Cabin Altitude Control MODE SEL switch to MAN. Drive the valve to 1.5 ± 0.1 inches (mid point on the valve position gage) by "climbing" or "descending" the cabin using the MANUAL switch.
   b) If unable to position outflow valve using MANUAL switch:
      1) Pull and secure CABIN ALT/PRESS MAN (CABIN ALTITUDE CONTROL MANUAL) circuit breaker on P11 panel.
      2) Open aft cargo door and remove aft endliner.
      3) Disconnect outflow valve actuator connecting rod from actuator drive arm and valve linkage (Fig. 1B). Stow connecting rod.
      4) Remove connecting pin from outflow valve hold open tool. Install tool halves to outflow valve linkage and to surrounding structure.
      5) Adjust rod end of hold open tool until distance between outflow valve flappers is 1.5 ± 0.1 inches when tool is connected. Install connecting pin in hold open tool. Lockwire valve attach bolt and thumbscrew.
      6) Install cargo compartment endliner panel and close aft cargo door.
2. Pull and secure the AUTO 1 - CABIN ALT/PRESS (CABIN ALTITUDE CONTROL AUTO 1) and AUTO 2 - CABIN ALT/PRESS (CABIN ALTITUDE CONTROL AUTO 2) circuit breakers on the P11 panel.
3. Place mode selector in either AUTO 1 or AUTO 2.
4. Block one vacuum pressure relief door valve open to approximately 15° by using vacuum pressure relief valve hold open tool B21001 or equivalent.

Continued Next Page

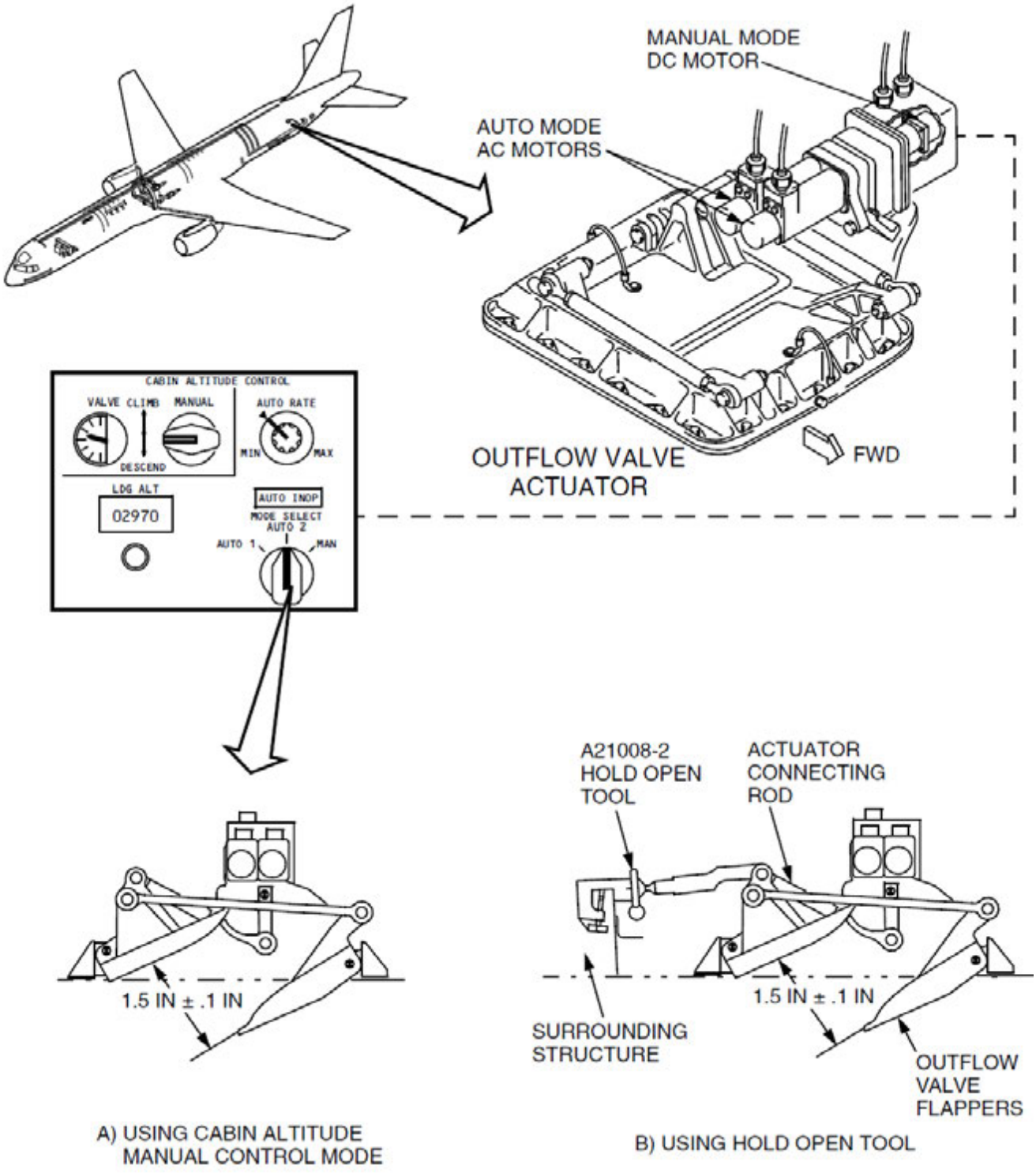
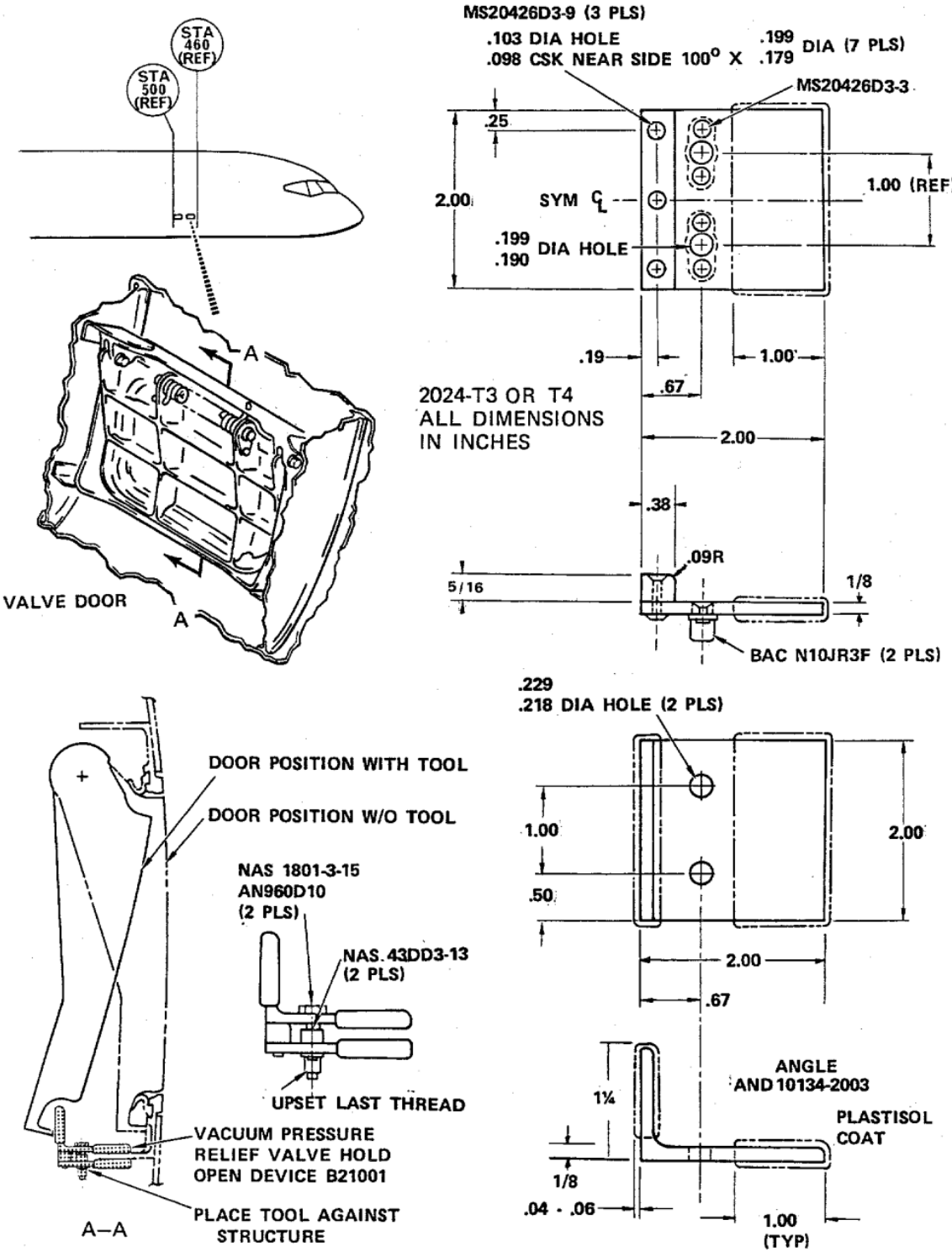


FIGURE 1 - SETTING OUTFLOW VALVE

Continued Next Page


STA 460 (REF)
STA 500 (REF)
A
VALVE DOOR
A
MS20426D3-9 (3 PLS)
.103 DIA HOLE
.098 CSK NEAR SIDE 100° X .199 .179 DIA (7 PLS)
MS20426D3-3
.25
2.00
SYM
1.00 (REF)
.199 .190 DIA HOLE
.19
1.00
.67
2024-T3 OR T4
ALL DIMENSIONS
IN INCHES
2.00
.38
.09R
5/16
1/8
BAC N10JR3F (2 PLS)
DOOR POSITION WITH TOOL
DOOR POSITION W/O TOOL
NAS 1801-3-15
AN960D10
(2 PLS)
NAS.43DD3-13
(2 PLS)
UPSET LAST THREAD
VACUUM PRESSURE
RELIEF VALVE HOLD
OPEN DEVICE B21001
PLACE TOOL AGAINST
STRUCTURE
A–A
.229
.218 DIA HOLE (2 PLS)
1.00
2.00
.50
2.00
.67
ANGLE
AND 10134-2003
1¼
PLASTISOL
COAT
1/8
.04 - .06
1.00
(TYP)

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					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) Lower cargo compartments remain empty or are verified to contain only empty cargo handling equipment, ballast, and/or Fly Away Kits (see MEL Instructions).

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

(O) PROCEDURES

Comply with 21-31-01 (O) Procedures for unpressurized flight.

(M) PROCEDURES

Defer Auto Cabin Pressure Control System inoperative per 21-31-01 (M) procedures for unpressurized flight.

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) Lower cargo compartments remain empty or are verified to contain only empty cargo handling equipment, ballast, and/or Fly Away Kits (see MEL Instructions).

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

(O) PROCEDURES

Comply with 21-31-01 (O) procedures for unpressurized flight.

(M) PROCEDURES

Defer Auto Cabin Pressure Control System inoperative per 21-31-01 (M) procedures for unpressurized flight.

		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) Lower cargo compartments remain empty or are verified to contain only empty cargo handling equipment, ballast, and/or Fly Away 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) Lower cargo compartments remain empty or are verified to contain only empty cargo handling equipment, ballast, and/or Fly Away Kits (see MEL Instructions).

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

(O) PROCEDURES

21-32-01B, 21-32-01C

Comply with 21-31-01 (O) procedures for unpressurized flight.

Continued Next Page

(M) PROCEDURES

21-32-01A

1. Press flapper doors closed until flush with fuselage.

   NOTE: Some resistance will be felt.

2. 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).

3. 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).

4. 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 PPRV is returned to service.

5. 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, 21-32-01C

Defer Auto Cabin Pressure Control System inoperative per 21-31-01 (M) procedures for unpressurized flight.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					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) Lower cargo compartments remain empty or are verified to contain only empty cargo handling equipment, ballast, and/or Fly Away Kits (see MEL Instructions).

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

(O) PROCEDURES

21-33-01B

Comply with 21-31-01 (O) procedures for unpressurized flight.

(M) PROCEDURES

21-33-01B

Defer Auto Cabin Pressure Control System inoperative per 21-31-01 (M) procedures for unpressurized flight.

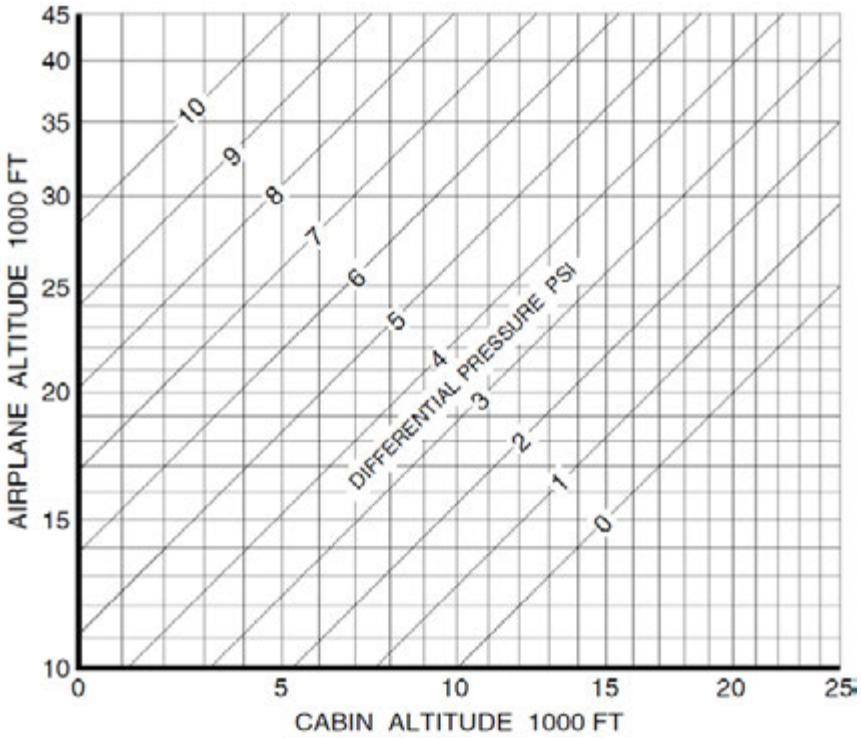
NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
21-33-02A	CABIN DIFF Pressure Indicator	**Y** 1	0	**C**	**(O)** May be inoperative provided: a) CABIN ALT indicator operates normally, and b) A chart is provided 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) Lower cargo compartments remain empty or are verified to contain only empty cargo handling equipment, ballast, and/or Fly Away Kits (see MEL Instructions).

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

(O) PROCEDURES

21-33-02A

Use the following chart to convert cabin altitude to cabin differential pressure.



Continued Next Page

21-33-02B

Comply with 21-31-01 (O) procedures for unpressurized flight.

(M) PROCEDURES

21-33-02B

Defer Auto Cabin Pressure Control System inoperative per 21-31-01 (M) procedures for unpressurized flight.

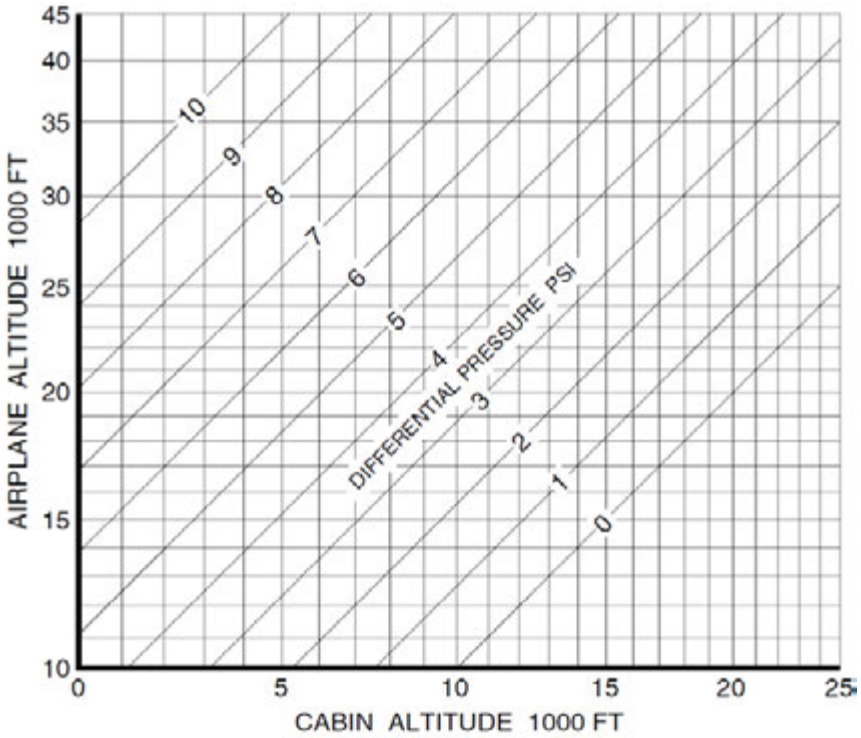
ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
21-33-03A	CABIN ALT Indicator	**Y**	1	0	**C**	**(O)** May be inoperative provided: a) CABIN DIFF pressure indicator operates normally, and b) A chart is provided to 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) Lower cargo compartments remain empty or are verified to contain only empty cargo handling equipment, ballast, and/or Fly Away Kits (see MEL Instructions).

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

(O) PROCEDURES

21-33-03A

Use the following chart to convert cabin altitude to cabin differential pressure.



Continued Next Page

21-33-03B

Comply with 21-31-01 (O) procedures for unpressurized flight.

(M) PROCEDURES

21-33-03B

Defer Auto Cabin Pressure Control System inoperative per 21-31-01 (M) procedures for unpressurized flight.

		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	TAB LOCATION	PLACARD TEXT
21-33-04	Near 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	TAB LOCATION	PLACARD TEXT
21-33-05	Near AUTO INOP Light	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, refer to the 757 QRH, Non-Normal Checklist, Section 2 (Air Systems), Cabin Altitude or Rapid Depressurization for procedures to manually control cabin altitude and rate of change.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-33-06	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.

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-33-06	Near CABIN ALTITUDE Warning Light	Cabin Altitude Warning System INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-40-01	Fwd Cargo Heating System **"DISP.APPR.REQ'D"**	**N**	1	0	**C**	**(O)(M)** May be inoperative deactivated.

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-40-01	Near Cargo Heat Control Panel	Fwd Cargo Heating System INOP

(O) PROCEDURES

No temperature sensitive items may be carried in the forward cargo compartment.

(M) PROCEDURES

Pull and secure the following circuit breakers:

Circuit Breaker	Location
FWD CARGO FAN POWER	P70 CB Panel
FWD CARGO HEAT FAN CONTROL	P11 CB Panel

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-40-02	Aft Cargo Heating System **"DISP.APPR.REQ'D"**	**N**	1	0	**C**	**(O)(M)** May be inoperative deactivated.

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-40-02	Near Cargo Heat Control Panel	Aft Cargo Heating System INOP

(O) PROCEDURES

No temperature sensitive items may be carried in the aft cargo compartment.

(M) PROCEDURES

Pull and secure the following circuit breakers:

Circuit Breaker	Location
AFT CARGO HTR (POWER)	P70 CB Panel
CARGO HEAT AFT (CONTROL)	P11 CB Panel
CARGO HEAT FAN AFT	P11 CB Panel

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					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	TAB LOCATION	PLACARD TEXT
21-45-01A	Near Associated Aux Heat Control Panel	____ Foot / Shoulder Heat System INOP
21-45-01B	Near Associated Aux Heat Control Panel	____ Foot / Shoulder Heat System INOP

(M) PROCEDURES

21-45-01B

Pull and secure the appropriate circuit breakers for the associated inoperative heater on either the P37 or P70 Misc Elec Equip Panel.

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 I, III Doors)	**N**	-	0	**C**	**(M)** May be inoperative deactivated.

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-45-03	Near Cabin Temp Controller	___ Door Heater INOP

(M) PROCEDURES

NOTE: Type I doors are Emergency Exit doors. Type III doors are Overwing Emergency Exit Hatches.

Deactivate inoperative heater system:

Entry Door Area Heater System

Pull and secure the associated circuit breaker:

Circuit Breaker	Location
NO. 1 DOOR HEATER	P37 RLY PANEL - R MISC ELEC EQUIP PANEL
NO. 3 DOOR HEATER	P37 RLY PANEL - R MISC ELEC EQUIP PANEL
NO. 2 DOOR HEATER	P70 RLY PANEL - MISC ELECT EQUIP PANEL
NO. 4 DOOR HEATER	P70 RLY PANEL - MISC ELECT EQUIP PANEL

Overwing Emergency Exit Hatch Heater System

Pull and secure the associated circuit breaker:

Circuit Breaker	Location
O/W EXIT HATCH - R HEATERS	P37 RLY PANEL - R MISC ELEC EQUIP PANEL
O/W EXIT HATCH L - HEATERS	P70 RLY PANEL - L MISC ELEC EQUIP PANEL

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
21-51-01	Air Conditioning Packs **"DISP.APPR.REQ'D"**	**Y**	2	1	**C**	One may be inoperative provided: a) Airplane remains at or below FL 350, and b) Flight remains within 60 minutes of landing at a suitable airport. Theatre Restrictions May Apply

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-51-01	Near Associated A/C Pack Switch	____ A/C Pack INOP

NOTE 1: With an air conditioning pack inoperative or OFF, isolation valve CLOSED, and anti-ice OFF, a BLEED OFF LIGHT may illuminate during any phase of flight. This is most likely to occur during takeoff due to high engine power settings combined with low bleed air demands. Under these conditions the PRSOV is regulating air pressure so that the engine bleed air valve is nearly closed and the light switch is activated. As engine power is reduced, bleed air pressure is reduced and the valve opens far enough to extinguish the BLEED OFF LIGHT.

NOTE 2: For a pack to be operating normally, the following associated items must be operative:

MEL Item	Item Title
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

		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	1	**C**	**(O)(M)** One may be inoperative closed for an associated inoperative pack that has been deferred per MEL 21-51-01. Theatre Restrictions May Apply
21-51-02B	Pack Flow Control/Shutoff Valves Hi Flow Mode **"DISP.APPR.REQ'D"**	**Y**	2	1	**C**	Except for ER operations (ETOPS), one may be inoperative provided remaining (opposite) pack operates normally. NOTE: For a pack to be operating normally, certain items associated with that system must be operative. See Note for MEL Item 21-51-01 for a listing of those items.
21-51-02C	Pack Flow Control/Shutoff Valves Hi Flow Mode **"DISP.APPR.REQ'D"**	**Y**	2	0	**C**	**(O)** Except for ER operations (ETOPS), may be inoperative provided: a) All remaining functions of both packs operate normally, b) All recirculation fans operate normally, and c) Lower cargo compartments remain empty or are verified to contain only empty cargo handling equipment, ballast, and/or Fly Away Kits (see MEL Instructions). NOTE: For a pack to be operating normally, certain items associated with that system must be operative. See Note for MEL Item 21-51-01 for a listing of those items.

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-51-02A	Near Associated A/C Pack Switch	____ Pack Flow Control / Shutoff Valve INOP
21-51-02B	Near Bleed Air Control Panel	____ Pack Hi Flow Mode INOP
21-51-02C	Near Bleed Air Control Panel	Both A/C Packs Hi Flow Mode INOP

(O) PROCEDURES

21-51-02A

Limit altitude to FL 350 or below.

21-51-02C

Observe cargo compartment loading restrictions.

Continued Next Page

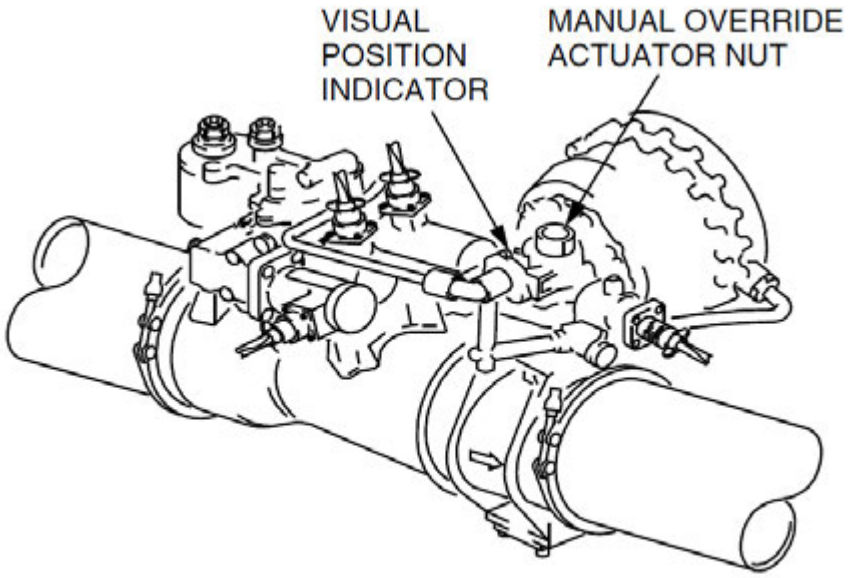
(M) PROCEDURES

21-51-02A

1. Place Pack Control Selector on P5 panel corresponding to inoperative flow control/shutoff valve to OFF.
2. Gain access to valve through ECS access door (193CL or 194CR).
3. Close valve by moving the cam assembly clockwise to the closed position (a mirror is required to see the position indicator).

CAUTION: DO NOT USE EXCESSIVE FORCE ON MANUAL ACTUATOR NUT. IF RESISTANCE IS FELT ACTUATOR DAMAGE MAY RESULT.

4. Close ECS door.



FLOW CONTROL AND SHUTOFF VALVE INSTALLATION

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-51-03A	Pack Temperature Control Systems **"DISP.APPR.REQ'D"**	**Y**	2	1	**C**	**(O)** One may be inoperative OFF for an associated inoperative pack that has been deferred per MEL 21-51-01. Theatre Restrictions May Apply
21-51-03B	Pack Temperature Control Systems Auto Mode	**Y**	2	0	**C**	May be inoperative provided associated Standby Mode operates normally.
21-51-03C	Pack Temperature Control Systems Standby Mode	**Y**	2	0	**C**	May be inoperative provided associated Auto Mode operates normally.

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

(O) PROCEDURES

21-51-03A

Limit altitude to FL 350 or below.

		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**	**(M)** Right valve may be inoperative deactivated in mid position provided left pack operates normally in AUTO. NOTE: For a pack to be operating normally, certain items associated with that system must be operative. See Note for MEL Item 21-51-01 for a listing of those items.
21-51-04B	Pack Temperature Control Valves	**N**	2	1	**C**	**(M)** One may be inoperative closed in STBY mode provided remaining (opposite) pack operates normally in AUTO. NOTE: For a pack to be operating normally, certain items associated with that system must be operative. See Note for MEL Item 21-51-01 for a listing of those items.
21-51-04C	Pack Temperature Control Valves **"DISP.APPR.REQ'D"**	**Y**	2	1	**C**	**(O)** One may be inoperative for an associated inoperative pack that has been deferred per MEL 21-51-01. Theatre Restrictions May Apply

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-51-04A	Near Associated A/C Pack Switch	____ Pack Temperature Control Valve INOP
21-51-04B	Near Associated A/C Pack Switch	____ Pack Temperature Control Valve INOP In STBY
21-51-04C	Near Associated A/C Pack Switch	____ Pack Temperature Control Valve INOP

(O) PROCEDURES

21-51-04C

Limit altitude to FL 350 or below.

(M) PROCEDURES

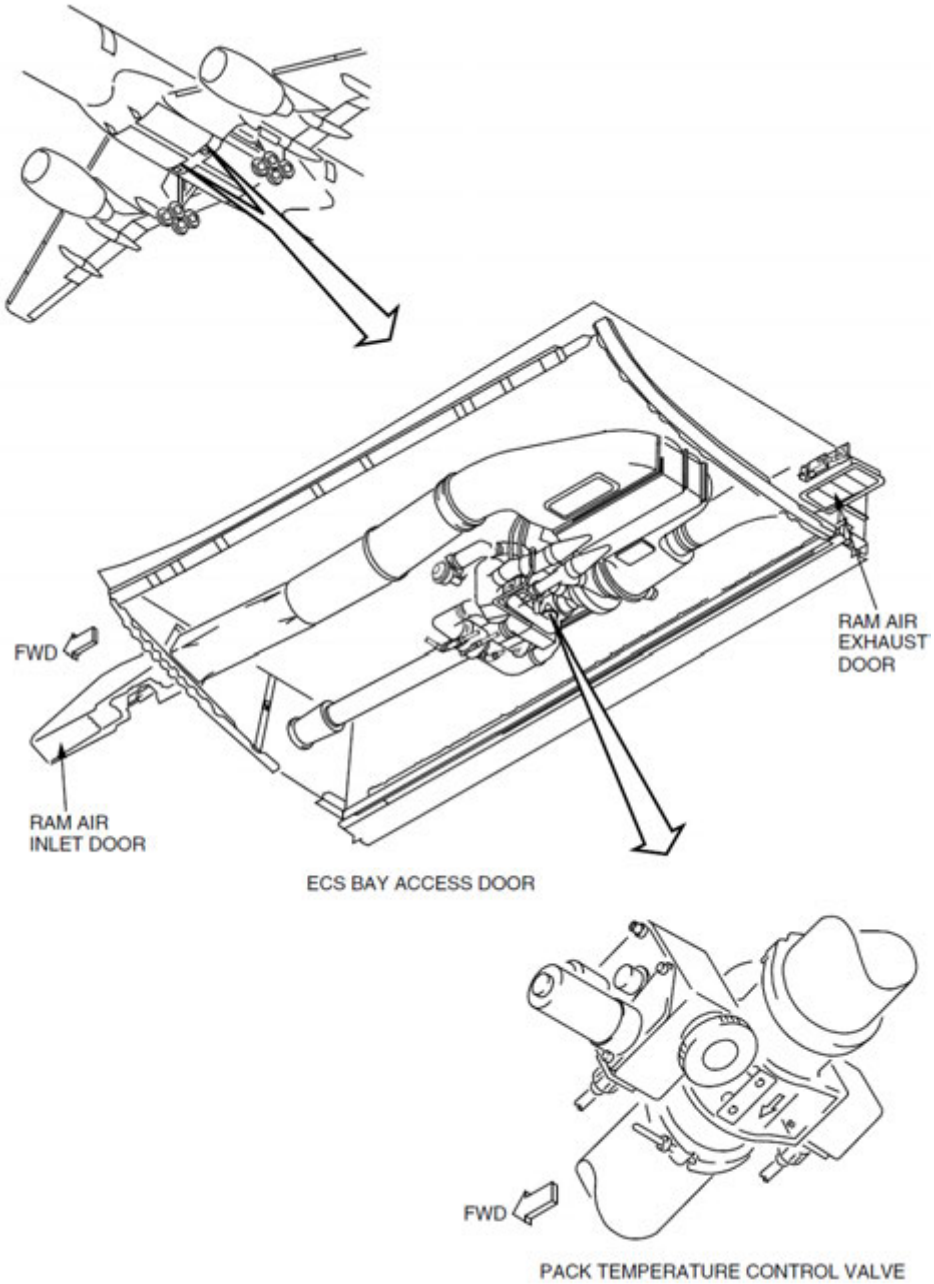
21-51-04A

1. Gain access to Pack Temperature Control Valve by opening the right ECS access door (194CR).
2. Rotate manual override knob on right Pack Temperature Control Valve until visual position indicator is midway between open and closed positions.
3. Disconnect, cap, and stow both electrical connectors on Pack Temperature Control Valve.
4. Close the ECS door.

Continued Next Page

21-51-04B

1. To verify that valve is inoperative in the closed position gain access to valve by opening appropriate left or right ECS access door (193CL or 194CR).
2. Check the visual position indicator in the closed position. If not, rotate the manual override knob until the position indicator moves to the closed position.
3. Disconnect, cap and stow both electrical connectors on Pack Temperature Control Valve.
4. Verify the ram air inlet and exhaust doors in the full open position.
5. Close the applicable ECS door.



PACK TEMPERATURE CONTROL VALVE INSTALLATION

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-51-05	Pack Altitude Switches	**Y**	2	0	**C**	

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-51-05	Near 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), one 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. NOTE: For a pack to be operating normally, certain items associated with that system must be operative. See Note for MEL Item 21-51-01 for a listing of those items.

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

(O) PROCEDURES

If the other pack (the pack with the operative ACM) fails, refer to the 757 QRH, Non-Normal Checklist, Section 2 (Air Systems), PACK OFF for procedures.

(M) PROCEDURES

To verify normal operation of both the low and high flow modes of the Flow Control Valve (FCV), perform the Operational Test - Pack High Flow Inhibit per AMM 21-51-00.

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

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-52-01A	Near Associated Pack RESET Switch	___ Pack RESET Switch INOP
21-52-01B	Near Associated Pack RESET Switch	___ Pack RESET Switch INOP

(O) PROCEDURES

21-52-01B

Limit altitude to FL 350 or below.

	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	TAB LOCATION	PLACARD TEXT
21-52-02	Near 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)** One may be inoperative OFF provided associated EICAS message and all other pack indications operate normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-52-03	Near Affected A/C Pack OFF Light	___ Air Conditioning Pack OFF Light INOP

(M) PROCEDURES

1. Turn the associated pack OFF.
2. Check EICAS to ensure L(R) PACK OFF message appears.
3. Set the associated pack selector as required.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
21-53-01A	Ram Air Inlet / Exhaust Door Systems	**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	1	**C**	**(O)(M)** One may be inoperative in any position provided associated pack is considered inoperative and deferred per MEL 21-51-01. Theatre Restrictions May Apply

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-53-01A	Near Associated A/C Pack Switch	___ Ram Air Inlet/Exhaust Door INOP
21-53-01B	Near Associated A/C Pack Switch	___ Ram Air Inlet/Exhaust Door INOP

(O) PROCEDURES

21-53-01A

If Maintenance has not installed a shorting plug in ram air inlet door electrical connector

Operate affected pack in STBY-W mode (AUTO mode will be inoperative). Cabin temperature performance may be degraded during hot day (90°F) ground operations and/or during hot day high altitude operation.

If Maintenance has installed a shorting plug in ram air inlet door electrical connector

Operate affected pack in STBY mode (AUTO mode will be inoperative).

21-53-01B

Limit flight to FL 350 or below.

NOTE: With an air conditioning pack inoperative or off, isolation valve closed, and anti-ice OFF, a BLEED OFF LIGHT may illuminate during takeoff power application. Under these conditions the PRSOV is regulating air pressure to a point where the valve angle is small enough to activate the light switch. As engine power, and thus air pressure, is reduced the valve angle opens slightly and the BLEED OFF LIGHT extinguishes.

Continued Next Page

(M) PROCEDURES

21-53-01A

1. Open applicable ECS Access door (193CL or 194CR).
2. For airplanes with exhaust doors, verify that both ram air inlet and exhaust doors on affected pack are in the FULL OPEN position. For airplanes with only inlet doors, verify that ram air inlet doors on affected pack are in the FULL OPEN position.
3. If doors are not in the full open position place applicable L or R PACK control selector in STBY-N. For airplanes with exhaust doors, verify that ram air inlet and exhaust doors go to the full open position. For airplanes without exhaust doors, verify that ram air inlet doors go to the full open position.
4. If any door is not in the full open position, perform the following:
   a) Remove actuator from door which will not open.
   b) Fabricate actuator link 11.1 inches long with rod ends compatible with door actuator fittings. Alternately, Boeing tool No. A21007-1 may be used.
   c) Position affected ram air door to full open and install actuator link in place of ram air actuator.

   NOTE: Performing step 5a will enable acceptable cabin temperature performance for most climatic conditions. Performing steps 5b through 5g will enable better cabin temperature performance during hot day (90'F) ground operations and/or during hot day high altitude operations.
5. Perform either step a or perform steps b through g.
   a) For airplanes with exhaust doors, disconnect, cap and stow electrical connectors from both ram air inlet and exhaust door actuators on affected air conditioning pack. For airplanes without exhaust doors, disconnect, cap and stow electrical connectors from ram air inlet door actuators on affected air conditioning pack.

   OR

   b) Pull and secure circuit breaker associated with affected air conditioning pack.
      - Left pack - LEFT PACK STANDBY PWR (11M24)
      - Right pack - RIGHT PACK STANDBY PWR (11M15)

   c) Obtain shorting plug or make a shorting plug per the following:
      1) Fabricate a 3.5 (±0.5) inch shorting wire from 20 gauge, type UN (BMS 13-48 TY VII CL 1) or QZ (BMS 13-60 TY 10 CL 1) wire and two 20 gauge pins P/N BACC47CN1S.
      2) Obtain a ram air inlet door actuator mate-with connector P/N BACC45FM16-24P and insert fabricated wire into pin cavities 13 and 15.
      3) Insert spare contacts and filler rods in accordance with D6-54446, Standard Wiring Practices Manual, section 20-60-08 in all unused cavities.

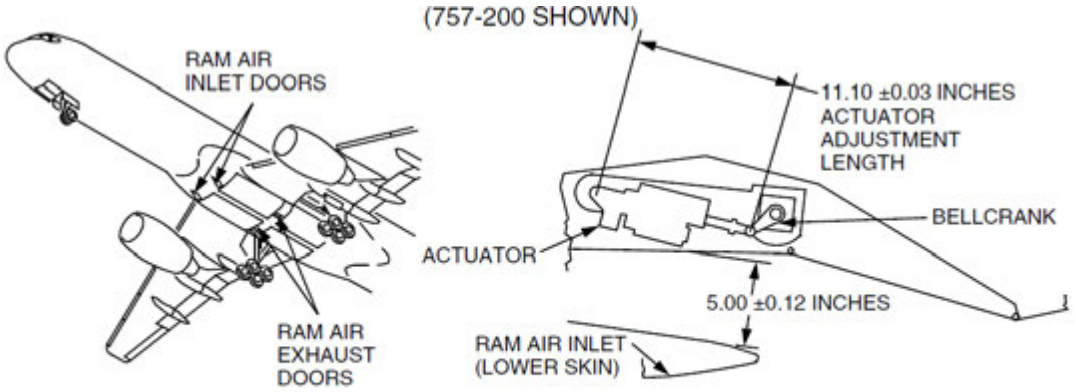
   d) Remove electrical connector D2944 from the left (D3002 from the right) ram air inlet door actuator on the affected air conditioning pack.
   e) Install fabricated shorting plug with connector from the ram air inlet door actuator electrical connector and stow.
   f) Disconnect, cap and stow electrical connectors from the exhaust door actuators on affected air conditioning pack.
   g) Close the circuit breaker associated with affected air conditioning pack:
      - Left pack - LEFT PACK STANDBY PWR (11M24)
      - Right pack - RIGHT PACK STANDBY PWR (11M15)
6. Close applicable ECS access door.
7. Advise MCC whether a shorting plug has been installed.

Continued Next Page

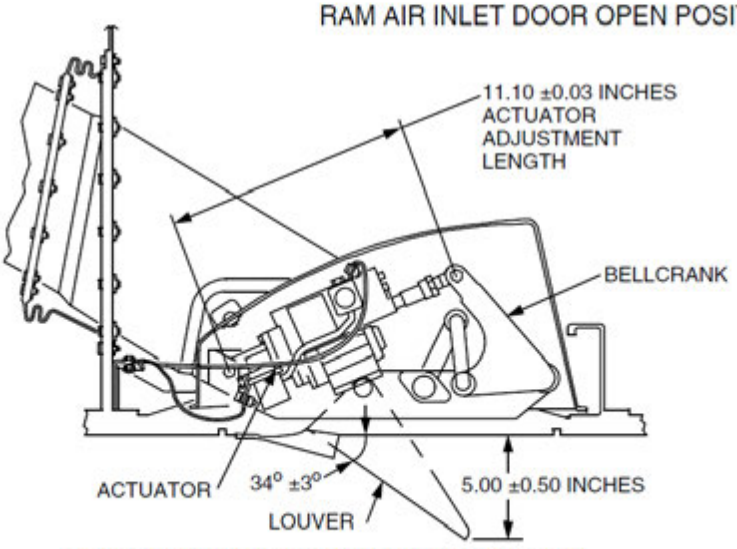
21-53-01B

NOTE: Exit area must be greater than inlet area to prevent noise and vibration due to possible adverse pressure gradient.

1. Rotate pack control selector to OFF. Verify that PACK OFF light comes on.
2. On the P11 panel, pull and secure the following circuit breaker for the associated air conditioning pack:
   a) L PACK FLOW CONTROL
   b) R PACK FLOW CONTROL
3. For airplanes with exhaust doors, if exit area is not clearly greater than inlet area:
   a) If exhaust door is operative:
      1) Verify that the ram air exhaust door is in the full open position.
      2) Disconnect, cap and stow electrical connector for exhaust door actuator.
   b) If exhaust door is inoperative - not full open:
      1) Remove exhaust door actuator.
      2) Fabricate actuator link 11.1 inch long with rod ends compatible with door actuator fittings.
      3) Position door to full open position and install actuator link in place of ram air actuator.
4. Defer associated Air Conditioning Pack inoperative per 21-51-01.



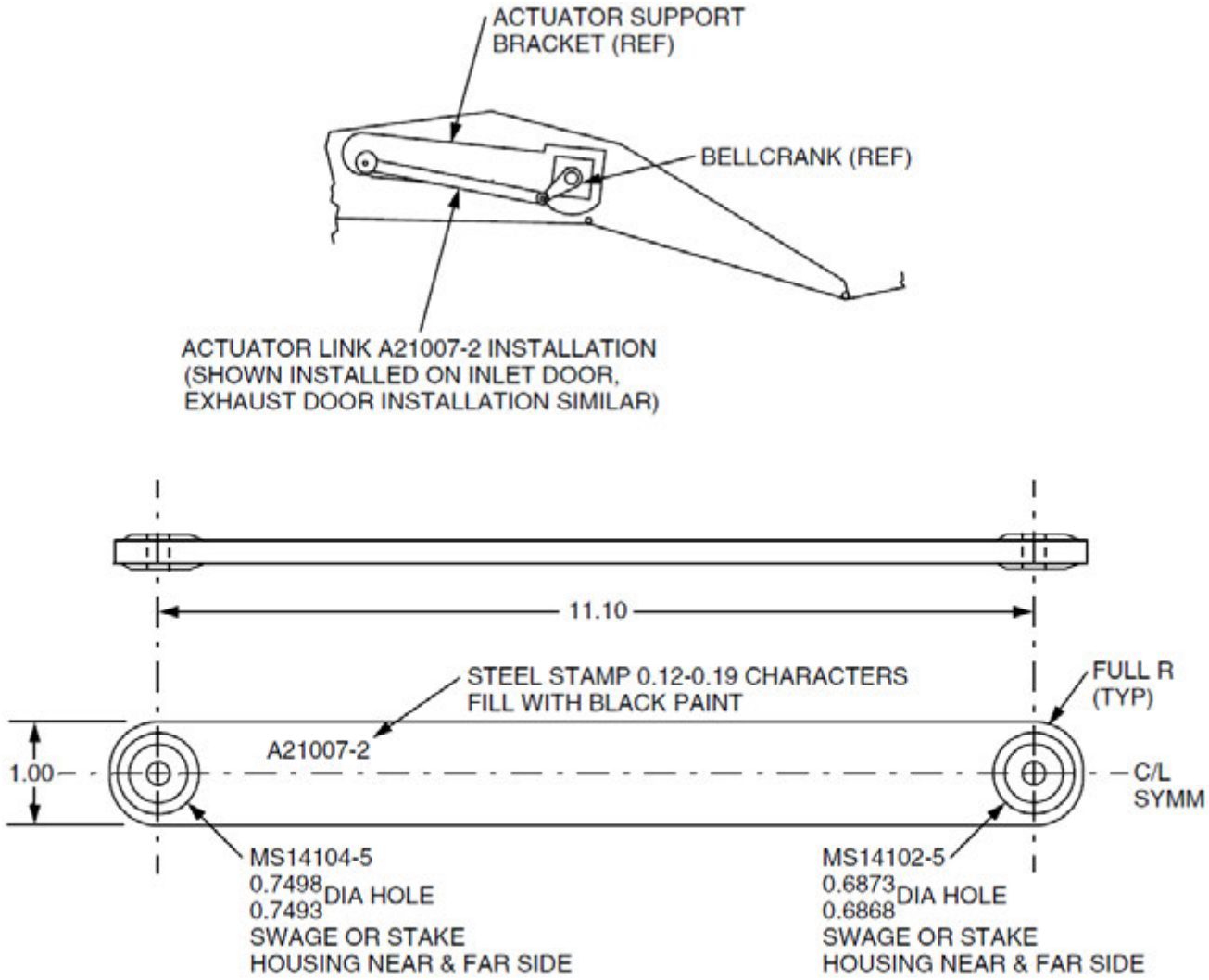
RAM AIR INLET DOOR OPEN POSITION



RAM AIR EXHAUST DOOR OPEN POSITION

RAM AIR INLET/EXHAUST DOOR INSTALLATION

Continued Next Page



INLET/EXHAUST DOOR ACTUATOR LINK (A21007-2)

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-58-03A	Forward Equipment Cooling Supply Fans **"DISP.APPR.REQ'D"**	**Y**	2	1	**A**	**(O)** Except for ER operations (ETOPS), primary cooling fan may be inoperative provided: a) Flight is conducted in Day VMC only, b) Equipment Cooling is selected to ALTN, and c) Operations are limited to not more than one flight day before repairs are made.
21-58-03B	Forward Equipment Cooling Supply Fans (ETOPS Configured Aircraft Only) **"DISP.APPR.REQ'D"**	**Y**	2	1	**C**	Except for ER operations (ETOPS), primary cooling fan may be inoperative provided: a) Forward equipment cooling auxiliary supply fan is installed and operates normally, and b) Equipment cooling is selected to ALTN.

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-58-03A	Near EQUIP COOLING Panel	____ Primary Equipment Cooling Fan INOP
21-58-03B	Near EQUIP COOLING Panel	____ Primary Equipment Cooling Fan INOP

NOTE 1: The primary cooling fan is the fan that is normally operating during inflight operations when there are no faults in the system

NOTE 2: In the event that either; smoke was reported, the C/B was tripped or the fan is seized, it is acceptable to pull and secure the affected fan C/B.

NOTE 3: EICAS status message EQUIP CLG TEST may be displayed when equipment cooling alternate switch is selected to ALTN. Message will clear after engine start.

(O) PROCEDURES

21-58-03A

Flight must be conducted in Visual Meteorological Conditions (VMC) only.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-58-05A	Aft Equipment / Lav / Galley Exhaust (Vent) Fans **"DISP.APPR.REQ'D"**	**Y**	2	1	**C**	One may be inoperative provided operations do not require use of ADF equipment. Theatre Restrictions May Apply
21-58-05B	Aft Equipment / Lav / Galley Exhaust (Vent) Fans (A/C 6901-6904, 602-630, 5501-5528)	**Y**	2	1	**C**	One may be inoperative provided both aft equipment cooling supply fans operate normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-58-05A	Near EQUIP COOLING Panel	Aft ____ Fan INOP
21-58-05B	Near EQUIP COOLING Panel	Aft ____ Fan INOP

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
21-58-07A	Forward Equipment Cooling Overboard Exhaust Valve **"DISP.APPR.REQ'D"**	**N**	1	0	**C**	**(O)(M)** May be inoperative open provided: a) Flight is conducted in an unpressurized configuration, and b) Lower cargo compartments remain empty or are verified to contain only empty cargo handling equipment, ballast, and/or Fly Away Kits (see MEL Instructions).
21-58-07B	Forward Equipment Cooling Overboard Exhaust Valve **"DISP.APPR.REQ'D"**	**N**	1	0	**C**	**(O)(M)** May be inoperative in SMOKE (partially open) position provided: a) Both packs operate normally, b) Airplane remains at or below FL 350, and c) Aft cargo compartments remain empty or are verified to contain only empty cargo handling equipment, ballast, and/or Fly Away Kits (see MEL Instructions). NOTE: For a pack to be operating normally, certain items associated with that system must be operative. See Note for MEL Item 21-51-01 for a listing of those items.

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-58-07A	Near EQUIP COOLING Panel	Forward Equipment Cooling Overboard Exhaust Valve INOP OPEN
21-58-07B	Near EQUIP COOLING Panel	Forward Equipment Cooling Overboard Exhaust Valve INOP in SMOKE position

(O) PROCEDURES

21-58-07A

Comply with 21-31-01 (O) procedures for unpressurized flight.

21-58-07B

Limit maximum altitude to FL 350 or below.

(M) PROCEDURES

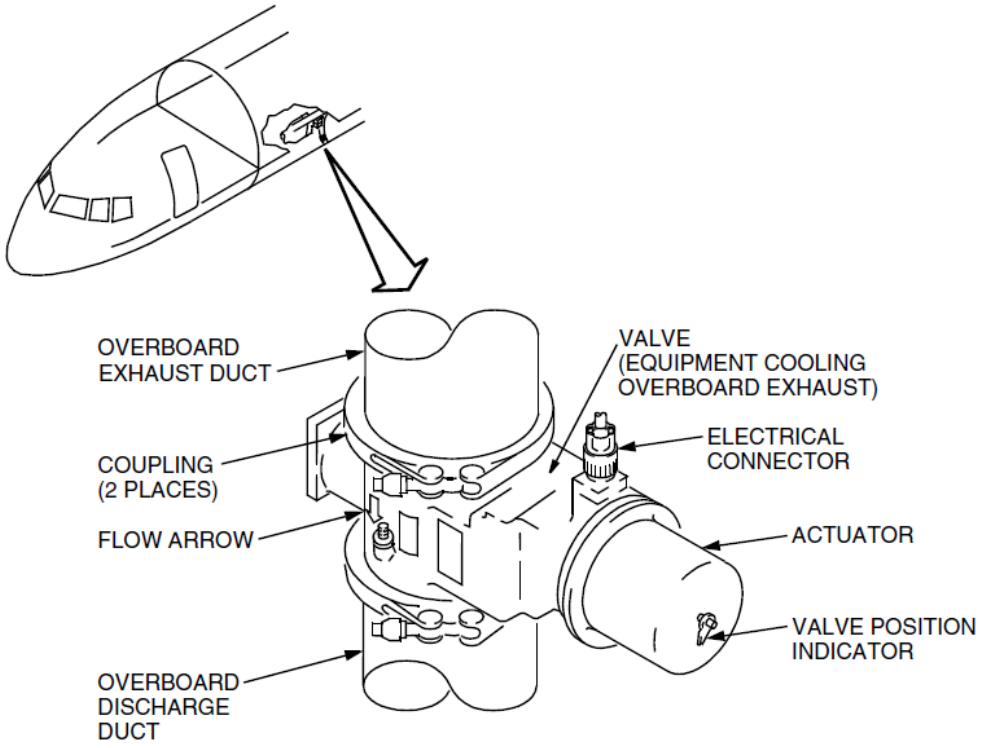
21-58-07A

Defer Auto Cabin Pressure Control System inoperative per 21-31-01 (M) procedures for unpressurized flight.

Continued Next Page

21-58-07B

1. Place Left Recirculating Fan switch off.
2. A/C 601-630, 5501-5528, and 6901-6904: Simulate flight mode. A/C 631 and subs, 5529 and subs, 6819-6823: Place equipment cooling switch to the ALTN position.
3. Open forward cargo compartment left sidewall panel located four feet aft of forward bulkhead. Ensure valve actuator position indicator is in the SMOKE position. (Should the valve move toward the closed position the valve actuator will not allow it to close completely thus insuring smoke clearance capability for the forward equipment cooling system.)
4. Disconnect and stow the electrical connector from the Forward Equipment Cooling Overboard Exhaust Valve.
5. A/C 601-630, 5501-5528, and 6901-6904: Restore airplane to Ground Mode. A/C 631 and subs, 5529 and subs, 6819-6823: De-select the ALTN equipment cooling mode.
6. Close sidewall panel.
7. Press L RECIRC FAN switch to ON.



FORWARD EQUIPMENT COOLING OVERBOARD EXHAUST VALVE

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-58-08	Aft Equipment Cooling Supply Fans **"DISP.APPR.REQ'D"**	**Y**	2	1	**C**	**(O)** One may be inoperative provided operations do not require use of HF radio or ADF navigation equipment. Theatre Restrictions May Apply

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-58-08	Near EQUIP COOLING Panel	___ Aft Equipment Cooling Supply Fan INOP

(O) PROCEDURES

Ensure that the EQUIP COOLING switchlight is not selected to the ALTN position. The OVHT light will be illuminated until the airplane transitions from ground to air mode.

NOTE: With EICAS status message "EQPT CLG FAN" displayed and one aft equipment cooling supply fan confirmed to be inoperative, flight may be conducted provided HF radio or ADF navigation equipment is not required.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-58-13	Equipment Cooling Airflow Detection System	**N**	1	0	**C**	**(M)** May be inoperative provided equipment cooling airflow is verified to operate normally PRIOR TO EACH DEPARTURE (Log Book Entry Required). **Repetitive Check Required (Yellow Placard)**

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-58-13	Near EQUIP COOLING Panel	Equipment Cooling Airflow Detection System INOP

(M) PROCEDURES

When the equipment cooling airflow detection system is inoperative, indicated by EICAS status messages EQPT CLG FLOW, EQPT CLG SENSOR or EQPT CLG TEST being displayed, use the following procedures to verify equipment cooling airflow is normal. If normal equipment cooling cannot be established then the airplane cannot be dispatched. **PRIOR TO EACH DEPARTURE:**

"EQPT CLG FLOW" displayed:

Remove and stow the connector from the equipment cooling low flow detector and perform the following procedures based on the associated EICAS maintenance message:

- FWD EQ SUP FLOW - Remove the right HSI per maintenance manual instructions and verify that airflow can be felt with a hand located against the first officers control column. Reinstall the HSI.
- AFT EQ FLOW - Remove a unit (such as the cabin temperature controller) from the E6 rack and verify that airflow can be felt with a hand placed against the bottom of the next higher shelf. Reinstall the unit.

"EQPT CLG SENSOR" displayed:

Perform the following procedures based on the associated EICAS Maintenance message.

- FWD EQ SUP SNSR - Remove the right HSI per maintenance manual instructions and verify that airflow can be felt with a hand located against the first officers control column. Reinstall the HSI.
- FWD EQ EXH SNSR - Verify that air is exhausted at the equipment cooling overboard exhaust valve.
- AFT EQ SUP SNSR - Remove a unit (such as the cabin temperature controller) from the E6 rack and verify that airflow can be felt with a hand placed against the bottom of the next higher shelf. Reinstall the unit.

"EQPT CLG TEST" displayed:

Remove and stow the connector from the equipment cooling low flow detector and perform the following procedures based on the associated EICAS maintenance message:

- FWD EQ SUP FLOW - Remove the right HSI per maintenance manual instructions and verify that airflow can be felt with a hand located against the first officers control column. Reinstall the HSI.
- FWD EQ EXH FLOW - Verify that air is exhausted at the equipment cooling overboard exhaust valve.
- AFT EQ FLOW - Remove a unit (such as the cabin temperature controller) from the E6 rack and verify that airflow can be felt with a hand placed against the bottom of the next higher shelf. Reinstall the unit.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-58-14	Forward Equipment Cooling Auxiliary Supply Fan (ETOPS Configured Aircraft Only) **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	Except for ER operations (ETOPS), may be inoperative.

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-58-14	Near EQUIP COOLING Panel	Forward Equipment Cooling Auxiliary Supply Fan INOP

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-58-15	Forward Equipment Cooling Air Filter	**N**	1	0	**C**	**(M)** May be inoperative removed provided: a) All forward equipment cooling supply fans operate normally, and b) Inlet area is inspected and found to be free of foreign objects.

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-58-15	Near EQUIP COOLING Panel	Forward Equipment Cooling Air Filter INOP

(M) PROCEDURES

21-58-15

1. Open the No. 1 cargo door (821) (AMM 06-46-00).
2. On the left side, remove the third sidewall panel aft of the cargo compartment forward end liner, opposite forward cargo door (AMM 25-50-02).
3. Open filter housing and release latches on the top and bottom of unit.
4. Remove the filter.
5. Inspect the inlet area to ensure it is free of foreign objects.
6. Re-install the removed sidewall panel.
7. Close the No. 1 cargo door.

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**	**(M)** May be inoperative provided associated zone trim air modulating valve or trim air regulating/shutoff valve remains closed.

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-61-01	Near Air Conditioning Control Panel	____ Cabin COMPT TEMP Control System INOP

NOTE: If affected compartment temperature becomes too hot or too cold, select trim air OFF to achieve 75°F control.

(M) PROCEDURES

Accomplish one of the following procedures:

PROCEDURE 1 Associated Zone Trim Air Modulating Valve CLOSED:

Position affected Compartment Temperature Control as follows:

1. FWD CAB, MID CAB, or AFT CAB, rotate temperature control to OFF.
2. Check on EICAS ECS/MSG page that affected TRIM VALVE is in the full CLOSED (0.00 to 0.05) position.
3. Check that the affected Zone INOP Light illuminates.

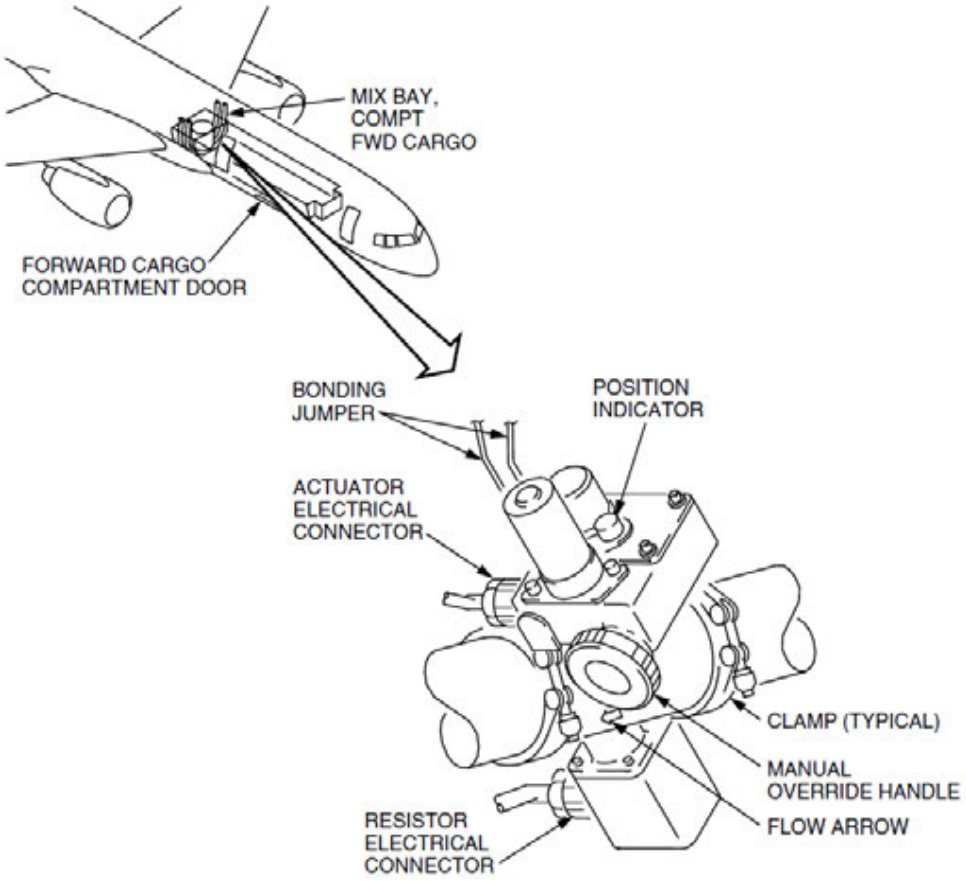
   NOTE: If the associated Zone Trim Air Modulating Valve does not indicate full CLOSED using PROCEDURE 1, use either PROCEDURE 2 or 3 below.

PROCEDURE 2 Associated Zone Trim Air Modulating Valve CLOSED Manually:

Maintenance is Required and Flight Crew May NOT Placard

1. Place both affected pack selectors to OFF.
2. Pull and secure the applicable ZONE TEMP CONT VLV CL circuit breaker for affected valve on overhead circuit breaker panel (P11).
3. Open No. 1 cargo door and remove bulkhead lining panel at aft end of forward cargo compartment, locate trim air modulating valve and verify to be closed.
4. Check valve position and if not CLOSED, rotate the manual override knob counter clockwise until the position indicator on valve shows valve CLOSED.
5. Disconnect, cap and stow electrical connector from valve.

Continued Next Page



TRIM AIR MODULATING VALVE

PROCEDURE 3 Trim Air Regulating / Shutoff Valve CLOSED:

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 CABIN TRIM AIR circuit breaker 11P15 on overhead circuit breaker panel (P11).

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-61-02	Flight Deck COMPT TEMP Control System	**Y**	1	0	**C**	**(M)** May be inoperative provided associated zone trim air modulating valve or trim air regulating/shutoff valve remains closed.

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-61-02	Near Air Conditioning Control Panel	Flight Deck COMPT TEMP Control System INOP

NOTE: If flight deck temperature becomes too hot or too cold, select trim air OFF to achieve 75°F control.

(M) PROCEDURES

Accomplish one of the following procedures:

PROCEDURE 1 - Associated Zone Trim Air Modulating Valve CLOSED:

1. Position FLT DK Compartment Temperature Control to OFF.
2. Check on EICAS ECS / MSC page that the FLT DK TRIM VALVE is in the full closed (0.00 to 0.05) position.
3. Check that the affected Zone INOP Light illuminates.

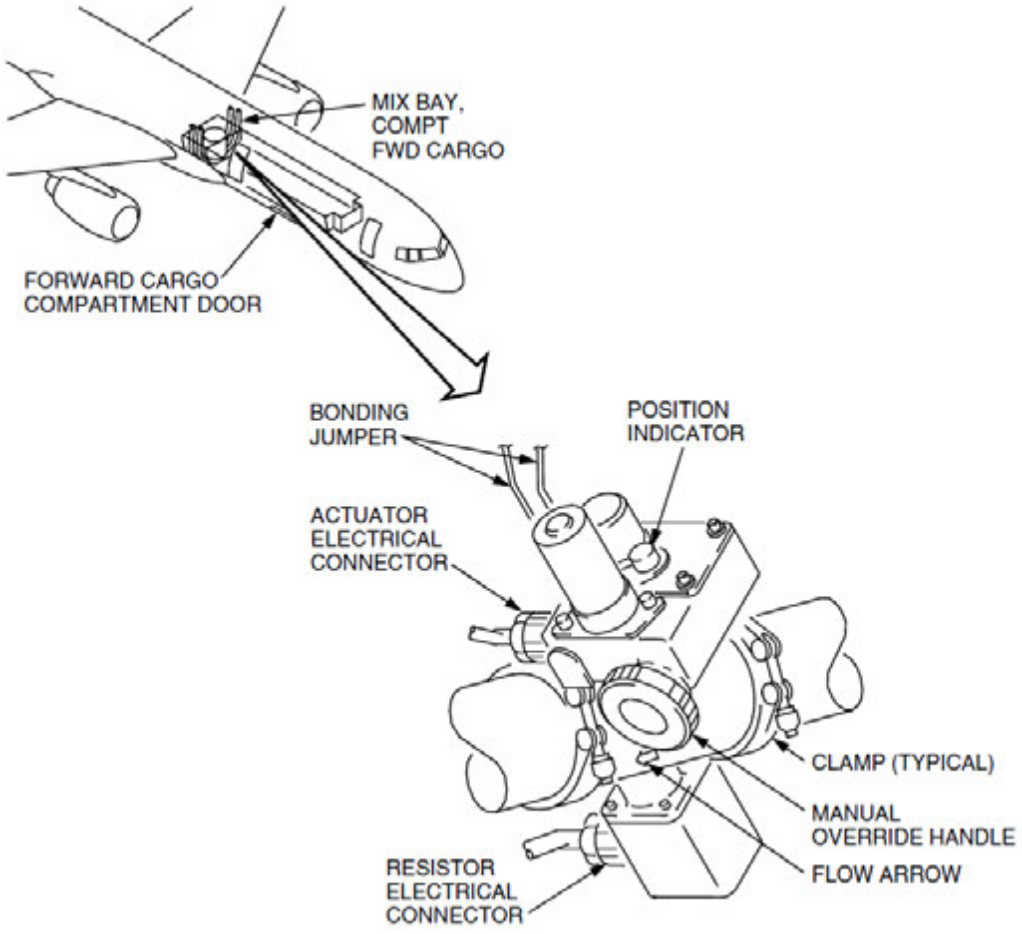
   NOTE: If there is reason to suspect that the Zone Trim Air Modulating Valve will not stay CLOSED using PROCEDURE 1, use either PROCEDURE 2 or 3 below.

PROCEDURE 2 - Associated Zone Trim Air Modulating Valve CLOSED Manually:

Maintenance is Required and Flight Crew May NOT Placard

1. Place affected zone selectors to OFF.
2. Place both affected pack selectors to OFF.
3. Pull and secure the applicable ZONE TEMP CONT VLV CL circuit breaker for affected valve on overhead circuit breaker panel (P11).
4. Open No. 1 cargo door and remove bulkhead lining panel at aft end of forward cargo compartment and locate trim air modulating valve to be closed.
5. Check valve position, if not closed, rotate the manual override knob counter clockwise until the position indicator on valve shows valve closed.
6. Disconnect, cap and stow electrical connector from valve.

Continued Next Page



TRIM AIR MODULATING VALVE

PROCEDURE 3 - Trim Air Regulating / Shutoff Valve CLOSED:

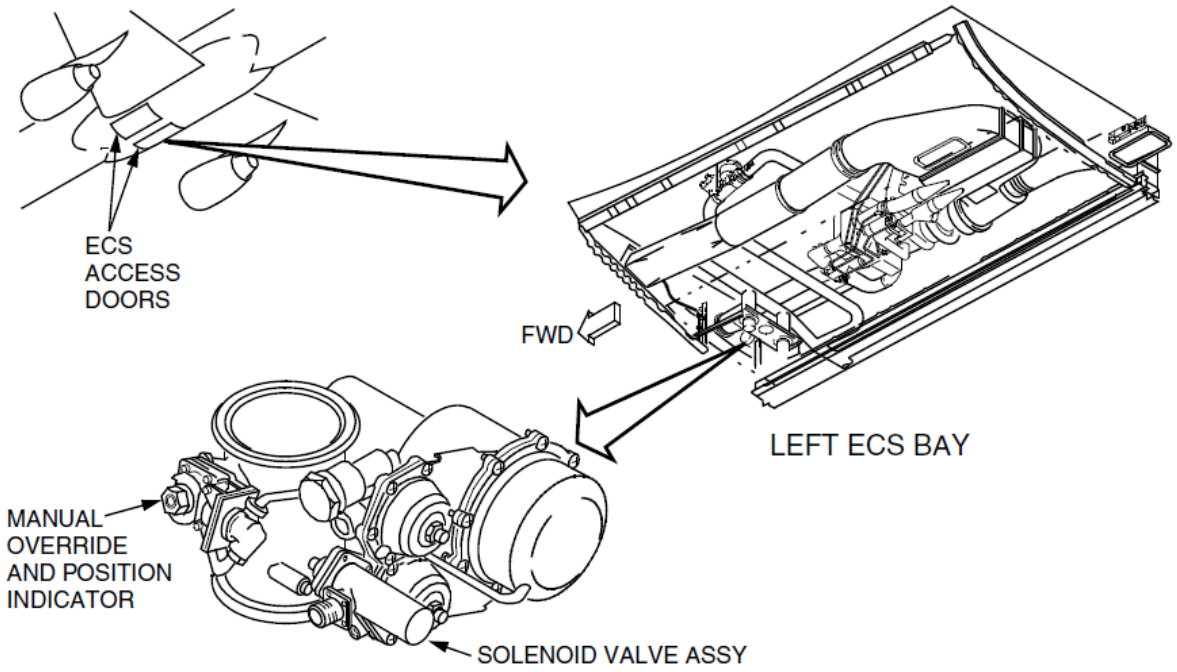
1. Press TRIM AIR switchlight on P5 panel to OFF.
2. Check that amber TRIM AIR OFF light comes on.
3. Pull and secure the CABIN TRIM AIR circuit breaker 11P15 on overhead circuit breaker panel (P11).

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

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-61-03	Near Air Conditioning Control Panel	Trim Air Regulating/ Shutoff Valve INOP

(M) PROCEDURES

1. Press TRIM AIR switchlight on P5 panel to off position.
2. Open left ECS door (193CL or 194CL).
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.



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	**Y**	-	0	**C**	**(O)(M)** May be inoperative 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	TAB LOCATION	PLACARD TEXT
21-61-04A	Near Air Conditioning Control Panel	___ Zone Trim Air Modulating Valve INOP CLOSED
21-61-04B	Near Air Conditioning Control Panel	___ Zone Trim Air Modulating Valve INOP

(O) PROCEDURES

21-61-04A

If Flight Deck, FWD, MID (-300 aircraft) or AFT Cabin temperature becomes too hot or too cold, select trim air OFF to achieve 75F (24C) control.

(M) PROCEDURES

21-61-04A

Accomplish one of the following procedures:

PROCEDURE 1 Associated Zone Trim Air Modulating Valve CLOSED:

1. Position affected Compartment Temperature Control as follows:
   - FLT DECK, FWD CAB, MID CAB (-300 aircraft) or AFT CAB, rotate temperature control to OFF.
2. Check on EICAS ECS/MSG page that affected TRIM VALVE is in the full CLOSED (0.00 to 0.05) position.
3. Check that the affected Zone INOP Light illuminates.

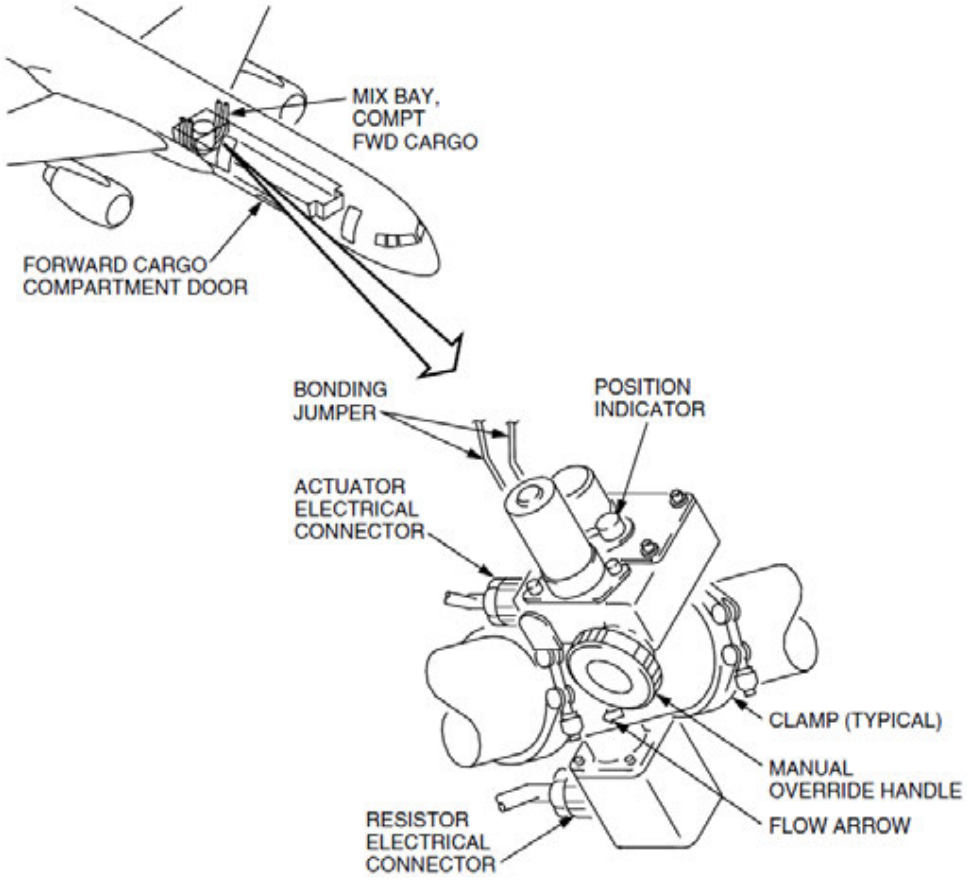
   NOTE: If the associated Zone Trim Air Modulating Valve does not indicate full CLOSED using PROCEDURE 1, use PROCEDURE 2 below.

PROCEDURE 2 Associated Zone Trim Air Modulating Valve CLOSED Manually:

Maintenance is Required and Flight Crew May NOT Placard

1. Place both affected pack selectors to OFF.
2. Pull and secure the applicable ZONE TEMP CONT VLV CL circuit breaker for affected valve on overhead circuit breaker panel (P11).
3. Open No. 1 cargo door and remove bulkhead lining panel at aft end of forward cargo compartment, locate trim air modulating valve and verify to be closed.
4. Check valve position and if not CLOSED, rotate the manual override knob counter clockwise until the position indicator on valve shows valve CLOSED.
5. Disconnect, cap and stow electrical connector from valve.

Continued Next Page



TRIM AIR MODULATING VALVE

	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	TAB LOCATION	PLACARD TEXT
21-61-05	Near Air Conditioning Control Panel	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**	-	0	**C**	**(O)(M)** May be inoperative provided associated trim air modulating valve(s) remains closed.
21-61-06B	COMPT TEMP INOP Lights	**Y**	-	0	**C**	**(M)** May be inoperative provided trim air regulating/shutoff valve remains closed.

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-61-06A	Near COMPT TEMP INOP Light	___ COMPT TEMP INOP Light INOP
21-61-06B	Near COMPT TEMP INOP Light	___ COMPT TEMP INOP Light INOP

(O) PROCEDURES

21-61-06A

If Flight Deck, FWD, MID or AFT Cabin temperature becomes too hot or too cold, select trim air OFF to achieve 75F (24C) control.

(M) PROCEDURES

21-61-06A

Accomplish one of the following procedures:

PROCEDURE 1 Associated Zone Trim Air Modulating Valve CLOSED:

1. Position affected Compartment Temperature Control as follows:
   - FLT DK, FWD CAB, MID CAB, or AFT CAB, rotate temperature control to OFF.
2. Check on EICAS ECS/MSG page that affected TRIM VALVE is in the full CLOSED (0.00 to 0.05) position.

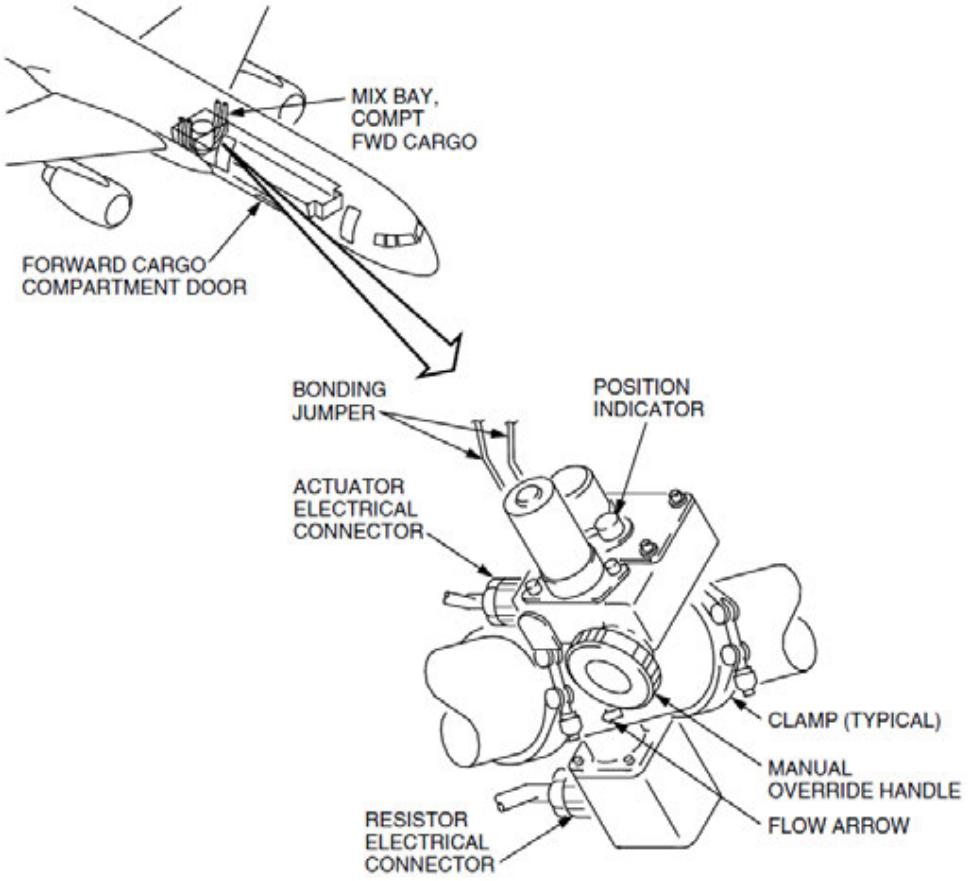
NOTE: If the associated Zone Trim Air Modulating Valve does not indicate full CLOSED using PROCEDURE 1, use PROCEDURE 2 below or dispatch per 21-61-06B.

PROCEDURE 2 Associated Zone Trim Air Modulating Valve CLOSED Manually:

Maintenance is Required and Flight Crew May NOT Placard

1. Place both affected pack selectors to OFF.
2. Pull and secure the applicable ZONE TEMP CONT VLV CL circuit breaker for affected valve on overhead circuit breaker panel (P11).
3. Open No. 1 cargo door and remove bulkhead lining panel at aft end of forward cargo compartment, locate trim air modulating valve and verify to be closed.
4. Check valve position and if not CLOSED, rotate the manual override knob counter clockwise until the position indicator on valve shows valve CLOSED.
5. Disconnect, cap and stow electrical connector from valve.

Continued Next Page



TRIM AIR MODULATING VALVE

21-61-06B

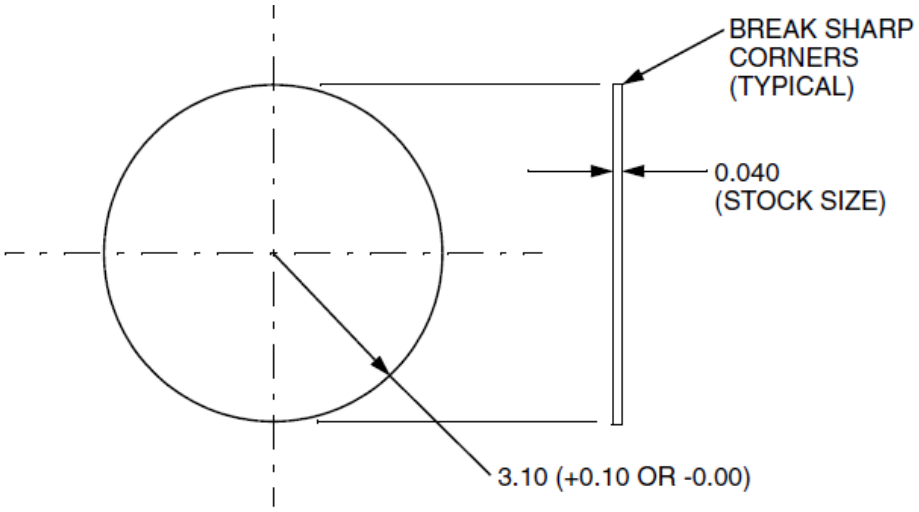
1. Press TRIM AIR switchlight on P5 panel to OFF.
2. Check that amber TRIM AIR OFF light illuminates.
3. Pull and secure the CABIN TRIM AIR circuit breaker (11P15) on overhead circuit breaker panel (P11).

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	TAB LOCATION	PLACARD TEXT
21-61-07	Near Air Conditioning Control Panel	___ Trim Air Check Valve INOP

(M) PROCEDURES

1. An inoperative trim air check valve is secured closed by installing a blanking plate on the downstream side of the inoperative trim air check valve. The blanking plate may be installed on either the left or right side, depending on which valve is inoperative (or on either side if both are inoperative).
2. Obtain blanking plate (213T2412-1) or manufacture per the following:



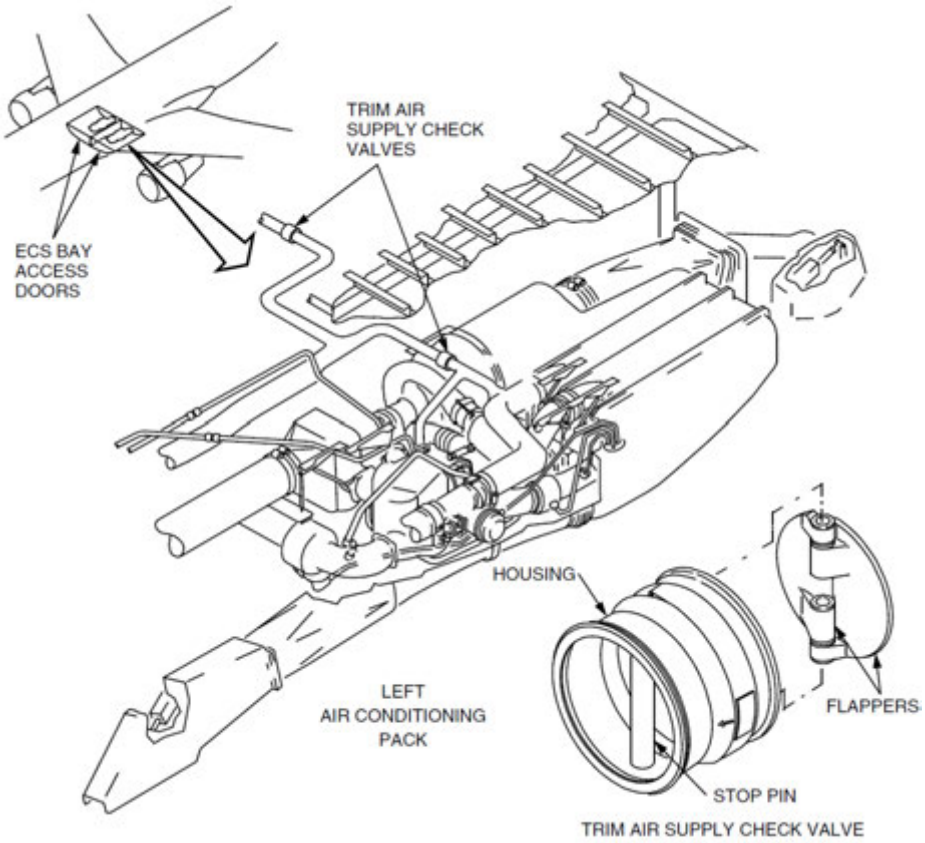
ALLOWABLE MATERIALS:
A. TITANIUM 6AL-4V PER MIL-T-9046 TYPE 3 COMP C
B. INCONEL 718 PER AMS 5596
C. 301CRES PER MIL-S-5059 1/2, 3/4, OR FULL HARD

BLANKING PLATE SPECIFICATIONS
(DIMENSIONS IN INCHES)

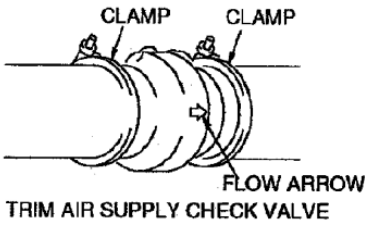
WARNING: REMOVE PRESSURE FROM THE PNEUMATIC SYSTEM. PRESSURE IN THE PNEUMATIC SYSTEM CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

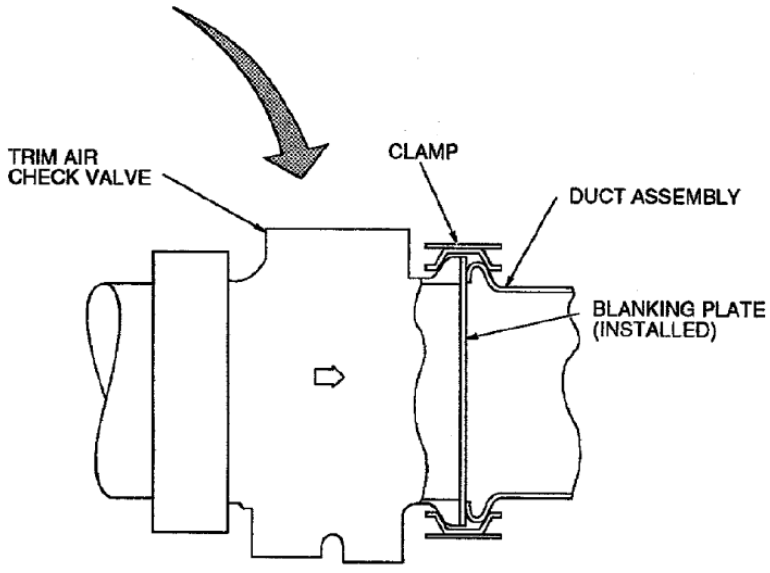
3. Remove pressure from the pneumatic system (AMM 36-00-00).
4. Place both air conditioning pack control selectors on pilot's overhead panel P5 in OFF position.
5. Lower left (right) air conditioning pack access door 193HL(194ER).
6. Loosen clamp on downstream side of the left (or right) trim air check valve and slide clamp along duct.
7. Slip blanking plate between duct assembly and trim air check valve.
8. Reinstall clamp. Torque clamp nut to 45 inch-pounds.

Continued Next Page



TRIM AIR SUPPLY CHECK VALVE INSTALLATION





Continued Next Page

9. Perform leakage test per the following:
   a) Provide pneumatic power (AMM 36-00-00).
   b) Place both air conditioning pack control selectors to AUTO position.
   c) Press TRIM AIR switchlight, on P5 panel, to OFF position.
      1) Check valve flange for leakage.
      2) Diffused leakage is acceptable.
   d) Jet blast leakage must be repaired by joint or clamp realignment.
10. Put the airplane back to its usual condition:
11. Close left (right) air conditioning pack access door 193HL(194ER).
12. Remove pneumatic power.

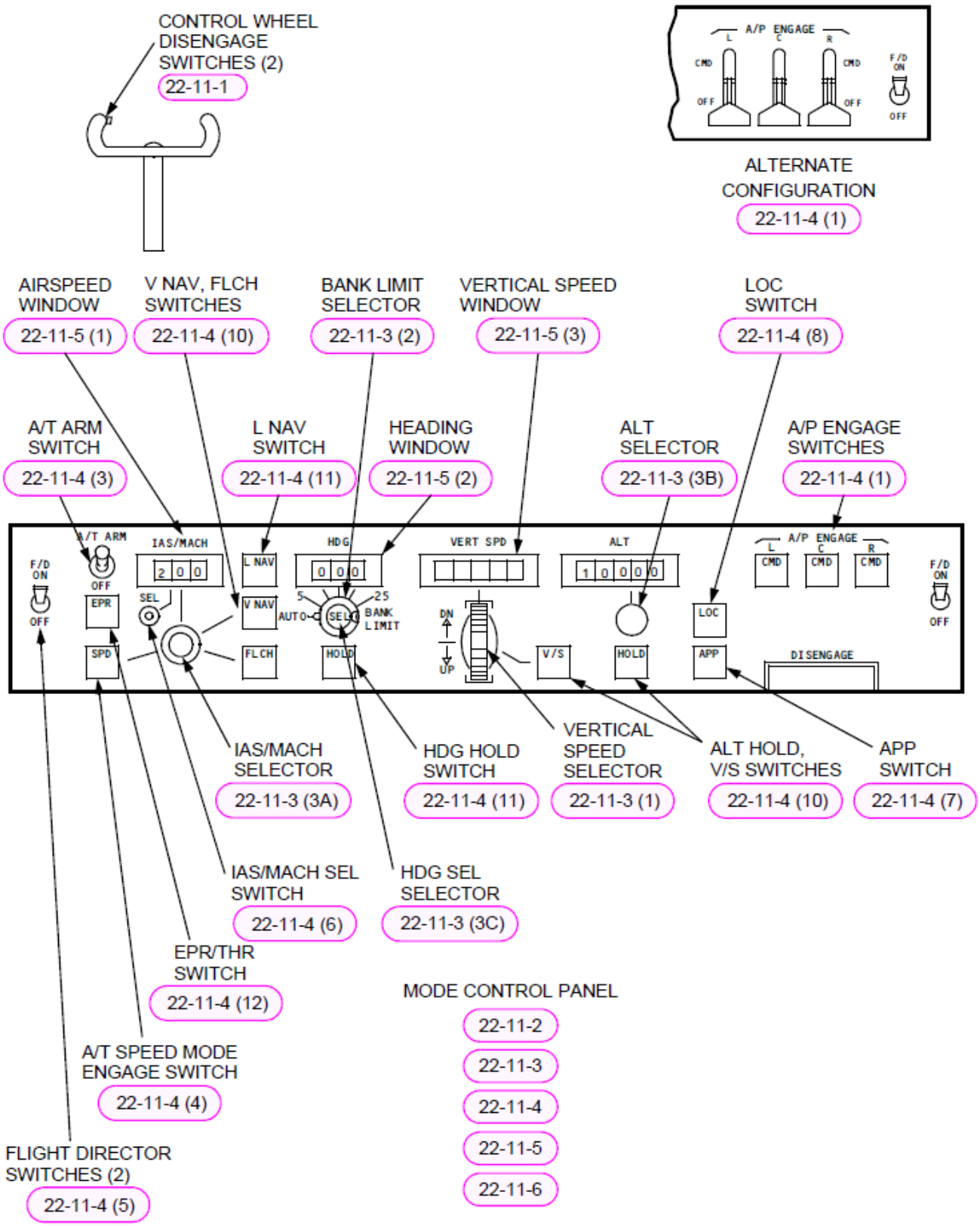
		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
21-65-01	COMPT TEMP Indications	**Y**	3	0	**C**	

MEL ITEM	TAB LOCATION	PLACARD TEXT
21-65-01	Near Affected COMPT TEMP Indicator	___ COMPT TEMP Indicator INOP

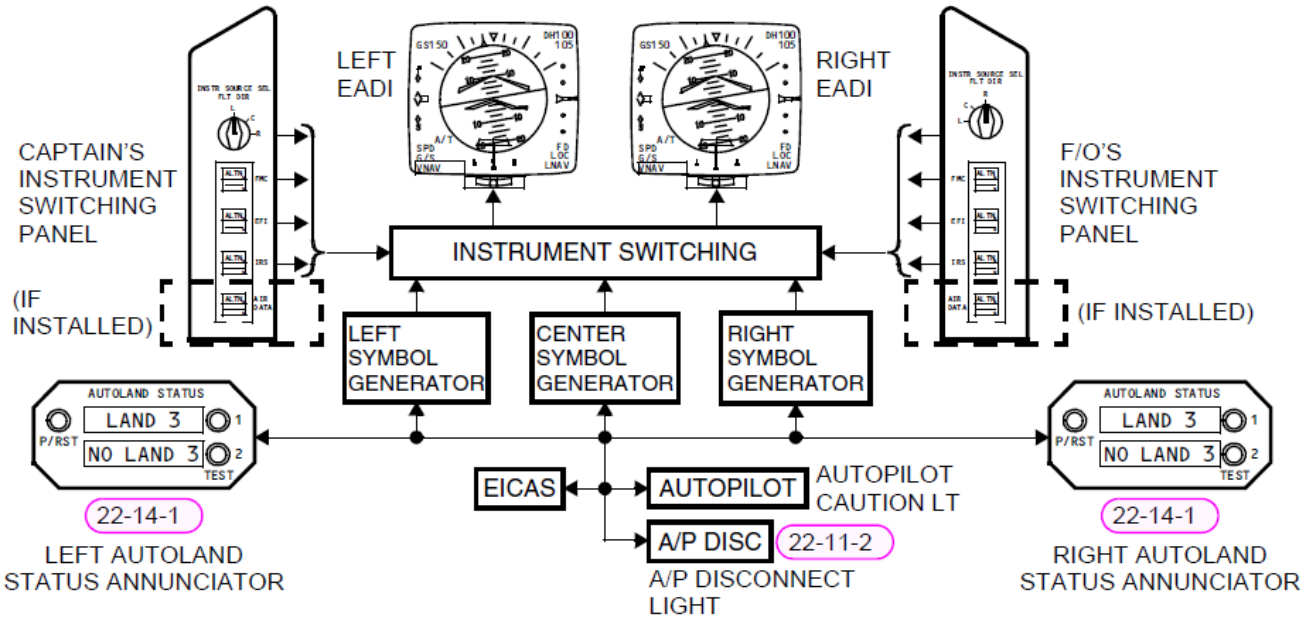
Intentionally Left Blank

ATA 22 Contents

22-00-00L LLM Category II/III Status 22-5
22-10-01A Autopilot Systems (-200 A/C) 22-6
22-10-01B Autopilot Systems (-300 A/C) 22-6
22-10-01C Autopilot Systems (-200 A/C) 22-6
22-10-01D Autopilot Systems (-300 A/C) 22-7
22-10-01E Autopilot Systems 22-7
22-11-01A Control Wheel Disengage Switches 22-11
22-11-01B Control Wheel Disengage Switches 22-11
22-11-02 A/P DISC Light 22-12
22-11-03A Mode Control Panel Selectors VERT SPD Selector (DN & UP) 22-13
22-11-04A A/P Engage Switches (L CMD, C CMD, R CMD) 22-15
22-11-04C A/P CWS Engage Switches 22-15
22-11-04D A/T ARM Switch 22-15
22-11-04E A/T SPD Mode Engage Switch 22-15
22-11-04F F/D Switches 22-15
22-11-04G IAS/MACH SEL Switch 22-15
22-11-04H APP Switch 22-16
22-11-04I LOC Switch 22-16
22-11-04J B/CRS Switch 22-16
22-11-04K V NAV, FL CH, V/S, ALT HOLD Switches 22-16
22-11-04L L NAV, HDG HOLD Switches 22-16
22-11-04M EPR/THR Switch 22-16
22-11-05A Airspeed (IAS/MACH) 22-19
22-11-05B Heading (HDG) 22-19
22-11-05C Vertical Speed (VERT SPD) 22-19
22-11-06A Autopilot Engage Switch Lights (CMD) 22-20
22-11-06B Mode Selector Switch Lights 22-20
22-14-01A Autoland Status Annunciators 22-21
22-14-01B Autoland Status Annunciators 22-21
22-14-02A Automatic Landing System (AUTOLAND) 22-22
22-14-02B Triple Channel Autoland (LAND 3) 22-22
22-21-01 Yaw Dampers 22-23
22-30-01A Thrust Management System (Including Autothrottle System) 22-25
22-30-01B Autothrottle Servo 22-25
22-30-01C Autothrottle Disconnect Switches 22-25
22-30-01E Thrust Mode Select Panel Derate Switches 22-25
22-30-01F Thrust Mode Select Panel TEMP SEL Selector 22-25
22-30-01G Thrust Mode Select Panel TO/GA Switch 22-25
22-30-01H Thrust Mode Select Panel CON Switch 22-25
22-30-01I Thrust Mode Select Panel CRZ Switch 22-25
22-30-02A Go-Around Switches 22-28
22-34-01A Autothrottle Disconnect (A/T DISC) Light 22-30
22-41-01A Maintenance Control Display Panel (MCDP) 22-31

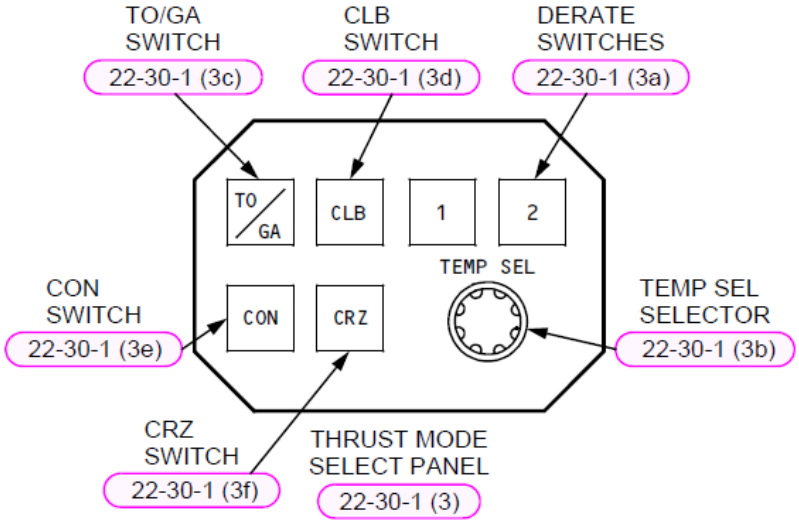


AUTOMATIC FLIGHT CONTROL

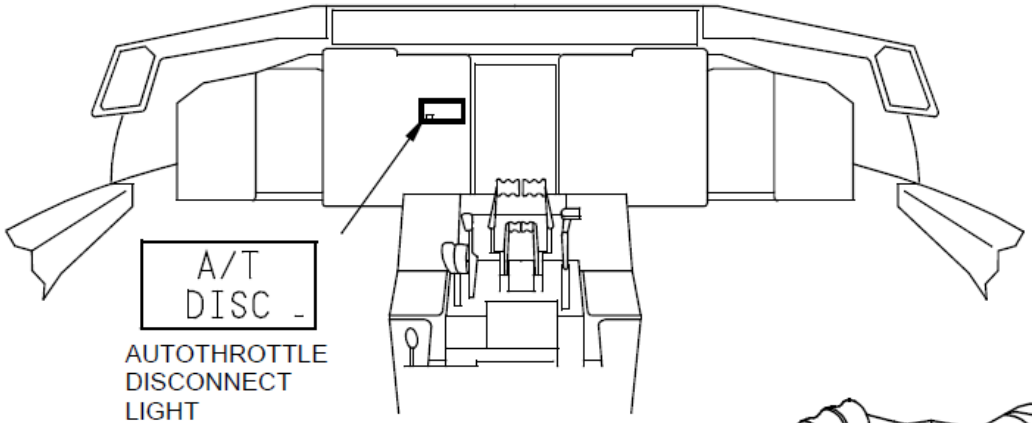


22-14-2

AUTOMATIC LANDING SYSTEM (AUTOLAND)

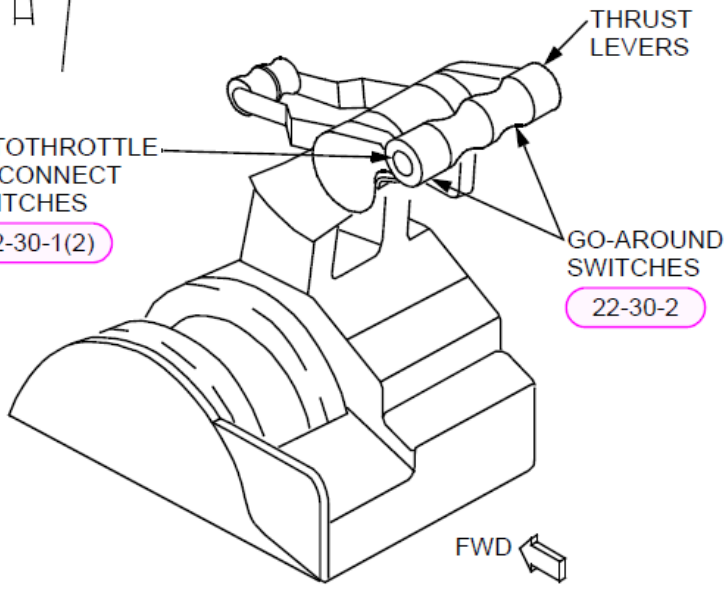


AUTOMATIC FLIGHT CONTROL



AUTOTHROTTLE DISCONNECT LIGHT

22-34-1

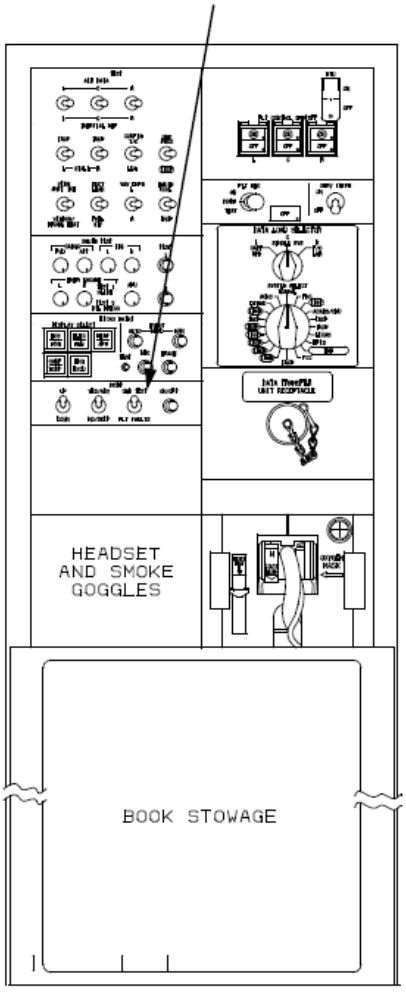


22-30-1(2)

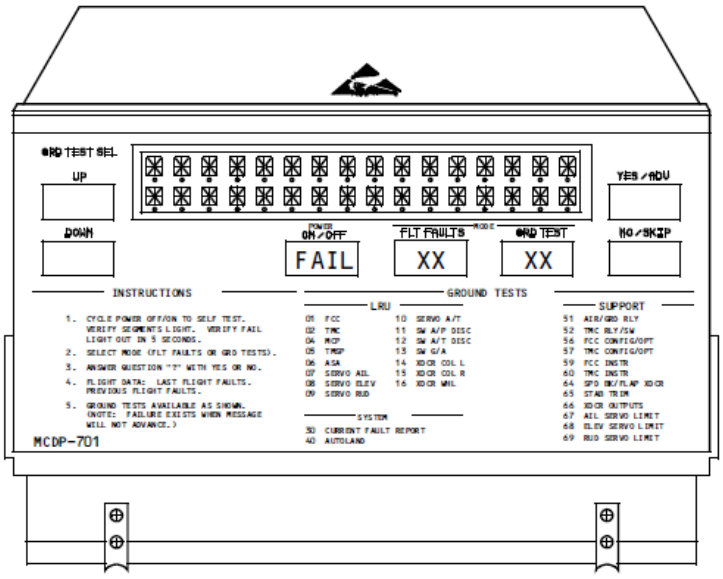
22-30-2

REMOTE MCDP PANEL

22-41-1 (1)



P61 PANEL



MAINTENANCE CONTROL DISPLAY PANEL (MCDP)

22-41-1

AUTOMATIC FLIGHT CONTROL

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
22-00-00L LLM Category II/III Status **"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 the MCC.

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

(M) PROCEDURES

1. Create a new log page in the aircraft logbook using the appropriate MEL Item Number (contact MCC for instructions).
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
22-10-01A	Autopilot Systems (-200 A/C) **"DISP.APPR.REQ'D"**	**Y**	3	2	**C**	**(M)** One 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 (-300 A/C) **"DISP.APPR.REQ'D"**	**Y**	3	2	**C**	**(O)(M)** One may be inoperative provided: a) Associated FCC SERVO circuit breaker is pulled and secured, b) Autopilot Flight Director System is verified not in a single source configuration PRIOR TO EACH DEPARTURE, and c) 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. **Repetitive Check Required (Yellow Placard)**
22-10-01C	Autopilot Systems (-200 A/C) **"DISP.APPR.REQ'D"**	**Y**	3	1	**C**	**(M)** Two may be inoperative provided: a) At least two FCC power circuit breakers remain IN, b) Associated FCC SERVO circuit breakers are pulled and secured, and c) Approach minimums do not require their use. 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.

Continued Next Page

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
	AUTOPILOT SYSTEMS (CONT'D)					
22-10-01D	Autopilot Systems (-300 A/C) **"DISP.APPR.REQ'D"**	**Y**	3	1	**C**	**(O)(M)** Two 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) Autopilot Flight Director System is verified not in a single source configuration PRIOR TO EACH DEPARTURE, and d) Approach minimums do not require their use. 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. **Repetitive Check Required (Yellow Placard)**
22-10-01E	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) Number of flight segments and segment duration is acceptable to flight crew, d) Aircraft must be dispatched to remain at or below FL 280, e) Approach minimums do not require their use, and f) Enroute operations and approach minimums do not require the use of autopilot; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements. CAT II/III – RVSM Operations Not Authorized Theatre Restrictions May Apply

MEL ITEM	TAB LOCATION	PLACARD TEXT
22-10-01A	Near Autopilot MCP	____ Autopilot INOP
22-10-01B	Near Autopilot MCP	____ Autopilot INOP
22-10-01C	Near Autopilot MCP	____ Autopilot INOP
22-10-01D	Near Autopilot MCP	____ Autopilot INOP
22-10-01E	Near Autopilot MCP	All Autopilots INOP

Continued Next Page

(O) PROCEDURES

22-10-01B, 22-10-01D

NOTE: "Single source" refers to single source of either inertial reference or stabilizer position data. The FCC Single Source option allows autopilot engagement in the air in a single source configuration after inflight sensor failures.

Check the Autoland Status Annunciator on the instrument panel.

1. If autoland status is "NO LAND 3" or blank, AFDS is not in a single source configuration. No further single source tests are necessary.
2. If autoland status is "NO AUTOLAND", AFDS may be in a single source configuration, contact MCC, single source verification must be performed by Maintenance.

22-10-01E

1. Review the destination weather and approach charts to determine if an approach may be conducted without the use of an autopilot.
2. Refer to the Airway Manual, Airspace & Enroute Navigation, NAV, for RVSM procedures and contingencies.

(M) PROCEDURES

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

1. Open and collar the associated 28 VDC P11 panel SERVO circuit breaker(s) for the failed autopilot channel(s):
   a) FLT CONT CMPTR SERVO L
   b) FLT CONT CMPTR SERVO C
   c) FLT CONT CMPTR SERVO R
2. Confirm the minimum number of the following 115VAC P11 panel FCC power circuit breakers are closed:
   a) FLT CONT CMPTR PWR L
   b) FLT CONT CMPTR PWR C
   c) FLT CONT CMPTR PWR R

   NOTE 1: Sensor data availability is maximized if all FCC breakers are closed.

   NOTE 2: If an inoperative FCC has a fault that trips its circuit breaker, dispatch is allowed provided the affected FCC 115 VAC circuit breaker is secured open.
3. For MELs 22-10-01A, 22-10-01B, 22-10-01C, and 22-10-01D, confirm the AFDS is not in a single source configuration.

   NOTE: "Single source" refers to single source of either inertial reference or stabilizer position data. The FCC single source option allows autopilot engagement in the air in a single source configuration after inflight sensor failures.

   a) To confirm the AFDS is not in a single source configuration, check the autoland status annunciator on the instrument panel.
      1) For autoland status NO LAND 3 or blank, AFDS is not in a single source configuration. No further single source tests are necessary.

         If any of the following steps are required to be accomplished, *Maintenance is Required and Flight Crew May NOT Placard.*
      2) For autoland status NO AUTOLAND, the AFDS may be in a single source configuration and autopilot engagement may be inhibited in the air.

Continued Next Page

b) For autoland status NO AUTOLAND displayed, use the MCDP to determine if the FCCs are in a single source configuration as follows:

1) For -200 aircraft, perform MCDP Ground Test 1, FCC Test. This test should be completely accomplished for Left, Center and Right FCCs.

A. Verify that the following fault message is not displayed:
NO INFC FCC L(C,R) X-CH BUS L(C,R) IN

B. If this message is displayed, the AFDS is in a single source configuration and dispatch with autopilot operation is not permitted. The airplane may be dispatched by considering all autopilots inoperative using MEL 22-10-01E.

2) For -300 aircraft, in the main equipment center, or using optional flight deck controls, turn MCDP power to ON.

A. Confirm the message SINGLE SOURCE is not displayed at power up.

B. If this message is displayed, the AFDS is in a single source configuration and dispatch with autopilot operation is not permitted. The airplane may be dispatched by considering all autopilots inoperative using MEL 22-10-01E.

4. If a hydraulic system leak is suspected or reported and an autopilot electro-hydraulic servo valve (EHSV) is determined to be the source of the leak, the EHSV may be deactivated.
If necessary, deactivate the affected EHSV as follows:

NOTE 1: An inspection to identify possible EHSV leaks is not required prior to deferral of the Autopilot System.

NOTE 2: The following procedure is generic for the three autopilot pitch control servos (APCS), the three autopilot lateral control servos (ALCS), and the three autopilot directional control (rollout guidance) servos (ARGS).

a) Remove the associated hydraulic pressure at the P5 panel.

1) Left APCS/ALCS/ARGS - Left hydraulic system

2) Center APCS/ALCS/ARGS - Center hydraulic system

3) Right APCS/ALCS/ARGS - Right hydraulic system

b) Set the following P61 panel switches to OFF:

1) FLT CONTROL SHUTOFF L

2) FLT CONTROL SHUTOFF C

3) FLT CONTROL SHUTOFF R

c) Set the P10 control stand STAB TRIM switches to CUTOUT.

d) Set the mode control panel F/D switches to OFF.

e) Open the following P11 panel circuit breakers:

1) STAB TRIM SHUTOFF L

2) STAB TRIM SHUTOFF R

3) FLT CONT SHUTOFF TAIL L

4) FLT CONT SHUTOFF TAIL C

5) FLT CONT SHUTOFF TAIL R

6) MODE CONT PNL L

7) MODE CONT PNL R

Continued Next Page

8) FLT CONT CMPTR PWR L

9) FLT CONT CMPTR PWR C

10) FLT CONT CMPTR PWR R

11) FLT CONT CMPTR SERV L

12) FLT CONT CMPTR SERV C

13) FLT CONT CMPTR SERV R

f) Gain access to the leaking APCS/ALCS/ARGS (AMM 22-12-01/401, AMM 22-13-03/401 or AMM 22-13-01/401).

g) Remove the pressure and return lines from the autopilot servo.

h) Cap autopilot servo ports with BACC14AG6 or BACC14AG6H caps or equivalent, for 3/8 inch tubing, or BACC14AG4 or BACC14AG4H, for 1/4 inch tubing. Some equivalent parts that may be used during this deferral are BACC14AD0x(J, K, S or D) or MS21914-x(J, K, S or T), where “x” is replaced by “6” or “4” for 3/8 inch or 1/4 inch tubing, respectively.

i) Plug the hydraulic lines with BACP20AU6(J, K or S) or MS21913(J, K, R or T)6 plugs for 3/8 inch tubing, or BACP20AU4(J, K or S) or MS21913(J, K, R or T)4 plugs for 1/4 inch tubing.

j) Close the open circuit breakers.

k) Set the mode control panel F/D switches to ON.

l) Set the P10 control stand STAB TRIM switches to NORM.

m) Set the following P61 panel switches to ON:

1) L TAIL FLT CONTROL SHUTOFF

2) C TAIL FLT CONTROL SHUTOFF

3) R TAIL FLT CONTROL SHUTOFF

		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)** One may be inoperative provided: a) Autopilots are not used below 1,500 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**	Both may be inoperative provided: a) Autopilots are not used, b) Number of flight segments and segment duration is acceptable to flight crew, and c) Enroute operations and approach minimums do not require use of autopilot; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements. CAT II/III Not Authorized Theater Restrictions May Apply

MEL ITEM	TAB LOCATION	PLACARD TEXT
22-11-01A	Near Autopilot MCP	____ Control Wheel Disengage Switch INOP
22-11-01B	Near Autopilot MCP	____ Control Wheel Disengage Switches INOP

(O) PROCEDURES

22-11-01A

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 1,500 feet AGL, b) Approach minimums do not require use of autopilot; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements, and c) All other A/P disengagement alerts operate normally. CAT II/III Not Authorized

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

(O) PROCEDURES

22-11-02

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
22-11-03A	Mode Control Panel Selectors VERT SPD Selector (DN & UP) **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	**(O)** May be inoperative provided FL CH mode operates normally.
22-11-03B	Mode Control Panel Selectors BANK LIMIT Selector	**Y**	1	0	**C**	**(O)** May be inoperative.
22-11-03C	Mode Control Panel Selectors Selector Push Function IAS/MACH	**Y**	1	0	**C**	**(O)** May be inoperative. NOTE: Rotational function of the selector must operate normally.
22-11-03D	Mode Control Panel Selectors Selector Push Function ALT	**Y**	1	0	**C**	**(O)** May be inoperative. NOTE: Rotational function of the selector must operate normally.
22-11-03E	Mode Control Panel Selectors Selector Push Function HDG SEL	**Y**	1	0	**B**	**(O)** May be inoperative. NOTE: Rotational function of the selector must operate normally.

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

Continued Next Page

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, VNAV 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 using available lateral autopilot modes or with autopilot disengaged. No operational restrictions apply with Heading Select inoperative.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	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 and approach minimums do not require their use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements. and b) Number of flight segments and segment duration is acceptable to flight crew, and c) Aircraft must be dispatched to remain at or below FL 280. CAT II/III – RVSM Operations Not Authorized Theatre 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
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 their 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.

Continued Next Page

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
	MODE CONTROL PANEL SWITCHES					
22-11-04H	APP Switch **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	May be inoperative provided approach minimums do not require 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 **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	**(O)** May be inoperative provided RNAV operations do not require their use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements.
22-11-04K	V NAV, FL CH, V/S, ALT HOLD Switches **"DISP.APPR.REQ'D"**	**Y**	4	3	**C**	**(O)** May be inoperative provided: a) Procedures do not require its use, and b) RNAV operations do not require their use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements.
22-11-04L	L NAV, HDG HOLD Switches **"DISP.APPR.REQ'D"**	**Y**	2	1	**C**	**(O)** One may be inoperative provided: a) HDG SEL operates normally, and b) 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.
22-11-04M	EPR/THR Switch	**Y**	1	0	**C**	**(O)** May be inoperative provided both thrust levers are operated manually for takeoff.

Continued Next Page

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

NOTE 1: If one or more A/P Engage Switches is inoperative, comply with Item 22-10-01.

NOTE 2: If one or more F/D Switches is inoperative OFF, comply with Item 34-22-04.

NOTE 3: If A/T ARM switch is inoperative OFF, comply with Item 22-30-01.

(O) PROCEDURES

22-11-04A

If A/P Engage Switches are inoperative, the associated autopilot may not be selectable for an automatic landing. 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. Monitor autoland status annunciators (ASA) for autoland status.

22-11-04B

1. Review the destination weather and approach charts to determine if an approach may be conducted without the use of autopilots.
2. Refer to the Airway manual, Airspace & Enroute Navigation, NAV, for RVSM procedures and contingencies.

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.

Continued Next Page

22-11-04E

With A/T SPD mode engage switch inoperative, Autothrottle Speed mode cannot be manually selected. 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. V NAV normally commands the autothrottle to speeds determined by the FMC, which is also not affected by an inoperative SPD switch.

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

With LOC switch inoperative, the 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.

22-11-04J

With either the LOC or B/CRS switch inoperative, Backcourse mode for backcourse localizer approach is not available. L NAV, HDG SEL, or manual flight may be used.

22-11-04K, 22-11-04L

1. With a pitch and/or roll mode engage switch inoperative, flight crews must consider usage of other autopilot modes appropriate for the planned route.
   a) 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.

   b) Flight Level Change and Vertical Speed modes automatically transition to Altitude Hold even if the ALT HOLD switch is inoperative.
2. For RVSM operations requiring altitude hold capability, either V NAV, ALT HOLD, or VERT SPD may be used.
3. If V NAV, LNAV or VERT SPD is inoperative, 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 (and ADI speed tape, if installed) 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)	**Y**	1	0	**C**	**(O)** May be inoperative provided Vertical Speed mode is not selected.

MEL ITEM	TAB LOCATION	PLACARD TEXT
22-11-05A	Near Autopilot MCP	A/P IAS / MACH Window INOP
22-11-05B	Near Autopilot MCP	A/P HDG Window INOP
22-11-05C	Near 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 Airspeed Indicator, 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**	
22-11-06B	Mode Selector Switch Lights	**Y**	-	-	**C**	Lights for any two switches may be inoperative.
22-11-06C	Mode Selector Switch Lights	**Y**	-	0	**B**	

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

NOTE 1: Mode Selector Switch Lights include autopilot system mode switch lights and thrust management system mode switch lights.

NOTE 2: A switch with one lamp operational is considered to be operating normally.

		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	TAB LOCATION	PLACARD TEXT
22-14-01A	Near Affected Autoland Status Annunciator	F/O's Autoland Status Annunciator INOP
22-14-01B	Near Affected Autoland Status Annunciator	___ 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 use. CAT III Not Authorized

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

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**	**(O)(M)** One may be inoperative provided: a) Remaining yaw damper is verified to operate normally, and b) PRIOR TO EACH DEPARTURE, verify that the switch for the inoperative yaw damper is unlatched. **Repetitive Check Required (Yellow Placard)**

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

(O) PROCEDURES

PRIOR TO EACH DEPARTURE:

Verify that the switch for the inoperative yaw damper is unlatched.

(M) PROCEDURES

1. To verify the proper operation of the remaining yaw damper use the following procedure:
2. Establish electrical and hydraulic power.
3. Verify that the IRS's are aligned and in NAV mode.
4. Position autopilot and flight director switches to OFF on AFDS mode control panel, P55.
5. Verify that Engine Indicating and Crew Alerting System (EICAS) is operational.
6. Select STATUS on EICAS display select panel P9.
7. Press operational YAW DAMPER switch/light on yaw damper panel and verify ON is illuminated.
8. Verify that YAW DAMPER INOP indicator is extinguished.
9. Position YAW DAMPER test switch P61 to operational yaw damper (L or R).
10. Verify IMMEDIATELY that the YAW DAMPER INOP indicator is illuminated amber.
11. 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.
12. Verify that the YAW DAMPER INOP indicator is extinguished in approximately 10 seconds.
13. Unlatch the switch for the inoperative yaw damper.

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 left yaw damper actuator, remove left hydraulic pressure at panel P5. For right yaw damper, remove center hydraulic pressure at panel P5.
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.

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.

   YAW DAMPER L

   - FLT CONT ELEC 1L AC
   - FLT CONT ELEC 1L DC
   - FLT CONT ELEC 2L AC
   - FLT CONT ELEC 2L DC

   YAW DAMPER R

   - FLT CONT ELEC 1R AC
   - FLT CONT ELEC 1R DC
   - FLT CONT ELEC 2R AC
   - FLT CONT ELEC 2R DC
   - STAB TRIM SHUTOFF L
   - STAB TRIM SHUTOFF CENTER
   - FLT CONTROL SHUTOFF TAIL L, C, R

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

   NOTE: Use MS21913K4 plug and MS21914-4K cap or equivalent for pressure lines and MS21913D6 plug and MS21914-6D cap or equivalent for return lines.

7. Cap actuator hydraulic ports.
8. Plug the hydraulic lines.
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 as above.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
22-30-01A	Thrust Management System (Including Autothrottle System) **"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
22-30-01B	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 CON Switch	**Y**	1	0	**C**	**(O)** May be inoperative provided Max Continuous Thrust is set manually if required.
22-30-01I	Thrust Mode Select Panel CRZ Switch	**Y**	1	0	**C**	

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

Continued Next Page

(O) PROCEDURES

22-30-01A

1. With an inoperative Thrust Management Computer, the Autothrottle System will be inoperative and the following flight deck displays and indications will be affected:
   a) EGT amber indications, which are normally inhibited during takeoff or go-around, will not be inhibited.
   b) Reference EPR will not be available.
   c) Assumed temperature will not be available. Takeoff must be performed with normal power.
   d) Thrust reference modes (TO, CLB, etc.) will not be available.
   e) Airplanes that do not have speed tape: the SPD flag may remain in view on the EADI.
   f) If Pegasus FMC Operational Program Software (OPS) part number 3418-HNP-02C-08 or earlier is installed, FMC calculated fuel indications may become erroneous after engine start. OPS part number is displayed on the FMC IDENT page.
2. Refer to ODM – Abnormal section for Thrust Settings – All Engines table.
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.

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

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. When the Autothrottle System is deactivated, the Thrust Management Computer and associated EICAS displays will operate normally. An electrical power interruption may cause TMC calculated EICAS parameters to blank. Momentarily closing and then opening the TMC SERVO circuit breaker will restore the displays.

22-30-01H

1. With CON switch inoperative, Max Continuous Thrust must be set manually.
2. Refer to ODM – Abnormal section for Maximum Continuous Thrust settings.

Continued Next Page

(M) PROCEDURES

22-30-01A

For Thrust Management Computer inoperative, including when it is (stuck) in an initialization loop (flashing displays):

1. Verify that the A/T ARM switch on the Glareshield is OFF.
2. Pull and secure all three autothrottle circuit breakers:
   - TMC AC
   - TMC DC
   - TMC SERVO

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

For an inoperative servo or inoperative disconnect switches, deactivate the Autothrottle (A/T) System as follows:

1. Verify that the A/T ARM switch on the Glareshield is OFF.
2. Pull and secure the TMC SERVO circuit breaker on the P11 overhead panel.

NOTE: When the Autothrottle System is deactivated, the Thrust Management Computer and associated EICAS displays will operate normally. An electrical power interruption may cause TMC calculated EICAS parameters to blank. Momentarily closing and then opening the TMC SERVO circuit breaker will restore the displays.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
22-30-02A Go-Around Switches **"DISP.APPR.REQ'D"**	**N**	2	1	**C**	**(O)(M)** One may be inoperative provided: a) Remaining Go-Around switch is verified to operate normally, b) Approach minimums 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 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 for go-around, 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 its 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	TAB LOCATION	PLACARD TEXT
22-30-02A	Near Autopilot MCP	____ Go-Around Switch INOP
22-30-02B	Near 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 Maintenance Control Display Panel (MCDP) Ground Test #13 (SW G/A).

1. Make sure the following circuit breakers are closed:
   - FLT CONT CMPTR PWR L
   - FLT CONT CMPTR PWR C
   - FLT CONT CMPTR PWR R
   - FLT CONT CMPTR SERVO L
   - FLT CONT CMPTR SERVO C
   - FLT CONT CMPTR SERVO R
   - MODE CONT PNL L
   - MODE CONT PNL R
   - TMC AC
   - TMC DC
   - TMC SERVO
2. Do the MCDP Ground Test 13 - SW GA.
3. Set the MCDP to off.

		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.APPR.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. <u>CAT II/III</u> Not Authorized

MEL ITEM	TAB LOCATION	PLACARD TEXT
22-34-01A	Near A/T DISC Light	Autothrottle Disconnect Light INOP
22-34-01B	Near A/T DISC Light	Autothrottle Disconnect 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.

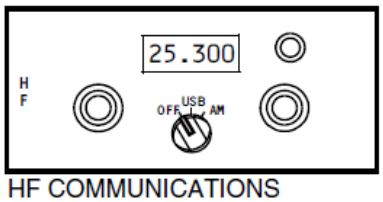
		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
22-41-01A	Maintenance Control Display Panel (MCDP)	**Y**	1	0	**D**	
22-41-01B	Remote MCDP	**Y**	1	0	**D**	

MEL ITEM	TAB LOCATION	PLACARD TEXT
22-41-01A	Near Autopilot MCP	MCDP INOP
22-41-01B	P61 Panel	Remote MCDP INOP

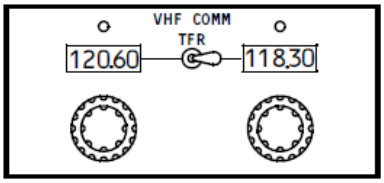
INTENTIONALLY LEFT BLANK

ATA 23 Contents

23-00-99 Long Range Communication System 23-4
23-10-01 Radio Tuning Panels (Digital RTP) (5801-5816) 23-5
COMMUNICATIONS SYSTEMS (VHF, HF) 23-6
23-11-01A Communications Systems (VHF) 23-6
23-11-01B VHF Comm Frequency In Use Light 23-6
23-11-01C VHF Comm Frequency Transfer Switch 23-6
23-11-01D VHF Comm Frequency Selector Knob 23-6
23-11-01E VHF Comm Frequency Indication 23-6
23-11-01F High Frequency (HF) Communication System 23-6
23-11-02 Flight Deck Communications Systems (HF Datalink) 23-8
23-21-01A Selective Call System (SELCAL) 23-9
23-21-01B Channels 23-9
23-22-01A ACARS System 23-10
23-25-01A SAT Communication Systems 23-11
PASSENGER ADDRESS SYSTEM (PA) 23-13
23-31-01A Passenger Address System (PA) 23-13
23-31-01B Lavatory Speakers 23-13
23-31-01C Cabin Speakers 23-13
23-31-02 Pre-recorded Passenger Announcement System 23-14
23-37-01A In-flight Entertainment (IFE) System (System Deactivated) 23-15
CREWMEMBER INTERPHONE SYSTEMS 23-18
23-40-01A Flight Deck to Cabin, Cabin to Flight Deck Functions 23-18
23-40-01B Cabin to Cabin Function 23-18
23-40-01C Flight Deck to Ground Function 23-18
ALERTING SYSTEM (AUDIO/VISUAL) 23-20
23-41-01A Flight Deck Call Visual Alerting System (Lights and EICAS Messages) 23-20
23-41-01B Flight Attendant Visual Alerting System 23-20
23-41-01C Flight Attendant Audio Alerting System 23-20
HANDSET SYSTEMS 23-21
23-42-01A Flight Deck 23-21
23-42-01B Cabin 23-21
23-43-01A Ground Crew Call System 23-22
23-43-01B Ground Crew Call Horn 23-22
23-51-03 Flight Deck Speakers 23-23
PUSH-TO-TALK (PTT) SWITCHES 23-24
23-51-04A Control Wheel PTT Switches 23-24
FLIGHT CREW COMMUNICATION EQUIPMENT 23-27
23-51-05A Boom Microphones 23-27
23-51-05B Hand Microphones 23-27
23-51-05C TSO Headset Earphones/ Headphones 23-27
23-71-01 Cockpit Voice Recorder (CVR) System 23-28

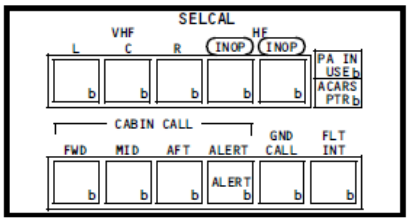


HF COMMUNICATIONS



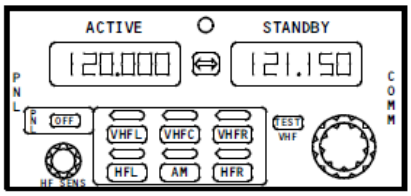
VHF COMMUNICATIONS

23-11-1



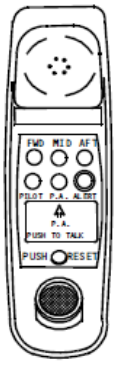
SELECTIVE CALL SYSTEMS

23-21-1



RADIO TUNING PANEL (DIGITAL RTP)

23-10-1



PUSHBUTTON KEYBOARD

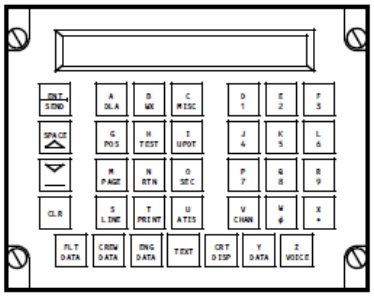
SOFT-TOUCH KEYBOARD

23-42-1

FLIGHT DECK/CABIN HANDSET (EXAMPLES)

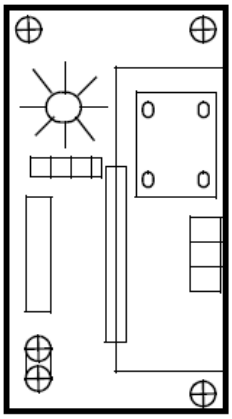
23-31-1

PASSENGER ADDRESS SYSTEM (PA)

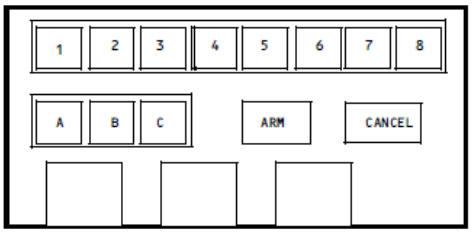


ARINC COMMUNICATIONS ADDRESSING AND REPORTING SYSTEM

23-22-1

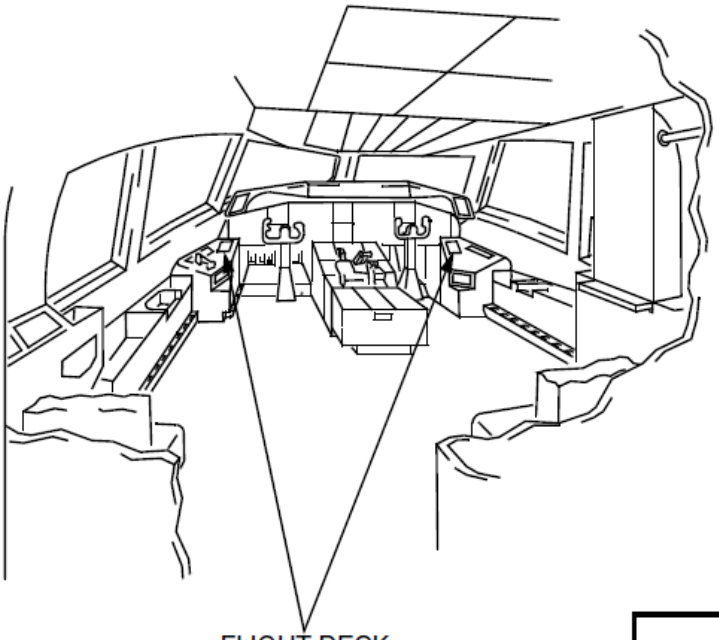


PRE-RECORDED ANNUCT TAPE REPRODUCER

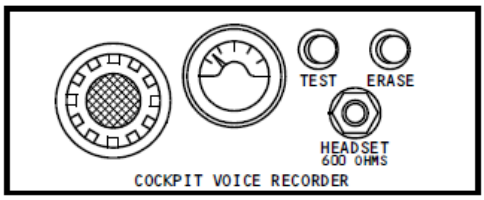


PRE-RECORDED PASSENGER ANNOUNCEMENT SYSTEM

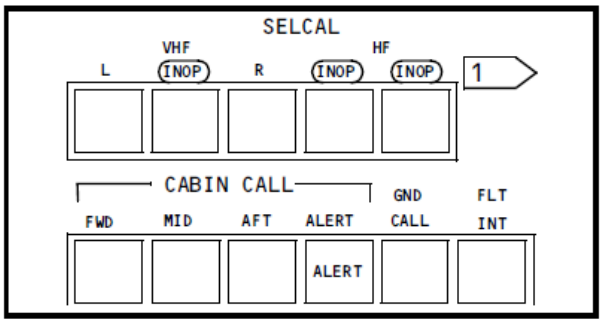
23-31-2

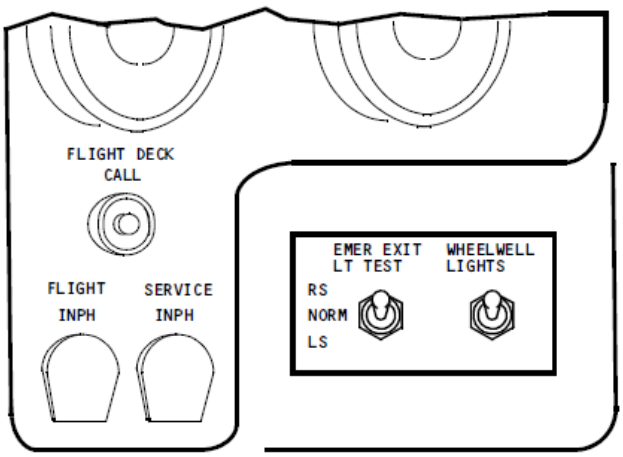


FLIGHT DECK
SPEAKERS
23-51-3

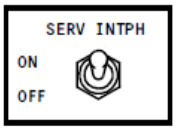


COCKPIT VOICE RECORDER
23-71-1





CABIN/SERVICE
INTERPHONE SYSTEM
23-40-1



FLIGHT DECK INTERPHONE
SYSTEM
23-51-1

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) PROCEDURE

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
23-10-01	Radio Tuning Panels (Digital RTP) (5801-5816, 6819-6823)	**Y**	3	2	**C**	One may be inoperative provided left Radio Tuning Panel operates normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
23-10-01	Near Associated RTP	___ Radio Tuning Panel INOP

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
	COMMUNICATIONS SYSTEMS (VHF, HF)					
23-11-01A	Communications Systems (VHF) **"DISP.APPR.REQ'D"**	**Y**	3	2	**C**	Left (No. 1) VHF must be operative.
23-11-01B	VHF Comm Frequency In Use Light	**Y**	6	0	**C**	
23-11-01C	VHF Comm Frequency Transfer Switch	**Y**	3	0	**C**	May be inoperative provided associated VHF active frequency can be selected.
23-11-01D	VHF Comm Frequency Selector Knob	**Y**	6	2	**C**	One for No.1 system must be operative.
23-11-01E	VHF Comm Frequency Indication	**Y**	6	2	**C**	One for No.1 system must be operative.
23-11-01F	High Frequency (HF) Communication System **"DISP.APPR.REQ'D"**	**Y**	2	1	**C**	**(O)(M)** May be inoperative while conducting operations that require two long range communications systems provided: a) SATCOM Voice or Data Link operates normally, b) Alternate procedures are established and used, c) SATCOM coverage is available over intended route of flight, d) If SATCOM voice is to be used over intended route of flight, SATCOM voice direct dial commercial numbers must be available. If not available, prior coordination with appropriate ATS (FIR) facility is required, and e) On 757-300 only, aircraft is restricted from ER operations (ETOPS). NOTE 1: SATCOM Voice is to be used only as a backup to normal HF communications. NOTE 2: Refer to Airway Manual, ATC & Flt Control Communication, CM, for HF requirements.
23-11-01G	High Frequency (HF) Communication System **"DISP.APPR.REQ'D"**	**Y**	2	0	**D**	**(M)** One or both may be inoperative provided ATC and Company communication requirements are met. NOTE: Refer to Airway Manual, ATC & Flt Control Communication, CM, for HF requirements. Theatre Restrictions May Apply

Continued Next Page

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

(O) PROCEDURES

23-11-01F

1. When out of VHF range, use remaining operative HF radio for 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, Chapter 5, Communications, for HF radio requirements.

(M) PROCEDURES

23-11-01F, 23-11-01G

Contact MCC to check 30 day history.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
23-11-02	Flight Deck Communications Systems (HF Datalink) **"DISP.APPR.REQ'D"**	**Y**	2	0	**C**	**(O)** May be inoperative provided alternate procedures are used. NOTE: Refer to Airway Manual, ATC & Flt Control Communication, CM, for HF requirements. Theatre Restrictions May Apply

MEL ITEM	TAB LOCATION	PLACARD TEXT
23-11-02	Near Associated HF Comm Control Panel	___ HF Datalink INOP

(O) PROCEDURES

Utilize HF voice for communication if operative.

		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	Channels **"DISP.APPR.REQ'D"**	**Y**	-	0	**C**	**(O)** May be inoperative provided alternate procedures are used.

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

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

(O) PROCEDURES

23-21-01A

Refer to Delta Airways Manual, Chapter 5, 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: a) Alternate procedures are used, and b) RNAV operations do not require their use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements. NOTE: Any ACARS 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	TAB LOCATION	PLACARD TEXT
23-22-01A	Near ACARS CDU	ACARS INOP
23-22-01B	Near ACARS Printer	ACARS Printer INOP

(O) PROCEDURES

23-22-01A

1. FANS / CPDLC may not be available.
2. Refer to Airway Manual, ATC & Flt Control Communication, CM for ACARS inoperative requirements.
3. Engine performance data must be manually entered onto Engine Trend Data Sheets. Refer to Operations Manual, Volume 1, Supplementary Procedures, Engines, APU, Engine Condition Monitoring Report, and accomplish the procedure when stabilized in cruise.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
23-25-01A	SAT Communication Systems **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	**(O)** May be inoperative provided: a) Alternate procedures are used, and b) RNAV operations do not require their use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements.
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: a) Alternate procedures are used, and b) RNAV operations do not require their use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements.
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 Call Lights **"DISP.APPR.REQ'D"**	**Y**	-	0	**C**	**(O)** May be inoperative provided alternate procedures are used.

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

(O) PROCEDURES

23-25-01A, 23-25-01B

Refer to Airway Manual, ATC & Flt Control Communication, CM for operations with SATCOM unavailable.

23-25-01C

Utilize Satellite Voice if available.

23-25-01D

Refer to Airway Manual, ATC & Flt Control Communication, CM for operations with SATCOM or HF unavailable.

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.
2. If the HF/SAT XFER switch(es) is stuck in the SAT position, the associated HF system must be considered inoperative unless the HF/SAT relay has been reset.

Continued Next Page

23-25-01E

Utilize any of the following (as installed) to indicate an incoming call:

1. Hi/Lo chime.
2. Flashing HOOK LED on SATCOM Dialer Unit.
3. SATCOM Receiver Indicators on the Audio Selector Panels.
4. SATCOM Call Light on Overhead Panel.
5. 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.

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
PASSENGER ADDRESS SYSTEM (PA)					
23-31-01A Passenger Address System (PA)	**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 operate 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	**Y**	-	-	**C**	**(M)** No passenger seat or cabin attendant seat may be occupied from which Passenger Address System is not audible and intelligible, and that seat must be blocked and placarded DO NOT OCCUPY.

MEL ITEM	TAB LOCATION	PLACARD TEXT
23-31-01A	Near Captain's Audio Panel	PA INOP
23-31-01B	Near Captain's Audio Panel	____ Lavatory Speaker INOP
23-31-01C	Near Captain's Audio Panel	____ Cabin Speaker INOP
23-31-01D	Near Captain's Audio Panel	____ Cabin Speaker INOP

(O) PROCEDURES

23-31-01A

1. Refer to FOM, Passenger Handling (Chapter 7), Inoperative PA.
2. Refer to QRH, Non-Normal Checklist, Section 5 (Communications), PA System Inoperative.
3. Refer to In-flight Service Onboard Manual, Aircraft Equipment/Systems (Chapter 6), System Malfunctions, Inoperative P.A. System.

23-31-01B

1. Prior to departure, the pilot in command will notify flight attendants of inoperative lavatory speaker(s).
2. Flight attendants must give instructions to lavatory occupants verbally when lavatory speakers are inoperative.

(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	TAB LOCATION	PLACARD TEXT
23-31-02	Near Captain's Audio Panel	Pre-recorded Passenger Announcement System INOP

(O) PROCEDURES

Pre-recorded Audio Passenger Announcement System is only used for boarding music at this time.

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"**	**N**	1	0	**D**	**(O)(M)** May be inoperative provided system is deactivated. NOTE: Approval for flight must be obtained by MCC Shift Manager.
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	TAB LOCATION	PLACARD TEXT
23-37-01A	1. Logbook 2. IFE Control Panel	IFE Inoperative – "Do not use"
23-37-01B	1. Logbook 2. IFE Control Panel	IFE _____ function(s) Inop

(O) PROCEDURES

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

Captain to brief Lead Flight Attendant that it will be necessary to do passenger briefings and emergency equipment demonstrations verbally.

(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.

Deactivate the IFE System:

1. For aircraft with overhead video monitors, confirm that they are in the up and locked position.
2. Turn the IFE Power Switch to the OFF position.
3. Pull and secure the following Circuit Breakers and install a placard on the IFE control panel stating "IFE Inoperative – Do Not Use.

Continued Next Page

Pre AA 2500-01762 (Seat Density Mod)

A/C	Video Type	Panel	Circuit Breaker
6XX 69XX	Centerline Overhead	P37	MULTIPLEXER ENT TAPE REPRODUCER AC VIDEO MONITOR FWD-UTILITY VIDEO MONITOR AFT-UTILITY VIDEO SYSTEM AC-UTILITY VIDEO MONITOR FWD-MAIN VIDEO MONITOR AFT-MAIN VIDEO SYSTEM AC-MAIN
		P11	PWR RELAY MUX VIDEO SYSTEM DC MONITOR 1 & 3 RETRACT
6XX 67XX 68XX	Seat Back	P32	IFE BUS
		P11	IFE CONTROL ANTENNA CONTROL UNIT (if equipped)
5635- 5649	Centerline Overhead	P11	VIDEO CONT
		P37	L FWD COLUMN R FWD COLUMN L AFT COLUMN R AFT COLUMN VIDEO POWER (LOCATION A6) VIDEO POWER (LOCATION A7)
5650	Centerline Overhead	P11	ENTERTAINMENT VID CONT CTR DC
		P70	ENTERTAINMENT AUDIO VIDEO SYSTEM CONTROL VDU CLUSTER 1 AC VDU CLUSTER 2 AC VDU CLUSTER 3 AC VDU CLUSTER 4 AC
58XX	PSU Overhead	P11	ENTERTAINMENT AUDIO CONTROL ENTERTAINMENT VID CONT CTR DC
		P70	ENTERTAINMENT AUDIO 1 VCC AC VDU CLUSTER 1 AC VDU CLUSTER 2 AC VDU CLUSTER 3 AC VDU CLUSTER 4 AC VDU CLUSTER 5 AC

Continued Next Page

Post AA 2500-01762, 2337-01126, and 2337-001127 (Seat Density Mod)

A/C	Video Type	Panel	Circuit Breaker
6XX 69XX	Centerline Overhead	P37	MULTIPLEXER ENT TAPE REPRODUCER AC VIDEO MONITOR FWD-UTILITY VIDEO MONITOR AFT-UTILITY VIDEO SYSTEM AC-UTILITY VIDEO MONITOR FWD-MAIN VIDEO MONITOR AFT-MAIN VIDEO SYSTEM AC-MAIN
		P11	PWR RELAY MUX VIDEO SYSTEM DC MONITOR 1 & 3 RETRACT
6XX 67XX 68XX 58XX 5635-5650	Seat Back	P32	IFE BUS
		P31	IFE BUS L
		P11	IFE DC (-200s) ENT VID CTR –DC (-300s)

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
CREWMEMBER INTERPHONE SYSTEMS					
23-40-01A Flight Deck to Cabin, Cabin to Flight Deck Functions	**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, and b) Alternate communication procedures between affected flight attendant stations are used. NOTE: Any station function(s) that operate normally may be used.
23-40-01B Cabin to Cabin Function	**Y**	-	-	**B**	**(O)** May be inoperative provided: a) Cabin to cabin interphone functions operate normally on at least fifty percent of cabin handsets, and b) 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 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	**Y**	2	0	**B**	**(O)** May be inoperative provided alternate procedures are used.

Continued Next Page

MEL ITEM	TAB LOCATION	PLACARD TEXT
23-40-01A	Near Captain's Audio Panel	___ Flight Deck to Cabin / Cabin to Flight Deck Interphone Function INOP
23-40-01B	Near Captain's Audio Panel	___ Cabin to Cabin Interphone Function INOP
23-40-01C	Near Captain's Audio Panel	Flight Deck To Ground / Ground To Flight Deck Flight Interphone Function INOP
23-40-01D	Near Captain's Audio Panel	Flight Deck To Ground / Ground To Flight Deck Service Interphone Function INOP
23-40-01E	Near Captain's Audio Panel	Flight Deck To Ground / Ground To Flight Deck Flight & Service Interphone 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, Ramp Operations (Chapter 6), Communication.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
ALERTING SYSTEM (AUDIO/VISUAL)					
23-41-01A Flight Deck Call Visual Alerting System (Lights and EICAS Messages)	**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 Visual Alerting System	**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 NEF item. NOTE 2: Any visual alerting system function(s) that operates normally may be used.
23-41-01C Flight Attendant Audio Alerting System	**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 an NEF item. NOTE 2: Any audio alerting system function(s) that operates normally may be used.

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

(O) PROCEDURES

23-41-01B

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

23-41-01C

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

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
HANDSET SYSTEMS					
23-42-01A Flight Deck	**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	**Y**	-	-	**B**	**(O)** May be inoperative provided: a) Fifty percent of cabin handsets operate normally, and b) Alternate communication procedures between affected flight attendant station(s) 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	TAB LOCATION	PLACARD TEXT
23-42-01A	Near Flight Deck Handset	Flight Deck Handset INOP
23-42-01B	Near Affected Cabin Handset	____ Cabin Handset 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 a Flight Attendant occupying the position 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.

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

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

(O) PROCEDURES

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

1. Refer to FOM, Ramp Operations (Chapter 6), Communication.
2. Flight deck should be continuously monitored to ensure appropriate action is taken in the event a fault develops during operation of the E&E Cooling System.
3. Ensure Inertial Reference Units are not operating on DC power.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
23-51-03	Flight Deck 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	TAB LOCATION	PLACARD TEXT
23-51-03	Near Associated Audio Panel	____ Flight Deck Speaker INOP

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
	PUSH-TO-TALK (PTT) SWITCHES					
23-51-04A	Control Wheel PTT Switches	**N**	2	1	**C**	**(M)** One may be inoperative provided: a) Associated audio selector panel or glareshield PTT switch operates normally, and b) Affected switch is deactivated.
23-51-04B	Flightcrew Audio Selector Panel PTT Switches	**Y**	2	1	**C**	**(M)** One may be inoperative provided: a) Associated control wheel or glareshield PTT switch operates normally, and b) Affected switch is verified failed open.
23-51-04C	Glareshield PTT Switches	**N**	-	0	**C**	**(M)** May be inoperative provided: a) Associated audio selector panel or control wheel PTT switch operates normally, and b) Affected switch is deactivated.

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

(M) PROCEDURES

23-51-04A

For Captain's PTT switch, pull the following circuit breakers on the P11 overhead circuit breaker panel.

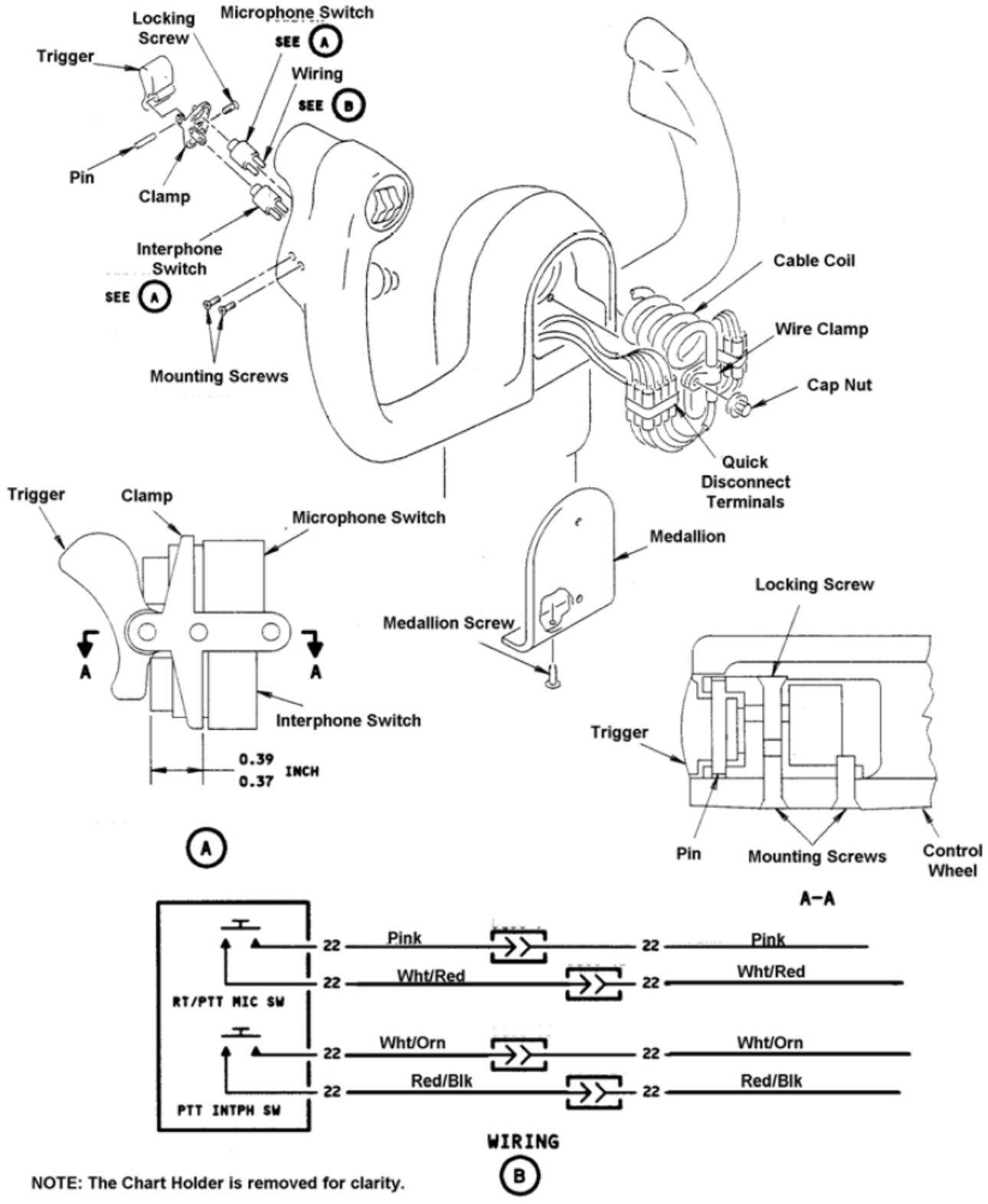
- INTERPHONE CAPT or INTERPHONE FLT AMPL ASP 1 BAT PWR
- INTERPHONE CAPT FLT AMPL or INTERPHONE FLT AMPL ASP 1 R PWR

For First Officer's PTT switch, pull the following circuit breakers on the P11 overhead circuit breaker panel.

- INTERPHONE F/O AUDIO or INTERPHONE ASP 2 BAT PWR
- INTERPHONE F/O OBS or INTERPHONE ASP 2 R PWR

1. Remove the two mounting screws of the inoperative control wheel PTT switch.
2. Remove the PTT switch assembly.
3. Disconnect the terminal lugs from the PTT switch.
4. Cap and stow the affected wires in the control wheel horn.
5. Reinstall the PTT switch assembly in the control wheel and secure with the two mounting screws.
6. Reset circuit breakers listed above.
7. To verify affected switch has been deactivated, on associated audio select panel (ASP):
   a) On OXY / BOOM switch, select BOOM mic.
   b) On interphone switch, select FLT.
   c) Select INT MIC and ensure volume is properly adjusted.
   d) Push deactivated PTT switch and speak into boom mic.
   e) Verify audio is NOT heard over the other pilot's headset.

Continued Next Page



NOTE: The Chart Holder is removed for clarity.

Continued Next Page

23-51-04B

1. Select BOOM on the affected audio selector panel (ASP) and use boom microphone for this test.
2. Select PA on the ASP.
3. Without pressing MIC on the ASP, speak into the boom microphone and determine if voice transmission can be heard over the Passenger Address System.
   - If no voice transmission is heard, switch is in the OPEN position
   - If voice transmission can be heard, the switch is failed in the CLOSED position and the ASP must be replaced before dispatch

23-51-04C

For the Captain's Glareshield Panel PTT switch, open these circuit breakers on the overhead circuit breaker panel, P11:

- INTERPHONE CAPT or INTERPHONE FLT AMPL ASP 1 BAT PWR
- INTERPHONE CAPT FLT AMPL or INTERPHONE FLT AMPL ASP 1 R PWR

For the First Officer's Glareshield Panel PTT switch, open these circuit breakers on the overhead circuit breaker panel, P11:

- INTERPHONE F/O AUDIO or INTERPHONE ASP 2 BAT PWR
- INTERPHONE F/O OBS or INTERPHONE ASP 2 R PWR

1. Remove the glareshield panel to gain access to the PTT wires (AMM 25-13-03/401).
2. Pull the switch panel out of the glareshield panel and disconnect the wires from the PTT switch.
3. Cap and stow the affected wires.
4. Install the switch panel in the glareshield panel (AMM 25-13-03/401).
5. Close circuit breakers previously opened.
6. To verify affected switch has been deactivated, on associated Glareshield Panel PTT:
   a) On OXY / BOOM switch, select BOOM mic.
   b) On interphone switch, select FLT.
   c) Select INT MIC and ensure volume is properly adjusted.
   d) Push deactivated PTT switch and speak into boom mic.
   e) Verify audio is NOT heard over the other pilot's headset.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
FLIGHT CREW COMMUNICATION EQUIPMENT					
23-51-05A Boom Microphones **"Contact MCC"**	**Y**	-	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.

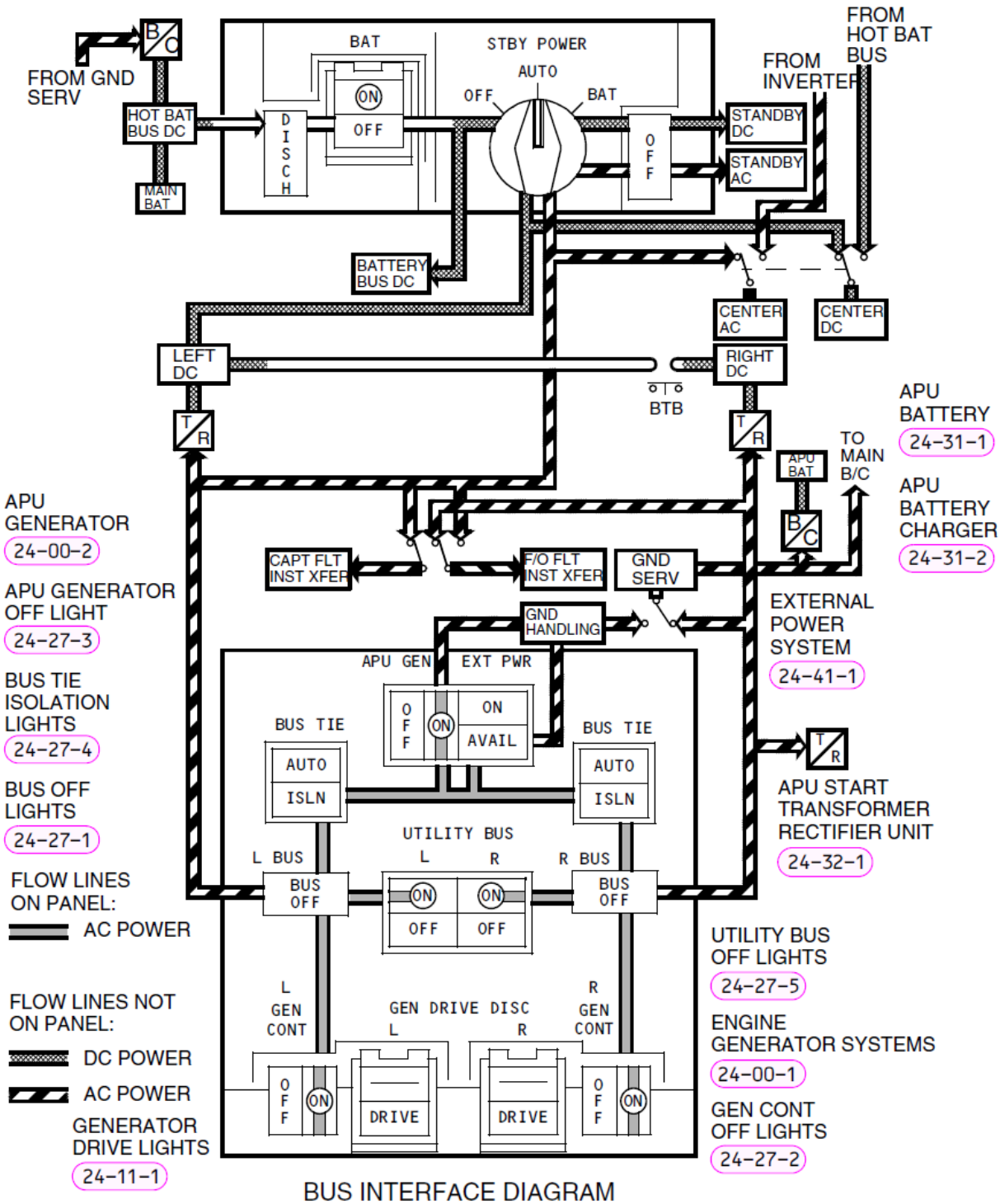
MEL ITEM	TAB LOCATION	PLACARD TEXT
23-51-05A	Near Associated Audio Control Panel	____ Boom Microphone INOP
23-51-05B	Near Associated Audio Control Panel	____ Hand Microphone INOP
23-51-05C	Near Associated Audio Control Panel	____ TSO Earphone/Headphone

		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.

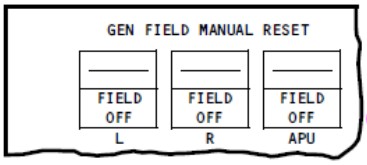
MEL ITEM	TAB LOCATION	PLACARD TEXT
23-71-01	Near CVR Panel	CVR INOP

ATA 24 Contents

24-00-01 Engine Generator Systems (IDG, GCB) 24-4
24-00-02A APU Generator 24-7
24-11-01A Generator DRIVE Lights 24-10
24-25-01A Hydraulic Motor Generator (HMG) (-200) 24-11
24-25-01E Hydraulic Motor Generator (HMG) (-300) 24-11
24-25-02A Hydraulic Motor Generator Valve (-200) 24-15
24-25-02E Hydraulic Motor Generator Valve (-300) 24-15
24-27-01 BUS OFF Lights 24-18
24-27-02A GEN CONT OFF Lights 24-19
24-27-03A APU GEN OFF Light 24-21
24-27-04 BUS TIE ISLN Lights 24-22
24-27-05 UTILITY BUS OFF Lights 24-23
24-27-06 Generator FIELD OFF Lights 24-24
24-30-01 Standby Power Bus OFF Light 24-25
24-31-01A APU Battery (-200) 24-26
24-31-01B APU Battery (-300) 24-26
24-31-02A APU Battery Charger (-200) 24-28
24-31-02B APU Battery Charger (-300) 24-28
24-31-03 Standby Power Main/APU Battery Tie System (-300) 24-30
24-32-01A APU Start Transformer Rectifier Unit 24-31
24-41-01A External Power System 24-32
24-51-01 Utility Bus Systems 24-33

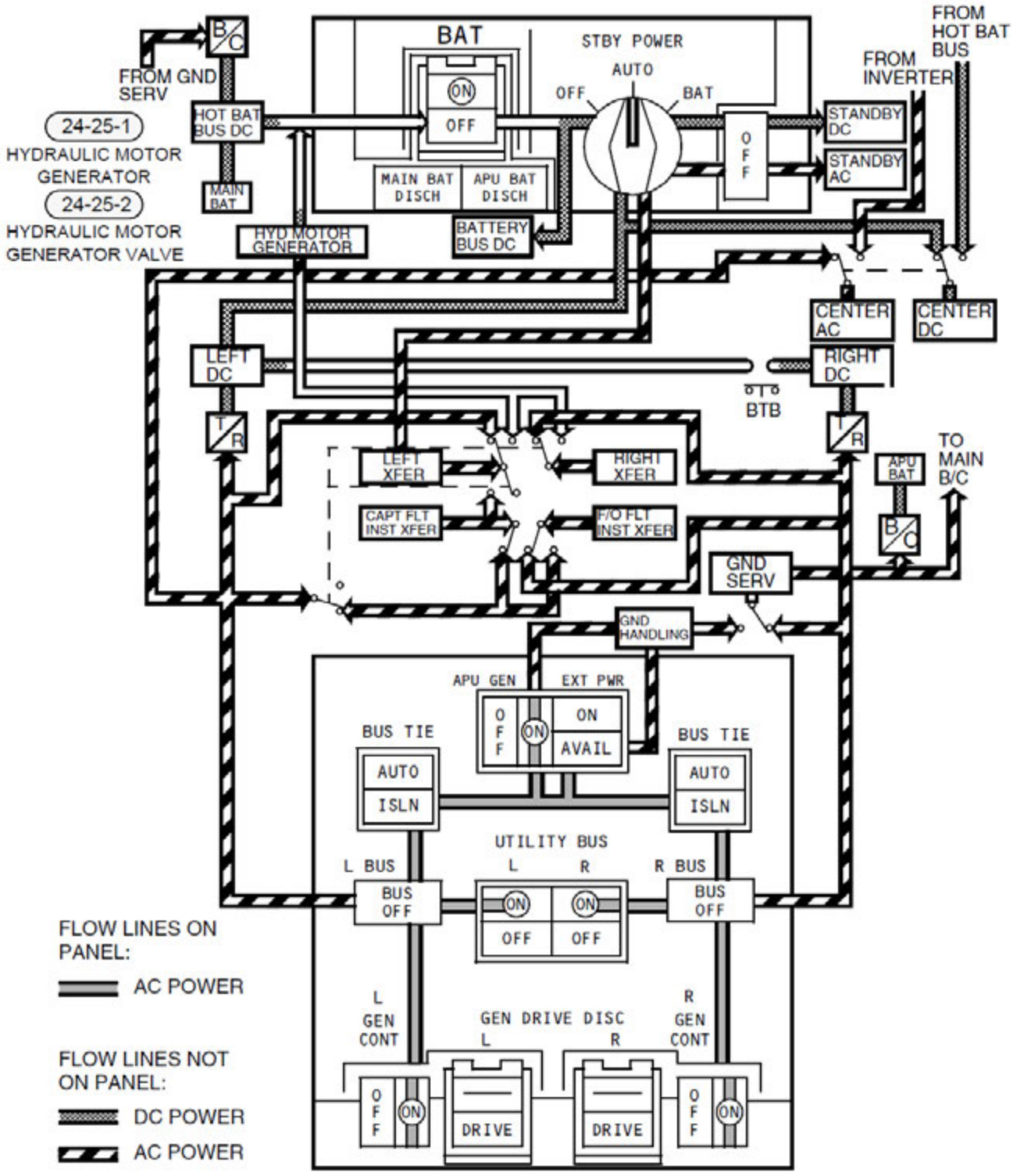


BUS INTERFACE DIAGRAM
(AIRPLANES WITHOUT HYDRAULIC DRIVEN GENERATOR)



GENERATOR FIELD OFF LIGHTS
24-27-6

ELECTRICAL SYSTEM COMPONENTS



BUS INTERFACE DIAGRAM
(AIRPLANES WITH HYDRAULIC MOTOR GENERATOR)

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
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), one 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, Hydraulic Motor Generator (HMG) is verified to operate normally, and 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, and h) Performance corrections are applied. **Repetitive Check Required (Yellow Placard)** NOTE: The use of coastal routing is recommended for operations from Alaska "to" the 48 contiguous states. Theatre Restrictions May Apply

MEL ITEM	TAB LOCATION	PLACARD TEXT
24-00-01	Near 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.

   NOTE: APU fuel consumption is approximately 280 lbs per hour while airborne.

Continued Next Page

24-00-01	ENGINE GENERATOR SYSTEMS (IDG, GCB)
EFFECTIVITY	-200
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 1,500 lbs. Increase BLOCK FUEL by 280 lbs. for each hour of APU usage.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** Reduce RATOW by 500 lbs. Reduce T/O CLIMB LIMIT by 500 lbs. **LANDING** Reduce LANDING CLIMB LIMIT WT by 700 lbs.

24-00-01	ENGINE GENERATOR SYSTEMS (IDG, GCB)
EFFECTIVITY	-300
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 1,500 lbs. Increase BLOCK FUEL by 280 lbs. for each hour of APU usage.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** Reduce RATOW by 1,000 lbs. Reduce T/O CLIMB LIMIT by 1,000 lbs. **LANDING** Reduce LANDING CLIMB LIMIT WT by 700 lbs.

(M) PROCEDURES

1. **ONCE EACH FLIGHT DAY:** Visually check APU oil quantity at the APU oil tank and service to full.
2. Disconnect the IDG as follows:

CAUTION: Disconnecting the IDG with the engine below idle speed or with the engine shut down does not result in complete separation of the disconnect dog teeth. Starting the engine without resetting the disconnect or disconnecting the IDG with the engine below idle speed could result in damage to the dog teeth.
Do not actuate disconnect switch for longer than 3 seconds. Allow a minimum of 60 seconds between actuation periods.

a) Start and run the engine above idle.
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:
   - AC-V = 0 ± 5
   - FREQ = 0 ± 5

Continued Next Page

d) Verify the following messages appear on EICAS:

- L (or R) GEN OFF
- 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.

3. Verify that the HMG operates normally:

a) Verify that the following circuit breakers on the P11 panel are closed:

- AC BUS SENSE LEFT
- AC BUS SENSE RIGHT
- EICAS circuit breakers

b) Verify that the HYD GEN CONT circuit breaker on the main power distribution panel, P6, is closed.

c) Pressurize the left and right hydraulic system using the Alternating Current Motor Pumps (ACMP).

d) Push the PTU switch on the P61 panel to the ON position.

e) Push the DISPLAY STATUS switch on the EICAS Display Select Panel P9.

f) Hold the GND PROX/HYD GEN switch on the P61 panel in the HYD GEN position.

NOTE: The pitot heater annunciator lights may flash while performing this test.

g) Verify that the HYD GEN ON and HYD GEN VAL Status messages appear on the EICAS lower display.

h) Push the ELEC/HYD switch on the EICAS Maintenance Panel P61.

i) Verify that the following values are displayed on the ELEC/HYD EICAS maintenance page:

- HDY GEN DC-V 28 +/- 4
- HYD GEN AC-V 115 +/- 5
- HYD GEN FREQ 400 +/- 5

j) Release the GND PROX/HYD GEN switch (P61) and verify that the following values are displayed on the EICAS maintenance page:

NOTE: On airplanes with 10 KVa HMG, the HMG will continue to operate for approximately 15 seconds after the test switch is released.

- HDY GEN DC-V 0 +/- 4
- HYD GEN AC-V 0 +/- 5
- HYD GEN FREQ 0 +/- 5

k) Push the DISPLAY STATUS switch on the EICAS Display Select Panel P9.

l) Verify that the HYD GEN ON and HYD GEN VAL Status messages do not appear on the EICAS lower display.

m) Open and then close the HYD GEN CONT circuit breaker on the Main Power distribution panel (P6).

NOTE: Opening and then closing the HYD GEN CONT circuit breaker ensures that the HMG Control Unit is reset following the test.

n) Restore the airplane to its usual condition.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
24-00-02A	APU Generator **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	Except for ER operations (ETOPS) and except for Outbound North America ER operations (ETOPS), may be inoperative provided both engine generators operate normally. Theatre Restrictions May Apply
24-00-02B	APU Generator (-200 / 300 ER) **"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) Both engine generators operate normally, b) Hydraulic Motor Generator (HMG) is verified to operate normally, and c) Performance corrections are applied. Theatre Restrictions May Apply

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

NOTE: If External Power is not available, refer to 757 Operations Manual, Volume 1, Supplementary Procedures, Engines, APU for Engine Battery Start procedures.

(O) PROCEDURES

If APU Driven Generator is removed, apply the following performance correction:

24-00-02B	**APU GENERATOR**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** **LANDING** **OTHER CORRECTIONS (Manual Weight & Balance Worksheet only)** Use applicable OEW correction for "APU Generator" in ALM – Weight and Balance Section.

Continued Next Page

(M) PROCEDURES

24-00-02B

1. Verify that the HMG operates normally:
2. Supply electrical power.
3. Verify that the following circuit breakers on the P11 panel are closed:
   - AC BUS SENSE LEFT
   - AC BUS SENSE RIGHT
   - EICAS circuit breakers
4. Verify that the HYD GEN CONT circuit breaker on the main power distribution panel, P6, is closed.
5. Pressurize the left and right hydraulic system using the Alternating Current Motor Pumps (ACMP).
6. Push the PTU switch on the P61 panel to the ON position.
7. Push the DISPLAY STATUS switch on the EICAS Display Select Panel P9.
8. Hold the GND PROX/HYD GEN switch on the P61 panel in the HYD GEN position.

   NOTE: The pitot heater annunciator lights may flash while performing this test.
9. Verify that the HYD GEN ON and HYD GEN VAL Status messages appear on the EICAS lower display.
10. Push the ELEC/HYD switch on the EICAS Maintenance Panel P61.
11. Verify that the following values are displayed on the ELEC/HYD EICAS maintenance page:
    - HDY GEN DC-V 28 +/- 4
    - HYD GEN AC-V 115 +/- 5
    - HYD GEN FREQ 400 +/- 5
12. Release the GND PROX/HYD GEN switch (P61) and verify that the following values are displayed on the EICAS maintenance page:

    NOTE: On airplanes with 10 KVa HMG, the HMG will continue to operate for approximately 15 seconds after the test switch is released.

    - HDY GEN DC-V 0 +/- 4
    - HYD GEN AC-V 0 +/- 5
    - HYD GEN FREQ 0 +/- 5
13. Push the DISPLAY STATUS switch on the EICAS Display Select Panel P9.
14. Verify that the HYD GEN ON and HYD GEN VAL Status messages do not appear on the EICAS lower display.
15. Open and then close the HYD GEN CONT circuit breaker on the Main Power distribution panel (P6).

    NOTE: Opening and then closing the HYD GEN CONT circuit breaker ensures that the HMG Control Unit is reset following the test.
16. Restore the airplane to its usual condition.

Continued Next Page

OPTIONAL PROCEDURE

If failure is such that APU operation could cause additional generator damage, airplane may be operated with the APU Generator removed: *Maintenance is Required and Flight Crew May NOT Placard*

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 or arcing.
4. Install APU generator dispatch kit on APU mounting pad.

   NOTE: The APU generator removed dispatch kit, B49006-1, is stowed in the flight dispatch kit in the forward cargo compartment.
5. Pass APU mounting pad studs through keyholes on the 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. Tighten stud nuts to 260-320 pound-inches.
9. Replenish APU oil.
10. Close APU access door.
11. Account for weight and balance effect with generator removed.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
24-11-01A	Generator DRIVE Lights	**N**	2	1	**B**	**(M)** One 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)** One may be inoperative off provided associated IDG is disconnected and deferred per MEL 24-00-01. NOTE: The use of coastal routing is recommended for operations from Alaska "to" the 48 contiguous states. Theatre Restrictions May Apply

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

(M) PROCEDURES

24-11-01A

1. Run affected engine above idle.
2. Disconnect affected IDG by pushing the disconnect switch on the overhead panel.
3. Verify that the L (R) GEN DRIVE EICAS message is displayed:
4. Shut down affected engine.
5. Reconnect the IDG.
6. Return airplane to normal configuration.

24-11-01B

Defer the associated IDG per MEL 24-00-01.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
24-25-01A	Hydraulic Motor Generator (HMG) (-200) **"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. Theatre Restrictions May Apply
24-25-01B	Hydraulic Motor Generator (HMG) (-200) **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	Except for ER operations (ETOPS), may be inoperative for Day VMC flight. Theatre Restrictions May Apply
24-25-01C	Hydraulic Motor Generator (HMG) (-200) **"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.
24-25-01D	Hydraulic Motor Generator (HMG) (-200) **"DISP.APPR.REQ'D"**	**N**	1	0	**A**	**(O)(M)** For ER operations (ETOPS) beyond 120 minutes, may be inoperative provided: a) Both engine generators and APU generator operate normally, b) 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, e) Operations are limited to not more than three flight days before repair is made, and f) Performance corrections are applied.
24-25-01E	Hydraulic Motor Generator (HMG) (-300) **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	Except for ER operations (ETOPS), may be inoperative. Theatre Restrictions May Apply
24-25-01F	Hydraulic Motor Generator (HMG) (-300) **"DISP.APPR.REQ'D"**	**N**	1	0	**C**	**(M)** For ER operations (ETOPS) up to 120 minutes, may be inoperative provided both engine generators and APU generator operate normally.

Continued Next Page

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
24-25-01G	Hydraulic Motor Generator (HMG) (-300) **"DISP.APPR.REQ'D"**	**N**	1	0	**A**	**(O)(M)** For ER operations (ETOPS) beyond 120 minutes, may be inoperative provided: a) Both engine generators and APU generator operate normally, b) APU is started before reaching ETOPS segment, then operated continuously until within 60 minutes of a suitable airport, c) Operations are limited to not more than three flight days before repair is made, and d) Performance corrections are applied.

MEL ITEM	TAB LOCATION	PLACARD TEXT
24-25-01A	Near GEN Control Panel	HMG INOP
24-25-01B	Near GEN Control Panel	HMG INOP
24-25-01C	Near GEN Control Panel	HMG INOP
24-25-01D	Near GEN Control Panel	HMG INOP
24-25-01E	Near GEN Control Panel	HMG INOP
24-25-01F	Near GEN Control Panel	HMG INOP
24-25-01G	Near GEN Control Panel	HMG INOP

(O) PROCEDURES

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

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.

Continued Next Page

24-25-01D, 24-25-01G

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.

   NOTE: APU fuel consumption is approximately 280 lbs per hour while airborne.

3. For ER Operations, apply performance corrections.

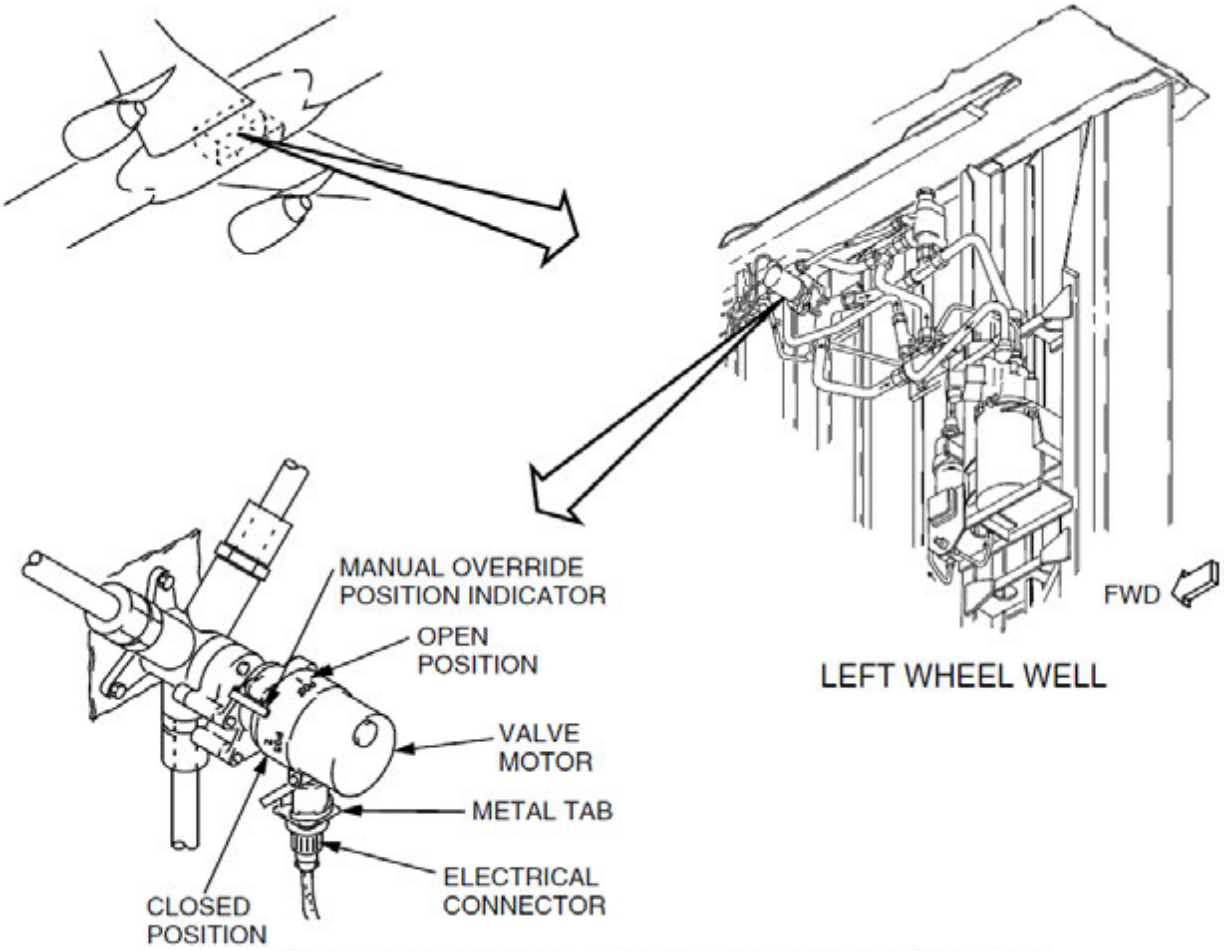
24-25-01D **24-25-01G**	**HYDRAULIC MOTOR GENERATOR (HMG)**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 1,500 lbs. Increase BLOCK FUEL by 280 lbs. for each hour of APU usage.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None

(M) PROCEDURES

24-25-01C, 24-25-01D, 24-25-01F, 24-25-01G

1. Pull and secure the following circuit breakers:
   - HYD GEN CONT (P6)
   - AC BUS SENSE LEFT (P11)
   - AC BUS SENSE RIGHT (P11).
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 the shutoff valve to the closed position (POS 2).
   c) Lockwire the Manual Override Arm Position Indicator in the closed position to the metal tab attached to the electrical connector on the valve motor body.
   d) Remove wheel well door lock.

Continued Next Page



HYDRAULIC MOTOR GENERATOR SHUTOFF VALVE

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
24-25-02A	Hydraulic Motor Generator Valve (-200) **"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. Theatre Restrictions May Apply
24-25-02B	Hydraulic Motor Generator Valve (-200) **"DISP.APPR.REQ'D"**	**N**	1	0	**C**	**(M)** Except for ER operations (ETOPS), may be inoperative closed for Day VMC flight. Theatre Restrictions May Apply
24-25-02C	Hydraulic Motor Generator Valve (-200) **"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 (-200) **"DISP.APPR.REQ'D"**	**N**	1	0	**A**	**(O)(M)** For ER operations (ETOPS) beyond 120 minutes, may be inoperative closed provided: a) Both engine generators and APU generator operate normally, b) 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, e) Operations are limited to not more than three flight days before repair is made, and f) Performance corrections are applied.
24-25-02E	Hydraulic Motor Generator Valve (-300) **"DISP.APPR.REQ'D"**	**N**	1	0	**C**	**(M)** Except for ER operations (ETOPS), may be inoperative closed. Theatre Restrictions May Apply
24-25-02F	Hydraulic Motor Generator Valve (-300) **"DISP.APPR.REQ'D"**	**N**	1	0	**C**	**(M)** For ER operations (ETOPS) up to 120 minutes, may be inoperative closed provided both engine generators and APU generator operate normally.

Continued Next Page

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
24-25-02G	Hydraulic Motor Generator Valve (-300) **"DISP.APPR.REQ'D"**	**N**	1	0	**A**	**(O)(M)** For ER operations (ETOPS) beyond 120 minutes, may be inoperative closed provided: a) Both engine generators and APU generator operate normally, b) APU is started before reaching ETOPS segment, then operated continuously until within 60 minutes of a suitable airport, c) Operations are limited to not more than three flight days before repair is made, and d) Performance corrections are applied.

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

(O) PROCEDURES

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

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.

Continued Next Page

24-25-02D, 24-25-02G

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.

   NOTE: APU fuel consumption is approximately 280 lbs per hour while airborne.
3. For ER Operations, apply performance corrections.

24-25-02D **24-25-02G**	**HYDRAULIC MOTOR GENERATOR VALVE**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 1,500 lbs. Increase BLOCK FUEL by 280 lbs. for each hour of APU usage.
NOTES	None
AWABS	Performance corrections have been applied. **TAKEOFF**
TAKEOFF PERFORMANCE WORKSHEET	None **LANDING** None **All**

(M) PROCEDURES

24-25-02A, 24-25-02B, 24-25-02C, 24-25-02D, 24-25-02E, 24-25-02F, 24-25-02G

Comply with MEL 24-25-01 (M) procedure.

		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)** One may be inoperative provided Bus Tie ISLN lights and associated GEN CONT OFF light operates normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
24-27-01	Near 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. Refer to QRH, Non-Normal Checklist, Section 6 (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 **"DISP.APPR.REQ'D"**	**Y**	2	1	**C**	**(O)(M)** One 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"**	**N**	2	1	**B**	**(O)(M)** One may be inoperative for an associated inoperative generator provided performance corrections are applied. Theatre Restrictions May Apply

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

(O) PROCEDURES

24-27-02A

Substitute the L(R) GEN OFF advisory message for the inoperative GEN CONT OFF light in the GENERATOR OFF non-normal procedure.

24-27-02B

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.

   NOTE: APU fuel consumption is approximately 280 lbs per hour while airborne.

24-27-02B	**GEN CONT OFF LIGHTS**
EFFECTIVITY	**-200**
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 1,500 lbs. Increase BLOCK FUEL by 280 lbs. for each hour of APU usage.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** Reduce RATOW by 500 lbs. Reduce T/O CLIMB LIMIT by 500 lbs. **LANDING** Reduce LANDING CLIMB LIMIT WT by 700 lbs.

Continued Next Page

24-27-02B	GEN CONT OFF LIGHTS
EFFECTIVITY	-300
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 1,500 lbs. Increase BLOCK FUEL by 280 lbs. for each hour of APU usage.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** Reduce RATOW by 1,000 lbs. Reduce T/O CLIMB LIMIT by 1,000 lbs. **LANDING** Reduce LANDING CLIMB LIMIT WT by 700 lbs.

(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.

24-27-02B

Comply with MEL 24-00-01 (M) procedure.

		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 **"DISP.APPR.REQ'D"**	**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. Theatre Restrictions May Apply

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

(M) PROCEDURES

24-27-03A

1. Start APU.
2. Observe the APU RUN light illuminates.
3. Switch the APU GENERATOR CONTROL switch to OFF.
4. Observe EICAS sets 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	TAB LOCATION	PLACARD TEXT
24-27-04	Near Affected BUS TIE ISLN Light	___ BUS TIE ISLN Light 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	TAB LOCATION	PLACARD TEXT
24-27-05	Near Affected UTILITY BUS OFF Light	___ UTILITY BUS OFF Light 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	TAB LOCATION	PLACARD TEXT
24-27-06	Near Affected Generator FIELD OFF Light	___ Generator FIELD OFF Light 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	TAB LOCATION	PLACARD TEXT
24-30-01	Near Standby Power Bus OFF Light	Standby Power Bus OFF Light INOP

(O) PROCEDURES

Refer to QRH, Non-Normal Checklist, Section 6 (Electrical), STANDBY BUS OFF. Substitute the “STANDBY BUS OFF” EICAS advisory message for the inoperative standby power bus OFF light in the STANDBY BUS OFF Non-Normal procedure.

(M) PROCEDURES

1. Ensure the BAT switch is in the ON position on panel P5.
2. Ensure the STANDBY PWR switch is in the AUTO position on panel P5.
3. Place the Standby Power Selector to OFF, then BAT, then AUTO and observe the following conditions:
   - OFF - EICAS displays STANDBY BUS OFF advisory message
   - BAT - DISCH light illuminates, no STANDBY BUS OFF message on EICAS
   - AUTO - DISCH light extinguishes, no STANDBY BUS OFF message on EICAS

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
24-31-01A	APU Battery (-200) **"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 49-11-01. NOTE: Performance corrections must be applied if APU battery is removed. Theatre Restrictions May Apply
24-31-01B	APU Battery (-300) **"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 49-11-01. NOTE: Performance corrections must be applied if APU battery is removed. Theatre Restrictions May Apply

MEL ITEM	TAB LOCATION	PLACARD TEXT
24-31-01A	Near APU Start Switch	APU Battery INOP
24-31-01B	Near APU Start Switch	APU Battery INOP

NOTE: The APU cannot be started with the battery inoperative, deactivated or missing.

(O) PROCEDURES

24-31-01A, 24-31-01B

If battery is removed, apply the following Performance Correction:

24-31-01A **24-31-01B**	**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** Use applicable OEW correction for "APU Battery" in ALM – Weight and Balance Section.

Continued Next Page

(M) PROCEDURES

24-31-01A, 24-31-01B

NOTE 1: The APU battery is located under shelf 3 of the aft equipment center rack E6.

NOTE 2: The MEL allows the battery to be (a) deactivated in place or (b) deactivated and removed.

To deactivate / remove battery:

1. Pull and secure APU BAT CHGR circuit breaker in R MISC ELEC EQUIP Panel P37.
2. Pull and secure APU BAT CHGR circuit breaker AFT EQUIP CTR RACK E6.
3. On airplanes with extended standby power capability, pull and secure:
   - EXT STBY BAT TIE circuit breaker on the overhead P11 panel.
   - APU/MN BAT TIE circuit breaker on Main Power Distribution Panel P6.
4. Remove battery MAIN POWER connector.
5. Remove thermal sensor connector.

WARNING: BATTERY WEIGHS 44 KG (96 POUNDS). DO NOT ATTEMPT REMOVAL ALONE AS INJURY MAY RESULT.

6. Remove APU battery, if desired. If done, notify dispatch that APU battery has been removed.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
24-31-02A	APU Battery Charger (-200) **"DISP.APPR.REQ'D"**	**N**	1	0	**C**	**(M)** May be inoperative provided: a) APU battery charger is deactivated or removed, and b) APU is not required. Theatre Restrictions May Apply
24-31-02B	APU Battery Charger (-300) **"DISP.APPR.REQ'D"**	**N**	1	0	**C**	**(M)** May be inoperative provided: a) APU battery charger is deactivated or removed, and b) APU is not required. Theatre Restrictions May Apply

MEL ITEM	TAB LOCATION	PLACARD TEXT
24-31-02A	Near APU Start Switch	APU Battery Charger INOP
24-31-02B	Near APU Start Switch	APU Battery Charger INOP

NOTE 1: The APU cannot be started with the battery inoperative, deactivated or missing.

NOTE 2: With the APU Battery Charger removed (both APU BAT CHRG circuit breakers closed), under standard day conditions up to 3 APU starts can be made provided the APU battery was fully charged prior to removal and deferral of the APU Battery Charger.

NOTE 3: Engine start with an external air source may be required.

(M) PROCEDURES

24-31-02A, 24-31-02B

The following procedures are OPTIONAL and are only required if APU Battery Charger is to be deactivated or removed.

NOTE: The APU battery charger is located on shelf 2 of the aft equipment center rack E6.

To deactivate APU battery charger without removal:

NOTE: This deactivation procedure will prevent APU start attempts.

1. Pull and secure APU BAT CHGR circuit breaker in R MISC ELEC EQUIP Panel P37.
2. Pull and secure APU BAT CHGR circuit breaker AFT EQUIP CTR RACK E6.

To remove the APU battery charger:

1. Pull and secure APU BAT CHGR circuit breaker in R MISC ELEC EQUIP Panel P37.
2. Pull and secure APU BAT CHGR circuit breaker on AFT EQUIP CTR RACK E6.
3. Remove connector from charger.
4. Cap and stow connector.

Continued Next Page

5. Remove terminal block cover.
6. Remove terminal block leads and identify for reinstallation.
7. Cap and stow terminal leads.
8. Remove APU battery charger.
9. Close APU BAT CHGR circuit breaker AFT EQUIP CTR RACK E6.
10. Close APU BAT CHGR circuit breaker in R MISC ELEC EQUIP Panel P37.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
24-31-03	Standby Power Main/APU Battery Tie System (-300) (6819-6823)	**Y**	1	0	**C**	May be inoperative provided: a) Both engine generators operate normally, and b) APU generator operates normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
24-31-03	Near APU Start Switch	Standby Power Main/APU Battery Tie System INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
24-32-01A	APU Start Transformer Rectifier Unit **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	May be inoperative provided APU is considered inoperative, and deferred per MEL 49-11-01. Theatre Restrictions May Apply
24-32-01B	APU Start Transformer Rectifier Unit	**Y**	1	0	**D**	**(M)** May be inoperative provided APU TRU is deactivated. Theatre Restrictions May Apply

MEL ITEM	TAB LOCATION	PLACARD TEXT
24-32-01A	Near APU Start Switch	APU Start Transformer Rectifier Unit INOP
24-32-01B	Near APU Start Switch	APU Start Transformer Rectifier Unit INOP

(M) PROCEDURES

24-32-01B

Deactivate the APU TRU: Pull and secure the APU START TRU POWER circuit breaker on the P32 R GEN POWER PANEL in the main equipment center.

NOTE: If the APU TRU is not deactivated, it may not be possible to start the APU while the main AC busses are powered.

		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	AC PWR CONNECTED Light (External Power Panel)	**Y**	1	0	**C**	**(O)** May be inoperative provided alternate procedures are used.
24-41-01E	PWR NOT IN USE Light (External Power Panel)	**Y**	1	0	**C**	**(O)** May be inoperative provided alternate procedures are used.

MEL ITEM	TAB LOCATION	PLACARD TEXT
24-41-01A	Near External Power Switch	External Power System INOP
24-41-01B	Near External Power Switch	EXT PWR AVAIL Light INOP
24-41-01C	Near External Power Switch	EXT PWR ON Light INOP
24-41-01D	Near External Power Switch	AC PWR CONNECTED Light INOP
24-41-01E	Near External Power Switch	PWR NOT IN USE Light INOP

(O) PROCEDURES

24-41-01B, 24-41-01C, 24-41-01D, 24-41-01E

Alternate procedures must be used by using hand signals (Refer to FOM), flight deck to ground communication systems (Refer to Operations Manual Volume 2, Communications), or other means to compensate for inoperative lights or system.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
24-51-01	Utility Bus Systems **"DISP.APPR.REQ'D"**	**N**	2	0	**C**	**(O)(M)** May be inoperative provided Bus is deactivated.

MEL ITEM	TAB LOCATION	PLACARD TEXT
24-51-01	Near Affected Utility Bus Switch	____ Utility BUS System INOP

(O) PROCEDURES

1. For left and/or right utility bus inoperative:

   The forward and/or aft cargo heating systems are inoperative. Temperature sensitive items loaded in these compartments may be affected.

2. The deactivation of the Utility Bus(es) will also remove power from the following items.

Item	Reference
RIGHT UTILITY BUS	
Fwd Right Pass Reading Lights	NEF
Fwd Right Mid Pass Reading Lights	NEF
Aft Right Pass Reading Lights	NEF
Aft Right Mid Pass Reading Lights	NEF
Tape Repo AC	NEF
LEFT UTILITY BUS	
Fwd Left Pass Reading Lights	NEF
Aft Left Pass Reading Lights	NEF
Mid Aft Left Pass Reading Lights	NEF
Entertainment Audio-1	NEF
Entertainment Audio-2	NEF
Video Control Center-AC	NEF
VDU Cluster 1-AC	NEF
VDU Cluster 2-AC	NEF
VDU Cluster 3-AC	NEF
VDU Cluster 4-AC	NEF
VDU Cluster 5-AC	NEF

Continued Next Page

24-51-01	**UTILITY BUS SYSTEMS – RIGHT BUS INOPERATIVE**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 0.3%.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None

(M) PROCEDURES

To deactivate the utility bus, pull and secure the applicable circuit breaker on the P11 panel:

- UTIL BUS L
- UTIL BUS R

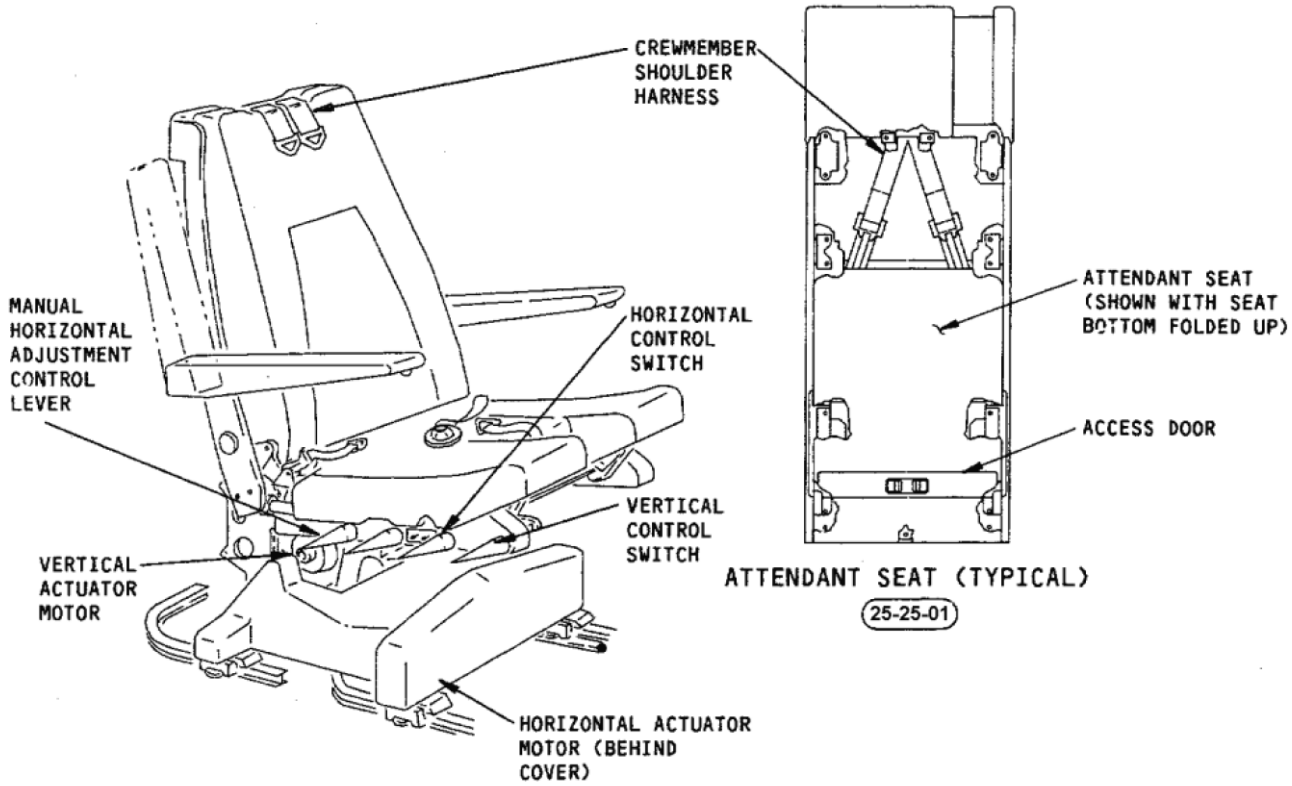
NOTE: Deactivating a Utility Bus will remove power to the systems listed below. Defer all items contained in the appropriate chart below per the associated MEL Reference.

Item	Reference
RIGHT UTILITY BUS	
Recirc Fan R - refer to Recirculation Fans Right Fan	21-25-01
Aft Cargo Fan - refer to Aft Cargo Heating System	21-40-02
F/O Aux Heaters LO & HI - refer to Flight Crew Auxiliary Heat Systems	21-45-01
Sidewall Lights L & R - refer to Cabin Interior Illumination System	33-21-01
Lav Water Heater C & D - refer to Potable Water Systems	38-10-01
Drain Mast Heaters - refer to Drain Mast Heaters	30-71-01
LEFT UTILITY BUS	
Fwd Cargo Heater – refer to Fwd Cargo Heating System	21-40-01
Aft Cargo Heater - refer to Aft Cargo Heating System	21-40-02
Capt Aux Heaters LO & HI - refer to Flight Crew Auxiliary Heat Systems	21-45-01
Logo Lights L & R - refer to Logo Lights	33-45-01
Lav Water Heater A, B, P & V - refer to Potable Water Systems	38-10-01

ATA 25 Contents

	FLIGHT CREW SEAT	25-5
25-11-01A	Power Adjustment System	25-5
25-11-01B	Manual Adjustment System (Recline)	25-5
25-11-01C	Manual Adjustment System (Vertical)	25-5
25-11-02A	Primary Observer Seat (Including Associated Equipment)	25-6
25-11-02B	Observer Seat(s) Additional Observer Seat (Including Associated Equipment)	25-6
25-20-01	Nonessential Equipment and Furnishings (NEF)	25-7
25-25-01A	Required Flight Attendant Seats (-200)	25-8
25-25-01C	Required Flight Attendant Seats (-300)	25-10
25-25-01D	Required Flight Attendant Seats (-300)	25-11
25-25-01E	Excess Flight Attendant Seat	25-12
25-25-02A	Passenger Seats	25-14
25-25-02G	Passenger Seats (Armrest with Recline Mechanism)	25-16
25-25-02H	Passenger Seats (Armrest without Recline Mechanism)	25-16
25-25-02I	Passenger Seats - Legrest, Footrest, Mechanisms (Non Lie-Flat Seats)	25-16
25-28-01A	Storage Bin(s) / Cabin, Galley and Lavatory Storage Compartments / Closets	25-23
25-38-01A	Exterior Lavatory Door Ashtrays	25-26
25-38-01B	Exterior Lavatory Door Ashtrays	25-26
25-38-02	Galley/Cabin Waste Receptacle Access Doors / Covers	25-27
25-41-01	Lavatory Waste Container Flapper / Access Doors	25-28
25-50-01	Lower Cargo Compartment Lining Panels and Floor Panels	25-29
25-53-01	Cargo Loading Systems	25-30
25-54-01A	Cargo Restraint Systems / Devices	25-31
25-62-01A	Passenger Life Vest	25-33
25-62-01C	Spare Life Vest	25-33
25-62-01D	Infant Life Vest	25-33
25-62-01E	Life Rafts	25-33
25-62-01F	Overwater Survival Kits (Including Door Slide D-Rings)	25-33
25-63-01	Megaphones	25-35
25-63-03	FASTEN SEAT BELT WHILE SEATED Signs or Placards	25-36
25-63-04A	Flight Attendant Flashlight / Holder Assemblies	25-37
25-63-04B	Flight Attendant Flashlight / Holder Assemblies	25-37
25-63-10A	Emergency Locator Transmitter (ELT) (Cabin Portable Unit)	25-38
25-63-10B	Emergency Locator Transmitter (ELT) (ADT 406 S)	25-38
25-64-01A	First Aid Kit (FAK) and/or Associated Equipment	25-40
25-64-01B	First Aid Kit Seals	25-40
25-64-01C	EEMK/XMK (Enhanced Emergency Medical Kit/Expanded Medical Kit)	25-40
25-64-01E	EEMK Bracket / Lock	25-40
25-64-01F	XMK Saddle Bag (External Pouch/Pocket)	25-40
25-64-01G	Red Pouch (Medical Accessory Pouch)	25-40
25-64-01H	Automated External Defibrillators (AED)	25-41
25-64-01I	AED Electrode Sets	25-41
25-66-03A	L / R TEST 1 – SLIDE	25-43
25-66-03B	L / R Test 2 - BTL PRESS	25-43
25-66-03C	L / R Test 1 - SLIDE and L / R Test 2 - BTL PRESS	25-43

25-66-04A Escape Slide Armed Condition Indicators 25-47
25-66-05A Escape SLIDE Girt Bar Engagement Light(s) 25-50
25-99-01A PED Mount 25-51
25-99-01B PED Mount 25-51
25-99-01C PED Mount 25-51

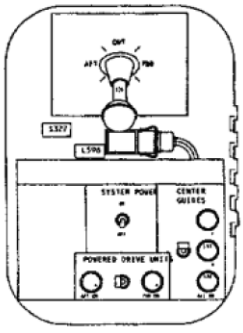


SEAT POWER ADJUSTMENT SYSTEM

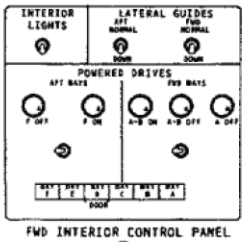
25-11-01

ATTENDANT SEAT (TYPICAL)

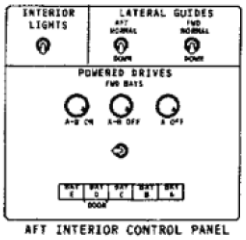
25-25-01



EXTERIOR CONTROL PANEL



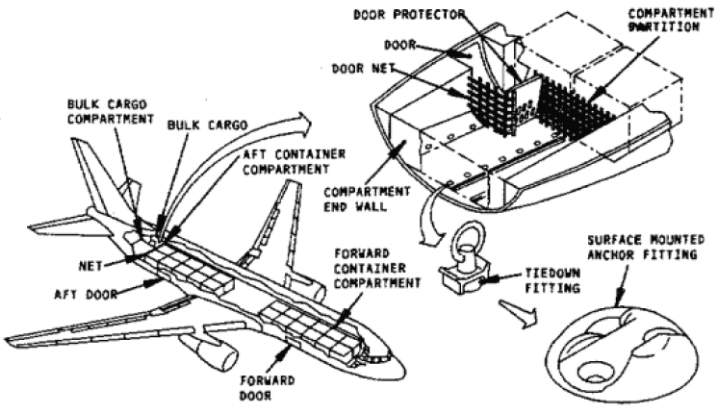
FWD INTERIOR CONTROL PANEL



AFT INTERIOR CONTROL PANEL

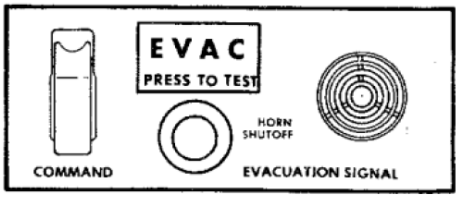
AUTOMATIC CARGO LOADING SYSTEM

25-53-01

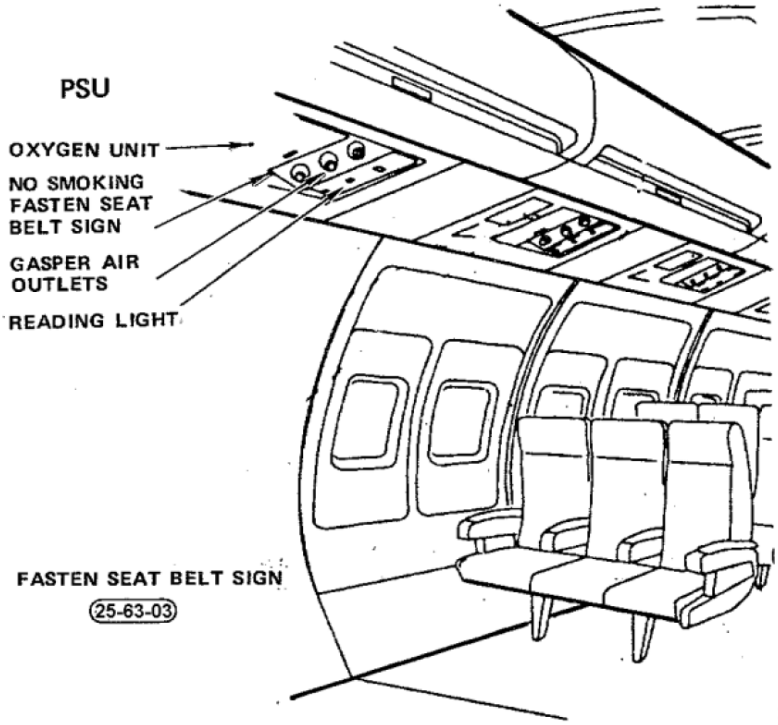


CARGO COMPARTMENT RESTRAINT COMPONENTS

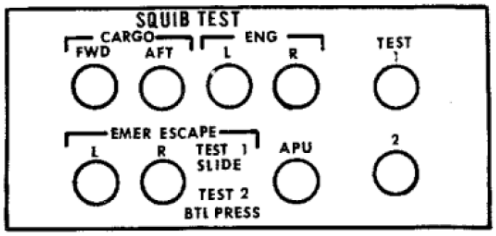
25-54-01



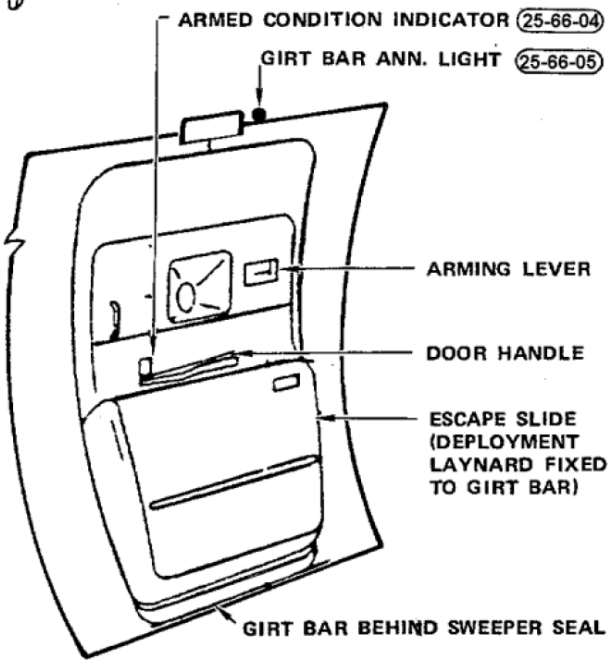
FLIGHT COMPARTMENT EES PANEL



FASTEN SEAT BELT SIGN
(25-63-03)



OVERWING ESCAPE SQUIB TEST SYSTEM
(25-66-03)



RIGHT DOORS (LEFT DOORS ARE OPPOSITE)

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
	FLIGHT CREW SEAT					
25-11-01A	Power Adjustment System	**Y**	2	0	**D**	May be inoperative provided fwd/aft and vertical manual adjustment modes operate normally.
25-11-01B	Manual Adjustment System (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 two flight days
25-11-01C	Manual Adjustment System (Vertical)	**Y**	2	0	**A**	May be inoperative provided: a) Seat is acceptable to affected crewmember, and b) Repairs are made within two flight days.
25-11-01D	Manual Adjustment System (Armrest)	**Y**	4	0	**B**	May be inoperative provided: a) Affected armrest is in up position or removed, and b) Seat is acceptable to the affected crewmember.
25-11-01E	Manual Adjustment System (Lumbar/ Thigh Supports and Headrest)	**Y**	2	0	**C**	May be inoperative provided seat is acceptable to affected crewmember.

MEL ITEM	TAB LOCATION	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 / Headrest Adjustment INOP

NOTE: If necessary to remove armrest, *Maintenance is Required and Flight Crew May NOT Placard.*

(M) PROCEDURES

25-11-01B

For an inoperative Recline System, ensure the seat is secured in an 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
	OBSERVER SEATS					
25-11-02A	Primary Observer Seat (Including Associated Equipment) **"DISP.APPR.REQ'D"**	**Y**	1	0	**A**	May be inoperative provided: a) A passenger seat in passenger cabin is made available to an FAA inspector for performance of official duties, and b) Repairs are made within two flight days. OR May be inoperative provided: a) Secondary observer's seat is available to an FAA inspector for performance of official duties, and b) Repairs are made within two flight days. OR May be inoperative provided: a) Required minimum safety equipment (safety belt and oxygen) is available, b) Seat is acceptable to an FAA inspector for performance of official duties, and c) Repairs are made within two 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 observer seat(s).
25-11-02B	Observer Seat(s) Additional Observer Seat (Including Associated Equipment)	**Y**	1	0	**D**	May be inoperative provided seat is acceptable to affected crewmember. NOTE: Pilot-in-Command will determine if minimum safety equipment is functional for other persons authorized to occupy additional observer seat(s).

MEL ITEM	TAB LOCATION	PLACARD TEXT
25-11-02A	Logbook	Primary Observer Seat INOP
25-11-02B	Logbook	Additional Observer Seat INOP

NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD		REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION		REMARKS OR EXCEPTIONS
25-20-01	Nonessential Equipment and Furnishings (NEF)		May be inoperative, damaged or missing provided that item(s) is deferred in accordance with the NEF deferral program. NOTE 1: Do not use this MEL item to defer the discrepancy. Defer the discrepancy under the NEF program per TOPP 40-40-08. NOTE 2: Exterior lavatory door ashtrays are not considered NEF items.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
	FLIGHT ATTENDANT SEAT ASSEMBLY (SINGLE OR DUAL POSITION)					
25-25-01A	Required Flight Attendant Seats (-200) **"DISP.APPR.REQ'D"** (Refer to In-flight Service Onboard Manual for required seat locations)	**Y**	4	3	**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 adjacent flight attendant seat or passenger seat which is most accessible to inoperative seat(s), so as to most effectively perform assigned duties, c) Alternate procedures are used for displaced Flight Attendant(s)(Refer to In-flight Service Onboard Manual), d) Folding type seat stows automatically or is secured in retracted position and is checked ONCE EACH FLIGHT DAY (LOGBOOK ENTRY REQUIRED), and e) Passenger seat assigned to flight attendant is placarded FOR FLIGHT ATTENDANT 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, adjacent seat must operate normally. NOTE 4: A seat position with an inoperative PSU is considered inoperative. **Repetitive Check Required (Yellow Placard)**

Continued Next Page

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD				
	FLIGHT ATTENDANT SEAT ASSEMBLY (SINGLE OR DUAL POSITION)					
25-25-01B	Required Flight Attendant Seats (-200) **"DISP.APPR.REQ'D"**	**Y**	4	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 121.583 for non-passenger carrying operations, c) Folding type seat stows automatically or is secured in retracted position and is checked ONCE EACH FLIGHT DAY (LOGBOOK ENTRY REQUIRED), 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)**

Continued Next Page

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
	FLIGHT ATTENDANT SEAT ASSEMBLY (SINGLE OR DUAL POSITION) (CONTINUED)					
25-25-01C	Required Flight Attendant Seats (-300) **"DISP.APPR.REQ'D"** (Refer to In-flight Service Onboard Manual for required seat locations)	**Y**	5	4	**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 adjacent flight attendant seat or passenger seat which is most accessible to inoperative seat(s), so as to most effectively perform assigned duties, c) Alternate procedures are used for displaced Flight Attendant(s)(Refer to In-flight Service Onboard Manual), d) Folding type seat stows automatically or is secured in retracted position and is checked ONCE EACH FLIGHT DAY (LOGBOOK ENTRY REQUIRED), and e) Passenger seat assigned to flight attendant is placarded FOR FLIGHT ATTENDANT 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, adjacent seat must operate normally. NOTE 4: A seat position with an inoperative PSU is considered inoperative. **Repetitive Check Required (Yellow Placard)**

Continued Next Page

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
	FLIGHT ATTENDANT SEAT ASSEMBLY (SINGLE OR DUAL POSITION) (CONTINUED)					
25-25-01D	Required Flight Attendant Seats (-300) **"DISP.APPR.REQ'D"**	**Y**	5	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 121.583 for non-passenger carrying operations, c) Folding type seat stows automatically or is secured in retracted position and is checked ONCE EACH FLIGHT DAY (LOGBOOK ENTRY REQUIRED), 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)**

Continued Next Page

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
FLIGHT ATTENDANT SEAT ASSEMBLY (SINGLE OR DUAL POSITION) (CONTINUED)					
25-25-01E Excess Flight Attendant Seat	**Y**	-	0	**C**	**(M)** May be inoperative provided: a) Affected seat position or seat assembly is not occupied, and b) Folding type seat stows automatically or is secured in retracted position and is checked ONCE EACH FLIGHT DAY (LOGBOOK ENTRY REQUIRED). 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	TAB LOCATION	PLACARD TEXT
25-25-01A	Logbook	___ Flight Attendant Seat INOP
25-25-01B	Logbook	___ Flight Attendant Seat INOP
25-25-01C	Logbook	___ Flight Attendant Seat INOP
25-25-01D	Logbook	___ Flight Attendant Seat INOP
25-25-01E	Logbook	___ Flight Attendant Seat INOP

(O) PROCEDURES

25-25-01A, 25-25-01C

1. The flight attendant assigned to the affected seat position must occupy either an adjacent flight attendant seat or a passenger 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, Aircraft Systems/Equipment (Chapter 6), Equipment Malfunctions, Inoperative Flight Attendant Jump Seat.

25-25-01B, 25-25-01D

1. A maximum of 19 persons authorized by 14 CFR 121.583 may be carried. Persons being carried must be approved by the Flight Control Dispatcher.
2. Captain to brief persons authorized to be carried on safety/evacuation procedures.

Continued Next Page

(M) PROCEDURES

25-25-01A, 25-25-01B, 25-25-01C, 25-25-01D, 25-25-01E

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.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
25-25-02A	Passenger Seats **"DISP.APPR.REQ'D"**	**Y**	-	-	**D**	**(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) is blocked and placarded DO NOT OCCUPY. NOTE 1: A seat with an inoperative or missing seat belt is considered inoperative. NOTE 2: Inoperative seat(s) does not affect required number of Flight Attendants. NOTE 3: Affected seat(s) may include seat(s) behind and/or adjacent outboard seats. NOTE 4: Seats with an inoperative or broken seat track attach fitting or seat frame damage affecting the integrity of the seat track attach fittings, may not remain installed. Defer per MEL 25-25-02B NOTE 5: MCC must contact Flight Control for coordination with ACS and the ROC to remove the seat(s) from inventory until repaired. NOTE 6: If a crew rest seat is inoperative, contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues.
25-25-02B	Passenger Seats **"DISP.APPR.REQ'D"**	**N**	-	-	**D**	**(O)(M)** May be inoperative and a seat removed provided OEW performance corrections are applied. NOTE 1: Inoperative seats do not affect the required number of Flight Attendants. NOTE 2: Seats with an inoperative or broken seat track attach fitting or seat frame damage affecting the integrity of the seat track attach fittings, may not remain installed. NOTE 3: MCC must contact Flight Control for coordination with ACS and the ROC to remove the seat(s) from inventory until the seat(s) is reinstalled.

Continued Next Page

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD		REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
25-25-02C	Passenger Seats - Recline Mechanism (Non Lie-Flat Seats)	**N**	-	-	**D**	**(M)** May be inoperative and seat occupied provided seat is secured in full upright position. NOTE: If a crew rest seat is inoperative, contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues.
25-25-02D	Passenger Seats - Recline Mechanism (Non Lie-Flat Seats)	**Y**	-	-	**D**	May be inoperative and seat occupied provided seat is immovable in full upright position. NOTE: If a crew rest seat is inoperative, contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues.
25-25-02E	Passenger Seats - Recline/Footrest Mechanism (Lie-Flat Seats)	**Y**	-	-	**D**	**(O)(M)** May be inoperative and seat occupied provided seat is secured in full upright position. NOTE: If a crew rest seat is inoperative, contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues.
25-25-02F	Passenger Seats (Underseat Baggage Restraining Bars)	**N**	-	-	**C**	**(O)(M)** May be inoperative provided: a) Baggage is not stowed under seat with inoperative restraining bar, b) Associated seat is placarded DO NOT STOW BAGGAGE UNDER THIS SEAT, and c) Cabin Crew is alerted of inoperative restraining bar.

Continued Next Page

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
25-25-02G	Passenger Seats (Armrest with Recline Mechanism)	Y	-	-	D	**(M)** May be inoperative or missing and seat occupied provided: a) Arm rest does not block an Emergency Exit, b) Arm rest does not restrict any passenger from access to main aircraft aisle, and c) If armrest is missing, seat is secured in upright position. NOTE: If a crew rest seat is inoperative, contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues.
25-25-02H	Passenger Seats (Armrest without Recline Mechanism)	Y	-	-	D	May be inoperative or missing and seat occupied provided: a) Arm rest does not block an Emergency Exit, and b) Arm rest does not restrict any passenger from access to main aircraft aisle.
25-25-02I	Passenger Seats - Legrest, Footrest, Mechanisms (Non Lie-Flat Seats)	Y	-	-	D	**(M)** May be inoperative and seat occupied provided leg/foot rest is secured in the retracted position. NOTE: If a crew rest seat is inoperative, contact the OCC Fleet Sector Manager through the Dispatcher to coordinate any potential crew duty time issues.

MEL ITEM	TAB LOCATION	PLACARD TEXT
25-25-02A	Logbook	Passenger Seat ____ INOP
25-25-02B	Logbook	Passenger Seat ____ INOP / Removed
25-25-02C	Logbook	Seat ____ Recline INOP
25-25-02D	Logbook	Seat ____ Recline INOP
25-25-02E	Logbook	Seat ____ Recline/Footrest INOP
25-25-02F	Logbook	Seat ____ Underseat Baggage Restraining Bar INOP
25-25-02G	Logbook	Passenger Seat Armrest ____ INOP / Missing
25-25-02H	Logbook	Passenger Seat Armrest ____ INOP / Missing
25-25-02I	Logbook	Passenger Seat Leg/Foot Rest ____ INOP

Continued Next Page

(O) PROCEDURES

25-25-02B

25-25-02B	**PASSENGER SEATS 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 "Seat Assembly" in ALM – Weight and Balance Section.

25-25-02E

1. For taxi, takeoff, and landing, the seat must be secured fully upright.
2. If the seat is to be used for crew rest purposes, manually recline the seat and return to fully upright during preflight to ensure proper operation.
3. The seat can be manipulated in flight to satisfy crew rest requirements as follows:
   a) Use the manual override levers located on the back side of the legrest (see Figure 3) to move the seat back and leg rest as required or to the taxi, take-off, landing (TTL) position. The manual override levers are accessible with the seat in any position.
   b) Visually confirm that an inboard seat is in the TTL position by observing inboard to outboard that the leg rest is aft of the aft edge of the life vest box (see Figure 4). The life vest box must be fully visible to confirm that the leg rest is fully stowed and the seat is in the fully upright TTL position. Visually confirm that the outboard seat is in the TTL position by verifying that the outboard seatback is parallel to the inboard seat back (see Figure 4). The outboard leg rest does not need to be stowed for TTL position since a deployed leg rest does not block egress or the life vest box.

25-25-02F

1. Notify Lead Flight Attendant/Purser of the inoperative restraining bar.
2. Advise Lead Flight Attendant/Purser to notify passengers not to stow baggage under the seat with the inoperative restraining bar.

(M) PROCEDURES

25-25-02A

Inoperative and affected seats must not block access to an emergency exit. If the seat blocks access to an emergency exit, the seat must be repaired, secured (or seatback removed) so that it does not block access to an emergency exit, or removed and deferred per MEL 25-25-02B.

Continued Next Page

Inoperative and affected seats must not restrict any passenger from access to the main aircraft aisle. If the inoperative seat blocks access to the aisle, the seats affected by the inoperative seat must be considered inoperative and deferred in accordance with this MEL item. Affected seats would be the seats outboard of the inoperative seat, or the seat directly behind the inoperative seat and all seats outboard of the seat directly behind the inoperative seat.

The preferred method to placard a seat inoperative is to install a Seat INOP Block-Out Cover, part number 25-5136-001, in accordance with ERA 10-485792-14MA. If this cover is not available, the installation of the cover may be delayed and an alternate method of placarding may be used. Contact the MCC so that they can schedule the installation of a Seat Block-Out Cover at the next available opportunity.

An acceptable alternative to the Seat Block-Out Cover is to install a “DO NOT OCCUPY” placard, part number 11-0972-001, in accordance with ERA 10-485792-14MA.

An acceptable alternative to the “DO NOT OCCUPY” Placard is to use masking tape to form a two inch wide placard. The tape should be applied to the head rest area or seat bottom if the seat back is removed. The words, “UNSERVICEABLE – DO NOT USE” must be printed on the masking tape neatly and legibly with 1.5 inch black or red letters.

To the extent possible, ensure that the inoperative seat maintains a pleasant and professional appearance.

If the seatback is loose, or if the seatback blocks access to an emergency exit, the seatback must be secured in the upright position, secured in the break-over position, or removed.

If a seatback is removed, placard the seatback, “MUST REMAIN WITH AIRPLANE” and stow it in an available closet. The seatback is to remain in the closet until removed by maintenance for repair or re–installation.

If a seatback that contains IFE is removed, all associated electrical wires must be capped, secured and stowed in such a way that they are not accessible to passengers.

Leg and foot rests must be secure in the retracted position. If a leg/foot rest cannot be secured in the retracted position, the seat and all seats outboard of it must be considered inoperative and deferred in accordance with this MEL item.

Defer the inoperative seat and any affected seats as follows:

1. If necessary, secure the seat in the upright position, secure the seat in the break-over position, remove the seatback, and/or secure the leg/foot rest in the stowed position.
2. Ensure that the inoperative seat does not block access to an emergency exit.
3. Ensure that the inoperative seat does not restrict access to the aisle. If access is restricted, ensure that the affected seats are also deferred as inoperative.
4. Install Seat INOP Block-Out Cover, or equivalent placard, on the inoperative seat and all affected seats.

25-25-02B

1. When removing seat, ensure the IFE for the remaining seats/areas operate where possible.
2. Ensure emergency escape path lighting meets minimum dispatch requirements (see MEL 33-51-03).
3. Tie back/stow all electrical connectors, wires, phone connections, etc. for the affected seat.

25-25-02C

Secure the seat in the full upright position by locking the seat cylinder or disconnecting the control cable from seat cylinder.

Continued Next Page

25-25-02E

Inboard Seats

1. Break over the inboard seatback (see Figure 1) by moving the seat back cushion to expose the quick release pin, removing the quick release pin (allow pin to hang by lanyard), and rotating the bracket. Repeat this procedure for the opposite side of the seatback.
2. Lift up the plastic closeout panel and locate the ECBB (Electronic Control Box for Boeing) (see Figure 2). Disconnect the connector labeled “P100”. Cap and tie back/stow the connector.
3. Reinstall the closeout panel, and return the seatback to its original position. Reposition the brackets and reinstall the quick release pins.
4. Use the two manual override levers at the base of the seat (see Figure 3) to move the seat back fully upright and stow the leg rest to the taxi, take-off, landing (TTL) position. The manual override levers are accessible with the seat in any position and are located on the back side of the legrest.
5. Visually confirm that the seat is in the TTL position by observing inboard to outboard that the leg rest is aft of the aft edge of the life vest box (see Figure 4). The life vest box must be fully visible to confirm that the leg rest is fully stowed and the seat is in the fully upright TTL position.

Outboard Seats

1. Break over the inboard seatback (see Figure 1) by moving the seat back cushion to expose the quick release pin, removing the quick release pin (allow pin to hang by lanyard), and rotating the bracket. Repeat this procedure for the opposite side of the seatback.
2. Lift up the plastic closeout panel and locate the ECBB (Electronic Control Box for Boeing) (see Figure 2). Disconnect the connector labeled “P200”. Cap and tie back/stow the connector.
3. Reinstall the closeout panel, and return the seatback to its original position. Reposition the brackets and reinstall the quick release pins.
4. Use the two manual override levers at the base of the seat (see Figure 3) to move the seat back fully upright and stow the leg rest to the taxi, take-off, landing (TTL) position. The manual override levers are accessible with the seat in any position and are located on the back side of the legrest.
5. Visually confirm that the seat is in the TTL position by verifying that the outboard seatback is parallel to the inboard seat back (see Figure 4). The outboard leg rest does not need to be stowed for TTL position since a deployed leg rest does not block egress or the life vest box.

Continued Next Page

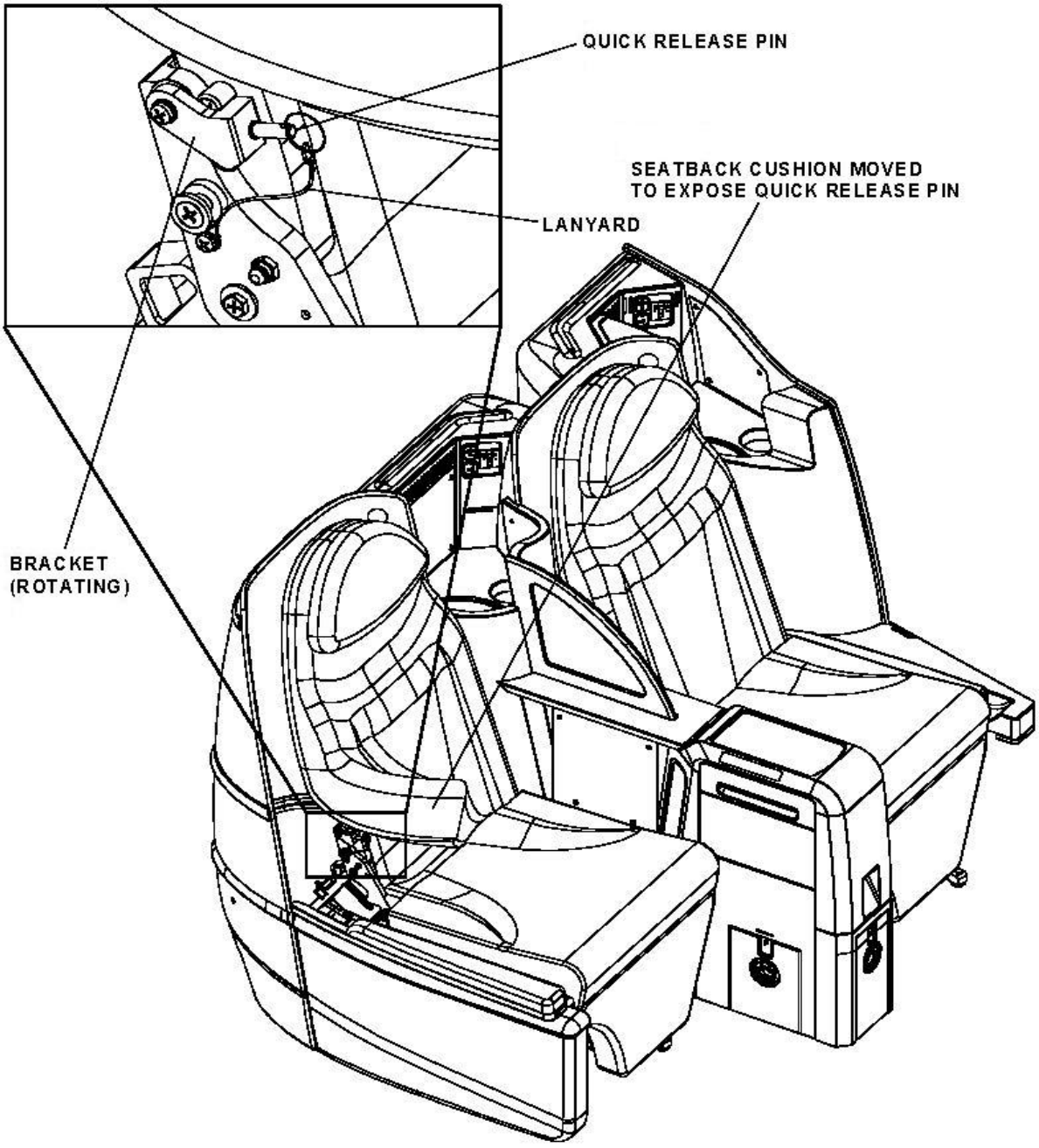


Figure 1 – Seatback Pin and Bracket

Continued Next Page

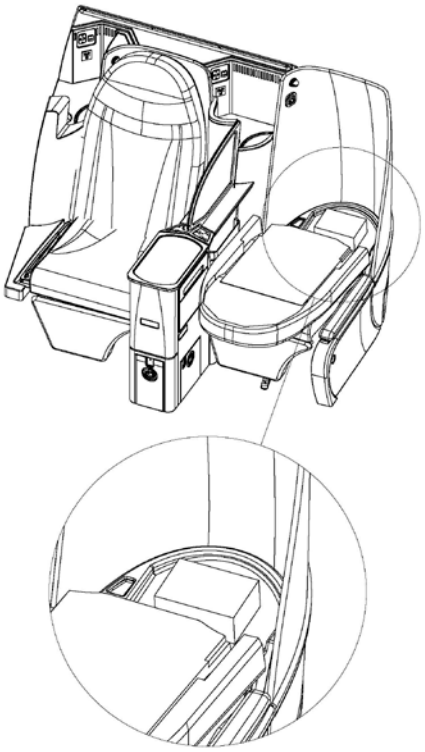


Figure 2 – ECBB

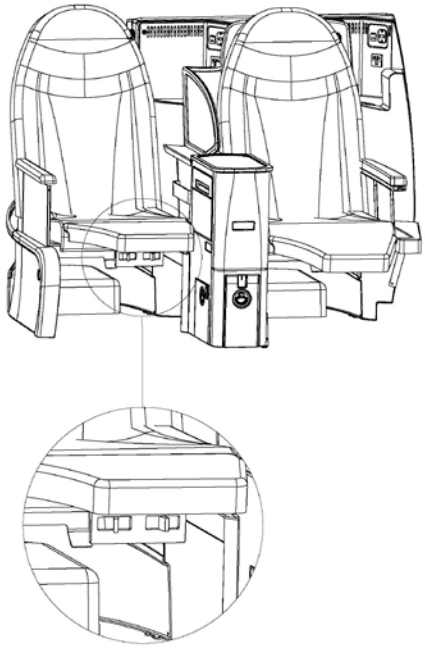


Figure 3 – Manual Override Levers

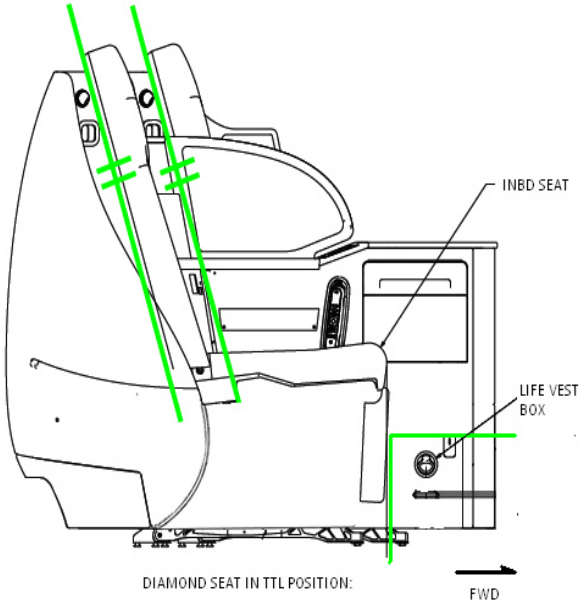


Figure 4-TTL Position

Continued Next Page

25-25-02F

If broken, remove the underseat baggage restraining bar. Place placard in a conspicuous location - DO NOT STOW BAGGAGE UNDER THIS SEAT.

25-25-02G

1. Ensure the affected arm rest does not block access to an emergency exit or the aisle.
2. If the armrest is missing or needs to be removed, *Maintenance is required and Flight Crew may not placard*.
   a) Deactivate the electrical power to any associated wire(s) at the individual seat or section of seats.
   b) Cap, stow and secure any exposed wires as appropriate.
   c) Defer the seat recline mechanism inoperative per MEL 25-25-02C.

25-25-02I

1. Secure leg/foot rest in the retracted position with a strap or rope such that it cannot move during flight.
2. If the leg/footrest is not secure in the retracted position, defer the seat recline mechanism inoperative per MEL 25–25–02A.

		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 CLOSED, b) Associated 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, the entire overhead bin is considered inoperative.
25-28-01B	Storage Bin(s) / Cabin, Galley and Lavatory Storage Compartments / Closets	**N**	-	-	**C**	**(O)(M)** May be inoperative provided: a) Affected door(s) is removed or for retractable doors, secured in the retracted (fully open) position, b) Affected bin, compartment or closet is not used for storage of any item(s) except for those permanently affixed, c) Affected bin, compartment or closet is prominently placarded DO NOT USE, d) Procedures are used to alert crew members and passengers of inoperative bins, compartments or closets, and e) Passengers are briefed that affected bin, compartment or closet is not used. NOTE 1: For overhead bins, if no partitions are installed, the entire overhead bin is considered inoperative. NOTE 2: Any emergency equipment located in the affected bin, compartment or closet (permanently affixed) is available for use.
25-28-01C	Multi Latch / Quarter Turn Lug Installations	**Y**	-	-	**C**	One latch/lug per compartment may be inoperative provided: a) Remaining latch(es)/lug(s) on affected compartments operate normally, and b) If affected compartment is used for a galley cart, cart remains empty.
25-28-01D	Storage Compartment Key Locks	**Y**	-	0	**D**	**(M)** May be inoperative in the unlocked position provided doors can be secured by other means.

Continued Next Page

MEL ITEM	TAB LOCATION	PLACARD TEXT
25-28-01A	Logbook	____ COMPARTMENT INOPERATIVE-DO NOT USE FOR STORAGE
25-28-01B	Logbook	____ COMPARTMENT INOPERATIVE-DO NOT USE FOR STORAGE
25-28-01C	Logbook	___ Multi Latch/ Quarter Turn Lug INOP
25-28-01D	Logbook	___ Storage Compartment Key Lock INOP

(O) PROCEDURES

25-28-01B

Passengers must be briefed not to use an inoperative overhead storage bin with the door removed.

(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, etc., but not masking tape), 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
   - Flashlights
   - AED
   - Passenger Oxygen Bottles
   - Survival Kit
   - Security Kit
   - Megaphones
   - EEMK
   - PBE
   - First Aid Kits
   - Spare Life Vests (located in each overhead bin with Survival Kits)
   - Medical Communication kit

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 the 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

To remove the affected door(s), accomplish the following:

1. Affected compartment is not used for storage of any item(s) except for those permanently affixed.
2. Remove the affected door.
3. Place door hardware in parts bag and attach to removed door.
4. Placard door “MUST REMAIN WITH AIRPLANE” and stow in available closet or cargo compartment as applicable. Door is to remain in closet or cargo compartment until removed by maintenance for repair or re–installation.
5. Placard the affected bin/compartment UNSERVICEABLE – DO NOT USE.

To secure <u>retractable doors</u> in the retracted (fully open) position, accomplish the following:

1. Firmly secure affected compartment door(s) OPEN by placing nylon reinforced strapping tape (packing tape) across the compartment door(s) such that it cannot be dislodged during any stage of flight.
2. Placard the affected bin/compartment UNSERVICEABLE – DO NOT USE.

25-28-01D

Ensure doors can be secured by other means, remaining operative latches, tape or other suitable means.

	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 **"Contact MCC"**	**Y**	-	-	**A**	Up to and including 50% may be missing or inoperative for 10 calendar days.
25-38-01B	Exterior Lavatory Door Ashtrays **"Contact MCC"**	**Y**	-	-	**A**	More than 50% may be missing or inoperative for 3 calendar days.

MEL ITEM	TAB LOCATION	PLACARD TEXT
25-38-01A	Logbook	____ Lavatory Door Ashtray INOP / Missing
25-38-01B	Logbook	____ Lavatory Door Ashtray 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 Receptacle Access Doors / Covers	**Y**	-	-	**C**	**(O)(M)** May be inoperative provided: a) Container is empty and access is secured to prevent waste introduction into compartment b) Procedures are established to ensure that sufficient galley/cabin waste receptacles are available to accommodate all waste that may be generated on flight.

MEL ITEM	TAB LOCATION	PLACARD TEXT
25-38-02	Logbook	____ Galley/Cabin Waste Receptacle Access / Doors Covers INOP

(O) PROCEDURES

Refer to the In-Flight Service On Board Manual, Section 3 Regulations / Guidelines, Trash.

(M) PROCEDURES

1. Empty waste container.
2. Using suitable pressure sensitive tape, secure waste receptacle access door(s) or cover(s) CLOSED.
3. Placard waste receptacle INOPERATIVE, DO NOT USE.

		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 USE. NOTE: These provisos are not intended to prohibit lavatory use or inspection by crewmembers.

MEL ITEM	TAB LOCATION	PLACARD TEXT
25-41-01	Logbook	____ Lavatory Waste Container Flapper / Access Door 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 and Floor Panels **"DISP.APPR.REQ'D"**	**Y**	-	-	**C**	**(O)** May be damaged or missing provided procedures are established and used to ensure associated compartment remains empty, or is verified to contain only empty cargo handling equipment, ballast, and/or Fly Away Kits (see MEL Instructions) .

MEL ITEM	TAB LOCATION	PLACARD TEXT
25-50-01	Logbook	____ Cargo Compartment Lining Panel(s) Damaged / Missing

(O) PROCEDURES

Observe cargo compartment loading restrictions listed above in Remarks or Exceptions.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
25-53-01	Cargo Loading Systems **"DISP.APPR.REQ'D"**	**N**	-	0	**D**	**(M)** May be inoperative. NOTE: Any portion of system(s) that operates normally may be used.

MEL ITEM	TAB LOCATION	PLACARD TEXT
25-53-01	Log Book	___ Cargo Comp. Loading System Component INOP

(M) PROCEDURES

To deactivate the **ACE** Cargo Loading System:

1. Pull and secure the following circuit breakers on the Ground Handling Bus of the APU External Power Panel (P34):
   - 34A6 - FWD CARGO LOADER CONT
   - 34B14 - FWD CARGO LOADER DRIVE
2. Open the access door on Module 3.
3. Unmodified ACE Cargo Loading System:
   a) Remove the ball lock pins to disconnect the module from the ball nut load arms.
   b) Move the load arms down to the trough, along the sides of the drive screw.
   c) Extend the modules to align the holes in the retainer with the holes in the floor mounted pin block. Install the lock pins through these holes to lock the modules.

   OR
4. Modified ACE Cargo Loading System (EO 6-76034-3AD):
   a) Remove the ball lock nuts & bolts to disconnect the module from the ball nut load arms. Retain nuts and bolts and store in deactivation "pin pouch" (located on the aft face of the ACE bulkhead access door).
   b) Move the load arms down to the trough, along the sides of the drive screw.
   c) Extend the modules to align the holes in the retainer with the holes in the floor mounted pin block. Remove the lock (PIP) pins stored in the deactivation "pin pouch" and install them through these holes to lock the modules.
5. Close the access door on Module 3.

To deactivate the **Telair Sliding Carpet** (Scandinavian/SAS) Cargo Loading System:

1. Deactivate the affected cargo loading system(s) in accordance with AMM 25–51–09 (FWD) and 25–53–09 (AFT).

		NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH	
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
25-54-01A	Cargo Restraint Systems / Devices **"DISP.APPR.REQ'D"**	**Y**	-	-	**A**	**(M)** May be inoperative or missing provided: a) Acceptable cargo loading limits from the Aircraft Loading Manual are observed, b) For an inoperative cargo door net, the associated bin must remain empty, and c) Repairs are made prior to completion of next heavy maintenance visit. NOTE: For inoperative lateral bin divider net, use MEL 25-54-01B
25-54-01B	Cargo Restraint Systems / Devices **"DISP.APPR.REQ'D"**	**Y**	-	-	**C**	**(M)** May be inoperative or missing provided associated cargo compartment remains empty.

MEL ITEM	TAB LOCATION	PLACARD TEXT
25-54-01A	Logbook	____ Cargo Compartment Restraint Systems INOP / Missing
25-54-01B	Logbook	____ Cargo Compartment Restraint Systems INOP / Missing

(M) PROCEDURES

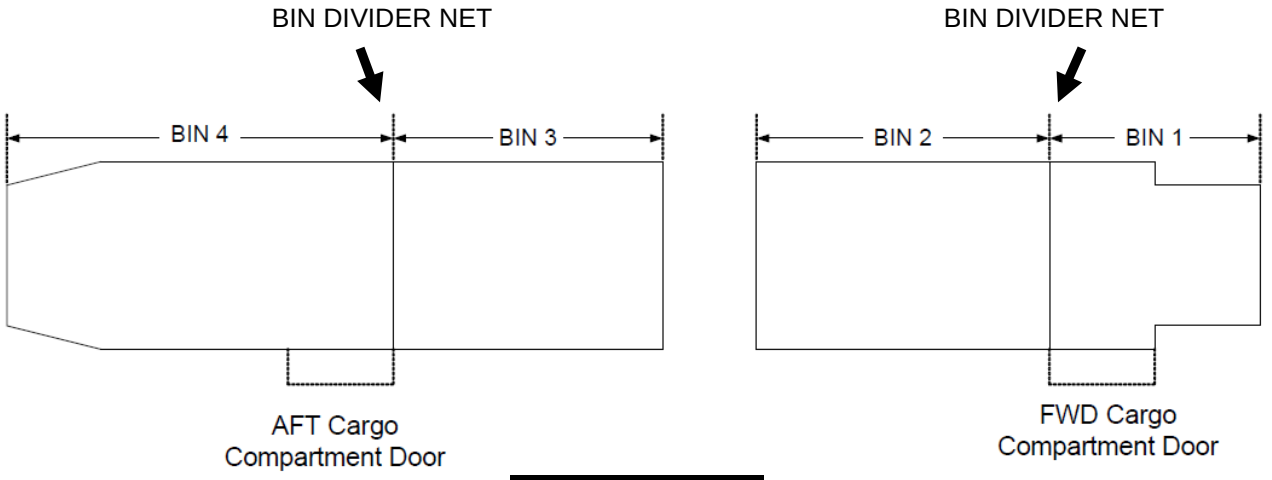
25-54-01A

1. Refer to Aircraft Loading Manual (ALM), Weight and Balance Section, Cargo Loading.
2. For an inoperative AFT door net, bin 4 must remain empty.
3. For an inoperative FWD door net, bin 1 must remain empty on 757-200 aircraft, and bin 2 must remain empty on 757-300 aircraft.

25-54-01B

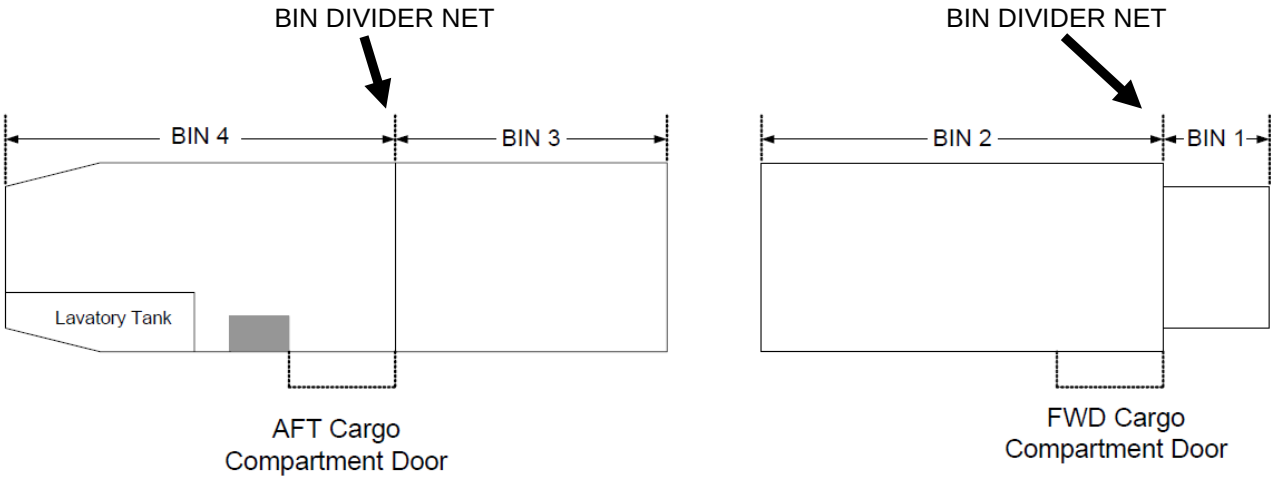
If the lateral bin divider net (pictured below) is missing or damaged, the associated cargo compartment must remain empty.

757-200



Continued Next Pag

757-300


BIN DIVIDER NET
BIN 4
BIN 3
Lavatory Tank
AFT Cargo
Compartment Door
BIN DIVIDER NET
BIN 2
BIN 1
FWD Cargo
Compartment Door

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD				
	FLOTATION EQUIPMENT					
25-62-01A	Passenger Life Vest **"DISP.APPR.REQ'D"**	**Y**	-	-	**D**	May be inoperative or missing provided extended overwater operations are not conducted.
25-62-01B	Passenger Life Vest **"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 25-25-02A.
25-62-01C	Spare Life Vest	**Y**	-	-	**D**	May be inoperative or missing.
25-62-01D	Infant Life Vest	**Y**	-	-	**D**	**(O)** May be inoperative or missing.
25-62-01E	Life Rafts **"DISP.APPR.REQ'D"**	**Y**	-	0	**D**	**(O)** Except for extended overwater operations, may be inoperative, missing or not easily accessible. NOTE: Performance corrections must be applied if Life Raft(s) is removed.
25-62-01F	Overwater Survival Kits (Including Door Slide D-Rings) **"DISP.APPR.REQ'D"**	**Y**	6	0	**D**	Except for extended overwater operations, may be inoperative or missing. NOTE: This item applies to overwater life raft survival kits remotely stowed in the cabin.

MEL ITEM	TAB LOCATION	PLACARD TEXT
25-62-01A	Logbook	____ Life Vest INOP / Missing
25-62-01B	Logbook	____ Life Vest INOP / Missing
25-62-01C	Logbook	____ Spare Life Vest INOP / Missing
25-62-01D	Logbook	____ Infant Life Vest INOP / Missing
25-62-01E	Logbook	____ Lift Raft INOP / Missing
25-62-01F	Logbook	____ Survival Kit INOP / Missing

(O) PROCEDURES

25-62-01D

One life vest or other approved floatation means is required for each occupant, including infants. On aircraft equipped with single cell adult life vests, an infant life vest is normally available for each occupant under 35 pounds for extended overwater operations. In the event that there are not enough infant life vests onboard for the extended overwater operation and all attempts have been made to locate and board additional infant life vests, notify an Airport Customer Service (ACS) Agent so that they can initialize their passenger handling procedures.

Continued Next Page

25-62-01E

If raft is missing, apply the following performance corrections:

25-62-01E	**LIFE RAFTS REMOVED OR MISSING**
EFFECTIVITY	**All**
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 only0** 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	**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 121.583 for non-passenger-carrying operations, and c) Alternate procedures are used.

MEL ITEM	TAB LOCATION	PLACARD TEXT
25-63-01	Logbook	____ Megaphones INOP / Missing

(O) PROCEDURES

1. A maximum of 19 persons authorized by 14 CFR 121.583 may be carried. Persons being carried must be approved by the Flight Control Dispatcher.
2. Captain to brief persons authorized to be carried on safety/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**	-	0	**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	TAB LOCATION	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	**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	**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 121.583 for non-passenger-carrying operations, and c) Alternate procedures are used.

MEL ITEM	TAB LOCATION	PLACARD TEXT
25-63-04A	Logbook	____ Flight Attendant Flashlight / Holder Assembly INOP / Missing
25-63-04B	Logbook	____ Flight Attendant Flashlight / Holder Assembly INOP / Missing

(O) PROCEDURES

25-63-04B

1. A maximum of 19 persons authorized by 14 CFR 121.583 may be carried. Persons being carried must be approved by the Flight Control Dispatcher.
2. Captain to brief persons authorized to be carried on safety/evacuation procedures.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
25-63-10A	Emergency Locator Transmitter (ELT) (Cabin Portable Unit) **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	May be inoperative or missing provided: a) Departures to a country other than the United States or Canada are Not Authorized, and b) Aircraft is not operated on extended overwater flights.
25-63-10B	Emergency Locator Transmitter (ELT) (ADT 406 S) **"DISP.APPR.REQ'D"**	**Y**	2	0	**C**	May be inoperative or missing provided: a) Departures to a country other than the United States or Canada are Not Authorized, and b) Aircraft is not operated on extended overwater flights.
25-63-10C	Emergency Locator Transmitter (ELT) (ADT 406 S Plastic Cover)	**Y**	2	0	**C**	**(O)** One or both may be damaged or missing.
25-63-10D	Emergency Locator Transmitter (ELT) **"DISP.APPR.REQ'D"**	**Y**	-	0	**A**	**(M)** Except for extended overwater operations or flights within the states of Alaska or Hawaii over an uninhabited area, may be inoperative provided: a) System is deactivated, and b) Repairs are made within 90 days.
25-63-10E	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 missing or out of date provided repairs are made within 90 days.
25-63-10F	Emergency Locator Transmitter (ELT) **"DISP.APPR.REQ'D"**	**Y**	-	1	**D**	

MEL ITEM	TAB LOCATION	PLACARD TEXT
25-63-10A	Logbook	Cabin Portable ELT INOP
25-63-10B	Logbook	___ ELT INOP
25-63-10C	Logbook	__ ELT INOP Plastic Cover INOP
25-63-10D	Logbook	___ ELT INOP
25-63-10E	Logbook	___ ELT INOP
25-63-10F	Logbook	___ ELT INOP

(O) PROCEDURES

25-63-10C

Captain to brief Lead Flight Attendant/Purser to inspect the affected ELT to ensure the ON/OFF/ARMED switch is in the ARMED position.

Continued Next Page

(M) PROCEDURES

25-63-10D

1. Gain access to the inoperative ELT.
2. Disconnect, cap and stow the associated control / indication connector.
3. Position the ELT integral control switch OFF.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
	EMERGENCY MEDICAL EQUIPMENT					
25-64-01A	First Aid Kit (FAK) and/or Associated Equipment **"Contact MCC"**	**Y**	3	2	**A**	**(O)** One first aid kit may be incomplete, missing or inoperative provided: a) FAK is resealed in a manner that will identify it as a unit that cannot be mistaken for a fully serviceable unit, and b) Repairs or replacements are made within one flight cycle.
25-64-01B	First Aid Kit Seals	**Y**	3	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	EEMK/XMK (Enhanced Emergency Medical Kit/Expanded Medical Kit) **"Contact MCC"**	**Y**	2	0	**A**	**(O)** May be incomplete, missing or inoperative provided: a) EEMK/XMK 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 one flight cycle.
25-64-01D	EEMK/XMK (Enhanced Emergency Medical Kit/Expanded Medical Kit) **"Contact MCC"**	**Y**	2	1	**D**	**(O)** May be incomplete, missing or inoperative provided EEMK/XMK is resealed in a manner that will identify it as a unit that can not be mistaken for a fully serviceable unit.
25-64-01E	EEMK Bracket / Lock (A/C 602-699, 6819-6823, 6700-6904, and 5501-5816 POST AA 2560-01390)	**Y**	1	0	**C**	NOTE: If bracket/lock is inoperative in a manner that prevents the EEMK from being accessible, the EEMK is considered inop and deferred per MEL 25-64-01C.
25-64-01F	XMK Saddle Bag (External Pouch/Pocket) (A/C 5501-5816) **PRE AA 2560-01390**	**Y**	-	0	**D**	Any or all Primary XMK saddle bag contents may be missing. NOTE 1: A saddle bag contents list is located on the back of the primary XMK. NOTE 2: (O) procedure 25-64-01D has a diagram of the XMK for identification purposes only.
25-64-01G	Red Pouch (Medical Accessory Pouch) (A/C 602-699, 6700-6904, and 5501-5816 POST AA 2560-01390)	**Y**	1	0	**C**	May be inoperative, missing, or contain less than the minimum required contents.

Continued Next Page

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
	EMERGENCY MEDICAL EQUIPMENT (CONTINUED)					
25-64-01H	Automated External Defibrillators (AED) **"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 one flight cycle.
25-64-01I	AED Electrode Sets	**Y**	2	1	**C**	One set may be inoperative or missing. NOTE: If both AED Electrode Sets are inoperative or missing, the AED is considered inoperative and deferred per MEL 25-64-01H.
25-64-01J	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 is considered inoperative and deferred per MEL 25-64-01H.

MEL ITEM	TAB LOCATION	PLACARD TEXT
25-64-01A	On First Aid Kit	____ First Aid Kit Incomplete / Missing / INOP
25-64-01B	On First Aid Kit(s)	____ First Aid Kit Seal Broken
25-64-01C	On Medical Kit	EEMK/XMK Incomplete / Missing / INOP
25-64-01D	On Medical Kit	EEMK/XMK Incomplete / Missing / INOP
25-64-01E	Logbook	EEMK Bracket / Lock INOP
25-64-01F	On Expanded Medical Kit	Expanded Medical Kit Saddle Bag Contents Missing
25-64-01G	Logbook	Red Pouch (Medical Accessory Pouch) INOP / Missing
25-64-01H	On Locked AED Container	AED Incomplete / Missing / INOP
25-64-01I	Logbook	AED Electrode Set Missing / INOP
25-64-01J	Logbook	AED Bracket / Lock INOP

(O) PROCEDURES

25-64-01A, 25-64-01C, 25-64-01H

1. Re-seal the unit in a manner that will identify it as a unit that cannot be mistaken for a fully serviceable unit.
2. Captain to inform Lead Flight Attendant/Purser of inoperative or missing emergency equipment.

Continued Next Page

25-64-01B

A/C 602-699, 6700-6904, and 5501-5816 POST AA 2560-01390

PRIOR TO EACH DEPARTURE, verify that the affected 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)

A/C 5501-5816 PRE AA 2560-01390

PRIOR TO EACH DEPARTURE, verify that the affected First Aid Kit contains all of the items listed on the contents list located on the inside cover of the First Aid Kit.

25-64-01D

A/C 602-699, 6700-6904, and 5501-5816 POST AA 2560-01390

If seal is broken, reseal with a green (Unserviceable) tamper evident seal.

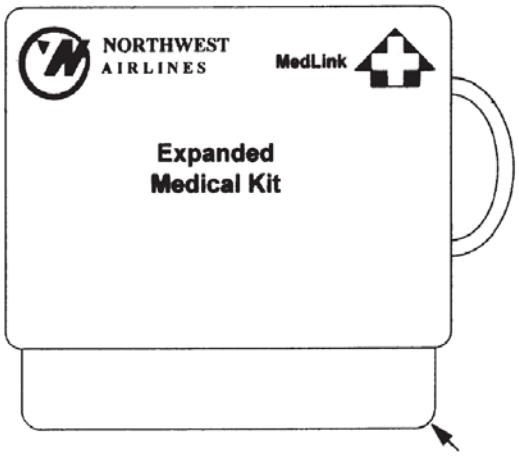
A/C 5501-5816 PRE AA 2560-01390

Both XMKs (Primary and Secondary) are identical. In the event the Primary XMK is opened, incomplete, missing or a seal is broken/missing, replace the Primary XMK as follows:

1. In the fwd coat closet unlock the secondary XMK kit container using the cabin access key and remove secondary XMK.
2. Transfer the saddle bag contents (Contents list located on back of XMK) from the expired primary XMK saddle bag to the secondary XMK saddle bag.

   NOTE: The saddle bag is NOT a sealed bag and the items are NOT required to make the XMK serviceable.
3. Install the secondary XMK in the main cabin aft overhead bin primary XMK kit container and lock it closed.
4. Reseal the expired primary XMK with one of the 5 green (Unserviceable) tamper evident seals found in the saddle bag.

   NOTE: If the old blue colored tamper evident seal is still in the pouch and no Delta green tamper evident seals are available, use the blue colored seal.
5. Install the expired primary XMK into the secondary kit container in fwd coat closet and lock it closed or remove it from the aircraft cabin.



Saddle Bag (External Pouch)
(Permanently affixed to XMK bag assembly) (Black).

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
OVERWING ESCAPE SQUIB TEST SYSTEM					
25-66-03A L / R TEST 1 – SLIDE **"Contact MCC"**	**N**	1	0	**A**	**(M)** May be inoperative provided: a) Overwing escape system is verified to operate normally, and b) Operations are limited to not more than 50 flight hours before repairs are made.
25-66-03B L / R Test 2 - BTL PRESS **"Contact MCC"**	**N**	1	0	**A**	**(M)** May be inoperative provided: a) Overwing escape bottle is verified to be properly charged, and b) Operations are limited to not more than 50 flight hours before repairs are made.
25-66-03C L / R Test 1 - SLIDE and L / R Test 2 - BTL PRESS **"Contact MCC"**	**N**	1	0	**A**	**(M)** May be inoperative provided: a) Overwing escape bottle squib is verified to operate normally, and b) Operations are limited to not more than 50 flight hours before repairs are made.

MEL ITEM	TAB LOCATION	PLACARD TEXT
25-66-03A	Logbook	Overwing Escape Slide Test System INOP
25-66-03B	Logbook	Overwing Escape Slide Bottle Pressure System INOP
25-66-03C	Logbook	Overwing Escape Slide and Bottle Pressure Test System INOP

(M) PROCEDURES

25-66-03A

1. Perform Overwing Escape Squib Test 2 (left and right bottle pressure) at P61 Panel. Verify both L and R green lights illuminate.
2. Perform the following steps to verify operation of the left and/or right overwing escape slide squib systems. The verification is only required for the Test 1 green light(s) (L / R) that fails to illuminate.
3. Disarm the left and/or right off-wing escape slide systems.
4. Extend the trailing edge flaps.
5. Tag flap handle DO NOT MOVE.
6. Protect wing surface around the slide compartment and maintenance access door.
7. Open maintenance access door on access panels 195GL (Left) or 196GR (Right).
8. On Airplanes with an actuator vent handle, turn the actuator vent handle 90 degrees outboard to the MANUAL position.

Continued Next Page

9. Remove the L / R center lining panels from the forward bulkhead of the aft cargo compartment to access the associated overwing escape slide pressure bottle. (NOTE: For airplanes with aft cargo loading system, loader bulkhead must be removed for to access center lining panels.)
10. Remove the safety pin, shorting cap, and safety cap from the pouch tied to the neck of the associated pressure bottle.
11. Install the safety pin into the actuator piston found below the squib on the master control valve.
12. Remove the squib electrical connector from the master control valve squib.
13. Install the shorting plug onto the master control valve squib.
14. Supply DC electrical power.
15. Position the L / R overwing escape slide disable handle in the SLIDE ARMED position.

    NOTE: When the left forward/aft or right forward/aft overwing emergency exit hatch is removed in the following steps, when measuring the voltage at the squib connector, the voltmeter will show 22-34 volts dc for five (5) seconds ONLY. You MUST do the following two voltmeter checks in less than five seconds after the hatch removal.

16. Remove the left / right forward overwing emergency exit hatch from within the airplane.
17. Immediately make sure the voltmeter shows 22-34 volts DC between pins 2 and 1 and between pins 2 and 3 on the appropriate squib connector.
18. Install the left / right forward overwing emergency exit hatch from within the airplane. To ensure proper firing pin and switch alignment, open exterior exit hatch handle, set door in place and latch door using inside handle.
19. Remove the left / right aft overwing emergency exit hatch from within the airplane.
20. Immediately make sure the voltmeter shows 22-34 volts DC between pins 2 and 1 and between pins 2 and 3 on the appropriate squib connector.
21. Install the left / right aft overwing emergency exit hatch from within the airplane. To ensure proper firing pin and switch alignment, open exterior exit hatch handle, set door in place and latch door using inside handle.
22. Disarm the left and/or right off-wing escape slide systems.
23. On airplanes with an actuator with a vent handle, turn the actuator vent handle 90 degrees inboard to the OPERATE position (against the stop bracket).
24. Close the maintenance access door.
25. Remove items used to protect wing surface around the slide compartment and maintenance access door.
26. Remove the shorting cap from the master control valve squib.
27. Install the squib electrical connector onto the master control valve squib.
28. Remove the safety pin from the actuator piston found directly below the squib on the master control valve.
29. Install the safety pin, shorting cap, and the safety cap into the pouch tied to the neck of the pressure bottle.
30. Install the center lining panels on the forward bulkhead of the aft cargo compartment.
31. Re-arm system and verify both L and R overwing escape slide disable handles are in the SLIDE ARMED position.

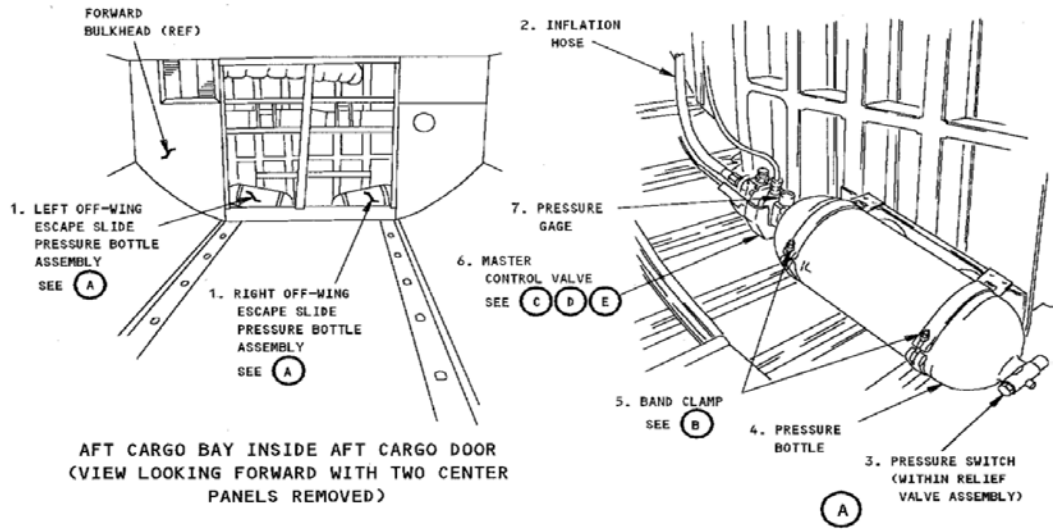
Continued Next Page

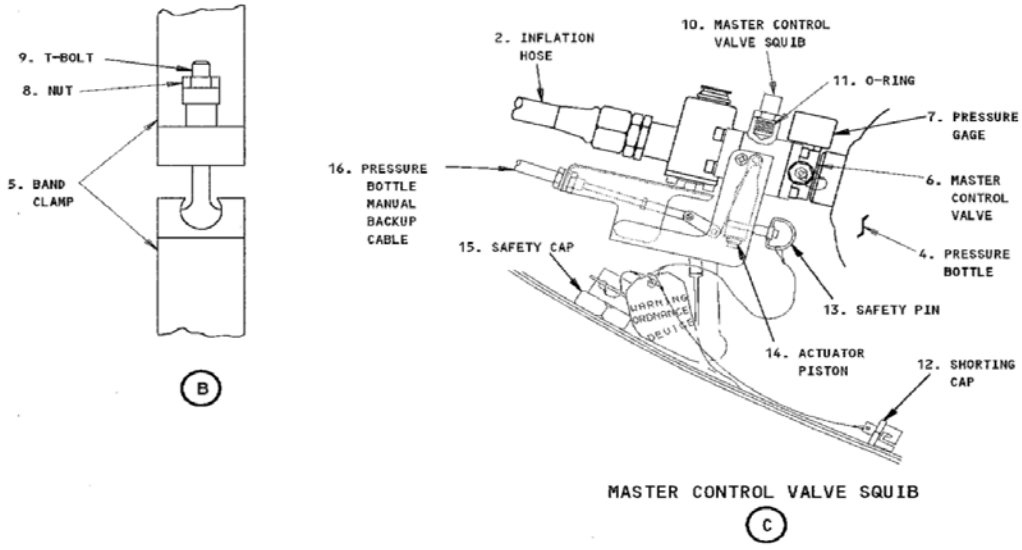
25-66-03B

1. Perform Overwing Escape Squib Test 1 (left and right slide) at P61 Panel. Verify both L and R green lights illuminate.
2. Remove the center lining panels from the forward bulkhead of the aft cargo compartment.
3. Verify satisfactory slide bottle pressure indication on the slide bottle pressure gauge (see chart).
4. Reinstall center lining panels.

25-66-03C

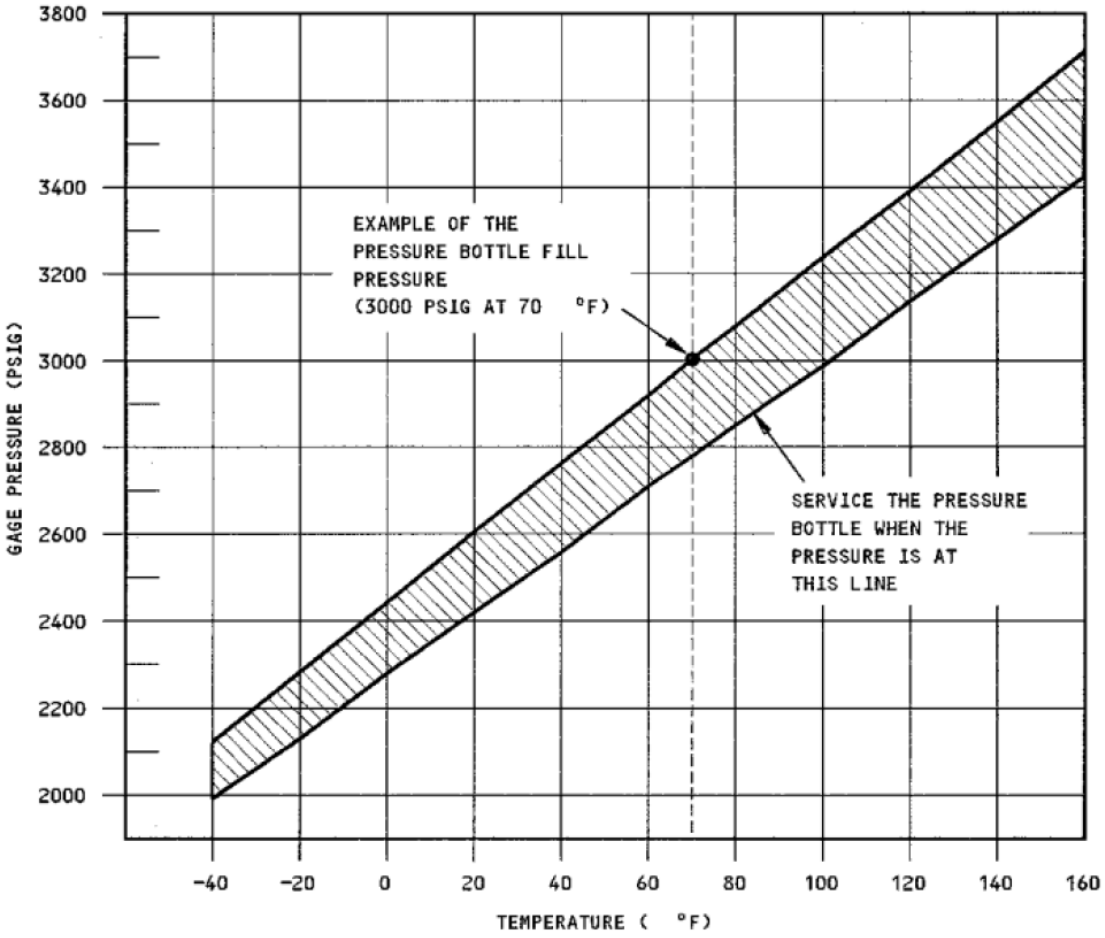
1. Accomplish Steps 2 thru 31 in (M) procedure for 25-66-03A.
2. Before reinstalling the center lining panels from the forward bulkhead of the aft cargo compartment, verify satisfactory slide bottle pressure indication on the slide bottle pressure gauge (see chart).





Pressure Bottle, Master Control Valve Squib, and Master Control Valve Installation

Continued Next Page



Pressure Bottle Pressure/Temperature Chart
Figure 402

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
25-66-04A	Escape Slide Armed Condition Indicators	**Y**	6	0	**C**	May be inoperative provided associated Escape SLIDE Girt Bar Engagement Light(s) operate normally.
25-66-04B	Escape Slide Armed Condition Indicators (Doors with flexible sweeper seals)	**Y**	6	0	**C**	**(O)** For doors with flexible sweeper seals, may be inoperative provided associated slide(s) is visually verified engaged PRIOR TO EACH DEPARTURE. **Repetitive Check Required (Yellow Placard)**
25-66-04C	Escape Slide Armed Condition Indicators (Doors with rigid sweeper seals)	**N**	6	0	**C**	**(M)** For doors with rigid sweeper seals, may be inoperative provided associated slide(s) is verified engaged PRIOR TO EACH DEPARTURE (Log Book Entry Required). **Repetitive Check Required (Yellow Placard)**

MEL ITEM	TAB LOCATION	PLACARD TEXT
25-66-04A	Logbook	____ Escape Slide Armed Condition Indicator INOP
25-66-04B	Logbook	____ Escape Slide Armed Condition Indicator INOP
25-66-04C	Logbook	____ Escape Slide Armed Condition Indicator INOP

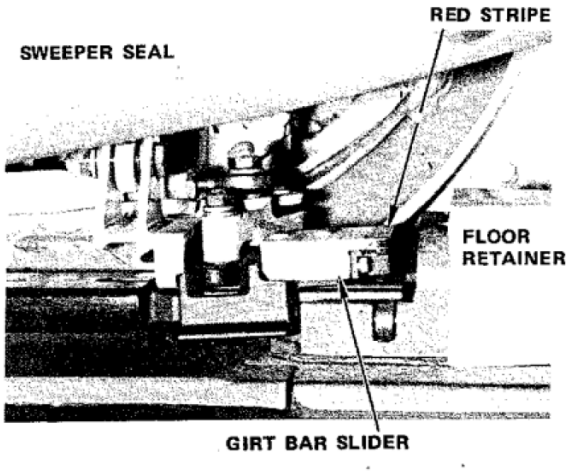
Continued Next Page

(O) PROCEDURES

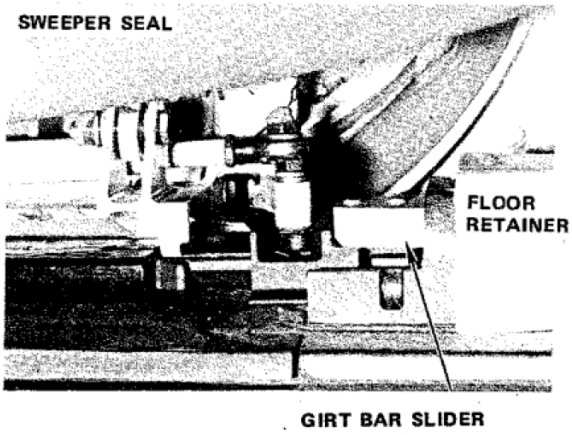
25-66-04B

PRIOR TO EACH DEPARTURE:

1. Girt bar engagement must be visually verified by inspection. Inspect girt bar fittings through door sweeper seal cutouts or by lifting the door sweeper seal.
2. Move the mode select handle between the disarmed and armed mode.
3. Verify that the forward and aft girt bar sliders travel a minimum of 1.00 inch between the disarmed and armed positions and that the sliders overlap the floor retainers.
4. If the sliders do not travel the minimum distance, the girt bar is not properly engaged and must be corrected prior to departure.



ESCAPE SLIDE NOT ENGAGED



ESCAPE SLIDE ENGAGED

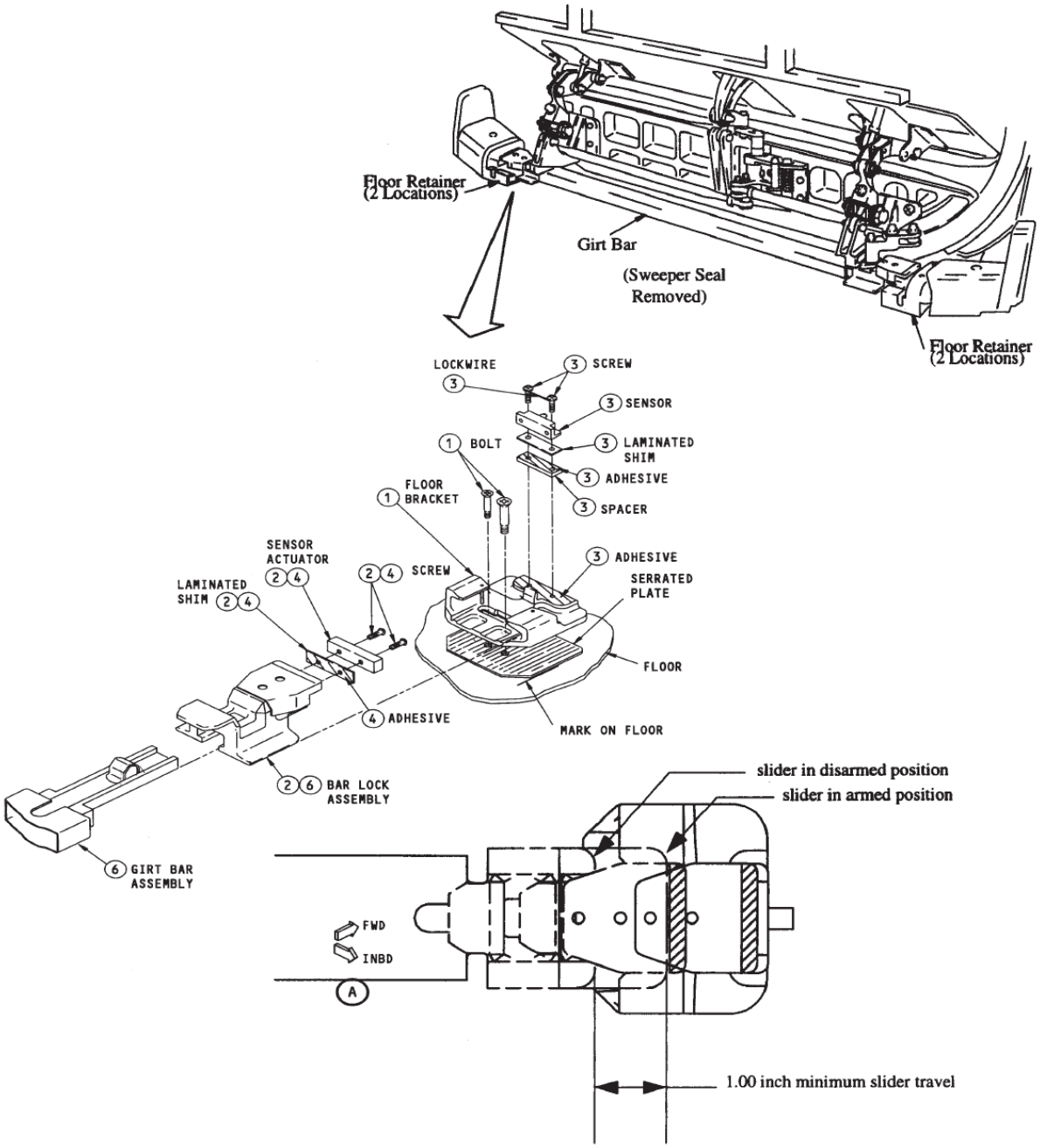
Continued Next Page

(M) PROCEDURES

25-66-04C

PRIOR TO EACH DEPARTURE:

1. Remove escape slide bustle to gain access to girt bar floor fitting area.
2. Move the mode select handle between the disarmed and armed mode.
3. Verify that the forward and aft girt bar sliders travel a minimum of 1.00 inch between the disarmed and armed positions and that the sliders overlap the floor retainers.
4. If the sliders do not travel the minimum distance, the girt bar is not properly engaged and must be corrected prior to departure.



		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
25-66-05A	Escape SLIDE Girt Bar Engagement Light(s) (Doors with flexible sweeper seals)	**Y**	6	0	**C**	**(O)** For doors with flexible sweeper seals, may be inoperative provided associated slide(s) is visually verified engaged PRIOR TO EACH DEPARTURE. **Repetitive Check Required (Yellow Placard)**
25-66-05B	Escape SLIDE Girt Bar Engagement Light(s) (Doors with rigid sweeper seals)	**N**	6	0	**C**	**(M)** For doors with rigid sweeper seals, may be inoperative provided associated slide(s) is verified engaged PRIOR TO EACH DEPARTURE (Log Book Entry Required). **Repetitive Check Required (Yellow Placard)**

MEL ITEM	TAB LOCATION	PLACARD TEXT
25-66-05A	Logbook	____ Escape Slide Girt Bar Engagement Light INOP
25-66-05B	Logbook	____ Escape Slide Girt Bar Engagement Light INOP

(O) PROCEDURES

25-66-05A

PRIOR TO EACH DEPARTURE:

Comply with 25-66-04B (O) Procedure.

(M) PROCEDURES

25-66-05B

PRIOR TO EACH DEPARTURE:

Comply with 25-66-04C (M) Procedure.

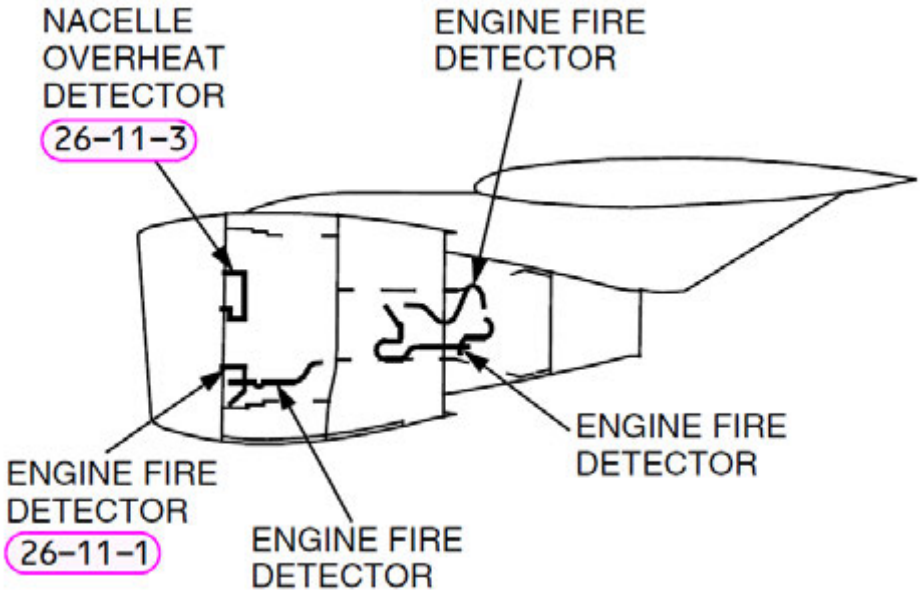
ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
25-99-01A PED Mount Administrative Control Item	**Y**	-	-		Reconfigure cockpit for two (2) operative PED mounts. See TOPP 40-40-05 for instructions.
25-99-01B PED Mount **"DISP.APPR.REQ'D"** Administrative Control Item	**Y**	-	-		Reconfigure cockpit for one (1) operative PED mount. 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.

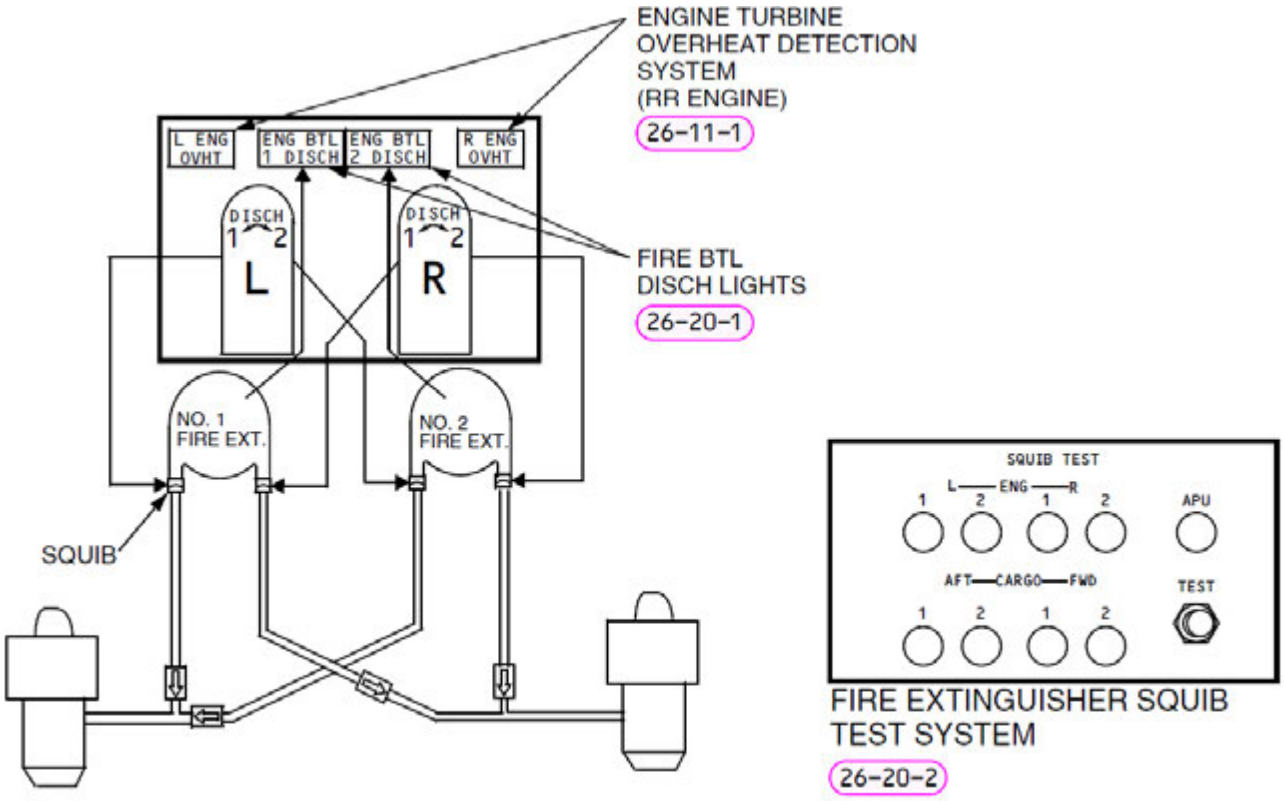
MEL ITEM	TAB LOCATION	PLACARD TEXT
25-99-01A	Log book	Reconfigured PED mounts per TOPP 40-40-05
25-99-01B	Log book	Reconfigured PED mounts per TOPP 40-40-05
25-99-01C	Log book	Reconfigured PED mounts per TOPP 40-40-05

INTENTIONALLY LEFT BLANK

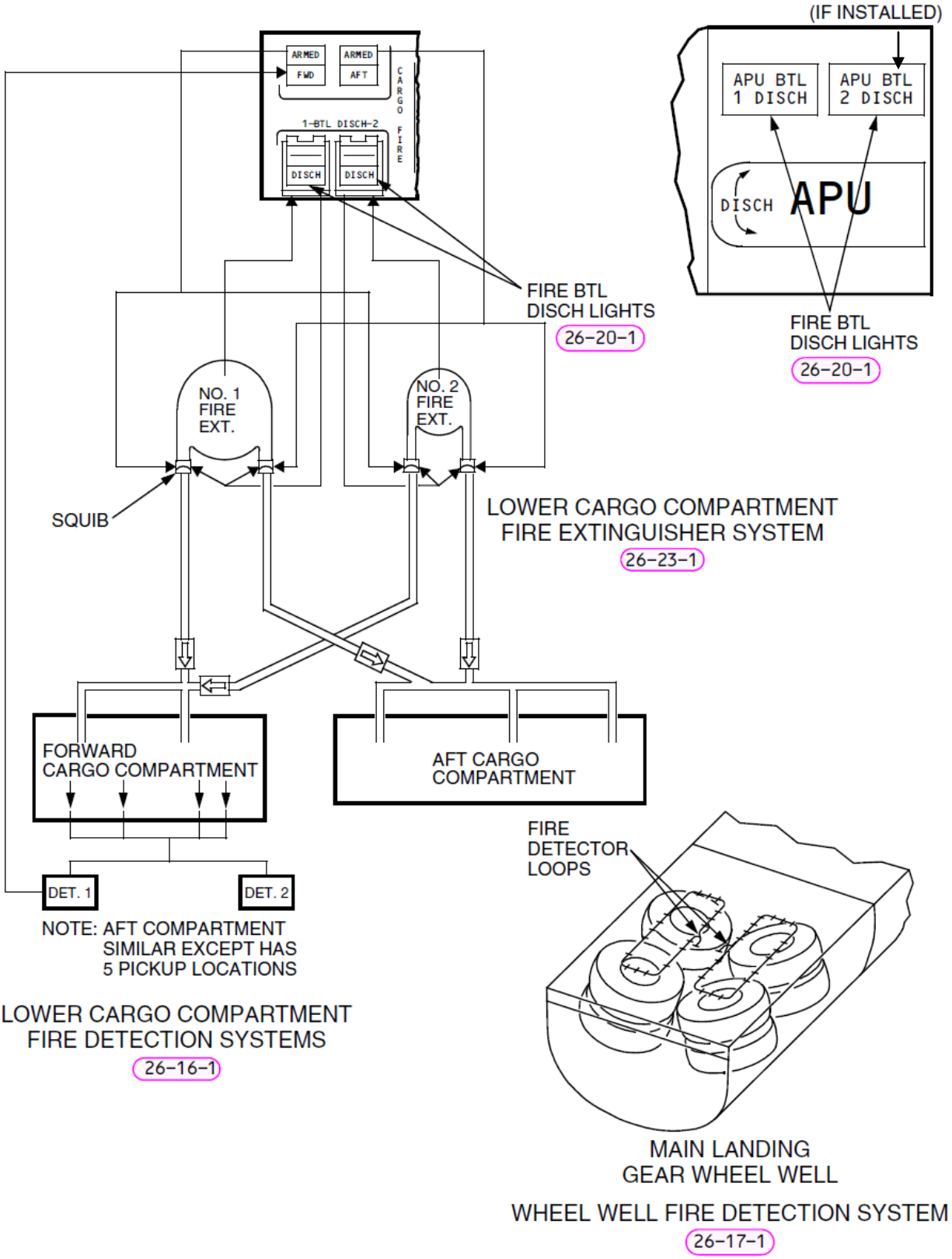
ATA 26 Contents

26-11-01 Engine Fire Detection Systems (Detection Loops) 26-5
26-11-03 Engine Nacelle Overheat Detection Systems Detection Loops 26-6
26-15-01A APU Fire Detection System 26-7
LOWER CARGO COMPARTMENT SMOKE DETECTION SYSTEMS 26-9
26-16-01A Fwd and Aft 26-9
26-17-01A Wheel Well Fire Detection System 26-11
26-18-01A DUCT LEAK Detection Systems (Duct Leak Detectors) 26-13
26-18-01B DUCT LEAK Detection Systems (Test Function) 26-13
26-20-01 Engine Fire Extinguisher Bottle Pressure Indicating System 26-14
FIRE EXTINGUISHER SQUIB TEST SYSTEM 26-16
26-20-02A Fire Extinguisher SQUIB TEST System 26-16
26-20-02D Cargo Squib Test Functions 26-16
26-22-01A APU Fire Extinguisher System 26-20
26-22-01D Fire Extinguisher Bottle Pressure Indicating System 26-20
LOWER CARGO COMPARTMENT FIRE EXTINGUISHER SYSTEM 26-22
26-23-01A Lower Cargo Compartment Fire Extinguisher System 26-22
26-23-01B Fire Extinguisher Bottle No. 2 (-200 with single aft cargo door) 26-22
26-23-01C Fire Extinguisher Bottle No. 2 (-200 with second aft cargo door) 26-22
26-23-01D Fire Extinguisher Bottle No. 2 (-300) 26-22
26-23-01E Fire Extinguisher Bottle Pressure Indicating System 26-22
26-26-01 Portable Fire Extinguishers (-200 Passenger Cabin Only) 26-25
26-26-02A Lavatory Fire Extinguisher Systems 26-26
26-26-03 Lavatory Smoke Detection System 26-27

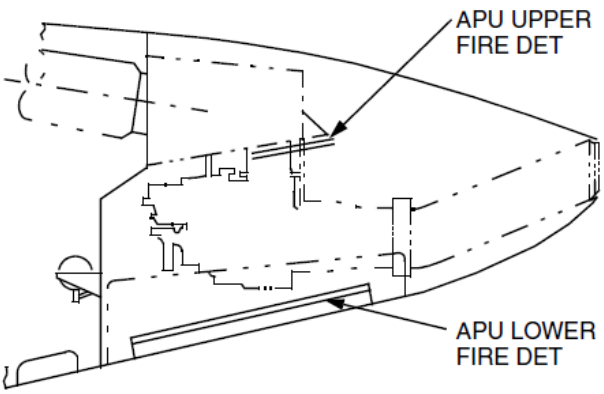




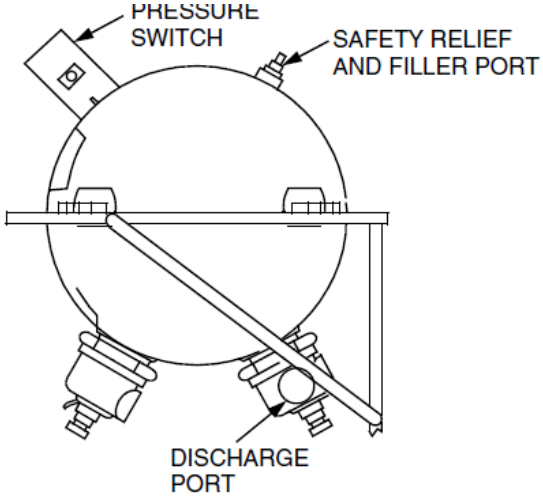
FIRE PROTECTION - ENGINES & TEST



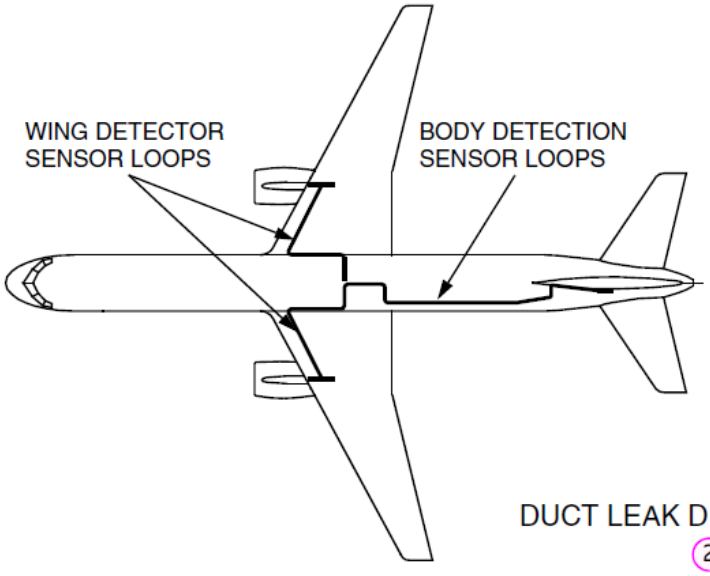
FIRE PROTECTION - CARGO, APU, AND WHEEL WELL

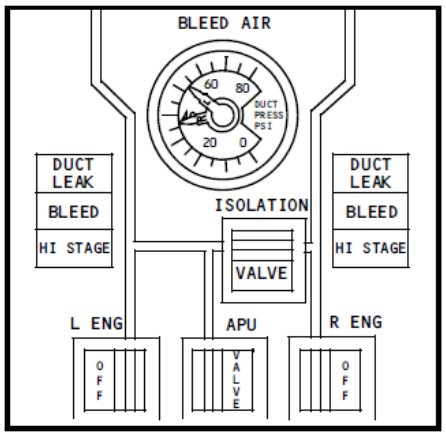


APU FIRE DETECTION SYSTEM
26-15-1

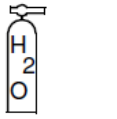


APU FIRE EXTINGUISHER SYSTEM
26-22-1

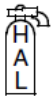




DUCT LEAK DETECTION SYSTEM
26-18-1

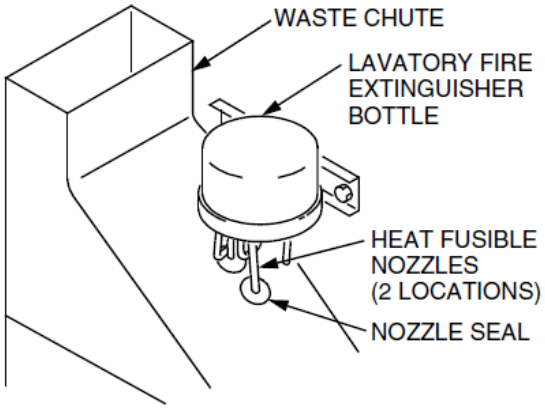


WATER
EXTINGUISHER



HALON
EXTINGUISHER

PORTABLE FIRE EXTINGUISHER
26-26-1



LAVATORY FIRE EXTINGUISHER
26-26-2

		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	TAB LOCATION	PLACARD TEXT
26-11-01	Near Engine Fire Warning Panel	____ Engine Fire Loop INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
26-11-03	Engine Nacelle 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	TAB LOCATION	PLACARD TEXT
26-11-03	Near Engine Fire Warning Panel	____ Engine Nacelle Overheat Detection Loop INOP

		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**	May be inoperative provided: a) APU is considered inoperative, and b) APU is deferred per MEL 49-11-01A. Theatre Restrictions May Apply
26-15-01B	APU Fire Detection System **"DISP.APPR.REQ'D"**	**N**	1	0	**C**	**(O)(M)** Except for ER (ETOPS) Operations, may be inoperative provided: a) Other procedures do not require use of APU, b) APU is used for ground operations only, c) APU is continuously monitored by ground personnel when operating, d) APU external control system operates normally, and e) APU is not used during taxi. Theatre Restrictions May Apply
26-15-01C	APU Fire Detection System **"DISP.APPR.REQ'D"**	**N**	1	0	**B**	**(O)(M)** Except for ER operations (ETOPS) beyond 120 minutes, may be inoperative provided: a) Both engine generators operate normally, b) Both Engine Generator IDGs Log Book history for past 30 days is reviewed and approved by MCC prior to deferral, c) Hydraulic Motor Generator (HMG) is verified to operate normally, d) Other procedures do not require use of APU, e) APU is used for ground operations only, f) APU is continuously monitored by ground personnel when operating, g) APU external control system operates normally, and h) APU is not used during taxi. Theatre 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	TAB LOCATION	PLACARD TEXT
26-15-01A	Near APU Fire Warning Panel	APU Fire Detection System INOP
26-15-01B	Near APU Fire Warning Panel	APU Fire Detection System INOP
26-15-01C	Near APU Fire Warning Panel	APU Fire Detection System INOP
26-15-01D	Near APU Fire Warning Panel	One APU Fire Loop INOP

Continued Next Page

(O) PROCEDURES

26-15-01B, 26-15-01C

1. For APU use during ground operations, position a fire guard near the tail of the airplane to monitor the APU.
2. Do not use the APU inflight or during taxi operations.

(M) PROCEDURES

26-15-01B

APU Fire Detection System without HMG installed.

The APU must be continually visually monitored when the APU is in use on the ground. If an APU fire is observed, the APU fire extinguisher must be manually discharged using either the APU Fire Shutdown (SHT DN) switch on the APU Shutdown Remote Control panel (P62 on nose gear) or the APU Fire Switch on the APU/Cargo Fire Control Panel (P8 control stand).

26-15-01C

APU Fire Detection System with HMG installed.

1. The APU must be continually visually monitored when the APU is in use on the ground. If an APU fire is observed, the APU fire extinguisher must be manually discharged using either the APU Fire Shutdown (SHT DN) switch on the APU Shutdown Remote Control panel (P62 on nose gear) or the APU Fire Switch on the APU/Cargo Fire Control Panel (P8 control stand).
2. Verify HMG operates normally. Refer to item 24-00-02 APU Driven Generator, (M) procedures.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
	LOWER CARGO COMPARTMENT SMOKE DETECTION SYSTEMS					
26-16-01A	Fwd and Aft **"DISP.APPR.REQ'D"**	**Y**	2	0	**C**	**(O)** May be inoperative provided procedures are established and used to ensure associated compartment remains empty, or is verified to contain only empty cargo handling equipment, ballast, and/or Fly Away Kits (see MEL Instructions).
26-16-01B	Fwd and Aft (Detectors)	**Y**	4	2	**C**	**(O)** One in each compartment may be inoperative provided remaining detector is verified to operate normally PRIOR TO EACH DEPARTURE. **Repetitive Check Required (Yellow Placard)**
26-16-01C	Fwd and Aft (Detector Fans)	**Y**	4	2	**C**	One in each compartment may be inoperative.
26-16-01D	Fwd and Aft (Detector Plenum Pressure Switch)	**N**	2	0	**C**	**(M)** May be inoperative provided associated detector fan is verified to operate normally PRIOR TO EACH DEPARTURE. **Repetitive Check Required (Yellow Placard)**

MEL ITEM	TAB LOCATION	PLACARD TEXT
26-16-01A	Near Cargo Fire Warning Panel	Fwd/Aft Cargo Comp. Smoke Detection Systems INOP
26-16-01B	Near Cargo Fire Warning Panel	___ Fwd/Aft Cargo Comp. Smoke Detector INOP
26-16-01C	Near Cargo Fire Warning Panel	___ Fwd/Aft Cargo Comp. Smoke Detector Fan INOP
26-16-01D	Near Cargo Fire Warning Panel	___ Fwd/Aft Cargo Comp. Smoke Det. Plenum Press. Switch INOP

(O) PROCEDURES

26-16-01A

When dispatching with empty cargo compartment, observe cargo compartment loading restrictions listed above in Remarks or Exceptions.

Continued Next Page

26-16-01B

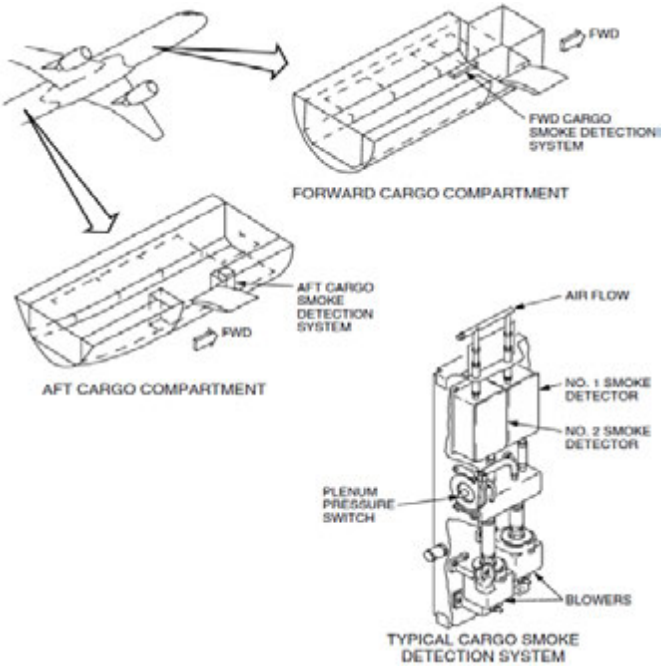
1. Depress and hold the ENG/APU/CARGO switch on the fire/overheat test panel (P8) to perform a self test.
2. All detector EICAS maintenance messages will be displayed and the following fire indications will illuminate / display:
   - Red FWD and AFT CARGO FIRE switchlights (P8)
   - Red FIRE light (P1-3)
   - EICAS messages, FWD and AFT CARGO FIRE (P2)
   - Red master warning light (P7)
   - Fire bell sounds on the flight deck aural warning speakers
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 switchlight and EICAS advisory message, FIRE/OVHT SYS, will remain displayed if there is a dual-detector fault. For dual-detector faults, use MEL 26-16-01A.

(M) PROCEDURES

26-16-01D

When dispatching with a plenum pressure switch inoperative, verify integrity of smoke sampling system by accomplishing the following smoke test:

1. Make smoke adjacent to one of the six orifices in the associated cargo compartment.
2. Make sure a fire indication occurs:
   - Red FWD or AFT CARGO FIRE switchlights (P8)
   - Red FIRE light (P1-3)
   - EICAS Warning messages, FWD or AFT CARGO FIRE
   - Red master warning light (P7)
   - Fire bell sounds
3. Remove the smoke source.
4. Make sure that the above fire indications go off when there is no smoke.



		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
26-17-01A	Wheel Well Fire Detection System	**Y**	1	0	**C**	**(O)** May be inoperative provided BTMS operates normally.
26-17-01B	Wheel Well Fire Detection System **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	**(O)(M)** May be inoperative provided: a) An accepted procedure is used to ensure brakes are cool before engine start, and b) Performance corrections are applied.

MEL ITEM	TAB LOCATION	PLACARD TEXT
26-17-01A	Near WHL WELL FIRE Light	Wheel Well Fire Detection System INOP
26-17-01B	Near WHL WELL FIRE Light	Wheel Well Fire Detection System INOP

(O) PROCEDURES

26-17-01A

After takeoff, check brake temperature indications periodically during the first 15 minutes of flight. If the BTMS registers 5 or higher, extend the landing gear for 10 minutes. Exception - In case of engine failure after V1, performance is the prime consideration. Landing gear should remain retracted until obstruction clearance requirement has been met, then extended for a 10 minute cooling period. Observe max gear down speed.

NOTE: The above procedure is to check for wheels becoming overheated by dragging brakes. Maximum brake temperature indication will occur 10 to 15 minutes after takeoff. Brake Temperature Monitoring System (BTMS) is usable inflight with gear retracted. The EICAS advisory message BRAKE TEMP is displayed when the hottest brake is registering 5 or higher on BTMS and extinguishes as the hottest brake cools to a BTMS indication of 4

Continued Next Page

26-17-01B

1. After takeoff, avoid the possibility of retracting a wheel overheated from dragging brakes by leaving landing gear extended for 10 minutes. Performance for the two-engine/gear down configuration is better than for the engine-out/gear up configuration.
2. In case of engine failure after V1, performance is the prime consideration. Landing gear should be retracted until obstruction clearance requirement has been met, then extended for a 10 minute cooling period.
3. Pilots must consider the possibility of ice accumulation due to delayed landing gear retraction during winter operations from contaminated runways.
4. Observe max gear down speed until landing gear is retracted.

26-17-01B	**WHEEL WELL FIRE DETECTION SYSTEM**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 1,200 lbs.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None

(M) PROCEDURES

26-17-01B

Brakes are considered cool when a hand can be held on the brake housing.

Optional Deactivation Procedure *Maintenance is Required and Flight Crew May NOT Placard*:

If the wheel well detection sensors are failed closed, the EICAS warning message WHEEL WELL FIRE and the WHEEL WELL FIRE light will remain on and may be deactivated as follows:

1. To deactivate the EICAS warning message WHEEL WELL FIRE and WHEEL WELL FIRE light, pull and secure the W/W FIRE DET circuit breaker on the P11 panel.
2. Access P50 card file, the duct leak and wheel well fire card module M691, connector D2824, pin 40.
3. In wire bundle W1140, disconnect, cap and stow wire number 0262-24 connected to pin 40.
4. Close WHEEL WELL FIRE circuit breaker.

   NOTE: The center panel FIRE light and first officers panel WHEEL WELL FIRE light will extinguish. The FIRE light will continue to operate normally 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
26-18-01A	DUCT LEAK Detection Systems (Duct Leak Detectors)	**Y**	14	7	**C**	One detector in each detection zone may be inoperative.
26-18-01B	DUCT LEAK Detection Systems (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	TAB LOCATION	PLACARD TEXT
26-18-01A	Near Associated DUCT LEAK Light	Duct Leak Detection System ____ Loop INOP
26-18-01B	Near DUCT LEAK Test Switch	Duct Leak Detection System Test Function INOP

(M) PROCEDURES

26-18-01B

Two procedures are available. Perform either Procedure One or Procedure Two.

Procedure One

Ensure that the detection loop(s) operate normally by the following method:

Use a heat source of approximately 260°F (127°C) to heat a section of the detector element. (Left wing and body loops are accessible through the left ECS bay, right wing and body are accessible through the right ECS bay.) The required substitute test heat device must not produce heat greater than 450°F (232°C). This temperature limit should be observed in the event that fuel vapors exist in this area.

OR

Procedure Two

1. Gain access to the Duck Leak and Wheel Well Fire Control Card M691 on the Electrical System Card File P50 in the Main Equipment Center (AMM 26-19-01/401).
2. Momentarily press “MEM READ” pushbutton.
3. Record fault code (if any) until code 97 (memory read complete) appears.
4. The following can be used to decipher the MEM READ two digit (XY) code.

   - X = 1 Left Wing Leading Edge
   - X = 2 Left A/C Pack Bay
   - X = 3 Wheel Well ECS
   - X = 4 Aft Cargo Section 46
   - X = 5 Aft Bulkhead Section 48
   - X = 6 Right Wing Leading Edge
   - X = 7 Right A/C Pack Bay

   Y = 0 Short Loop A
   Y = 1 Short Loop B
   Y = 2 Open Loop A
   Y = 3 Open Loop B

5. The above XY codes indicate a defective element. Ensure at least one Loop (A or B) is operative for each of the above (X) zones.
6. XY codes other than those listed above require more maintenance.

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 is properly charged (Log Book Entry Required). **Repetitive Check Required (Yellow Placard)**

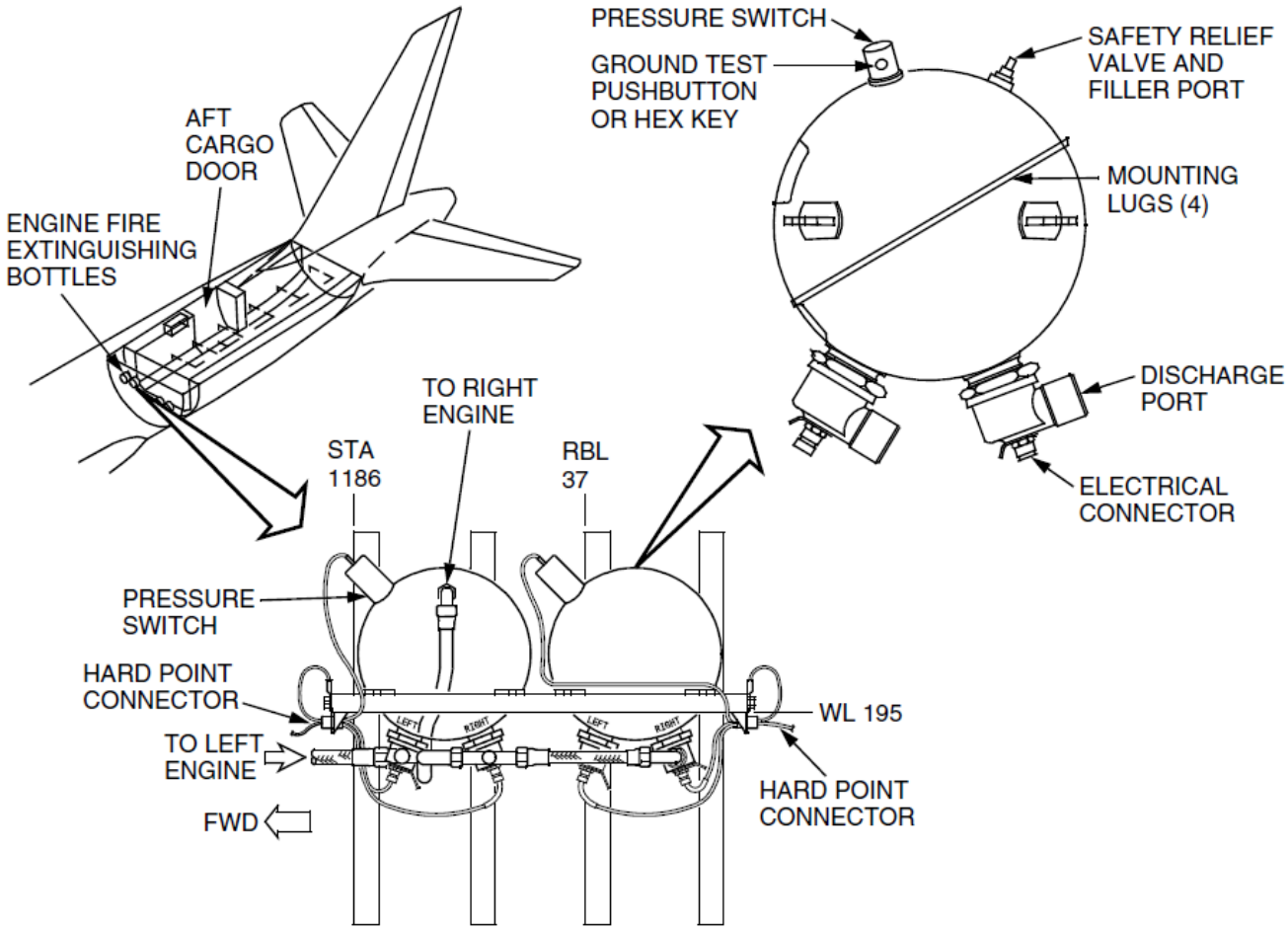
MEL ITEM	TAB LOCATION	PLACARD TEXT
26-20-01	Near Affected FIRE BTL DISCH Light	___ Engine Fire Extinguisher Bottle Pressure Indicating System INOP

(M) PROCEDURES

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, bypass the electrical check and just perform the bottle weighing procedure.

1. Check that 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.
   c) Check for open circuit indication. Open circuit indicates pressurized bottle.
   d) 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.
   e) Release button or hex key and check for open circuit indication.
   f) Reconnect electrical connector to bottle receptacle.
2. Optional bottle weight verification procedure (Pressure switch inoperative):
   a) Remove the bottle (Ref AMM 26-21-01).
   b) Weigh bottle and compare to the service weight stamped on the fire bottle side (+/- 0.1 pound).
   c) Reinstall serviceable bottle.
   d) Cap and stow the affected bottle pressure switch connector.

Continued Next Page



ENGINE 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
	FIRE EXTINGUISHER SQUIB TEST SYSTEM					
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**	-	0	**C**	May be inoperative provided APU is considered inoperative and deferred per MEL 49-11-01A.
26-20-02C	APU Squib Test Functions	**Y**	2	1	**C**	NOTE: For configurations with two test buttons and only one APU fire extinguisher bottle, if either button illuminates the APU squib test light, the squib circuit is verified.
26-20-02D	Cargo Squib Test Functions **"DISP.APPR.REQ'D"**	**Y**	2	0	**C**	May be inoperative provided extinguisher system is considered inoperative and deferred per MEL 26-23-01A.
26-20-02E	Cargo Squib Test Functions **"DISP.APPR.REQ'D"**	**Y**	2	0	**C**	**(O)** May be inoperative provided procedures are established and used to ensure associated compartment remains empty, or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits. NOTE: Operator MELs must define which items are approved for inclusion in Fly Away Kits and which materials can be used as ballast.

MEL ITEM	TAB LOCATION	PLACARD TEXT
26-20-02A	Near SQUIB TEST – P61 Panel	Fire Extinguisher SQUIB TEST System INOP
26-20-02B	Near SQUIB TEST – P61 Panel	APU Squib Light INOP
26-20-02C	Near SQUIB TEST – P61 Panel	____APU Squib Test Circuit INOP
26-20-02D	Near SQUIB TEST – P61 Panel	___ Cargo Squib Light INOP
26-20-02E	Near SQUIB TEST – P61 Panel	___ Cargo Squib Light INOP

(O) PROCEDURES

26-20-02E

Observe cargo compartment loading restrictions listed above in Remarks or Exceptions.

Continued Next Page

(M) PROCEDURES

NOTE: Test each circuit for which there was no green light when the test button or buttons were pushed. For configurations with two test buttons and only one APU fire extinguisher bottle, if either button illuminates the APU squib test light, the squib circuit is verified.

26-20-02A

1. For APU, Engine, and Lower Cargo Compartments, fabricate a squib test lamp with pigtail leads terminating in pins. Use lamp P/N 387 (28 volt, 40 milliamp) and holder assembly P/N 116-565-1042-001.

CAUTION: Restrict personnel from fire bottle area while testing. Limit squib current to 50 milliamperes maximum.

2. Verify that squib circuit is operative.

   For APU:

   a) Open circuit breakers and remove squib test control panel (AMM 26-21-04/401).

   b) Close the open circuit breakers (to provide power to the test lamp).

   c) Connect test lamp between sockets 7 and 12 of connector D3736 (sockets 13 and 14 of connectors D3736 for bottle 2 - if installed).

      NOTE: Sockets 7 and 13 connect to + 28 volt dc source. Sockets 12 and 14 connect to ground path through squib.

   d) Lamp illuminated indicates intact squib.

   e) Remove test lamp.

   f) Open the circuit breakers identified in AMM 26-21-04/401.

   g) Install squib test control panel and close open circuit breakers.

   For Engines (757-200 Four Door Configuration):

   a) Open circuit breakers and remove squib test control panel (AMM 26-21-04/401).

   b) Close the open circuit breakers (to provide power to the test lamp).

      - For bottle 1, L Squib; connect test lamp between sockets 8 and 3 of connector D3734.
      - For bottle 1, R Squib; connect test lamp between sockets 8 and 3 of connector D3736.
      - For bottle 2, L Squib; connect test lamp between sockets 9 and 4 of connector D3734.
      - For bottle 2, R Squib; connect test lamp between sockets 9 and 4 of connector D3736.

      NOTE: Sockets 3 and 4 connect to +28 volt dc source. Sockets 8 and 9 connect to ground path through squib.

   c) Lamp illuminated indicates intact squib.

   d) Remove test lamp.

   e) Open the circuit breakers identified in AMM 26-21-04/401.

   f) Install squib test control panel and close open circuit breakers.

Continued Next Page

For Engines (757-200 Three Door Overwing Exit Configuration and 757-300):

a) Open circuit breakers and remove squib test control panel (AMM 26-21-04/401).

b) Close the open circuit breakers (to provide power to the test lamp).

- For bottle 1, L Squib; connect test lamp between sockets 8 and 3 of connector D3734.
- For bottle 1, R Squib; connect test lamp between sockets 9 and 4 of connector D3734.
- For bottle 2, L Squib; connect test lamp between sockets 8 and 3 of connector D3736.
- For bottle 2, R Squib; connect test lamp between sockets 9 and 4 of connector D3736.

NOTE: Sockets 3 and 4 connect to +28 volt dc source. Sockets 8 and 9 connect to ground path through squib.

c) Lamp illuminated indicates intact squib.

d) Remove test lamp.

e) Open the circuit breakers identified in AMM 26-21-04/401.

f) Install squib test control panel and close open circuit breakers.

For lower cargo compartment (757–200 Four Door Configuration):

a) Open circuit breakers and remove squib test control panel (AMM 26-21-04/401).

b) Close the open circuit breakers (to provide power to the test lamp).

- For bottle 1, FWD CARGO SQUIB; connect test lamp between sockets 6 and 10 of connector D3736.
- For bottle 1, AFT CARGO SQUIB; connect test lamp between sockets 6 and 11 of connector D3736.
- For bottle 2, FWD CARGO SQUIB; connect test lamp between sockets 6 and 10 of connector D3734.
- For bottle 2, AFT CARGO SQUIB; connect test lamp between sockets 6 and 11 of connector D3734.

NOTE: Socket 6 connects to +28 volt dc source. Sockets 10 and 11 connect to ground path through squib.

c) Lamp illuminated indicates intact squib.

d) Remove test lamp.

e) Open the circuit breakers identified in AMM 26-21-04/401.

f) Install squib test control panel and close open circuit breakers.

Continued Next Page

For Lower Cargo Compartment (757–200 Three Door Overwing Exit Configuration and 757–300):

a) Open circuit breakers and remove squib test control panel (AMM 26-21-04/401).

b) Close the open circuit breakers (to provide power to the test lamp).

- For bottle 1, FWD CARGO SQUIB; connect test lamp between sockets 6 and 10 of connector D3734.
- For bottle 1, AFT CARGO SQUIB; connect test lamp between sockets 6 and 11 of connector D3734.
- For bottle 2, FWD CARGO SQUIB; connect test lamp between sockets 6 and 10 of connector D3736.
- For bottle 2, AFT CARGO SQUIB; connect test lamp between sockets 6 and 11 of connector D3736.

NOTE: Socket 6 connects to +28 volt dc source. Sockets 10 and 11 connect to ground path through squib.

c) Lamp illuminated indicates intact squib.

d) Remove test lamp.

e) Open the circuit breakers identified in AMM 26-21-04/401.

f) Install squib test control panel and close open circuit breakers.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
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 deferred per MEL 49-11-01.
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 deferred per MEL 49-11-01.
26-22-01C	Fire Extinguisher Bottle (Two Bottle System)	**Y**	2	1	**C**	
26-22-01D	Fire Extinguisher Bottle Pressure Indicating System	**Y**	2	1	**C**	
26-22-01E	Fire Extinguisher Bottle Pressure Indicating System	**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)**

MEL ITEM	TAB LOCATION	PLACARD TEXT
26-22-01A	Near APU Fire Warning Panel	APU Fire Extinguisher System INOP
26-22-01B	Near APU Fire Warning Panel	APU Fire Extinguisher System INOP
26-22-01C	Near APU Fire Warning Panel	____ APU Fire Bottle INOP
26-22-01D	Near APU Fire Warning Panel	____ APU Fire Bottle Pressure Indicating System INOP
26-22-01E	Near APU Fire Warning Panel	Both APU Fire Bottle Pressure Indicating Systems INOP

(M) PROCEDURES

26-22-01E

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. Operators can, if desired, bypass the electrical check and just perform the bottle weighing procedure.

1. Check that 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.

Continued Next Page

c) Reconnect electrical connector to bottle receptacle.

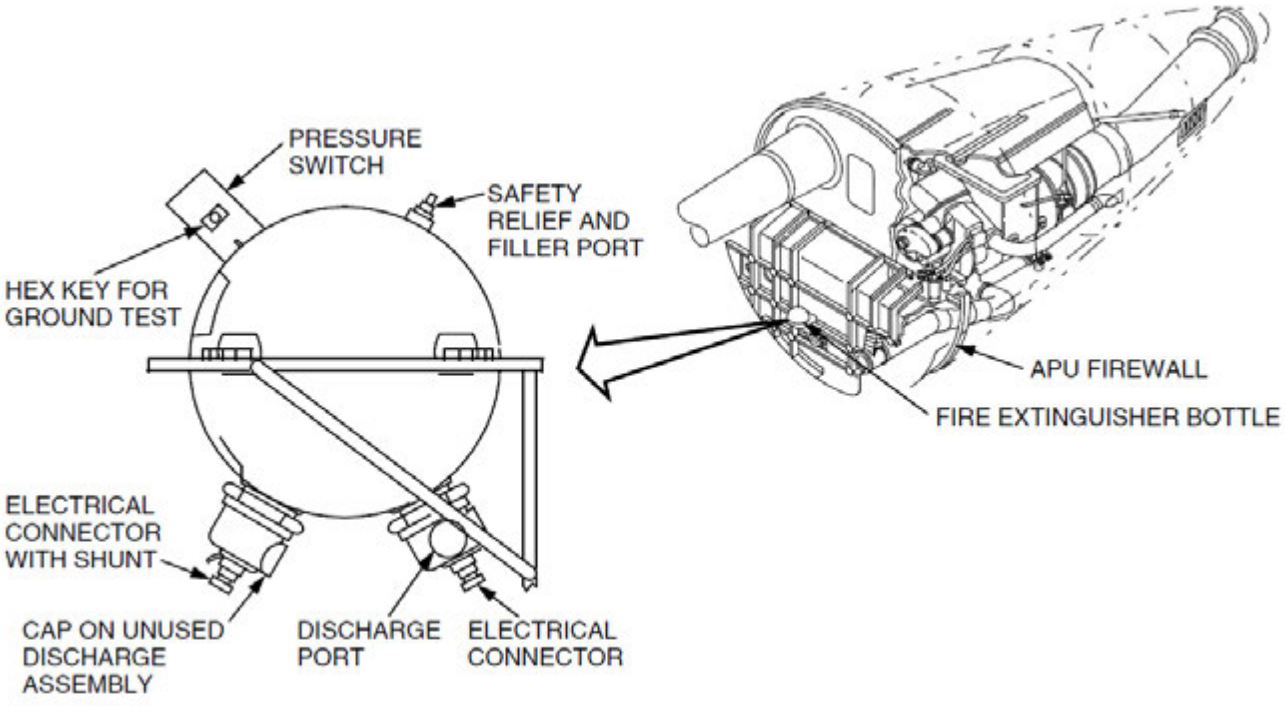
2. Optional bottle weight verification procedure (Pressure switch inoperative):

a) Remove the bottle (Ref AMM 26-21-01).

b) Weigh bottle and compare to the service weight stamped on the fire bottle side (+/- 0.1 pound).

c) Reinstall serviceable bottle.

d) Cap and stow the affected bottle pressure switch connector.



APU FIRE EXTINGUISHER BOTTLE/DISCHARGE CARTRIDGE INSTALLATION

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
	LOWER CARGO COMPARTMENT FIRE EXTINGUISHER SYSTEM					
26-23-01A	Lower Cargo Compartment Fire Extinguisher System **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	**(O)** May be inoperative provided the cargo compartments remain empty, or are verified to contain only empty cargo handling equipment, ballast, and/or Fly Away Kits (see MEL Instructions).
26-23-01B	Fire Extinguisher Bottle No. 2 (-200 with single aft cargo door) **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	**(O)** Extinguisher bottle No. 2 may be inoperative with cargo carried in compartments provided: a) Airplane is operated pressurized, and b) For ER (ETOPS) operation, airplane remains within 80 minutes of a suitable airport.
26-23-01C	Fire Extinguisher Bottle No. 2 (-200 with second aft cargo door) **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	**(O)** Extinguisher bottle No. 2 may be inoperative with cargo carried in compartments provided: a) Airplane is operated pressurized, and b) Airplane remains within 40 minutes of a suitable airport.
26-23-01D	Fire Extinguisher Bottle No. 2 (-300) **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	**(O)** Extinguisher bottle No. 2 may be inoperative with cargo carried in compartments provided: a) Airplane is operated pressurized, and b) Airplane remains within 55 minutes of a suitable airport.
26-23-01E	Fire Extinguisher Bottle Pressure Indicating System	**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)**
26-23-01F	Fire Extinguisher Bottle Pressure Indicating System **"DISP.APPR.REQ'D"**	**Y**	-	0	**C**	**(O)** May be inoperative provided the cargo compartments remain empty, or are verified to contain only empty cargo handling equipment, ballast, and/or Fly Away Kits (see MEL Instructions).

MEL ITEM	TAB LOCATION	PLACARD TEXT
26-23-01A	Near Cargo Fire Warning Panel	Cargo Compartment Fire Extinguisher System INOP
26-23-01B	Near Cargo Fire Warning Panel	Nbr. 2 Cargo Compartment Fire Bottle INOP
26-23-01C	Near Cargo Fire Warning Panel	Nbr. 2 Cargo Compartment Fire Bottle INOP
26-23-01D	Near Cargo Fire Warning Panel	Nbr. 2 Cargo Compartment Fire Bottle INOP
26-23-01E	Near Cargo Fire Warning Panel	____ Cargo Compartment Fire Bottle Pressure Indicating System INOP
26-23-01F	Near Cargo Fire Warning Panel	____ Cargo Compartment Fire Bottle Pressure Indicating System INOP

Continued Next Page

(O) PROCEDURES

26-23-01A, 26-23-01B, 26-23-01C, 26-23-01D, 26-23-01F

Refer to the Remarks or Exceptions Column.

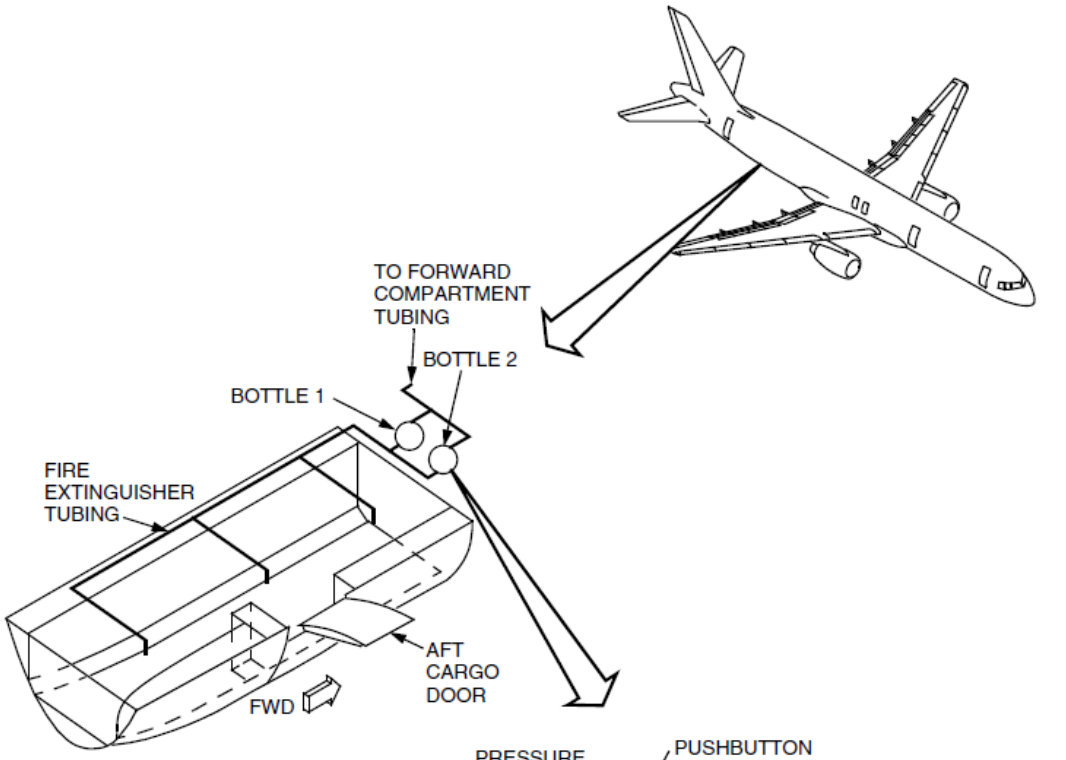
(M) PROCEDURES

26-23-01E

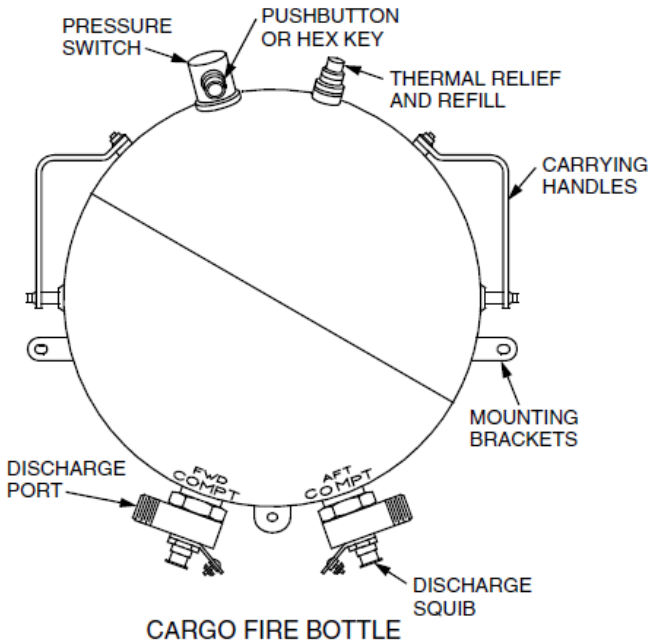
NOTE: Bottle charge can be verified two ways: Electrically per step 1, or by weighing the bottle per step 2. If the electrical check passes, the airplane may be dispatched. If the electrical check fails, the failure may be in the pressure switch, and the system may still be acceptable for dispatch if the bottle charge is verified by weighing. Operators can, if desired, bypass the electrical check and just perform the bottle weighing procedure.

1. Verify that fire bottle is properly charged:
   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.
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.

Continued Next Page



AFT CARGO COMPARTMENT



CARGO FIRE BOTTLE

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 (-200 Cabin Only)	**Y**	-	3	**C**	**(M)** May be inoperative provided: a) A minimum of two (2) are HALON type fire extinguishers are operative, b) The forward cabin HALON type fire extinguisher must be operative. c) The aft cabin HALON type fire extinguisher must be operative. d) Inoperative fire extinguisher(s) are tagged inoperative, removed from the installed location, and placed out of sight so it cannot be mistaken for a functional unit. NOTE: The cockpit HALON extinguisher MUST be operative.

MEL ITEM	TAB LOCATION	PLACARD TEXT
26-26-01	Logbook	____ Portable Fire Extinguisher INOP

(M) PROCEDURES

Using tape or other suitable means, cover affected fire extinguisher bottle location placarding.

NOTE: If two fire extinguisher bottles are installed at a single location, DO NOT cover placard if remaining bottle is operative.

		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 Systems	**Y**	-	0	**C**	For each lavatory, lavatory fire extinguisher system may be inoperative provided associated Lavatory Smoke Detector System operates normally.
26-26-02B	Lavatory Fire Extinguisher Systems **"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 inspection by crewmembers.

MEL ITEM	TAB LOCATION	PLACARD TEXT
26-26-02A	Logbook	____ Lavatory Fire Extinguisher INOP
26-26-02B	Logbook	____ Lavatory Fire Extinguisher 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. Close and lock lavatory door.
3. Placard lavatory door INOPERATIVE - DO NOT ENTER.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
26-26-03	Lavatory Smoke Detection System **"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 inspection by crewmembers.

MEL ITEM	TAB LOCATION	PLACARD TEXT
26-26-03	Logbook	____ Lavatory Smoke Detector(s) INOP

(O) PROCEDURES

Ensure that the associated lavatory door remains locked and is not entered except for use or inspection by crewmembers.

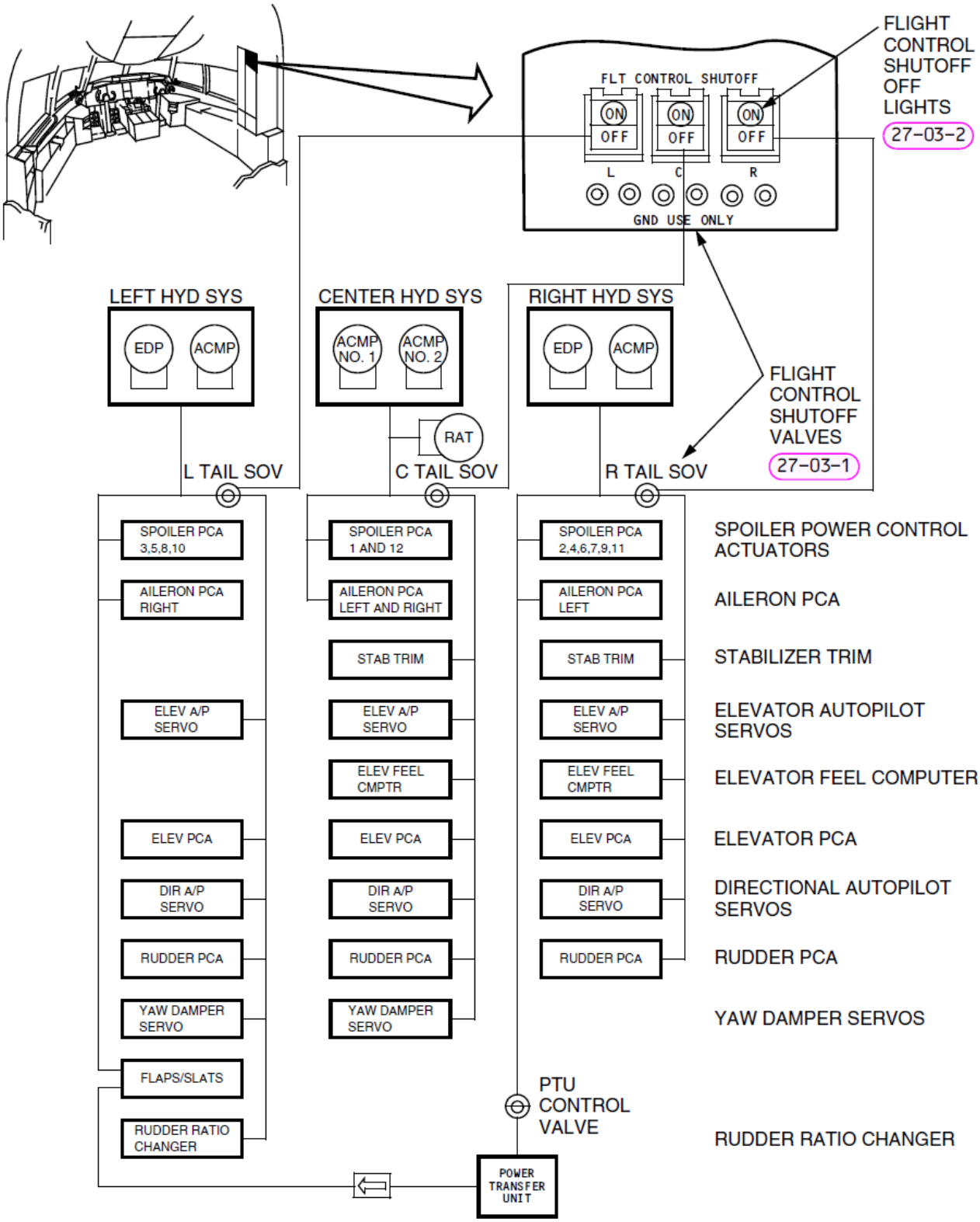
(M) PROCEDURES

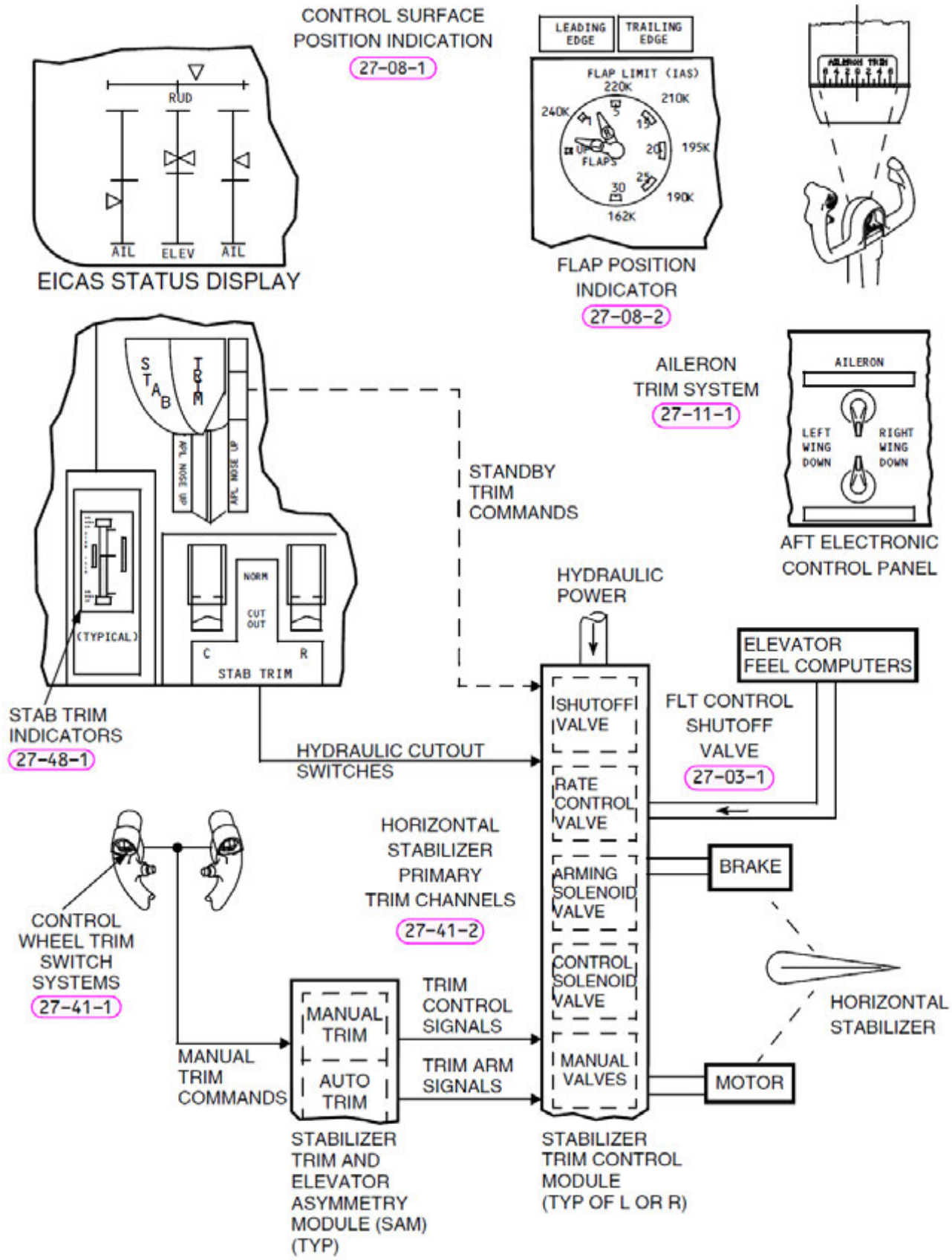
1. Check that the lavatory waste receptacle is empty.
2. Close and lock lavatory door.
3. Placard lavatory door INOPERATIVE - DO NOT ENTER.

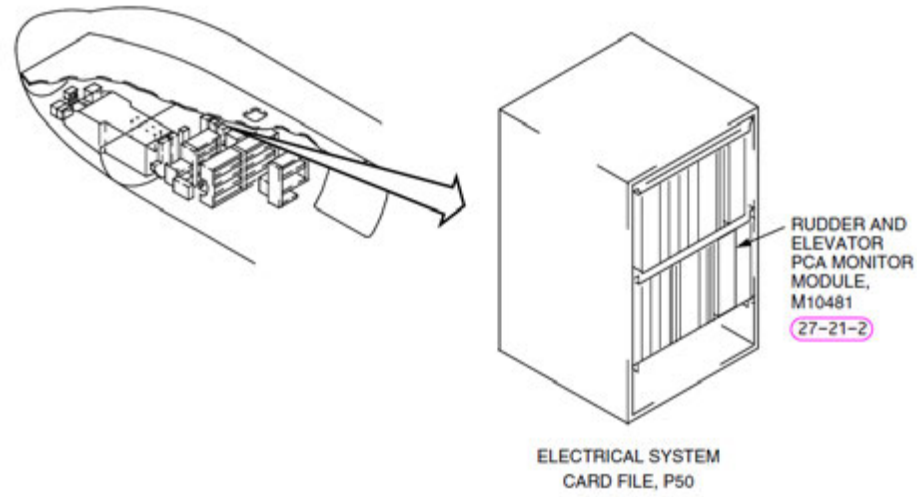
INTENTIONALLY LEFT BLANK

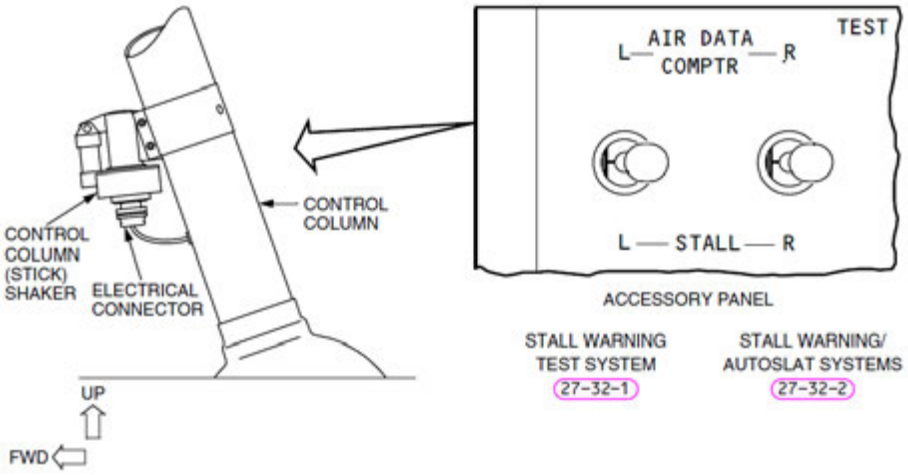
ATA 27 Contents

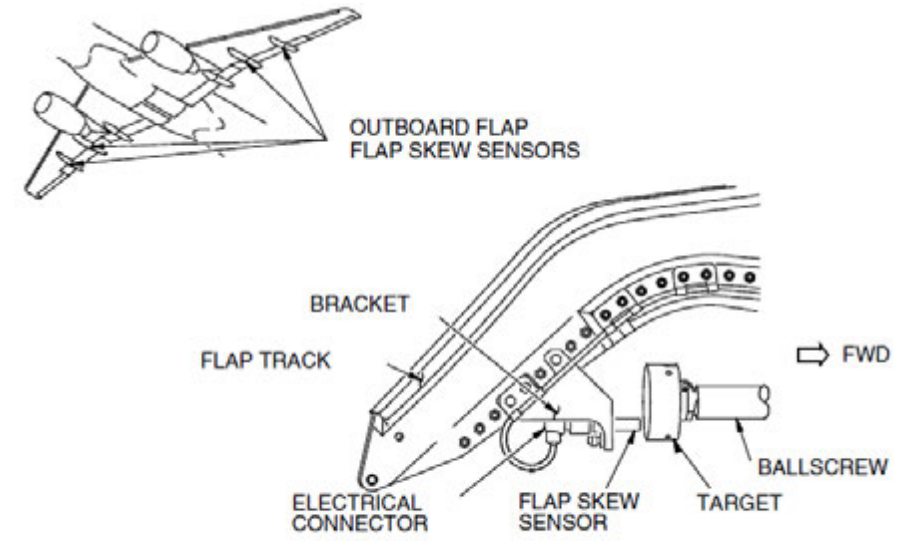
27-03-01 FLT CONTROL SHUTOFF Valves....27-6
27-03-02 FLT CONTROL SHUTOFF OFF Lights....27-7
27-08-01 Control Surface Position Indicating System....27-8
27-08-02 Flap Position Indicator System Position Needles....27-9
27-09-01 Yaw Damper Stabilizer Trim Module (YSM) (-300)....27-10
27-11-01 Aileron Trim System....27-11
27-11-02 Control Wheel Damper....27-13
27-21-01 Rudder Ratio Light....27-17
27-21-02 Power Control Unit Monitor System (Including Pressure Differential Sensors)....27-18
27-21-03 Rudder Trim Indication System....27-20
27-31-01 Elevator Feel Pressure Takeoff Limit Function (-300)....27-21
27-32-01 Stall Warning Test Systems....27-22
27-32-02 Stall Warning / Autoslat System....27-24
27-41-01 Control Wheel Trim Switch Systems....27-26
27-41-02 Horizontal Stabilizer Primary Trim Channels....27-27
27-48-01 STAB TRIM Indicators....27-29
27-51-01 Automatic Flap Load Relief Retraction System (Trailing Edge)....27-30
27-51-02A Flap Isolation Valve (Flap/Slat Depressurization Module (Shutoff Function) (-200)....27-31
27-51-02B Flap Isolation Valve (Flap/Slat Depressurization Module (Shutoff Function) (-300)....27-31
27-59-01 Trailing Edge Flap Skew Sensors (5653-5816)....27-33
SPOILER SYSTEMS....27-35
27-61-01A Ground Spoilers....27-35
27-61-01B Flight Spoilers....27-35
27-61-01C Speed Brake Load Alleviation System (-200 with Blended Winglet)....27-35
27-62-01A Auto Speed Brake System....27-41
(Airplanes without Speed Brake Load Alleviation System)....27-41
27-62-01B Auto Speed Brake System....27-41
(Airplanes with Speed Brake Load Alleviation System (-200 with Blended Winglet)....27-41
27-62-02 Speedbrake Caution Indication System....27-44
27-63-01 AUTO SPDBRK, SPOILERS, and STAB TRIM Lights....27-45
27-81-01 Inboard Slat Loss Sensing System....27-47


FLIGHT CONTROL SHUTOFF OFF LIGHTS
27-03-2
FLT CONTROL SHUTOFF
ON
OFF
L
C
R
GND USE ONLY
LEFT HYD SYS
CENTER HYD SYS
RIGHT HYD SYS
EDP
ACMP
ACMP NO. 1
ACMP NO. 2
RAT
FLIGHT CONTROL SHUTOFF VALVES
27-03-1
L TAIL SOV
C TAIL SOV
R TAIL SOV
SPOILER PCA 3,5,8,10
SPOILER PCA 1 AND 12
SPOILER PCA 2,4,6,7,9,11
SPOILER POWER CONTROL ACTUATORS
AILERON PCA RIGHT
AILERON PCA LEFT AND RIGHT
AILERON PCA LEFT
AILERON PCA
STAB TRIM
STABILIZER TRIM
ELEV A/P SERVO
ELEVATOR AUTOPILOT SERVOS
ELEV FEEL CMPTR
ELEVATOR FEEL COMPUTER
ELEV PCA
ELEVATOR PCA
DIR A/P SERVO
DIRECTIONAL AUTOPILOT SERVOS
RUDDER PCA
YAW DAMPER SERVO
YAW DAMPER SERVOS
FLAPS/SLATS
RUDDER RATIO CHANGER
PTU CONTROL VALVE
POWER TRANSFER UNIT

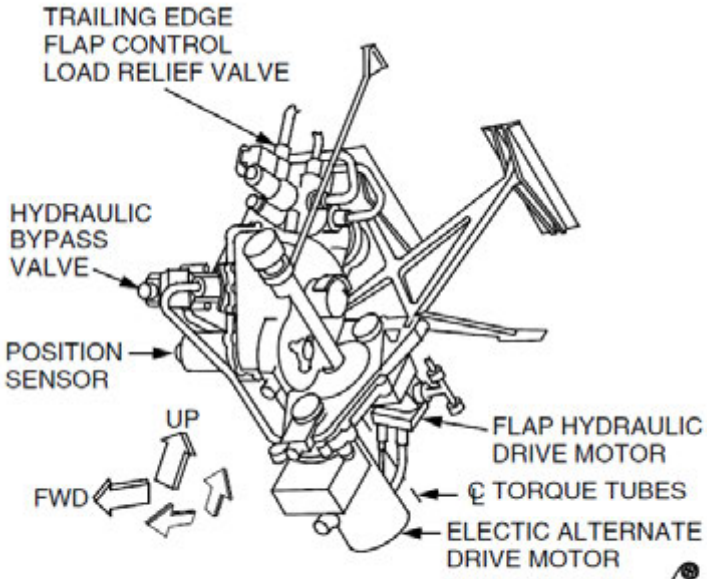

CONTROL SURFACE POSITION INDICATION
27-08-1
RUD
AIL
ELEV
AIL
EICAS STATUS DISPLAY
LEADING EDGE
TRAILING EDGE
FLAP LIMIT (IAS)
220K
210K
240K
195K
190K
162K
FLAPS
FLAP POSITION INDICATOR
27-08-2
AILERON TRIM
AILERON TRIM SYSTEM
27-11-1
AILERON
LEFT WING DOWN
RIGHT WING DOWN
AFT ELECTRONIC CONTROL PANEL
STAB TRIM
MVL NOSE UP
MVL NOSE UP
NORM
CUT OUT
(TYPICAL)
C
R
STAB TRIM
STANDBY TRIM COMMANDS
STAB TRIM INDICATORS
27-48-1
HYDRAULIC POWER
ELEVATOR FEEL COMPUTERS
SHUTOFF VALVE
FLT CONTROL SHUTOFF VALVE
27-03-1
HYDRAULIC CUTOUT SWITCHES
RATE CONTROL VALVE
HORIZONTAL STABILIZER PRIMARY TRIM CHANNELS
27-41-2
BRAKE
ARMING SOLENOID VALVE
CONTROL SOLENOID VALVE
CONTROL WHEEL TRIM SWITCH SYSTEMS
27-41-1
HORIZONTAL STABILIZER
MANUAL TRIM
AUTO TRIM
TRIM CONTROL SIGNALS
TRIM ARM SIGNALS
MANUAL TRIM COMMANDS
MANUAL VALVES
MOTOR
STABILIZER TRIM AND ELEVATOR ASYMMETRY MODULE (SAM) (TYP)
STABILIZER TRIM CONTROL MODULE (TYP OF L OR R)


RUDDER AND
ELEVATOR
PCA MONITOR
MODULE,
M10481
27-21-2
ELECTRICAL SYSTEM
CARD FILE, P50


TEST
AIR DATA
L
COMPTR
R
L — STALL — R
ACCESSORY PANEL
CONTROL
COLUMN
CONTROL
COLUMN
(STICK)
SHAKER
ELECTRICAL
CONNECTOR
UP
FWD
STALL WARNING
TEST SYSTEM
27-32-1
STALL WARNING/
AUTOSLAT SYSTEMS
27-32-2

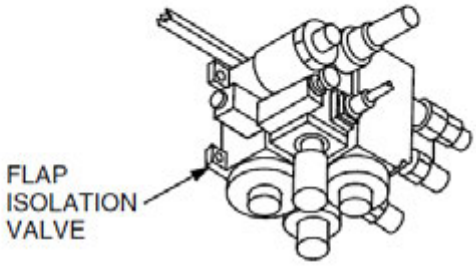

OUTBOARD FLAP
FLAP SKEW SENSORS
BRACKET
FLAP TRACK
FWD
BALLSCREW
ELECTRICAL
CONNECTOR
FLAP SKEW
SENSOR
TARGET

27-59-1



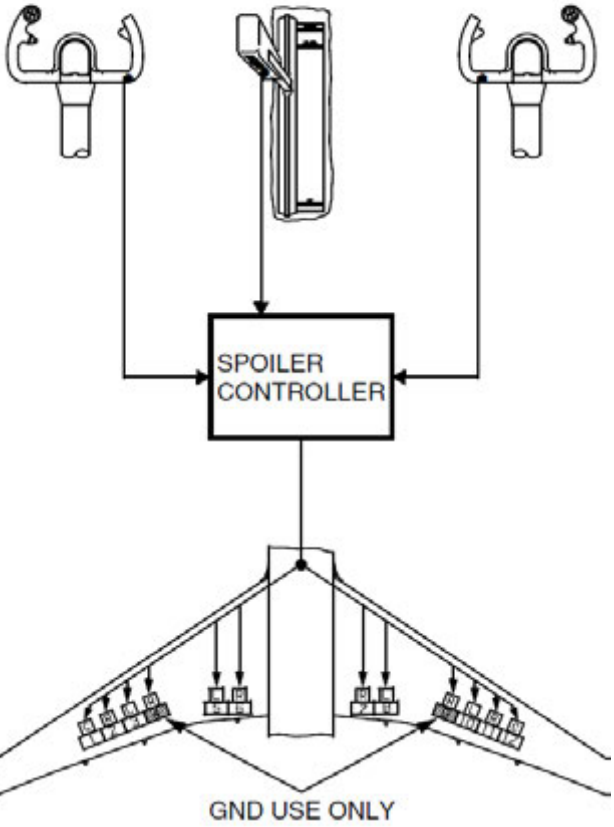
AUTOMATIC FLAP LOAD RELIEF
RETRACTION SYSTEM

27-51-1



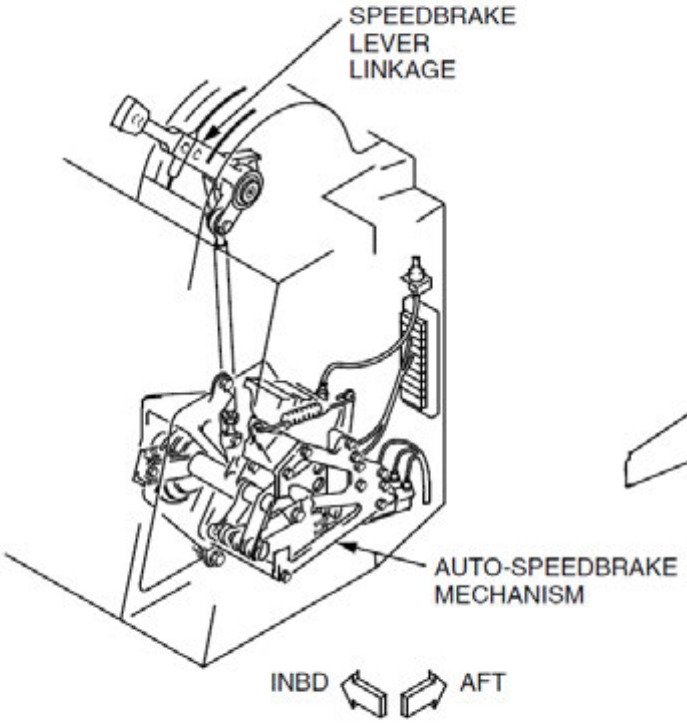
FLAP ISOLATION VALVE

27-51-2



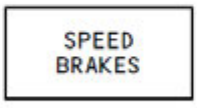
SPOILER SYSTEMS

27-61-1



AUTO SPEEDBRAKE SYSTEM

27-62-1



SPEEDBRAKE CAUTION LIGHT SYSTEM

27-62-2

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	**Y**	3	0	**C**	**(M)** May be inoperative open.

MEL ITEM	TAB LOCATION	PLACARD TEXT
27-03-01	Near FLT CONTROL SHUTOFF Valve Panel - P61	____ FLT CONTROL SHUTOFF Valve INOP

(M) PROCEDURES

To deactivate an inoperative Flight Control Shutoff valve in the OPEN position, pull and secure the FLT CONT S/O TAIL L/C/R circuit breaker as appropriate for the affected valve.

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 as appropriate.

1. Use EICAS control surface position indication to verify elevator movement. If EICAS control surface position indication is inoperative, establish communications between the flight deck and ground observer.
2. Pressurize only the hydraulic system that has the inoperative FLT CONTROL SHUTOFF OFF light.
3. As appropriate, perform the following procedure.

LIGHT INOPERATIVE	FLIGHT DECK	EICAS INDICATION or GROUND OBSERVATION
L TAIL	Control Column Full Aft, then Full Forward	Observe both elevators up, then down
C TAIL	Control Column Full Aft, then Full Forward	Observe both elevators up, then down
R TAIL	Control Column Full Aft, then Full Forward	Observe both elevators up, then down

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY	REMARKS OR EXCEPTIONS
27-03-02	FLT CONTROL SHUTOFF OFF Lights	**Y**	3	0 **C**	**(M)** May be inoperative provided associated valve is verified open PRIOR TO EACH DEPARTURE. **Repetitive Check Required (Yellow Placard)**

MEL ITEM	TAB LOCATION	PLACARD TEXT
27-03-02	Near FLT CONTROL SHUTOFF Valve Panel - P61	____ FLT CONTROL SHUTOFF Light INOP

(M) PROCEDURES

Assuring that the related Flight Control Shutoff valve is OPEN when dispatching with inoperative FLIGHT CONTROL SHUTOFF OFF light(s) requires selective checking of flight control movement.

WARNING: ENSURE PERSONNEL AND EQUIPMENT ARE CLEAR OF ALL CONTROL SURFACES TO PREVENT INJURY OR DAMAGE.

1. Use EICAS control surface position indication to verify elevator movement. If EICAS control surface position indication is inoperative, establish communications between the flight deck and ground observer.
2. Pressurize only the hydraulic system that has the inoperative FLT CONTROL SHUTOFF OFF light.
3. As appropriate, perform the following procedure.

LIGHT INOPERATIVE	FLIGHT DECK	EICAS INDICATION or GROUND OBSERVATION
L TAIL	Control Column Full Aft, then Full Forward	Observe both elevators up, then down
C TAIL	Control Column Full Aft, then Full Forward	Observe both elevators up, then down
R TAIL	Control Column Full Aft, then Full Forward	Observe both elevators up, then 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 (Log Book Entry Required). **Repetitive Check Required (Yellow Placard)**

MEL ITEM	TAB LOCATION	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 or Electrically Driven, Hydraulic Pumps running).
3. Observe the following:

Flight Deck	Ground Observation
Control Wheel Full Left	1. Observe that five left wing spoilers extend. NOTE: Spoilers 1, 2, 3, and 5 will extend approximately 45°. Spoiler 6 will extend approximately 30°. 2. Observe left aileron up, right aileron down. NOTE: Ailerons move up 20° and down 20°.
Control Wheel Full Right	1. Observe that five right wing spoilers extend. NOTE: Spoilers 1, 2, 3, and 5 will extend approximately 45°. Spoiler 6 will extend approximately 30°. 2. Observe right aileron up, left aileron down. NOTE: Ailerons move up 20 degrees and down 20 degrees.
Control Column Full Aft, then Full Forward	Observe both elevators up, then down. NOTE: Elevator deflection will be trailing edge approximately 30° up, 20° down.
Push Pedals for Full Left Rudder, Right Rudder then Full	Observe rudder moves left, then right. NOTE: Rudder deflection will be approximately 30° 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	TAB LOCATION	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
27-09-01	Yaw Damper Stabilizer Trim Module (YSM) (-300) (6819-6823)	**N** 2	1	**B**	**(O)(M)** One may be inoperative. NOTE: Associated autopilot will not engage until Approach Mode engages.

MEL ITEM	TAB LOCATION	PLACARD TEXT
27-09-01	Near Associated Yaw Damper Switch	___ YSM INOP

(O) PROCEDURES

An inoperative YSM will result in inability to manually select the associated (L or R) autopilot channel. The autopilot channel can be engaged automatically when using one of the remaining channels in Approach mode, so autoland status is not affected.

(M) PROCEDURES

For inoperative YSM, the associated L or R Yaw Damper Channel will be inoperative, annunciated by the Advisory message L (R) YAW DAMPER. Perform Maintenance (M) procedure in Item 22-21-01. Inoperative YSM must remain installed until replacement can be made.

The inoperative YSM will result in MCDP ground test faults due to loss of associated autopilot auto trim interface. GT30 will report the following INFC FAULTS: 30 NO INFC FCC L (C, R) and AUTO TRIM VLD 1 (2). These faults are also reported by GT01 FCC LRU test. GT30 will also report the following CURRENT OP FAULTS: 30 CURRENT FAULT and YSM L(R)/FCC L(C, R).

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	TAB LOCATION	PLACARD TEXT
27-11-01	Near Aileron Trim Panel	Aileron Trim System INOP

(M) PROCEDURES

1. Observe the control wheels are essentially centered with the aileron trim indicator reading approximately zero. A tolerance of +/- one unit of trim is acceptable
2. Pull and secure the Aileron Trim circuit breaker on P11 panel. No further maintenance action required.
3. If the control wheel is not centered, then install a dummy link to maintain a centered system.
4. Install a dummy link to center the aileron trim system as follows:

WARNING: DOOR LOCKS MUST BE PROPERLY INSTALLED PRIOR TO ACCESS TO LATERAL FEEL, CENTERING, AND TRIM MECHANISM. RAPID ACTION OF DOORS MAY INJURE PERSONNEL OR DAMAGE EQUIPMENT IF LOCKS ARE NOT PROPERLY INSTALLED.

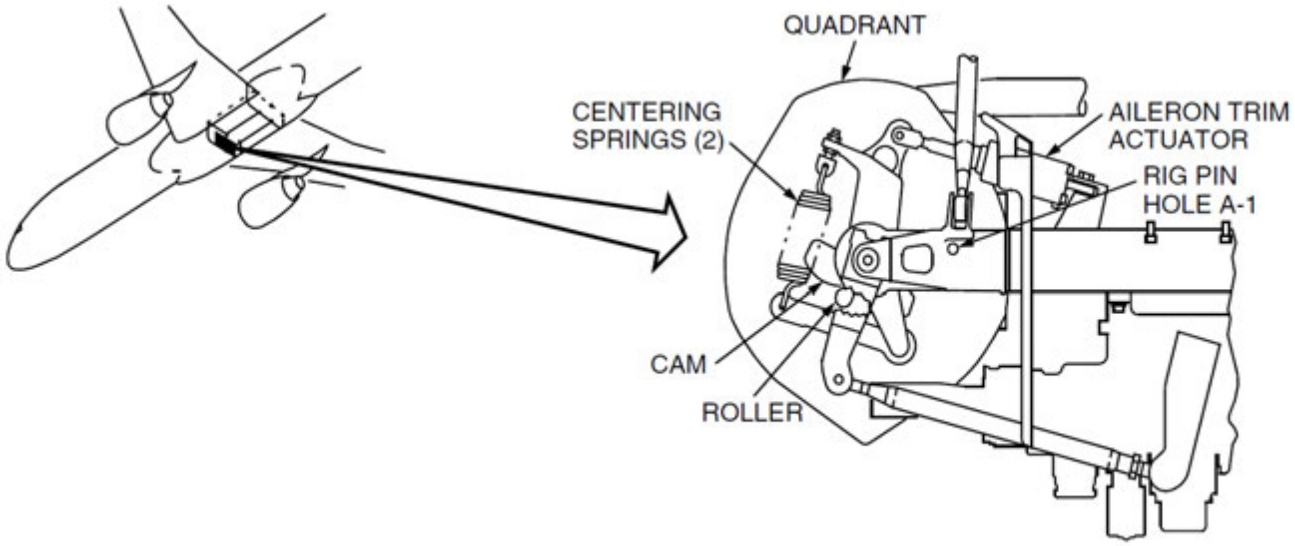
a) Remove aileron trim actuator.

b) Cap and secure electrical connector.

c) Align rig pin holes A-1 and install rigging pin.

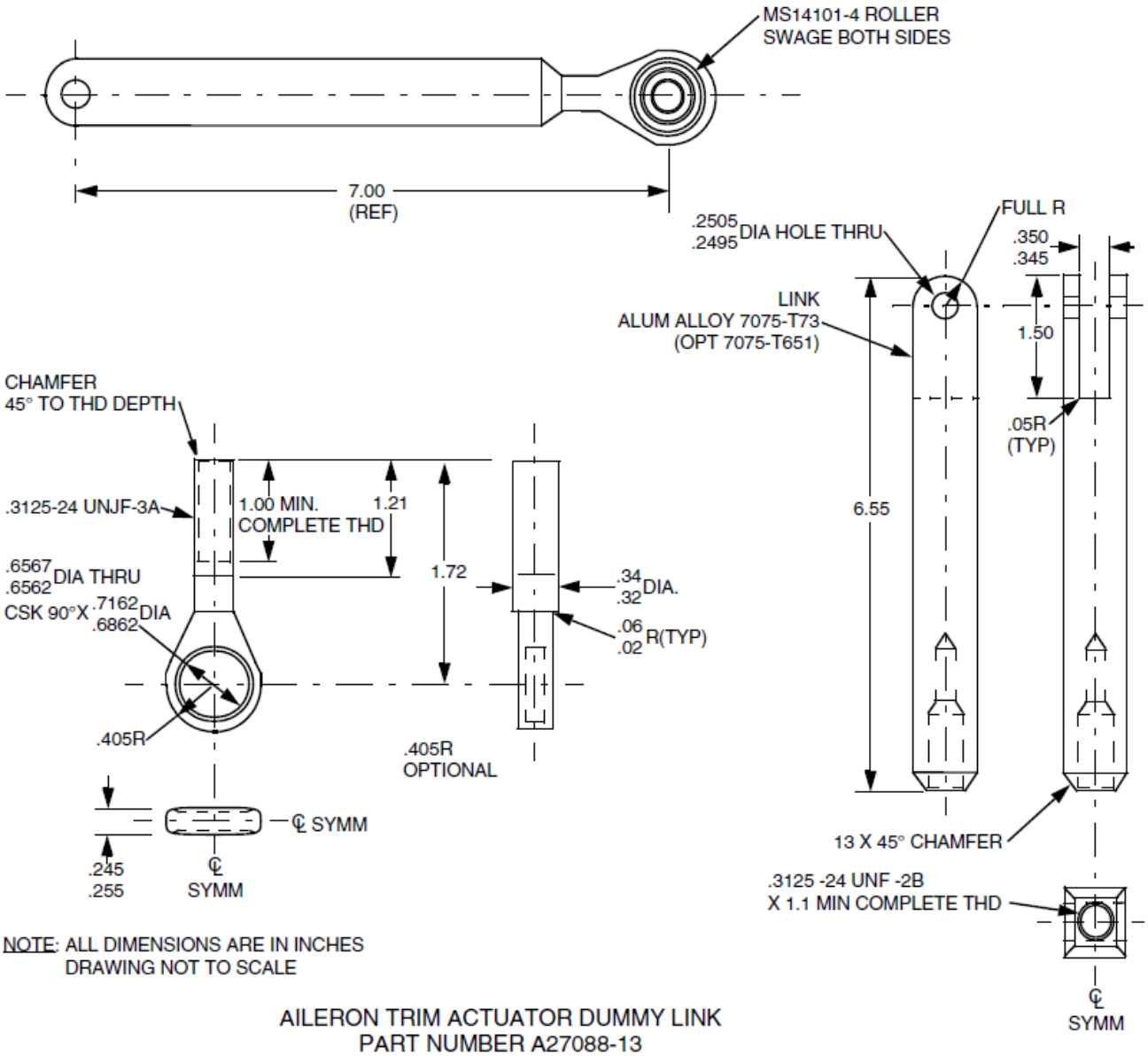
d) Install Aileron Trim Actuator Dummy Link, part number A27088-18 or equivalent (see drawings).

e) Remove rigging pin from rig pin holes A-1.



LATERAL CONTROL, FEEL, CENTERING AND TRIM ASSEMBLY

Continued Next Page



NOTE: ALL DIMENSIONS ARE IN INCHES
DRAWING NOT TO SCALE

AILERON TRIM ACTUATOR DUMMY LINK
PART NUMBER A27088-13

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-11-02	Control Wheel Damper	**N**	1	0	**C**	**(O)(M)** May be inoperative provided damper is deactivated.

MEL ITEM	TAB LOCATION	PLACARD TEXT
27-11-02	Logbook	Control Wheel Damper INOP

(O) PROCEDURES

Be aware of the potential for pilot induced roll oscillations (PIO). The following action should be accomplished immediately when either pilot recognizes that a PIO exists:

1. **Either Pilot:** Announce the situation.
2. **Pilot Flying:** Immediately stop lateral control wheel inputs until the aircraft stabilizes.
3. **Pilot Monitoring:** Verify appropriate pilot response. If oscillations do not diminish or if the aircraft is not in a position from which a safe landing can be made, call for immediate go-around.
4. **Pilot Flying:** Initiate go-around if oscillations do not diminish or if the aircraft is not in a position from which a safe landing can be made.

(M) PROCEDURES

NOTE: MEL relief under this item is for certain failures in the lateral damper system. These types of failures are a failed system found during a periodic maintenance check (passive failure) and a jam of the lateral damper. It is recommended that the lateral damper system be deactivated if either or both of the failure conditions are observed.

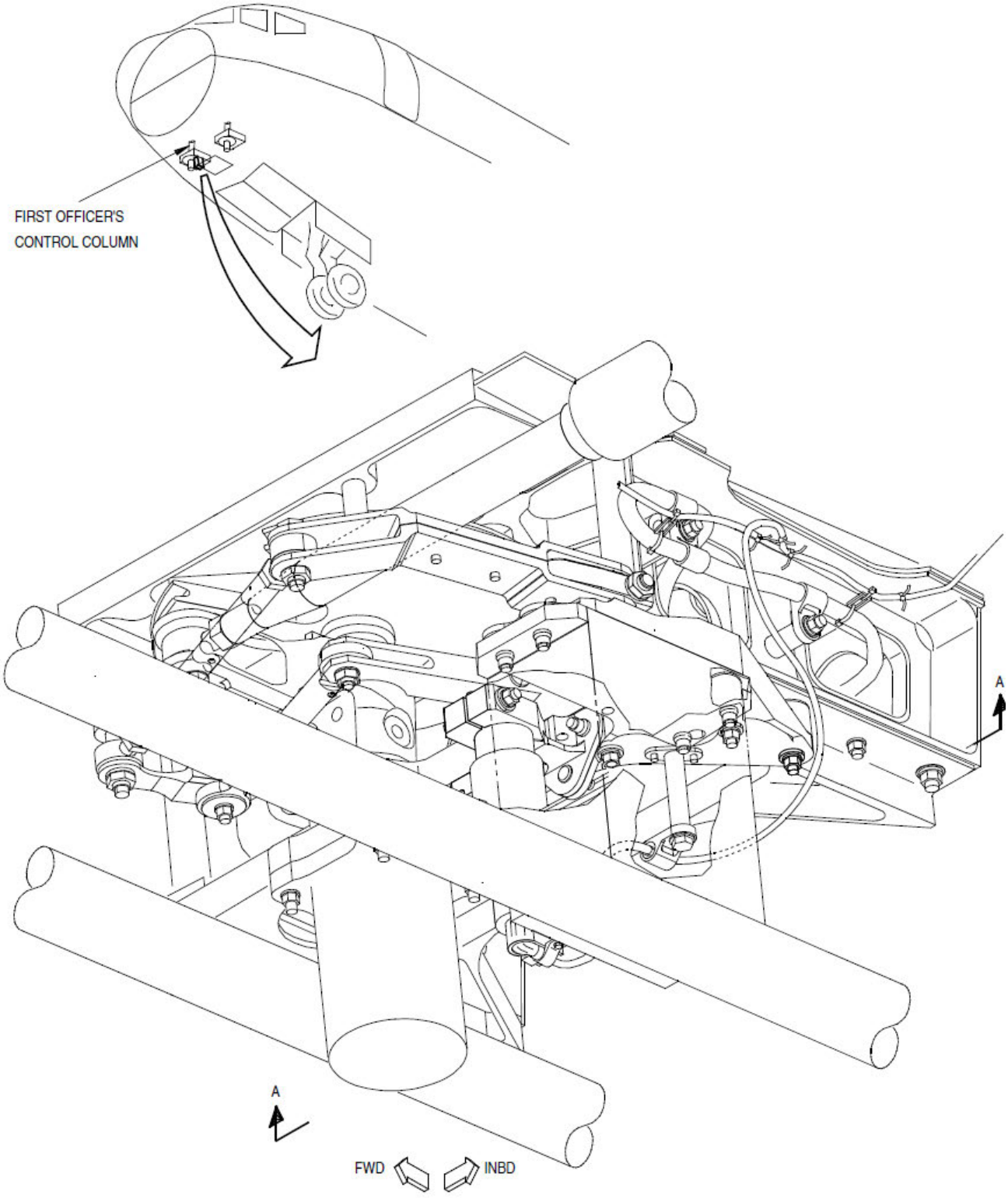
WARNING: ENSURE PERSONNEL AND EQUIPMENT ARE CLEAR OF ALL CONTROL SURFACES TO PREVENT INJURY OR DAMAGE.

1. Check that landing gear door locks are properly installed.

WARNING: DOOR LOCKS MUST BE PROPERLY INSTALLED PRIOR TO ACCESS TO LATERAL FEEL, CENTERING AND TRIM MECHANISM. RAPID ACTION OF DOORS MAY INJURE PERSONNEL OR DAMAGE EQUIPMENT IF LOCKS ARE NOT PROPERLY INSTALLED.

2. Check that landing gear downlocks are properly installed and wheels are adequately chocked.
3. Depressurize the left, right and center hydraulic systems.
4. Open access door 113AL.
5. Deactivate lateral damper system (see following illustrations).

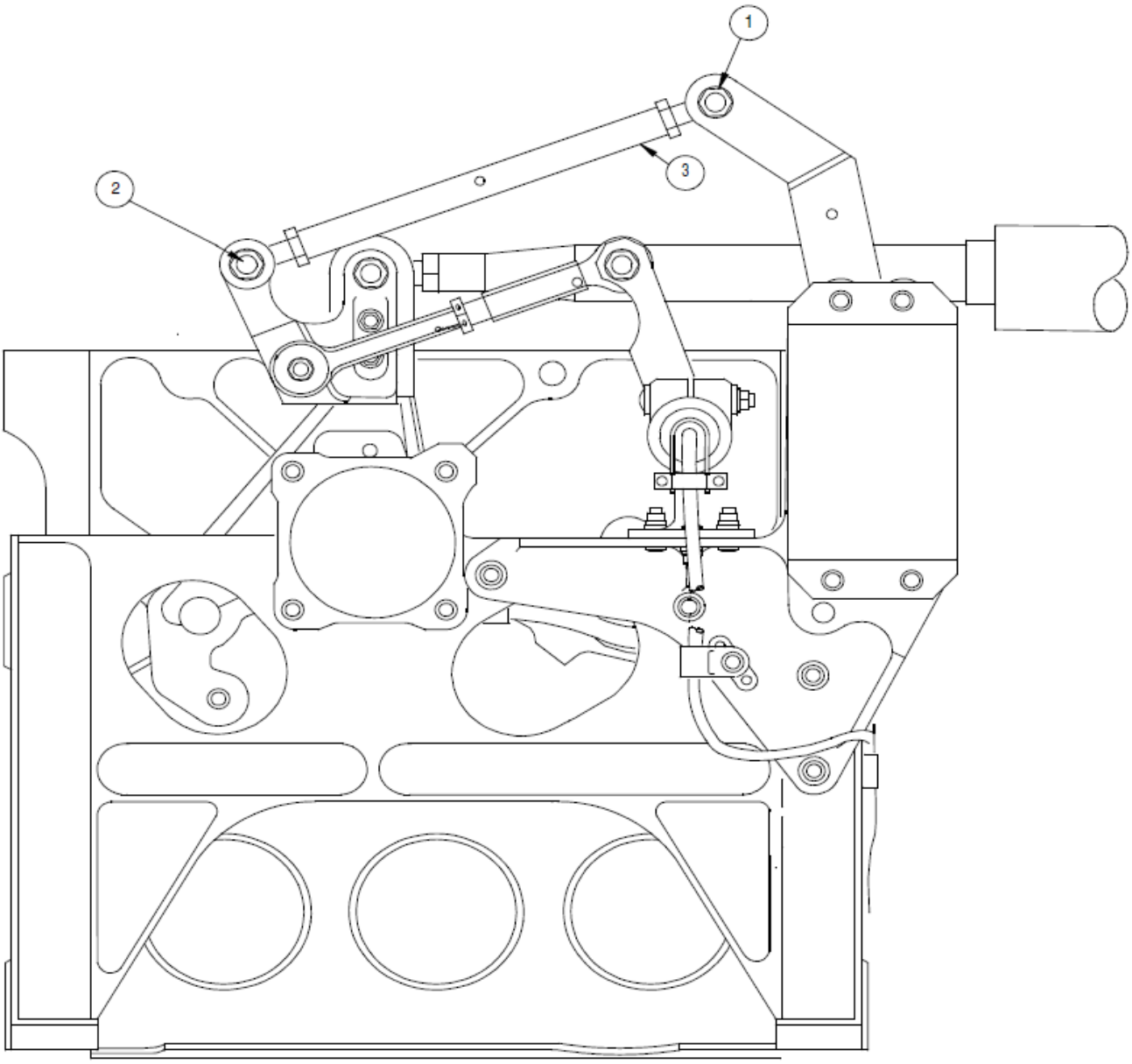
Continued Next Page



CONTROL WHEEL DAMPER

Continued Next Page

a) Remove rod assembly.



CONTROL WHEEL DAMPER ROD ASSEMBLY VIEW A-A

Continued Next Page

1) Remove the following components from end of rod assembly (callout #1):

- Hex head bolt
- Plain bushing
- Flat washer
- Self-locking nut

2) Remove the following components from other end of rod assembly (callout #2):

- Hex head bolt
- Plain bushing
- Flat washer
- Self-locking nut

3) Remove rod assembly 250N2004-338 (callout #3).

b) Remove damper crank assembly.

1) Remove the following components (callout #4):

- Nut
- Flat washer

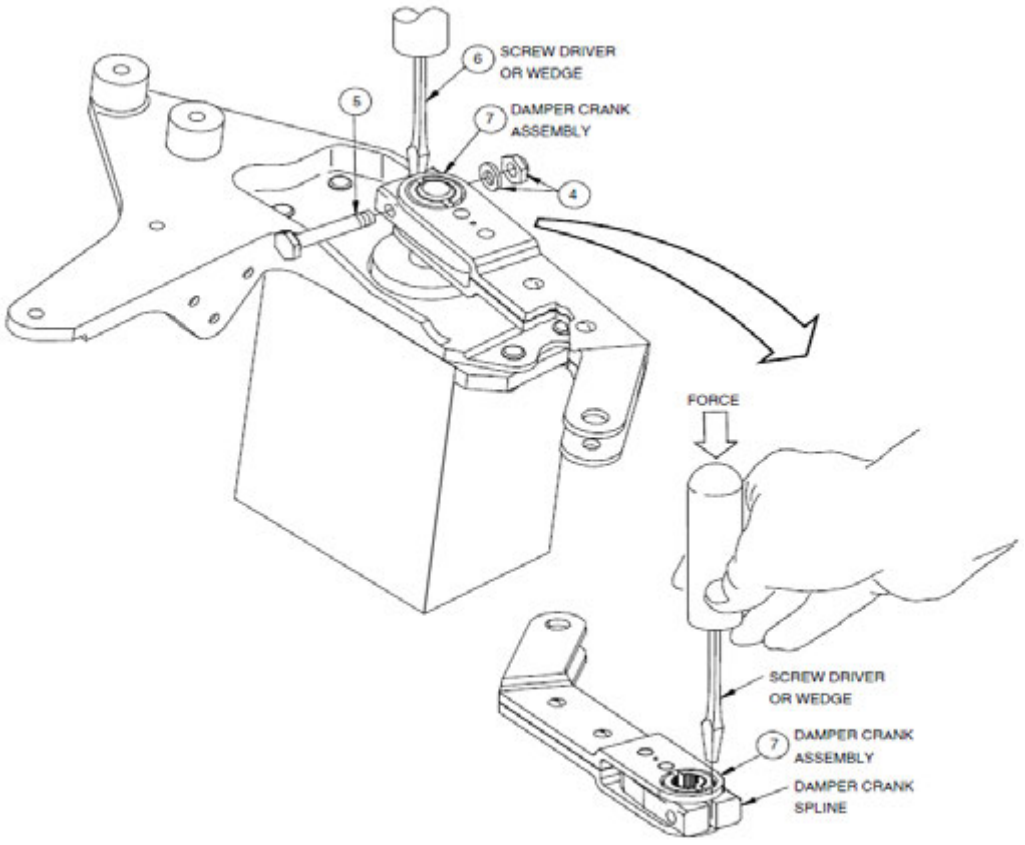
2) Remove bolt (callout #5).

3) Open damper crank spline (callout #6):

4) Remove damper crank assembly 251N1028-2 (callout #7).

6. Close access door 113AL (AMM 06-41-00/201).

7. Restore the airplane to its usual condition.



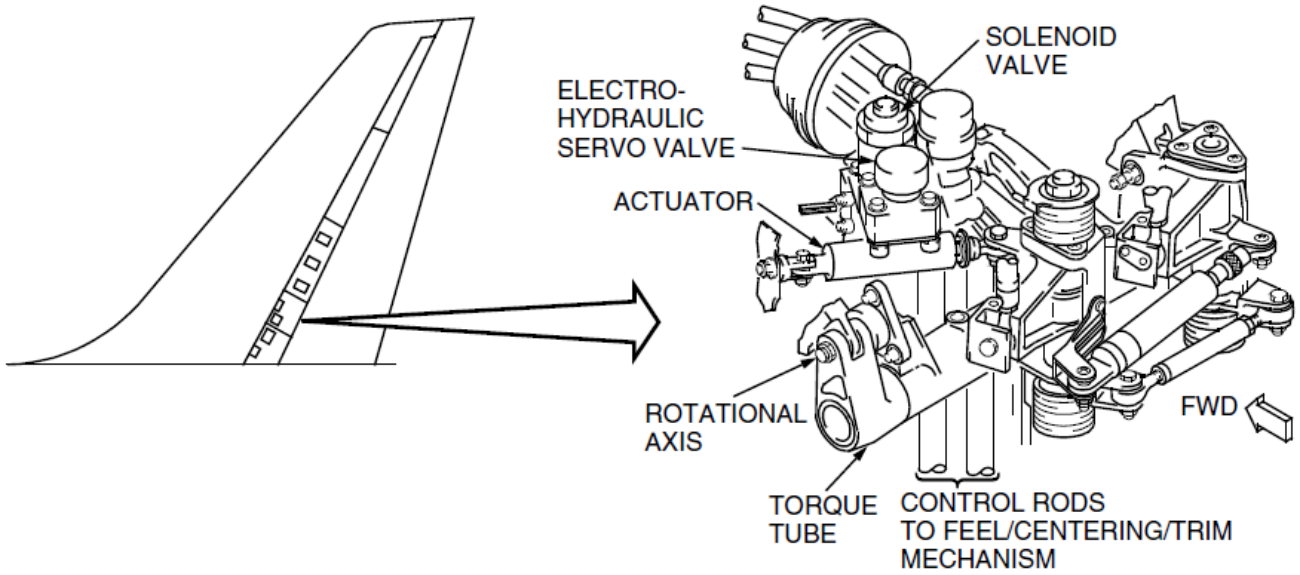
CONTROL WHEEL DAMPER CRANK ASSEMBLY

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	TAB LOCATION	PLACARD TEXT
27-21-01	Near Rudder Ratio Light	Rudder Ratio Light INOP

(M) PROCEDURES

Verify proper operation of the RUDDER RATIO EICAS message. Utilize the Rudder Ratio Changer System - Test within the System Test - Rudder and Rudder Trim Control (AMM 27-21-00). Note that the RUDDER RATIO light does not have to work, however, the advisory level EICAS message RUDDER RATIO must operate normally.



RUDDER RATIO CHANGER

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-21-02	Power Control Unit Monitor System (Including Pressure Differential Sensors)	**Y**	1	0	**C**	**(M)** May be inoperative provided Power Control Unit Actuators are verified to operate normally by performing a single hydraulic system flight controls check with each hydraulic system PRIOR TO EACH DEPARTURE (Prior To Engine Start). **Repetitive Check Required (Yellow Placard)**

MEL ITEM	TAB LOCATION	PLACARD TEXT
27-21-02	Near Upper EICAS Display	Power Control Unit Monitor System INOP

(M) PROCEDURES

PRIOR TO EACH DEPARTURE (This procedure is to be accomplished at or off the gate without engines running).

WARNING: ENSURE PERSONNEL AND EQUIPMENT ARE CLEAR OF ALL CONTROL SURFACES TO PREVENT INJURY OR DAMAGE.

1. Center Electric Pump Switches .....ON.
2. Observe Center Electric Pump PRESS lights extinguished.

   NOTE: If the airplane is using only APU or ground power, there is no power to the number 2 pump therefore only the number 1 center electric pump will come on and only the PRESS light for the number 1 pump will extinguish.
3. Left and Right Electric Pump Switches .....OFF
4. Rudder Check: Make sure rudder is centered/nulled on EICAS status display (any deflection is non-normal when there is no rudder input). Displace rudder in both directions while observing rudder deflection on EICAS status display. Verify movement in proper direction, and that deflection rate is normal (rate is non-normal if control surface deflection lags significantly behind pilot input).

   NOTE: Hold the nose wheel steering tiller stationary during rudder check to prevent nose wheel movement.
5. Elevator Check Set the stabilizer to 7 units. Displace control column forward and aft while observing elevator deflection on EICAS status display. Control column sweep should be accomplished at a rate of 8-12 seconds for a full column sweep (from neutral to full nose up to full nose down to neutral). Verify movement in proper direction, and that deflection rate is normal (rate is non-normal if control surface deflection lags significantly behind pilot input). Also verify that both elevators track the column input and that there is no significant disagreement between the two surfaces. Ensure that each surface returns to the neutral position when the column is returned to neutral.

   NOTE: The SPOILERS light and message will illuminate if control wheel is displaced with only center system hydraulics available. The light will extinguish after the left and right hydraulics systems are powered.

Continued Next Page

6. Center Electric Pump Switches .....OFF
7. Left Electric Pump Switch..... ON
8. Observe appropriate Left Pump PRESS light extinguished.
9. Repeat steps 4 and 5.
10. Left Electric Pump Switch.....OFF
11. Right Electric Pump Switch ..... ON
12. Observe appropriate Right Pump PRESS light extinguished.
13. Repeat steps 4 and 5.
14. Restore HYDRAULIC PANEL Pump Switch settings as required and observe Pump PRESS lights are as appropriate.
15. Reset stabilizer to takeoff trim setting, as required.

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	TAB LOCATION	PLACARD TEXT
27-21-03	Near Rudder Trim Indicator	Rudder Trim Indication System INOP

(M) PROCEDURES

Ensure rudder trim actuator operates normally:

1. Establish electrical power and hydraulic power.

WARNING: ENSURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF ALL FLIGHT CONTROL SURFACES.

2. Select STATUS on the EICAS display select panel to display the flight controls position indications.
3. Rotate the rudder trim control to NOSE LEFT.
   a) On both Captain's and First Officer's sides, observe that left rudder pedals move forward and right rudder pedals move aft.
   b) Also observe that rudder position indication on EICAS indicates rudder moving to left.
4. Rotate the rudder trim control to NOSE RIGHT.
   a) On both Captain's and First Officer's sides, observe that left rudder pedals move aft and that right rudder pedals move forward.
   b) Also observe that rudder position indication on EICAS indicates rudder moving to right.

PRIOR TO EACH DEPARTURE, verify rudder trim is centered:

1. 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.
2. Restore airplane to required configuration.

NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH			
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
27-31-01	Elevator Feel Pressure Takeoff Limit Function (-300) **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	**(O)** May be inoperative provided: a) Appropriate takeoff center of gravity restrictions are observed, b) Improved Climb takeoffs are not conducted, and c) Performance corrections are applied.

MEL ITEM	TAB LOCATION	PLACARD TEXT
27-31-01	Near Upper EICAS Display	Elevator Feel Pressure Takeoff Limit Function INOP

(O) PROCEDURES

1. Expect higher than normal control force on takeoff rotation, especially if operating near the limit center of gravity. After takeoff, control forces will return to normal.
2. For Flaps 15 takeoff with gross weight exceeding 240,000 lb (108,800 kg), center of gravity must be forward of 23% MAC.

NOTE: Flaps 5 and Flaps 20 takeoff **not** authorized.

27-31-01	**ELEVATOR FEEL PRESSURE TAKEOFF LIMIT FUNCTION**
EFFECTIVITY	**-300**
FLIGHT PLANNING REQUIREMENTS	Flaps 15 – CG must be forward of 22.9% MAC when takeoff weight exceeds 240,000 lbs.
NOTES	AWABS will ensure CG limits are observed on revenue flights. Non-revenue flights will require a manual check.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None **OTHER CORRECTIONS (Manual Weight & Balance Worksheet only)** Flaps 15 – CG must be forward of 23% MAC when takeoff weight exceeds 240,000 lbs.

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 system is verified ONCE EACH FLIGHT DAY (Log Book Entry Required). **Repetitive Check Required (Yellow Placard)**

MEL ITEM	TAB LOCATION	PLACARD TEXT
27-32-01	Near Stall Warning Test - P61 Panel	___ Stall Warning Test System INOP

(M) PROCEDURES

1. Check that trailing edge flaps and leading edge slats are fully retracted with flap lever in zero (flaps up) detent.

WARNING: KEEP PERSONNEL AND EQUIPMENT CLEAR OF ALL CONTROL SURFACES TO PREVENT INJURY OR DAMAGE.

2. Pressurize left hydraulic system.
3. Position flap lever in 1-unit detent, and check that flaps and slats extend.
4. Check that left and right angle-of-attack vanes are parallel to ground.
5. Provide a pressure source to pressurize upper left and upper right pitot probes to 100-110 knots, 0.23-0.29 psig (for the 285T1104 Advanced Stall Warning System: 140-150 knots, 0.47 -0.54 psig) regulated air pressure (AMM 34-11-00/201).
6. Check that left stall warning/autoslat system is operational:

   NOTE: 757-200 airplanes are equipped with Air Data Computers (ADCs). 757-300 airplanes are equipped with Air Data Inertial Reference Units (ADIRUs).

   a) Pull and secure the following pitot heat circuit breakers on the P6 power distribution panel:

      - CAPT MAIN PITOT HEAT.
      - For ADC equipped airplanes, L AUX PITOT HEAT.
      - For ADIRU equipped airplanes, C ADIRU PITOT HEAT.
      - For ADC equipped airplanes, R AUX PITOT HEAT.
      - For ADIRU equipped airplanes, STBY INST PITOT HEAT.
      - F/O MAIN PITOT HEAT.

   b) Open L AOA PROBE HT (P6) and Air/Ground relay system No. 1 (P11) circuit breakers.

   c) Check that left AOA vane is cool enough to touch. If not, wait until vane cools.

   d) Rotate left AOA vane counterclockwise (vane trailing edge up) approximately 20 degrees, and check that left stick shaker shakes control columns, and that slats deploy.

   e) Rotate left AOA vane to original position, and check that left stick shaker stops shaking, and slats return to sealed position.

   f) Close L AOA PROBE HT (P6) and Air/Ground relay system No. 1 (P11) circuit breakers.

Continued Next Page

g) Close the following pitot heat circuit breakers:

- CAPT MAIN PITOT HEAT.
- For ADC equipped airplanes, L AUX PITOT HEAT.
- For ADIRU equipped airplanes, C ADIRU PITOT HEAT.
- For ADC equipped airplanes, R AUX PITOT HEAT.
- For ADIRU equipped airplanes, STBY INST PITOT HEAT.
- F/O MAIN PITOT HEAT.

7. Check that right stall warning/autoslat system is operational:

a) Pull and secure the following pitot heat circuit breakers on the P6 power distribution panel:

- CAPT MAIN PITOT HEAT.
- For ADC equipped airplanes, L AUX PITOT HEAT.
- For ADIRU equipped airplanes, C ADIRU PITOT HEAT.
- For ADC equipped airplanes, R AUX PITOT HEAT.
- For ADIRU equipped airplanes, STBY INST PITOT HEAT.
- F/O MAIN PITOT HEAT.

b) Open R AOA PROBE HT (P6) and Air/Ground relay system No. 2 (P11) circuit breakers.

c) Check that right AOA vane is cool enough to touch. If not, wait until vane cools.

d) Rotate right AOA vane clockwise (vane trailing edge up) approximately 20 degrees, and check that right stick shaker shakes control columns, and that slats deploy.

e) Rotate right AOA vane to original position, and check that right stick shaker stops shaking, and slats return to sealed position.

f) Close R AOA PROBE HT (P6) and Air/Ground relay system No. 2 (P11) circuit breakers.

g) Close the following pitot heat circuit breakers:

- CAPT MAIN PITOT HEAT.
- For ADC equipped airplanes, L AUX PITOT HEAT.
- For ADIRU equipped airplanes, C ADIRU PITOT HEAT.
- For ADC equipped airplanes, R AUX PITOT HEAT.
- For ADIRU equipped airplanes, STBY INST PITOT HEAT.
- F/O MAIN PITOT HEAT.

8. Restore airplane to normal.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-32-02	Stall Warning / Autoslat System **"Contact MCC"**	**N**	2	1	**A**	**(M)** One may be inoperative provided: a) Remaining system is verified to operate normally PRIOR TO EACH DEPARTURE (Log Book Entry Required), and b) Operations are limited to not more than three flight days before repair is made. **Repetitive Check Required (Yellow Placard)**

MEL ITEM	TAB LOCATION	PLACARD TEXT
27-32-02	Near Stall Warning Test - P61 Panel	___ Stall Warning/ Autoslat System INOP

(M) PROCEDURES

NOTE: For dispatch, both WEU power supplies and at least one stall warning/autoslat system must operate normally.

If a "WARN ELEX" EICAS message is displayed or if the stall warning/autoslat system failed to operate properly, perform the following cockpit initiated test PRIOR TO EACH DEPARTURE to verify that the WEU power supplies and at least one stall warning/autoslat system operates normally. The stall warning/autoslat system is considered to be operating normally if it activates the stick shaker and autoslat when tested.

NOTE: The speedbrakes/spoilers should be down prior to disconnecting power from the airplane. Ensure control surface areas are clear of personnel and equipment before movement.

1. Pull and secure WARN ELEX A and WARN ELEX B circuit breakers on the P11 overhead panel.
2. Reset WARN ELEX A circuit breaker.
3. Pressurize the left hydraulic system.
4. Position the flap lever to the 1-unit detent. Verify that the flaps move to 1 (one) and the slats move to the intermediate (takeoff) position.
5. Hold both test STALL test switches in the STALL position.
6. Verify that one (or both) stick shaker(s) operates normally and the slats move to the fully extended (landing) position.
7. Release the test switches.
8. Verify that the stick shaker(s) ceases to operate and the slats retract to the intermediate (takeoff) position.
9. Repeat steps 5 through 8 with the WARN ELEX B circuit breaker in and the WARN ELEC A circuit breaker pulled and secured.
10. Reset both WARN ELEX A and B circuit breakers.
11. If the stick shaker failed to operate normally, either the WEU power supply or both stall warning modules are inoperative and dispatch is not permitted.

Continued Next Page

If a WEU power supply is inoperative or if the stall warning/autoslat system failed to operate properly, perform the appropriate steps below.

1. For an inoperative stall warning or autoslat function, check the stall warning BITE module on the P51 panel for fault indication. If each BITE does not begin with a “4”, a fault indication is present. Perform proper maintenance.
2. For a failed WEU power supply, check the Warning Electronics (WEU) Power Supply fault balls. If a fault ball is present, reset power supplies. If either power supply has failed, remove and replace. Dispatch is not permitted with either power supply inoperative.
3. Complete steps a or b if a nuisance stick shaker or autoslat has occurred.

    a. For the stick shaker which failed the test or had a nuisance activation, pull and secure the STICK SHAKER L (R) circuit breaker on P11 overhead panel.

    b. Remove the stall warning module if a nuisance autoslat activation has occurred:

        1) Pull and secure WARN ELEX A and WARN ELEX B circuit breakers on panel P11.

CAUTION: Static sensitive. Do not handle before reading procedure for handling electrostatic discharge sensitive devices. WEU contains devices that can be damaged by static discharge.

        2) Open the WARNING ELECTRONICS UNIT P51 panel in the main E/E bay and remove the stall warning module for the affected system (system corresponding to the failed autoslat):

            - MODULE M615 LEFT STALL WARNING MODULE.
            - MODULE M938 RIGHT STALL WARNING MODULE.

        3) Close WARN ELEX A and WARN ELEX B circuit breakers on panel P11.

        4) The slats should return to the intermediate position after the test. If they remain extended, dispatch is not allowed.

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"**	**Y**	2	1	**B**	**(M)** One may be inoperative on non-flying pilot's side provided stabilizer trim system is verified to operate normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
27-41-01	Near 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. Verify stabilizer trim system operates normally by performing the MAINTENANCE (M) procedure in Item 27-41-02.
2. Verify the remaining control wheel trim switch is operative in each direction for at least three seconds and observe corresponding stabilizer motion.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
27-41-02	Horizontal Stabilizer Primary Trim Channels **"DISP.APPR.REQ'D"**	Y	2	1	C	**(O)(M)** One may be inoperative provided: a) Horizontal stabilizer trim operates normally using stabilizer trim levers (Alternate Stabilizer Trim Switches), b) No arm or control valves are failed in energized position, c) Approach minimums do not require use of three autopilots, and d) Associated autopilot is considered inoperative and deferred per MEL 22-10-01. CAT III Not Authorized

MEL ITEM	TAB LOCATION	PLACARD TEXT
27-41-02	Near Associated Stab Trim Indicator	____ Horizontal Stabilizer Primary Trim Channel INOP

(O) PROCEDURES

STAB TRIM Light and advisory message may illuminate. If light illuminates, trimming using the control wheel switches will be reduced to half the normal rate. The MAINTENANCE **(M)** procedure for this item confirms full trim rate is available from the alternate trim system.

(M) PROCEDURES

WARNING: KEEP ALL PERSONNEL AND EQUIPMENT CLEAR OF CONTROL SURFACES, CABLES, AND LANDING GEAR AREAS. PRESSURIZATION OF A HYDRAULIC SYSTEM CAN MOVE CONTROL SURFACES, CABLES, LANDING GEAR, AND LANDING GEAR DOORS. MOVEMENT OF CONTROL SURFACES, CABLES, LANDING GEAR, AND LANDING GEAR DOORS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

1. Configure the aircraft.
   a) Supply electrical power.
   b) Supply right and center hydraulic power.
   c) Confirm the following P11 panel circuit breakers are closed:
      1) STAB TRIM SHUTOFF L
      2) STAB TRIM SHUTOFF R
      3) STAB TRIM CONT L
   d) Confirm the stabilizer is positioned between 6 and 12 units of trim.
   e) Confirm the P61 panel R and C FLT CONTROL SHUTOFF switches are ON.

Continued Next Page

2. Confirm that only one horizontal stabilizer primary trim channel is inoperative and that the horizontal stabilizer trim operates normally by the manual trim levers (or alternate electrical trim switches).

   a) Set the R STAB TRIM cutout switch on the control stand to NORM and the C STAB TRIM cutout switch to CUTOUT.

      1) Move either the captain's or first officer's stabilizer trim control wheel switches up and then down. If the stabilizer does not move as commanded, the right stabilizer trim control channel is faulty.

      2) Move both stabilizer manual trim levers (or electric alternate trim switches) on the control stand in both the airplane nose up and airplane nose down directions. Confirm the stabilizer moves in both directions.

   b) Set the R STAB TRIM cutout switch on the control stand to CUTOUT and the C STAB TRIM cutout switch to NORM.

      1) Move either the captain's or first officer's stabilizer trim control wheel switches up and then down. If the stabilizer does not move as commanded, the left stabilizer trim control channel is faulty.

      2) Move both stabilizer manual trim levers (or electric alternate trim switches) on the control stand in both the airplane nose up and airplane nose down directions. Confirm the stabilizer moves in both directions.

   c) Set both R STAB TRIM cutout switch and C STAB TRIM cutout switch to NORM.

   NOTE 1: ONE PRIMARY TRIM CHANNEL (LEFT OR RIGHT) MUST BE OPERATIVE IN ORDER TO DISPATCH.

   NOTE 2: HORIZONTAL STABILIZER TRIM MUST OPERATE WITH THE MANUAL STABILIZER TRIM LEVERS (OR ALTERNATE STABILIZER TRIM SWITCHES) IN ORDER TO DISPATCH.

3. Confirm that no arm or control valve is failed in the energized position.

   a) Confirm the stabilizer is positioned between 6 and 12 units of trim.

   b) 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 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 (or electric alternate trim switch) on the control stand in both the airplane nose up and airplane nose down directions. Confirm 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.

4. Remove hydraulic power.

5. Placard associated autopilot inoperative.

   a) For faulty left trim channel, which is controlled by the C STAB TRIM cutout switch, defer the left autopilot inoperative per MEL 22-10-01.

   b) For faulty right trim channel, which is controlled by the R STAB TRIM cutout switch, defer the right autopilot inoperative per MEL 22-10-01.

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**	One may be inoperative provided faulty indicator is not visible.

MEL ITEM	TAB LOCATION	PLACARD TEXT
27-48-01	Over Affected Stab Trim Indicator	___ STAB TRIM Indicator INOP

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-51-01	Automatic Flap Load Relief Retraction System (Trailing Edge) **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	**(O)** Flaps 30 retractor may be inoperative provided: a) Flaps 30 adjusted maximum landing weight is observed, and b) Performance corrections are applied. NOTE: Flaps 25 may be used to AFM limit maximum landing weight.

MEL ITEM	TAB LOCATION	PLACARD TEXT
27-51-01	Near Flap Position Indicator	Automatic Flap Load Relief INOP

(O) PROCEDURES

27-51-01	AUTOMATIC FLAP LOAD RELIEF RETRACTION SYSTEM (TRAILING EDGE)
EFFECTIVITY	**-200**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING – Flaps 30** Structural Landing Weight is restricted to 183,000 lbs. **LANDING – Flaps 25** Structural Landing Weight is restricted to 198,000 lbs.

27-51-01	AUTOMATIC FLAP LOAD RELIEF RETRACTION SYSTEM (TRAILING EDGE)
EFFECTIVITY	**-300**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING – Flaps 30** Structural Landing Weight is restricted to 164,000 lbs. **LANDING – Flaps 25** Structural Landing Weight is restricted to 224,000 lbs.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-51-02A	Flap Isolation Valve (Flap/Slat Depressurization Module (Shutoff Function) (-200)	**N**	1	0	**C**	**(M)** May be inoperative open provided FSEUs and by-pass valves are verified to operate normally.
27-51-02B	Flap Isolation Valve (Flap/Slat Depressurization Module (Shutoff Function) (-300) (6819-6823)	**N**	1	0	**C**	**(M)** May be inoperative open provided FSEUs, FSAM, and by-pass valves are verified to operate normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
27-51-02A	Logbook	Flap Isolation Valve INOP
27-51-02B	Logbook	Flap Isolation Valve INOP

(M) PROCEDURES

27-51-02A, 27-51-02B

1. Verify that isolation valve (shutoff valve in the depressurization module) is open:

WARNING: KEEP PERSONNEL AND EQUIPMENT CLEAR OF ALL CONTROL SURFACES TO PREVENT INJURY OR DAMAGE.

   a) Pressurize left hydraulic system.

   b) Verify that flaps respond to flap lever input.

2. Verify proper operation of bypass valve.

   a) Place flap lever in 1 position.

   b) Pull and secure FLAP SLAT SHUTOFF 1 circuit breaker on panel P11.

   - For A/C 601-606, apply the ground to any of the four pins in terminal block TB183 -YA19 on the back of the E5 -1 shelf.
   - For all other aircraft, ground pin #4 on FSEU data bus test receptacle in the cargo compartment, (D1251, station 560R), for at least ten seconds.

   c) Verify “L E SLAT ASYM” message appears on EICAS and amber leading edge light comes on (P3 panel).

   d) Move flap lever to 15.

   e) Verify that there is no flap or slat motion.

   f) Move flap lever to 1.

   g) With an observer watching the slats, press the left and right stall warning test switch.

   h) Verify by observing that there is no slat motion.

   i) Close FLAP SLAT SHUTOFF 1 circuit breaker on panel P11.

   j) Cycle FLAP/SALT ELEC UNIT 1 PWR circuit breaker to clear "L E SLAT ASYM FAULT".

Continued Next Page

3. Verify alternate mode is operational.

   a) Cycle flaps and slats from UP to 1 and 1 to UP by using the TE and LE alternate arming switches and the alternate FLAPS/SLATS switch.

   b) Check that no TE FLAPS DISAGREE or LE SLATS DISAGREE message appears on EICAS.

4. Verify that Flap Slat Electronic Units (FSEU) and/or Flap Slat Accessory Module (FSAM) operate normally by performing either step a or step b:

   a) For -200 airplanes, verify that all three FSEU's operate normally by performing FSEU BITE procedure per AMM 27-51-01-722-005. For -300 airplanes, verify that both FSEU's and the FSAM (installed in FSEU #3 position) operate normally by performing FSEU BITE procedure per AMM 27-51-01-722-005.

   b) Verify all buses are normally powered. Check for FLAP/SLAT ELEC status message and FLAP SLAT BITE maintenance message. If either message is displayed, dispatch is not allowed.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-59-01	Trailing Edge Flap Skew Sensors (5653-5816, 6819-6823)	**N**	8	6	**C**	**(M)** One pair may be inoperative on one flap segment provided both sensors are deactivated.

MEL ITEM	TAB LOCATION	PLACARD TEXT
27-59-01	Logbook	___ Trailing Edge Flap Skew Sensor INOP

(M) PROCEDURES

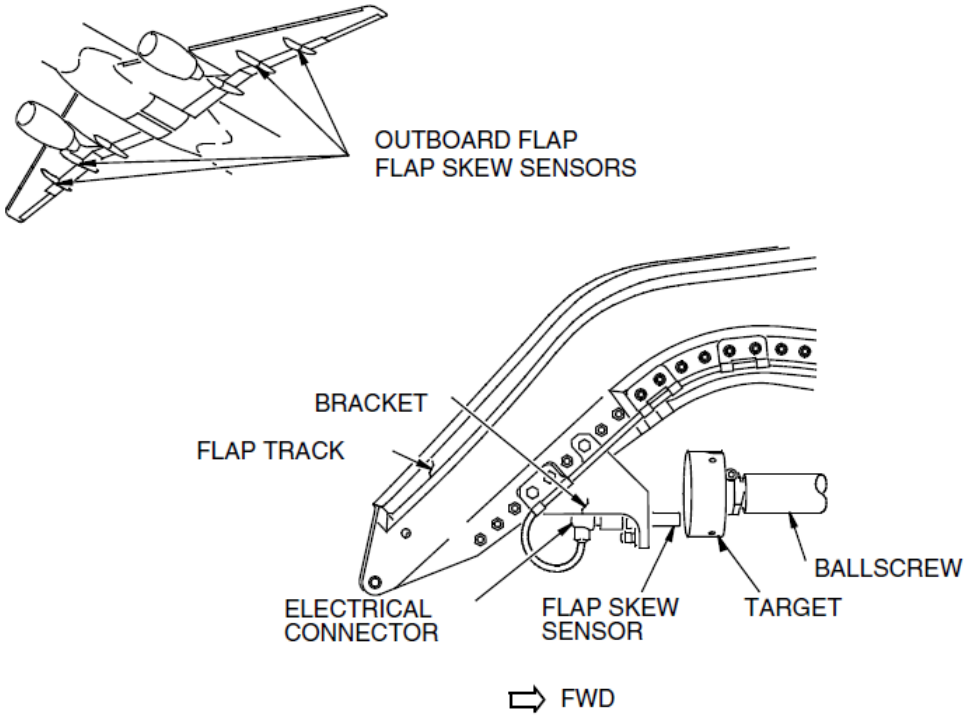
Deactivate the inboard and outboard skew sensors on the affected flap segment:

1. Extend trailing edge flaps to the 30-unit position.

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.

2. Pressurize the associated hydraulic system.
3. Move the flap handle to the flaps 30 position.
4. Remove power from the associated hydraulic system.
5. Install PDU lock on the TE flap PDU.
6. Pull and secure the following circuit breakers on the P11 panel.
   - WARN ELEX B
   - HYDRAULICS PTU CONT
   - FLAP/SLAT ACCESSORY MODULE CONT
   - FLAP/SLAT ACCESSORY MODULE SENSOR
   - FLAP/SLAT ALTN DR SHUTOFF ARM
   - FLAP LOAD RELIEF
   - WARN ELEX A
7. Pull and secure the following circuit breakers on the main power distribution panel.
   - ALTN SLAT PWR
   - ALTN FLAP PWR
8. Disconnect electrical connector from the flap skew sensors (inboard and outboard end) on the associated flap segment.
9. Cap and stow the electrical connectors.
10. Close the circuit breakers opened in steps 6 and 7 above.
11. Remove PDU lock on the TE flap PDU.
12. Ensure that flaps operate normally:
    a) Move the flap control lever to the 30-unit position to extend the flaps. Wait for the trailing edge flaps to extend to the fully extended position.
    b) Move the flap control lever to the UP position to retract the flaps. Wait for the trailing edge flaps to retract to the fully retracted position.
13. Restore the airplane to its normal condition.

Continued Next Page



FLAP SKEW SENSOR (TYPICAL)

FLAP SKEW SENSOR NO. 2 AND 7
(FLAP SKEW SENSOR NO. 1 ,3,4, 5, 6 & 8 ARE SIMILAR)

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
	SPOILER SYSTEMS					
27-61-01A	Ground Spoilers **"DISP.APPR.REQ'D"**	**N**	2	0	**C**	**(O)(M)** One symmetrical pair may be inoperative in down position provided: a) All flight spoilers are verified to operate normally ONCE EACH FLIGHT DAY (Log Book Entry Required), b) Antiskid system operates normally, c) Flaps 1 takeoff operation is prohibited, and d) Performance corrections are applied. **Repetitive Check Required (Yellow Placard)**
27-61-01B	Flight Spoilers **"DISP.APPR.REQ'D"**	**N**	10	8	**C**	**(O)(M)** One symmetrical pair may be inoperative in down position provided: a) Ground spoilers are verified to operate normally ONCE EACH FLIGHT DAY (Log Book Entry Required), b) Antiskid system operates normally, c) Flaps 1 takeoff operation is prohibited, d) Airplane remains at or below FL 300, e) Airspeed does not exceed 270 knots or .70 Mach, whichever is lower, f) Autoland operation is prohibited, g) Autospoiler operation is prohibited for landing, and h) Performance corrections are applied. CAT II/III Not Authorized **Repetitive Check Required (Yellow Placard)**
27-61-01C	Speed Brake Load Alleviation System (-200 with Blended Winglet) **"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, b) Airspeed does not exceed 275 KIAS when inflight gross weight is in excess of 221,000 pounds (100,246 kg), and c) Severe turbulent air penetration speed is 275 KIAS or .78 Mach, whichever is lower, when inflight gross weight is in excess of 221,000 pounds (100,246 kg). **OR**
		N	1	0	**C**	**(O)(M)** May be inoperative provided: a) Speedbrake handle forces are verified normal from full down to full up position, b) Takeoff weight does not exceed 221,500 pounds (100,470 kg).

Continued Next Page

MEL ITEM	TAB LOCATION	PLACARD TEXT
27-61-01A	Near Spoiler Handle	____ Ground Spoiler System INOP
27-61-01B	Near Spoiler Handle	____ Flight Spoiler INOP
27-61-01C	Near Spoiler Handle	Speed Brake Load Alleviation System INOP

NOTE: This relief does not apply if spoiler panel is detached from the actuator.

(O) PROCEDURES

27-61-01A

1. Disregard the "SPOILERS" amber light on the overhead panel and the "SPOILERS" message on EICAS.
2. Prior to takeoff, physically verify that the Speed Brake lever is in the Down detent.

27-61-01A	**SPOILER SYSTEMS / GROUND SPOILERS**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	1. Performance weight corrections have been applied. 2. Reduce V_1 by 2 KIAS.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 2,700 lbs. 2. Minimum required runway length is 6,000 ft. **LANDING** Reduce RWY ALLOWABLE LANDING WT by 25,100 lbs. **OTHER CORRECTIONS** Reduce V_1 by 2 KIAS.

Continued Next Page

27-61-01B

1. Disregard the "SPOILERS" amber light on the overhead panel and the "SPOILERS" message on EICAS.
2. Prior to takeoff, physically verify that the Speed Brake lever is in the Down detent.
3. Do not use Auto Speedbrakes. When landing with flight spoilers inoperative, the normal landing checklist should be changed from SPEEDBRAKE.....ARMED to SPEEDBRAKE.....DOWN. This will prevent auto spoiler operation on landing.
4. For landing with flight spoilers inoperative, the airplane nose should be lowering to the runway before spoilers are deployed.

27-61-01B	**SPOILER SYSTEMS / FLIGHT SPOILERS**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	1. Performance weight corrections have been applied. 2. Reduce V_1 by 2 KIAS.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** 1. Reduce RATOW by 2,700 lbs. 2. Minimum required runway length is 6,000 ft. **LANDING** Reduce RWY ALLOWABLE LANDING WT by 25,100 lbs. **OTHER CORRECTIONS (Manual Weight & Balance Worksheet only)** 1. Enter Structural Takeoff Weight of 217,000 lbs. under Aircraft Weight Limitations. 2. Reduce V_1 by 2 KIAS.

Continued Next Page

27-61-01C

Prior to takeoff, physically verify that the Speed Brake lever is in the Down detent.

27-61-01C	**SPOILER SYSTEMS / SPEED BRAKE LOAD ALLEVIATION SYSTEM** ***USE WITH AIRSPEED LIMITATION***
EFFECTIVITY	**-200 Winglet Aircraft**
FLIGHT PLANNING REQUIREMENTS	Airspeed does not exceed 275 KIAS when inflight gross weight is in excess of 221,000 lbs.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** None

27-61-01C	**SPOILER SYSTEMS / SPEED BRAKE LOAD ALLEVIATION SYSTEM** ***USE WITH TAKEOFF WEIGHT LIMITATION***
EFFECTIVITY	**-200 Winglet Aircraft**
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 221,500 lbs. under Aircraft Weight Limitations.

Continued Next Page

(M) PROCEDURES

27-61-01A, 27-61-01B

WARNING: TO PREVENT INJURY OR DAMAGE, CLEAR PERSONNEL AND EQUIPMENT FROM CONTROL SURFACES BEFORE PROVIDING HYDRAULIC POWER. KEEP AREA CLEAR WHEN OPERATING CONTROL SURFACES.

1. ONCE EACH FLIGHT DAY, ensure that all operative spoilers operate correctly (no more than one spoiler pair can be inoperative).

   a) Turn the control wheel full counterclockwise (left). Observe that operative left wing spoilers extend.

   NOTE: Spoilers 1, 2, 3 and 5 will extend approximately 45°. Spoiler 6 will extend approximately 30° (panel 4 will not extend).

   b) Center the control wheel. Ensure that operative left wing spoilers retract.

   c) Turn the control wheel full clockwise (right). Observe that operative right wing spoilers extend.

   NOTE: Spoilers 8, 10, 11 and 12 will extend approximately 45°. Spoiler number 7 will extend approximately 30° (panel 9 will not extend).

   d) Center the control wheel. Ensure that operative right wing spoilers retract.

   e) Place speed brake lever in the UP position. Ensure that all operative spoilers operate normally (panels 1, 2, 3, 5, 8, 10, 11 and 12 will extend approximately 45°; panels 6 and 7 will extend approximately 30°; panels 4 and 9 will extend approximately 55°).

   f) Ensure that the inoperative spoiler pair remains down throughout Steps a. thru f. If the inoperative spoiler moves out of the retracted position when either the wheel or speed brake lever is moved or remains stationary out of the retracted position, disable the spoiler pair by performing step number 2.

   NOTE 1: It is permissible to dispatch with the spoiler pair not disabled provided the spoiler panel remains in the retracted position.

   NOTE 2: This relief does not apply if spoiler panel is detached from the actuator.

2. Disable a spoiler pair and secure it in the retracted position, do the procedure that follows:

WARNING: ENSURE THE SPOILER/SPEEDBRAKE DEACTIVATION PROCEDURE IS DONE CORRECTLY. ACCIDENTAL SPOILER MOVEMENT CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

   a) Perform the deactivation procedure for the Spoiler / Speedbrake Control System (Ref AMM 27-61-00/201).

   b) Remove power from the left, right, and center hydraulic systems.

WARNING: ENSURE THAT HYDRAULIC POWER WILL NOT BE SUPPLIED TO THE PCA DURING MAINTENANCE. THE SPOILER PANEL WILL RETRACT IMMEDIATELY, AND CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

   c) Operate the manual release cam on the bottom of the PCA and manually move the spoiler panel to the up position.

   d) Disconnect the electrical connector from the PCA. Cap and stow for flight.

   e) Manually move the spoiler panel to a position slightly above the neutral position.

   f) Reactivate the Spoiler / Speedbrake Control System.

WARNING: MAKE SURE THAT ALL PERSONS AND EQUIPMENT ARE AWAY FROM THE CONTROL SURFACES BEFORE HYDRAULIC POWER IS SUPPLIED. STAY AWAY FROM THE AREA DURING THEIR OPERATION.

Continued Next Page

g) Pressurize the left, center, and right hydraulic systems.

h) Make sure that the deactivated spoiler panels return to their neutral positions and are held in this position by their PCAs.

i) Turn the control wheel full counterclockwise (left). Ensure that the operative left wing spoilers extend.

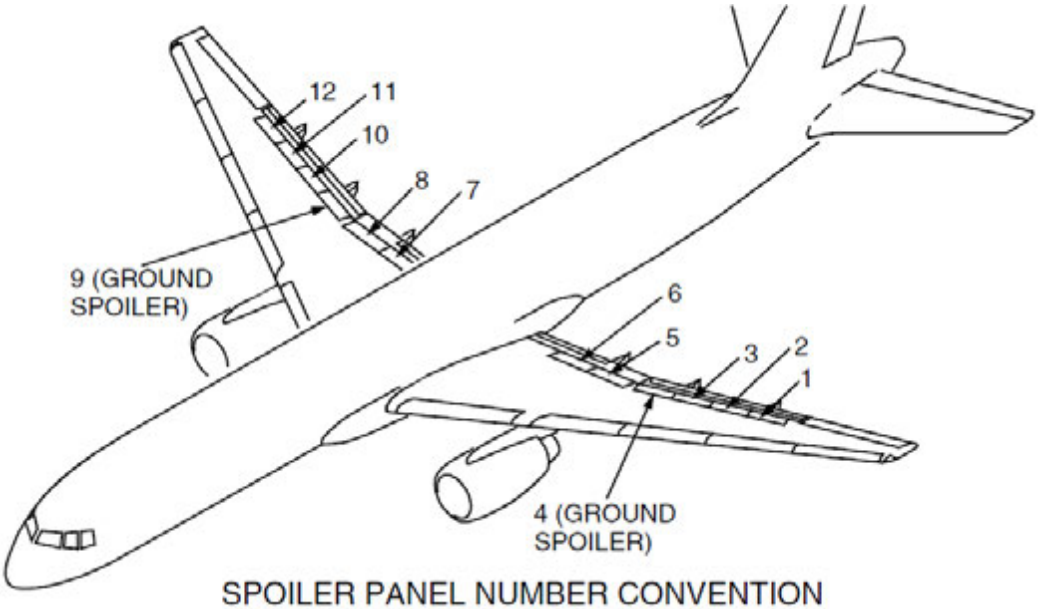
NOTE: Spoilers 1, 2, 3, and 5 will extend approximately 45 degrees. Spoiler number 6 will extend approximately 30 degrees (panel 4 will not extend).

j) Turn the control wheel full clockwise (right). Ensure that the operative right wing spoilers extend.

NOTE: Spoilers 8, 10, 11, and 12 will extend approximately 45 degrees. Spoiler number 7 will extend approximately 30 degrees (panel 9 will not extend).

k) Place speed brake lever in the UP position. Ensure that all operative spoilers operate normally (panels 1, 2, 3, 5, 8, 10, 11 and 12 will extend approximately 45°; panels 6 and 7 will extend, approximately 30°; panels 4 and 9 will extend approximately 55°).

l) Ensure that the inoperative spoiler pair remain down and do not move. If the inoperative spoiler panel pair is not secured in the down position, dispatch is not allowed.



SPOILER PANEL NUMBER CONVENTION

27-61-01C

The Speed Brake Load Alleviation System may be inoperative due to mechanical failures, electrical failures (including failure of the system actuator under the center control stand), or due to the Speedbrake Autostow Controller (SAC) giving an autostow fault. In any of these cases:

1. Pull and secure SPDBRK AUTOSTOW circuit breaker K22 on the P6-4 panel.
2. Open AUTO SPEEDBRK circuit breaker on the P11 panel.
3. Remove the airplane harness connector from the Speedbrake Autostow Controller (SAC), and remove the cover from the adjacent test connector.
4. Install the airplane harness connector on the adjacent test connector and install the test cover on the SAC connector.
5. Close AUTO SPEEDBRK circuit breaker on the P11 panel.
6. Verify that speedbrake handle forces are normal from the full down position to the full up position.

		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 (Airplanes without Speed Brake Load Alleviation System) **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	**(O)(M)** May be inoperative provided: a) System is deactivated, and b) Performance corrections are applied.
27-62-01B	Auto Speed Brake System (Airplanes with Speed Brake Load Alleviation System (-200 with Blended Winglet) **"DISP.APPR.REQ'D"**	**N**	1	0	**C**	**(O)(M)** May be inoperative provided: a) System is deactivated, b) Performance corrections are applied, c) Airspeed does not exceed 275 KIAS when inflight gross weight is in excess of 221,000 pounds (100,246 kg), and d) Severe turbulent air penetration speed is 275 KIAS or .78 Mach, whichever is lower, when inflight gross weight is in excess of 221,000 pounds (100,246 kg). **OR**
		N	1	0	**C**	**(O)(M)** May be inoperative provided: a) System is deactivated, b) Performance corrections are applied, and c) Takeoff weight does not exceed 221,500 pounds (100,470 kg).

MEL ITEM	TAB LOCATION	PLACARD TEXT
27-62-01A	Near AUTO SPD BRK Light	Auto Speed Brake System INOP
27-62-01B	Near AUTO SPD BRK Light	Auto Speed Brake System INOP SAC CONTR installed in Test position

Continued Next Page

(O) PROCEDURES

27-62-01A, 27-62-01B

1. 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.

2. For rejected takeoff:
   a. Simultaneously close thrust levers, disconnect autothrottles and apply manual wheel brakes or verify operation of autobrakes.
   b. Manually raise speedbrake lever.
   c. Apply reverse thrust consistent with conditions.
3. For landing, refer to the QRH, AUTO SPEEDBRAKE, Non-Normal checklist.
4. Refer to Airway Manual, Mountainous Terrain, MT for critical terrain procedures.

27-62-01A	**AUTO SPEED BRAKE SYSTEM (WITHOUT SPEED BRAKE LOAD ALLEVIATION SYSTEM)**
EFFECTIVITY	**All Aircraft Without Speed Brake Load Alleviation Installed**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**Manual WDR not permitted with MEL 27-62-01A.**

27-62-01B	**AUTO SPEED BRAKE SYSTEM WITH SPEED BRAKE LOAD ALLEVIATION SYSTEM *USE WITH AIRSPEED LIMITATION***
EFFECTIVITY	**-200 Winglet Aircraft**
FLIGHT PLANNING REQUIREMENTS	Airspeed does not exceed 275 KIAS when inflight gross weight is in excess of 221,000 lbs.
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**Manual WDR not permitted with MEL 27-62-01B.**

Continued Next Page

27-62-01B	**AUTO SPEED BRAKE SYSTEM WITH SPEED BRAKE LOAD ALLEVIATION SYSTEM *USE WITH TAKEOFF WEIGHT LIMITATION***
EFFECTIVITY	**-200 Winglet Aircraft**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**Manual WDR not permitted with MEL 27-62-01B.**

(M) PROCEDURES

27-62-01A

1. Pull and secure AUTO SPEEDBRK circuit breaker on overhead circuit breaker panel, P11.
2. AUTO SPDBRK light on overhead panel will illuminate - place tape over the light.

27-62-01B

1. Pull and secure AUTO SPEEDBRK circuit breaker on overhead circuit breaker panel, P11.
2. AUTO SPDBRK light on overhead panel will illuminate - place tape over the light.
3. Deactivate the Speed Brake Load Alleviation System as follows:
   a) Pull and secure SPDBRK AUTOSTOW circuit breaker K22 on the P6-4 panel.
   b) Remove the airplane harness connector from the Speedbrake Autostow Controller (SAC) and remove the cover from the adjacent test connector.
   c) Install the airplane harness connector on the adjacent test connector and install the test cover on the SAC connector. Ensure connector position is recorded in MCO placard.
   d) Verify that speedbrake handle forces are normal from the full down position to the full up position.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
27-62-02	Speedbrake 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	TAB LOCATION	PLACARD TEXT
27-62-02	Near 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	**Y**	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	TAB LOCATION	PLACARD TEXT
27-63-01	Near Affected Light	AUTO SPDBRK / SPOILERS / STAB TRIM Light INOP

(M) PROCEDURES

To verify "AUTO SPEEDBRAKE" EICAS advisory message:

1. Pull the AUTO SPEEDBRK circuit breaker (11G11) on overhead circuit breaker panel P11.
2. Verify that the “AUTO SPEEDBRAKE” advisory message is displayed on the upper EICAS screen.
3. Close AUTO SPEEDBRK circuit breaker (11G11) on overhead circuit breaker panel P11.
4. Verify that the 'AUTO SPEEDBRAKE' advisory message is not displayed on the upper EICAS screen.

To verify “SPOILERS” EICAS advisory message:

1. Set the EICAS computer selector switch on the EICAS display select panel to AUTO.
2. Pull and secure the following CSEU circuit breakers on the P11 panel:
   - FLT CONT ELEC 1L AC (11C6)
   - FLT CONT ELEC 1R AC (11G17)
   - FLT CONT ELEC 2L AC (11C8)
   - FLT CONT ELEC 2R AC (11G27)
3. Verify that the "SPOILERS" Advisory message is displayed on the upper EICAS screen.
4. Close the following CSEU circuit breakers on the P11 panel:
   - FLT CONT ELEC 1L AC (11C6)
   - FLT CONT ELEC 1R AC (11G17)
   - FLT CONT ELEC 2L AC (11C8)
   - FLT CONT ELEC 2R AC (11G27)
5. Verify that the "SPOILERS" Advisory message is not displayed on the upper EICAS screen.

Continued Next Page

To verify "STAB TRIM" EICAS message:

WARNING: KEEP ALL PERSONNEL AND EQUIPMENT CLEAR OF CONTROL SURFACES, CABLES, AND LANDING GEAR AREAS. PRESSURIZATION OF A HYDRAULIC SYSTEM CAN MOVE CONTROL SURFACES, CABLES, LANDING GEAR, AND LANDING GEAR DOORS. MOVEMENT OF CONTROL SURFACES, CABLES, LANDING GEAR, AND LANDING GEAR DOORS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

1. Provide hydraulic power to the center and right hydraulic systems.
2. Make sure the following circuit breakers are closed:
   - STAB TRIM CONT L (11H11)
   - STAB TRIM SHUTOFF L (11C12)
   - STAB TRIM SHUTOFF R (11C13)
   - L STAB TRIM POS IND (11H10)
   - R STAB TRIM POS IND (11H19)
3. Position the stabilizer between 4 and 14 units.
4. Position the C FLT CONTROL SHUTOFF switch and R FLT CONTROL SHUTOFF switch on the right side panel (P61) to ON.
5. Position the EICAS computer selector on the forward electronics panel to R.
6. Position the C STAB TRIM switch on the control stand panel (P10) to NORM.
7. Position the R STAB TRIM switch on the control stand panel (P10) to CUTOUT.
8. Trim the stabilizer in the airplane nose down direction with the wheel mounted thumb switches and verify that the "STAB TRIM" EICAS message displays on the upper EICAS screen.
9. Position the R STAB TRIM switch on the control stand panel (P10) to NORM.
10. Trim the stabilizer in the airplane nose down direction with the wheel mounted thumb switches and verify that the "STAB TRIM" EICAS message does not display on the upper EICAS screen.
11. Position the EICAS computer selector on the forward electronics panel to AUTO.
12. Remove hydraulic power if it is no longer needed.
13. Return airplane to normal.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
27-81-01	Inboard Slat Loss Sensing System **"DISP.APPR.REQ'D"**	**N** 2	1	**A**	**(O)(M)** Either left or right switch may be inoperative provided: a) Slat loss sensing system is deactivated, b) Minimum approach speeds are increased by 10 kts for each approach, c) Repair is made within one flight day, and d) Performance corrections are applied.

MEL ITEM	TAB LOCATION	PLACARD TEXT
27-81-01	Logbook	___ Inboard Slat Loss Sensing Switch INOP

(O) PROCEDURES

Increase Vref speed by 10 knots for the planned landing flap setting.

27-81-01	**INBOARD SLAT LOSS SENSING SYSTEM**
EFFECTIVITY	**-200**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** Reduce RWY ALLOWABLE LANDING WT by 35,400 lbs.

27-81-01	**INBOARD SLAT LOSS SENSING SYSTEM**
EFFECTIVITY	**-300**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** None **LANDING** Reduce RWY ALLOWABLE LANDING WT by 27,900 lbs.

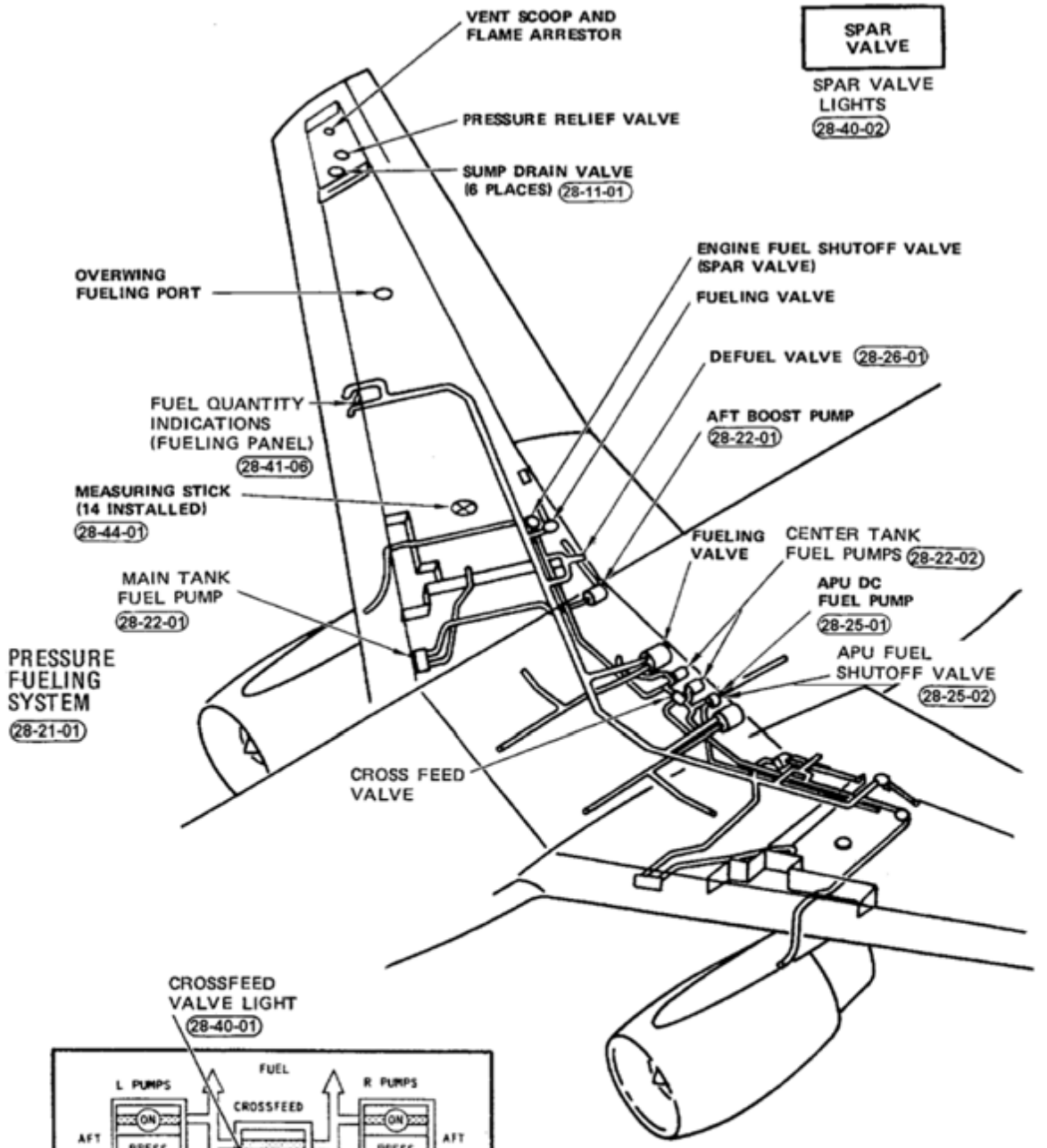
Continued Next Page

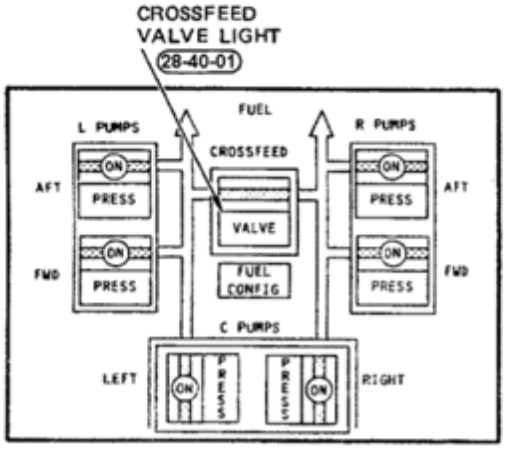
(M) PROCEDURES

1. Verify there is no damage to the slat, slat main tracks, and slat auxiliary arms.
2. Remove access panel 511HB (611 HB) left (or right) to gain access to slat loss sensing switch.
3. Disconnect wire number 2 from inboard slat loss sensing switch S10588 (Rt) or S10589 (Lt). (Ref. B757 Schematic Manual 27-S81-05).
4. Cap, and stow wiring to ensure no interference.
5. Cap the slat loss sensing switch.
6. Install access panel below landing light.
7. Move the Flap lever to FLAPS 25 to extend the slats to the landing position. Observe that the slats operate normally.
8. Verify LE SLAT ASYM caution message is NOT displayed on EICAS.

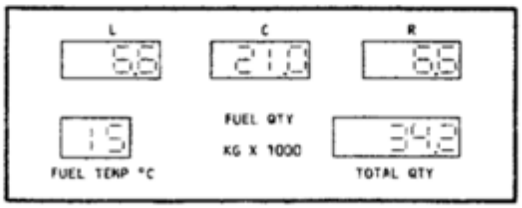
ATA 28 Contents

28-11-01 Sump Drain Valves 28-3
28-21-01A Pressure Fueling System 28-4
28-21-01B Fuel Shutoff Valves 28-4
28-22-01A Main Tank Fuel Pumps 28-6
28-22-01B Automatic Function of Left FWD Pump 28-6
28-22-02A Center Tank Fuel Pumps 28-8
28-22-03 Dual Fuel Crossfeed Valves (A/C 683-699, 5635-5816, 6700-6717, 6801-6818) 28-10
28-22-05A Automatic Shut Off System (A/C 5501-5816) 28-11
28-22-07 Universal Fault Interrupter (Automatic Shutoff System) (A/C 601-699, 6700-6904) 28-13
28-25-01 APU (DC) Fuel Pump 28-14
28-25-02 APU Fuel Shutoff Valve 28-15
28-26-01 Defuel Valves 28-16
CROSSFEED VALVE LIGHT(S) 28-17
28-40-01A Single VALVE Installation (A/C 601-682, 5501-5534, 6901-6904) 28-17
28-40-01B Dual VALVE Installation (A/C 683-699, 5635-5816, 6700-6717, 6801-6818) 28-17
28-40-02 SPAR VALVE Lights 28-19
FUEL TANK QUANTITY INDICATION SYSTEMS 28-21
(FLIGHT DECK) 28-21
28-41-01A Main Tank Indicators 28-21
28-41-01B Center Tank Indicator 28-21
28-41-01C Center Tank Indicator (A/C 5501-5816) 28-22
28-41-01D Center Tank Indicator (A/C 601-699, 6700-6904) 28-22
FUEL QUANTITY PROCESSOR CHANNELS 28-25
28-41-02A Honeywell FQIS 28-25
28-41-02B B.F. Goodrich (Simmonds FQIS) 28-25
28-41-06 Fuel Quantity Indications (Fueling Panel) 28-28
28-41-07A Total Fuel Quantity Indication 28-29
28-42-01A Fuel Pump Low PRESS Lights 28-31
28-42-01B Fuel Pump Low PRESS Lights (Main Tank) 28-31
28-42-01C Fuel Pump Low PRESS Lights (Center Tank) 28-31
28-43-01 FUEL TEMP Indicating System 28-33
28-44-01 Measuring Sticks 28-35





FUEL PUMP LOW PRESSURE LIGHTS 28-42-01



FUEL TEMPERATURE INDICATION 28-43-01

FUEL QUANTITY INDICATION SYSTEMS (FLIGHT DECK) 28-41-01

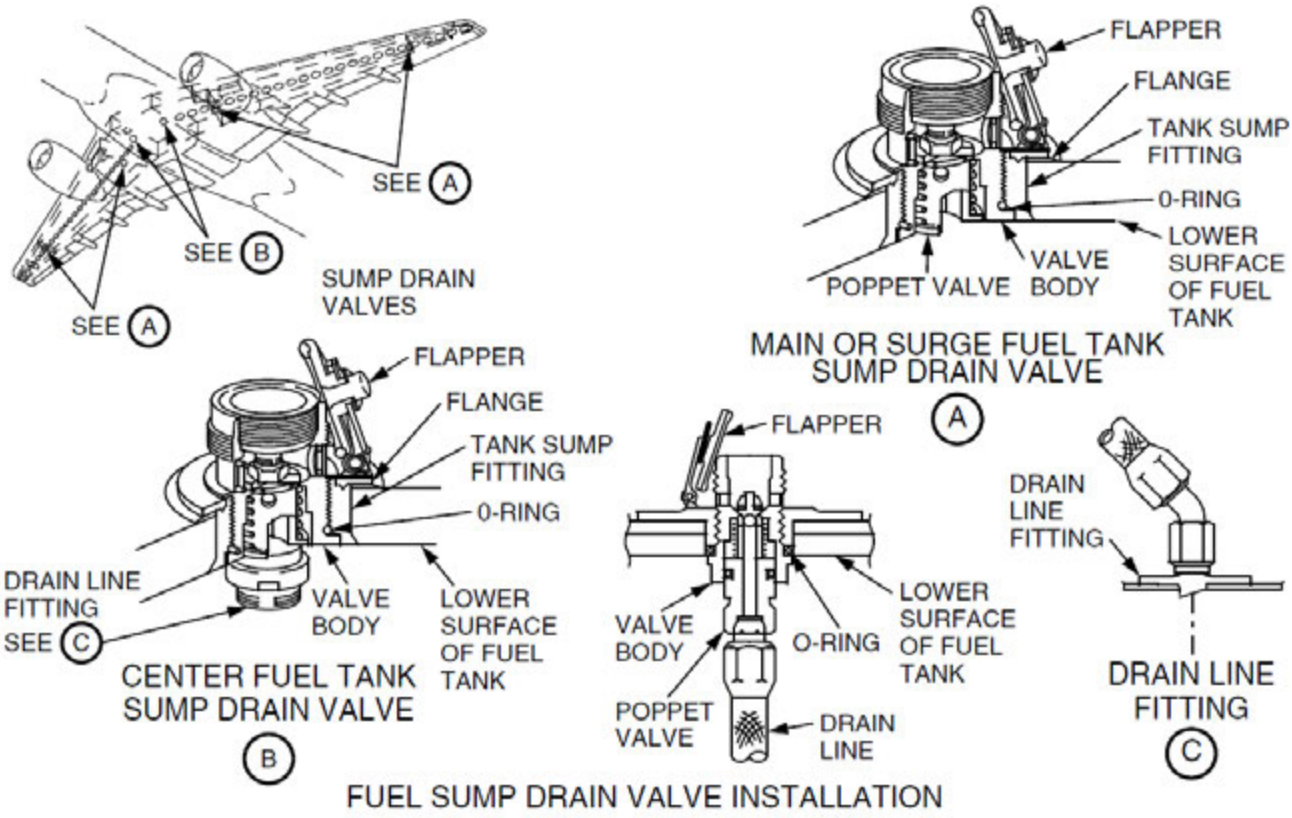
TOTAL FUEL QUANTITY INDICATION 28-41-07

	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	Y	6	5	C	**(M)** One may be inoperative closed.

MEL ITEM	TAB LOCATION	PLACARD TEXT
28-11-01	Near Fuel System Panel	___ Sump Drain Valve INOP

(M) PROCEDURES

1. See following illustrations for location and sketches of typical fuel sump drain valves.
2. Visually inspect exterior of valve location for evidence of fuel leakage. If any evidence of fuel leakage is found, *Maintenance is Required and Flight Crew May NOT Placard.* Refer to AMM 28-11-00 for allowable leak limits.



FUEL SUMP DRAIN VALVE INSTALLATION

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
28-21-01A	Pressure Fueling System **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	**(M)** May be inoperative provided alternate procedures are established and used.
28-21-01B	Fuel Shutoff Valves **"DISP.APPR.REQ'D"**	**N**	4	0	**C**	**(M)** May be inoperative closed.

MEL ITEM	TAB LOCATION	PLACARD TEXT
28-21-01A	1. Near Cockpit Fuel System Panel 2. Near Refueling Panel Master Switch	Pressure Fueling System INOP
28-21-01B	1. Near Cockpit Fuel System Panel 2. Near Associated F/Q Indicator on Refueling Panel	___ Fuel Shutoff Valve INOP

(M) PROCEDURES

NOTE 1: Any fill valve that operates normally may be used.

NOTE 2: Auto overfill system may be overridden with overfill reset switch to fuel aircraft.

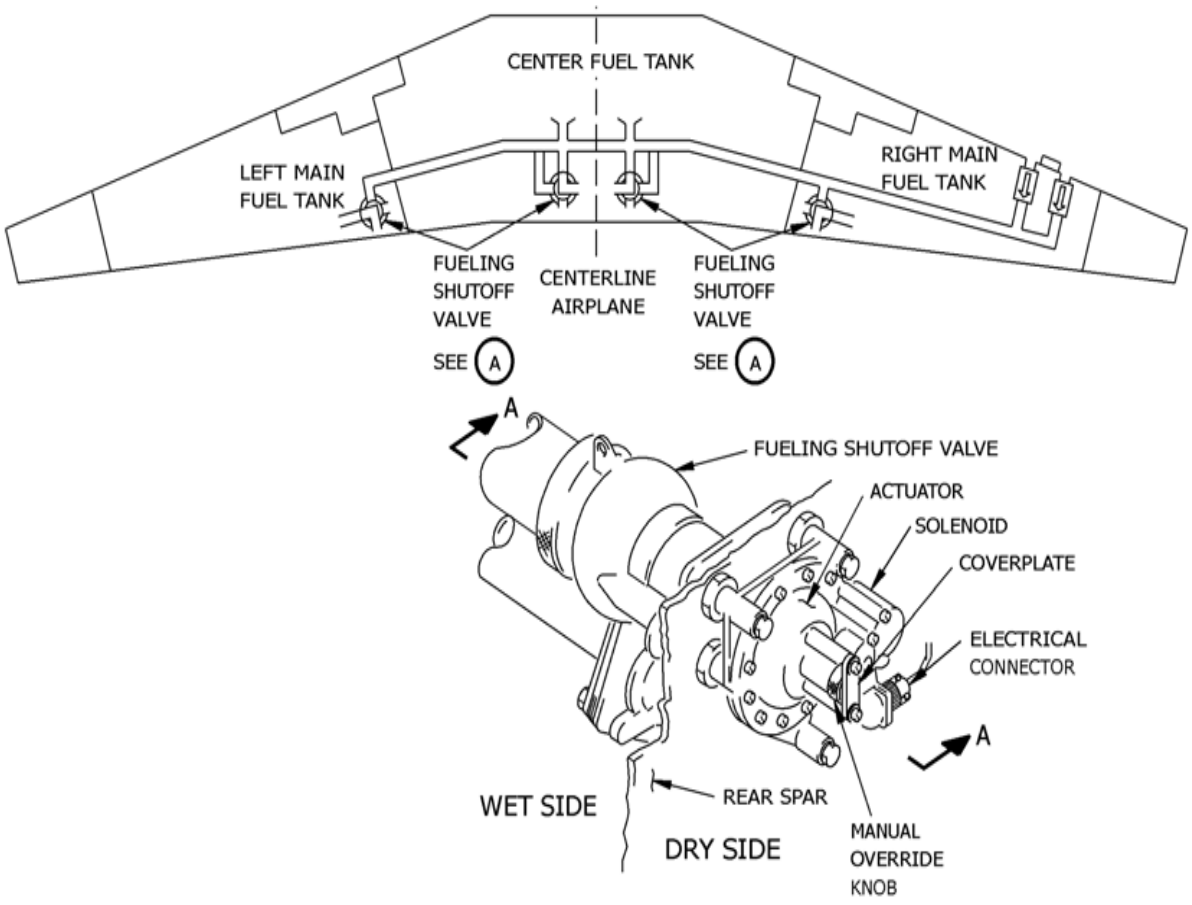
28-21-01A

1. Utilize individual components of pressure fuel system which operate normally.
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 the Fueling Procedures Manual, B757 Pressure Fueling, 757.20.

28-21-01B

1. Install Aircraft Out-Of-Service tag in cockpit.
2. Remove fueling pressure.
3. Gain access to the inoperative fueling shutoff valve(s). (See graphic)
4. Remove lockwire on override knob.
5. Utilizing the override knob (thumb knob), open the fueling shutoff valve.
6. After refueling close the override knob.
7. Replace the lockwire on override knob.
8. Remove Aircraft Out-Of-Service tag from cockpit.

Continued Next Page



FUELING SHUTOFF VALVE

		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, one may be inoperative provided: a) Inoperative pump is deactivated, b) Both main tank quantity indications operate normally, and c) Appropriate minimum fuel quantities are maintained in affected tank for associated flight condition.
28-22-01B	Automatic Function of Left FWD Pump	**Y**	1	0	**C**	**(O)** May be inoperative provided Left FWD Pump Switchlight is selected ON prior to APU start.

MEL ITEM	TAB LOCATION	PLACARD TEXT
28-22-01A	Near Associated Boost Pump Switch	____ Main Tank Fuel Pump INOP
28-22-01B	Near LT FWD Boost Pump Switch	AUTO Function of LT FWD Fuel Pump INOP

NOTE 1: The minimum takeoff fuel quantities are based on uncovering of the suction bypass and the operating pump at an airplane nose - up attitude of 25 degrees (which would result in engine fuel starvation). The minimum landing fuel quantities are based on uncovering of the remaining boost pump inlet at 22 degrees nose down and 12 degrees nose up.

NOTE 2: The operator should review the weight and balance loading schedule to assure that the unsymmetrical fuel configuration at very low fuel loads does not adversely affect center-of-gravity. For practical purposes, this can be done by making the "zero fuel limit" check twice: once in the normal manner (zero fuel), and once with the additional fuel added to the affected tank.

(O) PROCEDURES

28-22-01A

Use Normal fuel management with the following exceptions:

1. Ensure the following minimum fuel quantities are available for takeoff and landing:

	Minimum fuel quantities retained in the affected tank for the flight condition shown	
Flight Condition	FWD Boost Pump Inoperative	AFT Boost Pump Inoperative
Takeoff	8000 lbs.	12200 lbs.
Landing	1500 lbs.	1500 lbs.

2. Landing minimum fuel must be considered unusable.
3. During approach and landing operations, select crossfeed valve(s) to ON to ensure both engine fuel manifolds remain pressurized (except if center tank contains useable fuel and center tank pumps are selected ON).

   NOTE 1: An open crossfeed valve during enroute operation will likely lead to a fuel imbalance condition.

Continued Next Page

4. For airplanes dispatching with a left, forward main tank fuel pump inoperative, center tank fuel scavenging will not be available. Fuel remaining in the center tank after center tank pumps are selected off should be considered unusable. The unusable fuel is about 23 gallons or about 155 pounds.

28-22-01B

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.

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.

(M) PROCEDURES

28-22-01A

1. Select inoperative pump OFF.
2. Pull and secure the associated pump circuit breaker on the P6 power distribution panel.

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)** One 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) Zero fuel weight calculations are adjusted by weight of center tank fuel, c) Effect on airplane balance, in event fuel cannot be used, is accounted for, d) Low PRESS light operates normally on remaining pump, e) Center tank and both main tank quantity indication operate normally, and f) 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 BEFORE EACH REFUELING, and c) Affected pumps are deactivated. **Repetitive Check Required (Yellow Placard)**

MEL ITEM	TAB LOCATION	PLACARD TEXT
28-22-02A	Near Associated Boost Pump Switch	____ CTR Tank Fuel Pump INOP
28-22-02B	Near Associated Boost Pump Switch	____ CTR Tank Fuel Pump INOP

(O) PROCEDURES

28-22-02A

1. Verify center tank fuel is 21,900 pounds or less. AWABS (or the Takeoff Performance Worksheet) will ensure that weight and balance limits have been satisfied providing the center tank fuel is 21,900 pounds or less.

   NOTE: The aircraft will not balance with ballast/unusable fuel greater than 21,900 pounds.

2. Fuel configuration should be, all operable fuel boost pumps ON and crossfeed selector OPEN until center tank pumps are selected OFF per fuel usage procedures.

3. When Center Tank pump switches are selected OFF, position crossfeed selector CLOSE.

Continued Next Page

(M) PROCEDURES

28-22-02A

1. Select inoperative pump(s) OFF.
2. Pull and secure the associated pump circuit breaker(s) on the P6 power distribution panel.

28-22-02B

1. Select inoperative pump(s) OFF.
2. Pull and secure the associated pump circuit breaker(s) on the P6 power distribution panel.

BEFORE EACH REFUELING:

To verify the fuel quantity in associated tank, accomplish one of the following procedures as appropriate:

1. Use center tank fuel indicator on the (P5) overhead panel or the (P28) fueling control panel to verify center tank fuel quantity.
2. If the center tank fuel quantity indicators are inoperative, determine the associated tank's fuel quantity utilizing the Fueling Procedures Manual (B757.40-B - 757 INOPERATIVE GAUGE).
3. For a flight not requiring additional fuel, the FMC CALCULATED fuel quantity recorded at the end of the previous flight may be used to determine total fuel quantity. Subtract 1500 lbs from all FMC calculated fuel computations. The fuel quantity in the affected tank may then be determined by subtracting the fuel in the tanks with functional indicators from the FMC CALCULATED fuel quantity (FMC calculated fuel minus 1500 lbs) recorded.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
28-22-03	Dual Fuel Crossfeed Valves (A/C 683-699, 5635-5816, 6700-6717, 6801-6823)	**N**	2	1	**C**	**(O)(M)** One may be inoperative provided: a) Affected valve is secured closed, b) Remaining valve operates normally, and c) For ER operations (ETOPS), remaining valve is exercised during last hour of flight.

MEL ITEM	TAB LOCATION	PLACARD TEXT
28-22-03	Near Associated Fuel Crossfeed Valve Switch	____ Fuel Crossfeed Valve INOP

(O) PROCEDURES

During the first and last hour of flight on all ETOPS operations, exercise the operative valve per the following:

1. Select the crossfeed valve switch ON. Verify VALVE light illuminates and then extinguishes.
2. Select the crossfeed valve switch OFF. Verify VALVE light illuminates and then extinguishes.

(M) PROCEDURES

1. Pull and secure the inoperative fuel crossfeed valve circuit breaker (AFT FUEL CROSSFEED or FWD FUEL CROSSFEED) on P11 panel.
2. Gain access to the inoperative fuel crossfeed valve actuator through the main landing gear wheel well. The actuators are located on the aft face of the Center Tank rear spar.
3. Rotate (inoperative) valve manual override lever to the closed position.
4. Lockwire (inoperative) valve lever in closed position.
5. Remove, cap, and stow the electrical connector.
6. Position observer on an elevated platform at the operative crossfeed valve as required.
7. Provide electrical power.
8. At fuel control panel on overhead flight deck panel, position the operative CROSSFEED valve switch on (bar in view), and then off.
9. In the wheel well, observe that the operative valve actuator manual override lever moves from closed position to open, and then back to closed.
10. Repeat steps 8 and 9 several times to confirm valve operation.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
28-22-05A	Automatic Shut Off System (A/C 5501-5816, 6819-6823) **"DISP.APPR.REQ'D"**	**Y**	2	0	**C**	**(O)** May be inoperative with center tank fueled provided: a) Center tank fuel pump low PRESS lights operate normally, b) Center tank quantity indication operates normally, c) Center tank pumps are OFF for takeoff if center tank fuel is less than 5,000 pounds (2,300 kg) with airplane readied for initial taxi, d) Center tank fuel pumps are repositioned ON above 10,000 feet or after pitch attitude has been reduced to begin acceleration to climb speed, if more than 1,000 pounds (500 kg) remain in center tank, e) Both center tank fuel pumps are positioned OFF at first indication of fuel pump low pressure, f) Both center tank pumps are selected OFF when center tank fuel quantity reaches 1,000 pounds (500 kg) of fuel during climb, cruise or descent, g) In cruise and only when required to extinguish the FUEL CONFIG light and EICAS FUEL CONFIG message, both center tank pumps are selected OFF when center tank fuel quantity reaches 800 pounds (400 kg) of fuel, and h) For aircraft 5501-5529, 1,000 pounds (500 kg) of center tank fuel is considered unusable.
28-22-05B	Automatic Shut Off System (A/C 5501-5816, 6819-6823) **"DISP.APPR.REQ'D"**	**Y**	2	0	**C**	May be inoperative provided associated center tank fuel pump is considered inoperative and deferred per MEL 28-22-02A or -02B.
28-22-05C	Automatic Shut Off System (A/C 5501-5816, 6819-6823) **"DISP.APPR.REQ'D"**	**Y**	2	0	**C**	May be inoperative provided center tank remains empty.

MEL ITEM	TAB LOCATION	PLACARD TEXT
28-22-05A	Near Fuel System Panel	___ Automatic Shut Off System INOP
28-22-05B	Near Fuel System Panel	___ Automatic Shut Off System INOP
28-22-05B	Near Fuel System Panel	___ Automatic Shut Off System INOP

Continued Next Page

(O) PROCEDURES

28-22-05A

The FUEL CONFIG light will illuminate when there is fuel in the center tank that exceeds 1,200 pounds (600 kilograms) and the center tank fuel pump switches are OFF. Do not accomplish the associated non-normal procedure prior to or during takeoff with less than 5,000 pounds (2,300 kilograms) of center tank fuel, unless there is an imbalance between main tanks or fuel is low in either main tank. After canceling the FUEL CONFIG light, monitor fuel quantity indications and accomplish the appropriate non-normal procedure if a main tank imbalance or main tank low fuel quantity occurs.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
28-22-07	Universal Fault Interrupter (Automatic Shutoff System) (A/C 601-699, 6700-6904) **"DISP.APPR.REQ'D"**	**N**	2	0	**C**	May be inoperative provided associated Center Tank Boost Pump is considered inoperative and deferred per MEL 28-22-02.

MEL ITEM	TAB LOCATION	PLACARD TEXT
28-22-07	Near Fuel System Panel	___ UNIVERSAL FAULT INTERRUPTER (Automatic Shutoff System) 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 provided: a) Both left fuel tank boost pumps operate normally when APU is required for dispatch, and b) Pump is deactivated.

MEL ITEM	TAB LOCATION	PLACARD TEXT
28-25-01	Near Fuel System Panel	APU (DC) Fuel Pump INOP

(M) PROCEDURES

Pull and secure the FUEL DC PUMP APU circuit breaker on P11 panel.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
28-25-02	APU Fuel Shutoff Valve **"DISP.APPR.REQ'D"**	**N**	1	0	**C**	**(M)** May be inoperative provided: a) APU is considered inoperative and deferred per MEL 49-11-01, and b) Valve is secured closed.

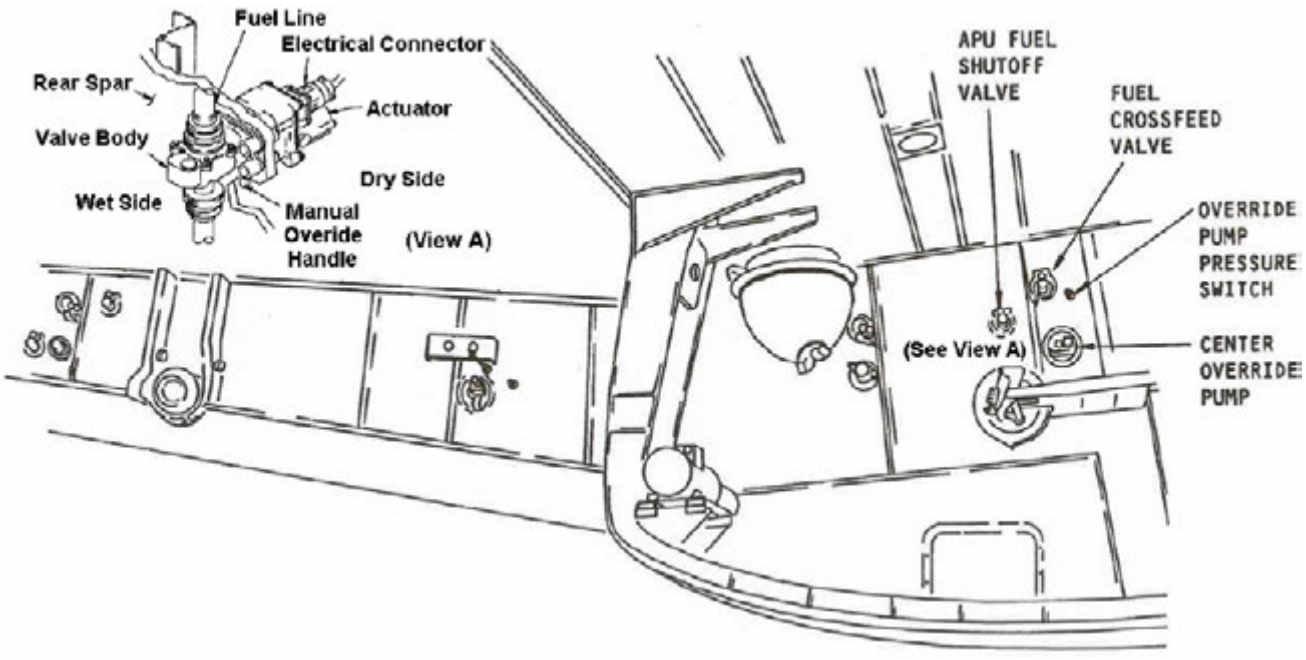
MEL ITEM	TAB LOCATION	PLACARD TEXT
28-25-02	1. Near Fuel System Control Panel 2. Near APU Start Switch	APU Fuel Shutoff Valve INOP Do Not Use APU

(M) PROCEDURES

1. Pull and secure the FUEL S/O VLV - APU circuit breaker E-3 on the P6 panel.
2. Gain access to dry side of center tank rear spar and locate actuator.
3. Check that landing gear downlocks are installed.

WARNING: RAPID ACTION OF DOORS MAY CAUSE INJURY OR DAMAGE IF LOCKS ARE NOT PROPERLY INSTALLED.

4. Open main gear doors and install door locks.
5. Remove, cap and stow electrical connector from actuator.
6. Lockwire manual override lever in CLOSED position.

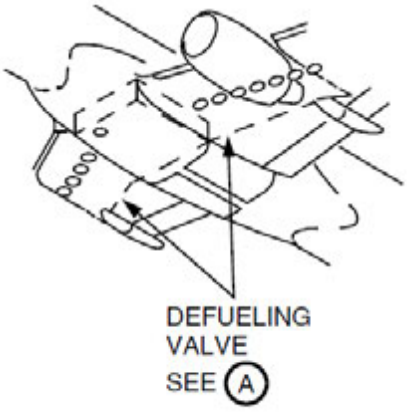


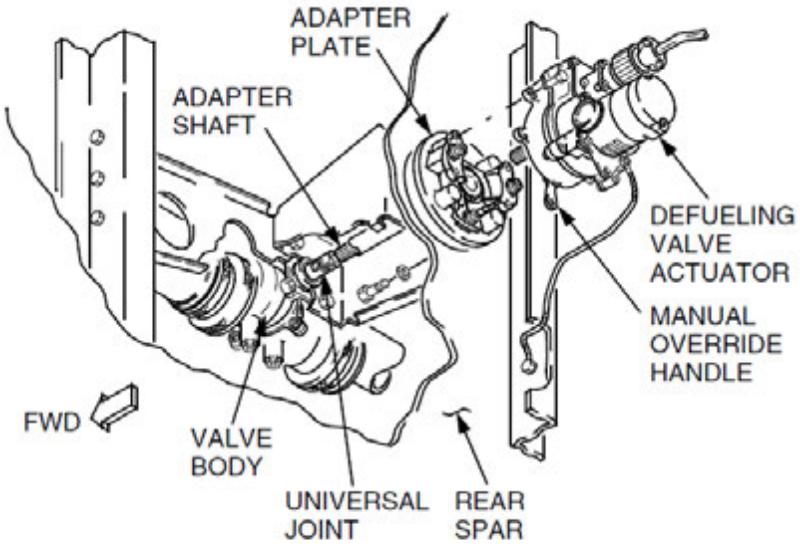
NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
28-26-01	Defuel Valves	**N** 2	0	**C**	**(M)** May be inoperative closed.

MEL ITEM	TAB LOCATION	PLACARD TEXT
28-26-01	Near Fuel System Control Panel	___ Defuel Valve INOP CLOSED

(M) PROCEDURES

1. Pull and secure circuit breaker(s) L TANK DEFUEL VALVE and/or R TANK DEFUEL VALVE at the P70 Misc Relay Panel.
2. Locate the defueling valve actuator on the dry side of the inboard rear spar just inboard of each center tank end rib. Access is through the main landing gear shock strut door.
3. Lockwire actuator manual override handle in the CLOSED position.
4. Remove, cap, and stow valve electrical connector





DEFUELING VALVE
(A)

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
	CROSSFEED VALVE LIGHT(S)					
28-40-01A	Single VALVE Installation (A/C 601-682, 5501-5534, 6901-6904) **"DISP.APPR.REQ'D"**	**N**	1	0	**C**	**(M)** Except for ER operations (ETOPS), may be inoperative provided: a) Crossfeed valve is verified to operate normally, and b) Both main fuel quantity indications operate normally.
28-40-01B	Dual VALVE Installation (A/C 683-699, 5635-5816, 6700-6717, 6801-6823)	**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 Installation (A/C 683-699, 5635-5816, 6700-6717, 6801-6823) **"DISP.APPR.REQ'D"**	**N**	2	0	**C**	**(M)** Except for ER operations (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	TAB LOCATION	PLACARD TEXT
28-40-01A	Near Crossfeed VALVE Light	___ Crossfeed Valve Light INOP
28-40-01B	Near Affected Crossfeed VALVE Light	___ Crossfeed Valve Light INOP
28-40-01C	Near Affected Crossfeed VALVE Light	Both Crossfeed Valve Lights INOP

(M) PROCEDURES

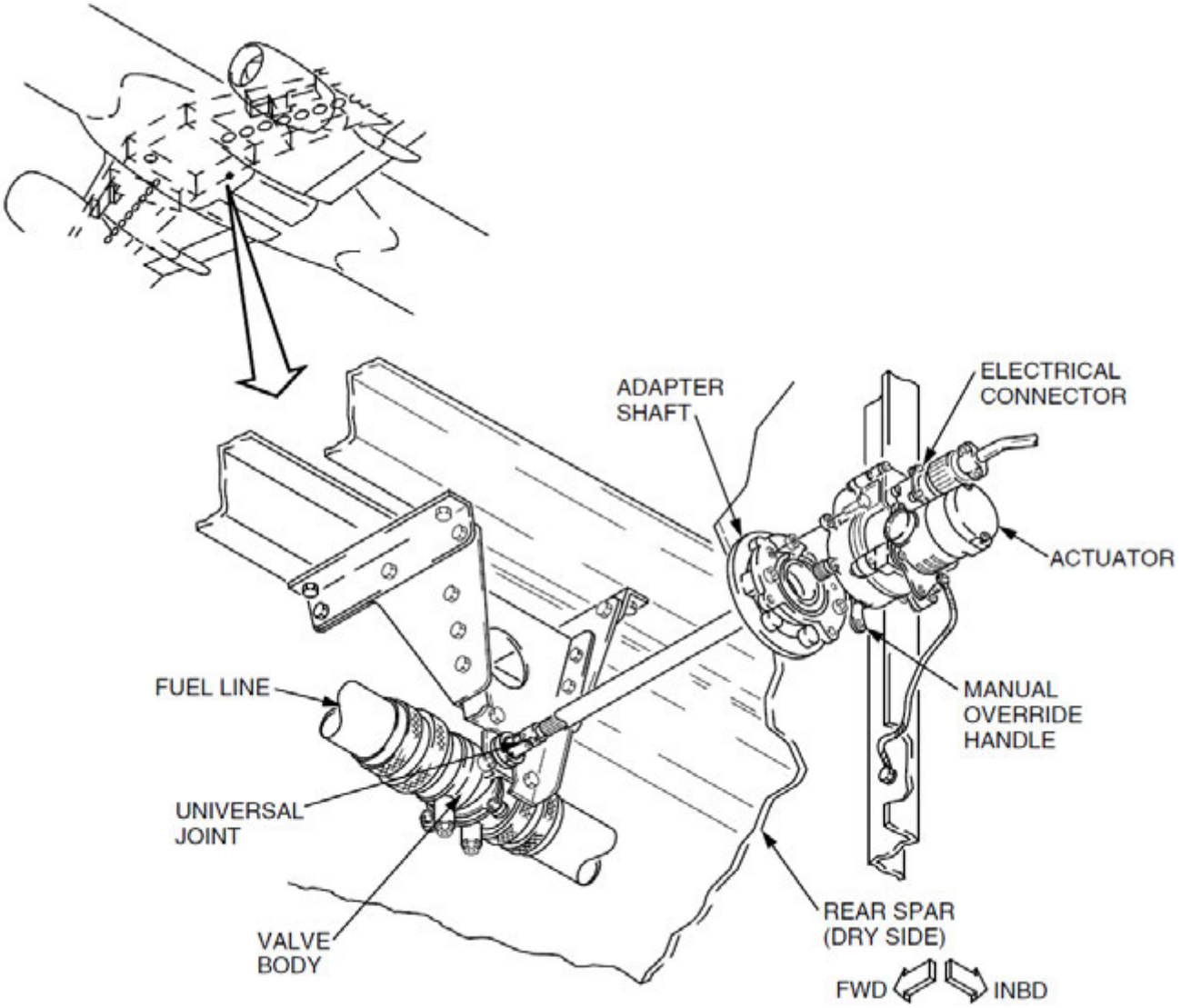
28-40-01A, 28-40-01B, 28-40-01C

1. Open left main gear doors and install door locks.

WARNING: RAPID ACTION OF DOORS MAY CAUSE INJURY OR DAMAGE IF LOCKS ARE NOT PROPERLY INSTALLED.

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. At fuel control panel on overhead flight deck panel, position CROSSFEED valve switch on (bar in view) then off.
4. In wheel well observe that valve actuator manual override lever moves from closed position to open then back to closed.
5. Repeat steps 3 and 4 several times to confirm valve operation.
6. As necessary, remove elevated platform and door locks.
7. Close left gear doors.

Continued Next Page



ENGINE FUEL CROSSFEED VALVE

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	TAB LOCATION	PLACARD TEXT
28-40-02	Near Affected SPAR VALVE Light	___ SPAR VALVE Light INOP

(M) PROCEDURES

ONCE EACH FLIGHT DAY:

Operation of the Spar Valve without needing to gain access to the valve is as follows:

1. Start affected engine per standard procedures.
2. Pull applicable L(R) FUEL COND CONT circuit breaker on P6 panel (L P6 - C1, R P6 - C2).
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 approximately 40 sec.)
5. Close previously opened L(R) FUEL COND CONT circuit breaker on P6 panel.

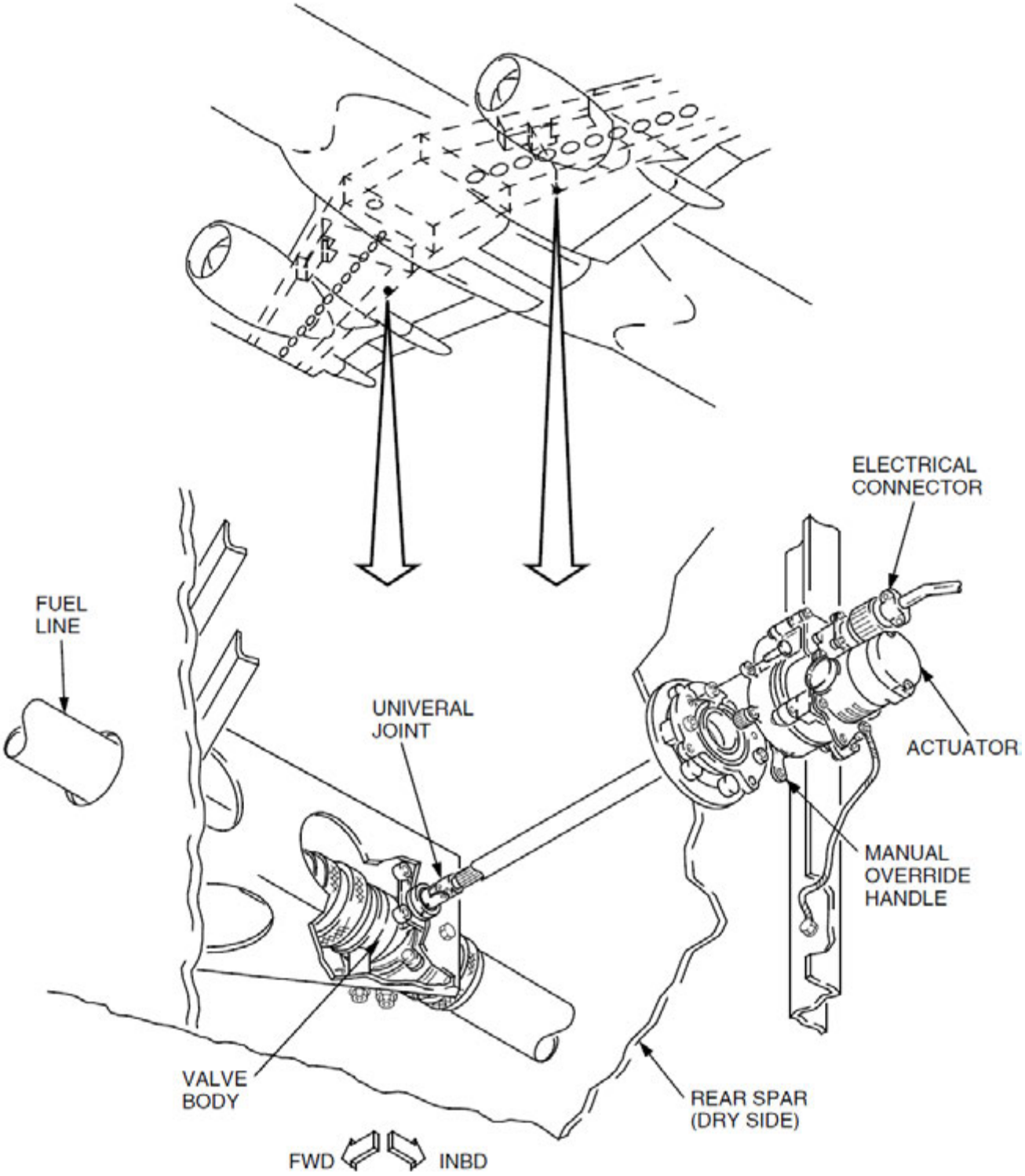
Spar Valve check without running engines *Maintenance is Required and Flight Crew May Not Placard* if using this optional procedure:

WARNING: DOOR LOCKS MUST BE PROPERLY INSTALLED PRIOR TO ACCESS TO APPLICABLE SPAR VALVE. RAPID ACTION OF DOORS MAY INJURE PERSONNEL OR DAMAGE EQUIPMENT IF LOCKS ARE NOT PROPERLY INSTALLED.

1. Open applicable left or right main gear door and install door lock.
2. Deactivate the flaps and slats:
   a) Depressurize right and center hydraulic systems.
   b) Pull ALT TE FLAPS circuit breaker on main power distribution panel (P6) to deactivate secondary power source to flaps.
3. Gain access to the applicable spar valve.
   - For left engine spar valve, open access door 551BB
   - For right engine spar valve, open access door 651BB
4. Pull applicable L(R) FUEL COND CONT circuit breaker on P6 panel (L P6 - C1, R P6 - C2).
5. Position ground observer to view the spar valve and perform the following:
   a) Move the fuel control switch to the RUN position.
   b) Cycle the switch between the cutoff and run position several times to verify proper valve operation.
   c) Verify movement of the manual override lever.

Continued Next Page

6. Restore aircraft to required configuration (close access door 551BB or 651BB; close gear doors).
7. Close L(R) FUEL COND CONT and ALT TE FLAPS circuit breakers.



ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
FUEL TANK QUANTITY INDICATION SYSTEMS (FLIGHT DECK)					
28-41-01A Main Tank Indicators **"DISP.APPR.REQ'D"**	**Y**	2	1	**C**	**(O)(M)** Except for ER operations (ETOPS), one 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 inflight engine fuel leak are used, e) All main tank boost pumps operate normally, f) Fuel pump low PRESS lights for associated tank operate normally, g) For Pegasus FMCs with Operational Program Software part number 3418-HNP-02C-08 or earlier, Thrust Management System operates normally, and h) Total fuel quantity indication is considered inoperative and deferred per MEL 28-41-07A. NOTE: FUEL CONFIG advisory message for lateral imbalance may be inhibited. **Repetitive Check Required (Yellow Placard)**
28-41-01B Center Tank Indicator **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	**(M)** May be inoperative provided: a) Center tank remains empty, b) Center tank is verified to be empty BEFORE EACH REFUELING, and c) Total fuel quantity indication is considered inoperative and deferred per MEL 28-41-07B. **Repetitive Check Required (Yellow Placard)**

Continued Next Page

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
	FUEL TANK QUANTITY INDICATION SYSTEMS (CONTINUED)					
28-41-01C	Center Tank Indicator (A/C 5501-5816, 6819-6823) **"DISP.APPR.REQ'D"**	**Y**	1	0	**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) Both main tank indicators operate normally, e) Procedures to identify and contain an inflight engine fuel leak are used, f) Both center tank boost pumps operate normally, g) Center tank fuel pump low PRESS lights operate normally, and h) Total fuel quantity indication is considered inoperative and deferred per MEL 28-41-07B. **Repetitive Check Required (Yellow Placard)**
28-41-01D	Center Tank Indicator (A/C 601-699, 6700-6904) **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Center tank is verified to contain less than 5,000 pounds (2,300 kg) of fuel PRIOR TO EACH DEPARTURE, b) Center tank fuel is not used, c) Both main tank fuel quantity indicators operate normally, and d) Total fuel quantity indication is considered inoperative and deferred per MEL 28-41-07B. **Repetitive Check Required (Yellow Placard)**
28-41-01E	Fuel Quantity Densitometers (Honeywell) (A/C 601-669, 5501-5534, 6901-6904)	**N**	3	0	**C**	**(M)** May be inoperative provided affected densitometer(s) is deactivated.
28-41-01F	Fuel Quantity Densitometers (B.F. Goodrich (Simmonds) (A/C 5635–5816, 670-699, 6700 & Subs, except 6901-6904, 6819-6823)	**Y**	3	0	**C**	

Continued Next Page

MEL ITEM	TAB LOCATION	PLACARD TEXT
28-41-01A	Near Associated F/Q Indicator	___ Main Tank Fuel Quantity Indicator INOP
28-41-01B	Near Associated F/Q Indicator	___ Center Tank Fuel Quantity Indicator INOP
28-41-01C	Near Associated F/Q Indicator	___ Center Tank Fuel Quantity Indicator INOP
28-41-01D	Near Associated F/Q Indicator	___ Center Tank Fuel Quantity Indicator INOP
28-41-01E	Near Associated F/Q Indicator	___ Fuel Quantity Densitometer INOP
28-41-01F	Near Associated F/Q Indicator	___ Fuel Quantity Densitometer INOP

(O) PROCEDURES

28-41-01A, 28-41-01C

NOTE: Operational Program Software part number is shown on the FMC IDENT page.

Review the logbook to verify that fuel flow indications are operating normally. Total fuel quantity must be calculated and manually initialized on the FMC Performance Initialization page. Flight crew should monitor FMC Fuel Used and FMC Calculated Fuel and operative tank fuel quantity indications to ensure usages are normal. Subtract 1500 lbs from all FMC calculated fuel computations.

1. Operate the flight with the fuel crossfeed valve(s) closed (unless directed otherwise below).
2. Compare FMC CALCULATED fuel (FMC calculated fuel minus 1500 lbs) with the flight plan fuel remaining at each waypoint or fix for which predicted fuel use is available.
3. FMC Progress Page 1 LAST waypoint FUEL may display 0.0.
4. Monitor fuel usage for any unusual decrease in fuel quantity and / or a fuel imbalance.
5. 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 of approximately 2000 lb/hr or more should be considered a fuel leak.
      NOTE: FUEL CONFIG advisory message or light will not display for a fuel imbalance condition when left or right FQIS is inoperative.
   d) Excessive lateral trim - an imbalance of 1,600 lbs. will require approximately one unit of aileron displacement to hold the wings level.
   e) Visual observation of fuel spray from the strut / engine.
   f) An engine flameout.
6. For operation with center tank fuel, when center tank fuel is depleted, verify that the airplane is at the point predicted by the flight plan.
   NOTE: If center tank exhaustion precedes the point predicted, a fuel leak should be suspected.
7. If an engine fuel leak is confirmed and conditions permit, shutdown affected engine to stop the leak. After engine shutdown, all remaining fuel may be used for the operating engine.

28-41-01D

1. Any fuel remaining in center tank is considered unusable.
2. The FUEL CONFIG light may be illuminated and advisory message may be displayed if greater than 1200 pounds of fuel in the center fuel tank and the center tank pumps are OFF. In this case, no further alerting will be available to notify the flight crew of a fuel imbalance. Monitor main fuel tank quantity indications on the overhead panel for fuel imbalance and balance fuel using normal fuel balancing procedures.

Continued Next Page

(M) PROCEDURES

NOTE: Fuel Quantity Densitometers have in the past caused 1) blanking of the flight deck fuel quantity indicators and, 2) fluctuation of flight deck fuel quantity indicators. If a densitometer is inoperative or deactivated, the Honeywell FQIS processor unit will utilize indications from another functional densitometer or revert to an internal density standard of 6.7 lb. per gallon. The Simmonds FQIS system, with an inoperative densitometer will revert to an internal density standard of 6.7 LB per gallon. Both systems will continually meet the accuracy specifications with failed densitometers.

28-41-01A, 28-41-01B, 28-41-01C, 28-41-01D

1. Install second MCO placard in a conspicuous location at the fueling station and place MCO tab on or adjacent to inoperative indicator.
2. **For 28-41-01A, 28-41-01C, 28-41-01D: PRIOR TO EACH DEPARTURE**

   OR

   For 28-41-01B: BEFORE EACH REFUELING

   To verify the fuel quantity in associated tank, accomplish one of the following procedures as appropriate:

   a) Use associated tank fuel indicator on the (P28) fueling control panel to verify associated tank fuel quantity.

   b) If both tank fuel quantity indicators are inoperative, determine the associated tank's fuel quantity utilizing the Fueling Procedures Manual B757.40 (B757.40-B - 757 INOPERATIVE GAUGE).

   c) For a flight not requiring additional fuel, the FMC CALCULATED fuel quantity recorded at the end of the previous flight may be used to determine total fuel quantity. Subtract 1500 lbs from all FMC calculated fuel computations. The fuel quantity in the affected tank may then be determined by subtracting the fuel in the tanks with functional indicators from the FMC CALCULATED fuel quantity (FMC calculated fuel minus 1500 lbs) recorded.

28-41-01E

With the Honeywell System densitometer inoperative, disconnect as follows:

1. Pull circuit breaker E4, FUELING QTY on the main power distribution panel, P6.
2. Pull circuit breaker C34, FUEL QTY 1 and L19, FUEL QTY 2, on the overhead circuit breaker panel, P11.
3. Pull circuit breaker L2, FUEL QTY REFUEL on the APU external power panel, P34.
4. Install downlocks on nose and main landing gear.

WARNING: THE DOORS OPEN AND CLOSE QUICKLY AND CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

5. Open the doors for the landing gear and install the door locks.
6. Disconnect, cap, and stow the electrical connector from the densitometer electronics unit (DEU).
7. Cap the connector on the DEU.
8. Reset circuit breakers pulled in steps 1, 2, and 3.
9. Restore the airplane to normal configuration.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
	FUEL QUANTITY PROCESSOR CHANNELS					
28-41-02A	Honeywell FQIS (A/C 601-669, 5501-5534, 6901-6904) **"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, e) FMC TOTALIZER FUEL quantity agrees with fuel quantity indications, and f) For Pegasus FMCs with Operational Program Software part number 3418-HNP-02C-08 or earlier, Thrust Management System operates normally. **Repetitive Check Required (Yellow Placard)**
28-41-02B	B.F. Goodrich (Simmonds FQIS) (A/C 5635–5816, 670-699, 6700 & Subs, except 6901-6904, 6819-6823) **"DISP.APPR.REQ'D"**	**Y**	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, c) FMC TOTALIZER FUEL quantity agrees with fuel quantity indications, and d) For Pegasus FMCs with Operational Program Software part number 3418-HNP-02C-08 or earlier, Thrust Management System operates normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
28-41-02A	Near Associated F/Q Indicator	____ Fuel Quantity Processor Channel INOP
28-41-02B	Near Associated F/Q Indicator	____ Fuel Quantity Processor Channel INOP

Continued Next Page

(O) PROCEDURES

28-41-02A, 28-41-02B

NOTE: Operational Program Software part number is shown on the FMC IDENT page.

1. Prior to each engine start, confirm that the FMC Performance Initialization Page, FUEL is automatically initialized with the known total fuel quantity. If not, (i.e. boxes appear), DO NOT manually enter fuel quantity; repairs must be made before dispatch.
2. Prior to each engine start, confirm that fuel flow system inputs are valid on the FMC SENSOR STATUS Page 1:
   - Pegasus and PIP airplanes - Left and Right EICAS OK

(M) PROCEDURES

28-41-02A

1. Isolate and deactivate the malfunctioning FQIS channel with the following procedure. Until repairs are made, accomplish steps 1. a. through e. **PRIOR TO EACH DEPARTURE** to ensure additional FQIS faults have not occurred.
   a) Apply electrical power.
   b) Close the fueling panel door.
   c) Check that all EICAS breakers are closed.
   d) Press ECS/MSG pushbutton on the P61 panel. If the "FUEL QTY BITE" EICAS message is present on EICAS, conduct a FQIS fault detection BITE check. If the message is not present, skip to step e.
      - If any codes A1 through A9 are displayed, the fault is in channel 1. If B1 through B9 codes are displayed then fault is in channel 2.
      - If the fault is in channel 1 pull and secure the FUEL QTY L circuit breaker C-34 on the P11 overhead panel and the FUEL QTY circuit breaker on the P34 APU/EXT power panel.
      - If the fault is in channel 2, pull and secure the FUEL QTY R circuit breaker L-19 on the P11 overhead panel and the FUELING QTY circuit breaker E-4 on the P6 main power distribution panel.
   e) If in step d. the FUEL QTY BITE EICAS message is not present on EICAS, conduct the following test.

      NOTE: It is preferable that this test be performed with less than 15,000 lbs. total fuel.

      1) Open the FUEL QTY L and FUEL QTY R circuit breakers on the P11 overhead panel.
      2) Verify that the FUEL QTY displays have gone blank.

         NOTE: If the displays do not blank, verify fueling door closed.

      3) Close FUEL QTY L circuit breaker, wait 10 seconds, and record the indicated fuel quantities for each tank; this tests channel 1.
      4) Pull FUEL QTY L circuit breaker and then close FUEL QTY 2 circuit breaker, wait 10 seconds. Record the indicated fuel quantity in each tank; this tests channel 2.
      5) Compare the quantities recorded in steps 3) and 4). If they differ by more than 400 lbs. for any tank, determine the actual fuel in each tank by using the Measuring Sticks.
      6) Using the deactivation procedures in step (d), deactivate the channel which has the larger difference from the actual fuel quantity.

Continued Next Page

2. Fuel the airplane normally on ground power.

   NOTE: Do not refuel on battery power with one channel inoperative.

3. **PRIOR TO EACH DEPARTURE**, verify the accuracy of the operative channel with the following procedure:

   a) With the fueling door closed, cycle the power on the active channel by pulling the affected FUEL QTY L or FUEL QTY R circuit breaker for 10 seconds and then closing it.

   b) With the measuring sticks, determine the actual quantity of fuel in each tank.

   c) Compare the measuring stick quantity with the indicator quantity. If they agree within the following tolerances, the channel is operating normally:

      - Main tank - 450 lbs.
      - Center tank - 1000 lbs.

      NOTE: Refer to the following sections of the Fueling Procedures Manual:

      - B757.90.0 B757 Stick Chart Procedures
      - B757.90.X B757 Fuel Stick Charts (charts for sticks 1-7)

4. Operational Program Software part number is shown on the FMC IDENT page.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
28-41-06	Fuel Quantity Indications (Fueling Panel)	**Y**	3	0	**C**	**(M)** May be inoperative provided: a) Alternate 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	TAB LOCATION	PLACARD TEXT
28-41-06	1. Near Cockpit Fuel System Panel 2. Near Affected Fueling Panel Fuel Quantity Indicators	____ Fueling Panel Fuel Quantity Indicator 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 item 28-41-01. Flight deck fuel quantity indications may be used as an 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:
   - B757.40 B757 Inoperative gauge
   - B757.90.0 B757 Stick Chart Procedures
   - B757.90X B757 Fuel Stick Charts (Charts for sticks 1-7)

CAUTION: Observe fuel quantity limits for each tank when transferring fuel from one tank to the other.

a) Determine that the tank or tanks to which the fuel is to be transferred (tank(s) with operative quantity indicator(s) have sufficient capacity to receive the fuel from the tank(s) with the inoperative indicator(s).

b) Open the defueling valve.

c) Open the fueling valve for tank(s) to receive the fuel.

d) Turn on boost pump(s) in tank being defueled.

e) After the tank is emptied, re-transfer into it the desired quantity of fuel (using the operative indicator of the supplying tank for measuring), or pump in a known quantity from the refueling truck using the truck meter.

f) Fuel the remaining tanks to the desired quantity in the normal manner.

		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, c) Both FMCs operate normally, and d) For Pegasus FMCs with Operational Program Software part number 3418-HNP-02C-08 or earlier, Thrust Management System operates 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 28-41-01.

MEL ITEM	TAB LOCATION	PLACARD TEXT
28-41-07A	Near Total Fuel Quantity Indicator	Total Fuel Quantity Indication INOP
28-41-07B	Near Total Fuel Quantity Indicator	Total Fuel Quantity Indication INOP

(O) PROCEDURES

28-41-07A

NOTE: Operational Program Software part number is shown on the FMC IDENT page.

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 or Right EICAS OK.
4. FMC Progress Page 1 LAST waypoint FUEL may display 0.0.
5. (Optional) Prior to each engine shutdown, record FMC CALCULATED FUEL QTY. Subtract 1500 lbs from all FMS calculated fuel computations. For flights not requiring additional fuel, this value may be used as a means of determining total fuel quantity.
6. In case of enroute failure of the FMC calculated total fuel quantity (FMC calculated fuel minus 1500 lbs); 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 may be used to determine if a fuel imbalance condition exists. At cruise conditions, an imbalance of 1,600 lbs (725 kg) will require approximately one unit of aileron trim to hold wings level.

Continued Next Page

28-41-07B

NOTE: Operational Program Software part number is shown on the FMC IDENT page.

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 on the FMC SENSOR STATUS Page 1 (Pegasus and PIP airplanes - Left and Right EICAS OK)
4. FMC Progress Page 1 LAST waypoint FUEL may display 0.0.
5. (Optional) Prior to each engine shutdown, record FMC CALCULATED FUEL QTY. Subtract 1500 lbs from all FMC calculated fuel computations. For flights not requiring additional fuel, this value may be used as a means of determining total fuel quantity.
6. In case of enroute failure of the FMC calculated total fuel quantity (FMC calculated fuel minus 1500 lbs); 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 may be used to determine if a fuel imbalance condition exists. At cruise conditions, an imbalance of 1,600 lbs (725 kg) will require approximately one unit of aileron trim to hold wings level.

7. For center tank fuel quantity indicator considered inoperative:
   a) If FMC CALCULATED total fuel quantity is not available, use the two main tank fuel quantity indicators to calculate total fuel quantity.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
28-42-01A	Fuel Pump Low PRESS Lights **"DISP.APPR.REQ'D"**	**Y**	6	3	**C**	May be inoperative for an associated inoperative fuel pump, provided the fuel pump is deactivated and deferred per MEL 28-22-01A (Main Tank Pumps) or 28-22-02x (Center Tank Pumps).
28-42-01B	Fuel Pump Low PRESS Lights (Main Tank)	**N**	4	2	**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)**
28-42-01C	Fuel Pump Low PRESS Lights (Center Tank)	**N**	2	1	**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	TAB LOCATION	PLACARD TEXT
28-42-01A	Near Affected Fuel Pump Low PRESS Light	___ Fuel Pump Low PRESS Light INOP
28-42-01B	Near Affected Fuel Pump Low PRESS Light	___ Fuel Pump Low PRESS Light INOP
28-42-01C	Near Affected Fuel Pump Low PRESS Light	___ Fuel Pump Low PRESS Light INOP

(M) PROCEDURES

28-42-01B

ONCE EACH FLIGHT DAY: Verify associated EICAS message(s) annunciate properly for operative main tank pumps:

1. With crossfeed valve(s) closed, turn off all (main and center) fuel pumps.
2. Verify that L FUEL SYS PRESS and R FUEL SYS PRESS caution messages are displayed.
3. Turn operative Main Tank fuel pumps on.

   NOTE: Ensure the main tanks contain a minimum of 2000 lbs. of fuel to cover the pump inlets.
4. Verify that L FUEL SYS PRESS and R FUEL SYS PRESS caution messages are not displayed.
5. For operative main tank pumps, verify the following associated advisory messages are not displayed:
   - L FWD FUEL PUMP R FWD FUEL PUMP
   - L AFT FUEL PUMP R AFT FUEL PUMP

   NOTE: Inoperative pump(s) message will remain displayed.
6. Open crossfeed valve(s).
7. One at a time, turn off fuel pump(s) associated with the inoperative light(s). Verify that the associated advisory message(s) is displayed.
8. Turn remaining operating fuel pumps off and close crossfeed valve(s).

Continued Next Page

28-42-01C

ONCE EACH FLIGHT DAY: Verify associated EICAS message(s) annunciate properly for operative center tank pumps:

1. With crossfeed valve(s) closed, turn off all fuel pumps.
2. Verify that L FUEL SYS PRESS and R FUEL SYS PRESS caution messages are displayed.
3. Verify that CTR L FUEL PUMP and CTR R FUEL PUMP advisory messages are displayed:
   a) Open the fueling panel door.
   b) For operative center tank pump(s), verify the associated advisory message(s) is not displayed:
      - CTR L FUEL PUMP
      - CTR R FUEL PUMP
4. Return aircraft to required configuration.

		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	TAB LOCATION	PLACARD TEXT
28-43-01	Near FUEL TEMP Indicator	FUEL TEMP Indicator INOP

(O) PROCEDURES

1. Use Total Air Temperature (TAT) for fuel temperature.
2. SAT is available on FMC Progress Page 2/2. The following table may be used to convert SAT to TAT:

Continued Next Page

	TAT (°C)											
SAT (°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**	14	0	**C**	May be inoperative provided fuel quantity is determined by other approved means.

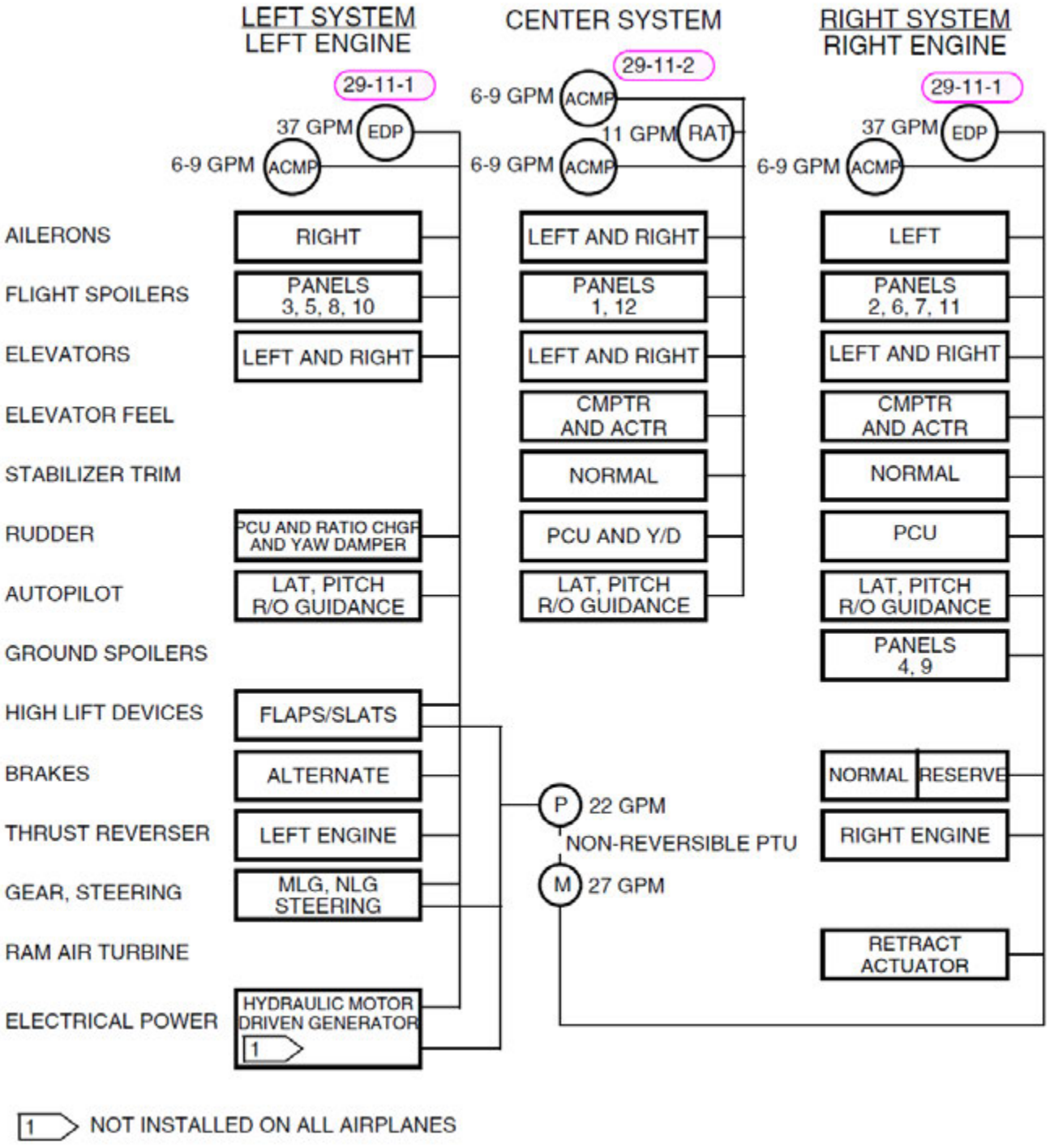
MEL ITEM	TAB LOCATION	PLACARD TEXT
28-44-01	1. Near Cockpit Fuel System Panel 2. Near Associated F/Q Indicator on Refueling Panel	____ Fuel Measuring Stick INOP

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.

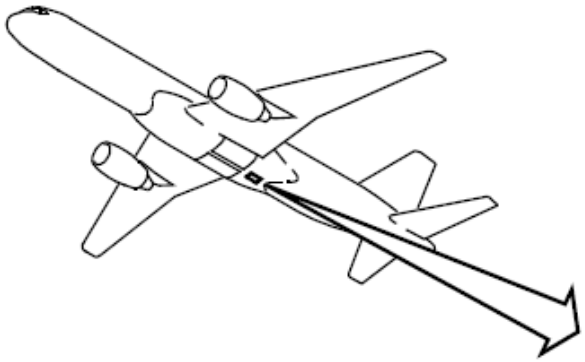
INTENTIONALLY LEFT BLANK

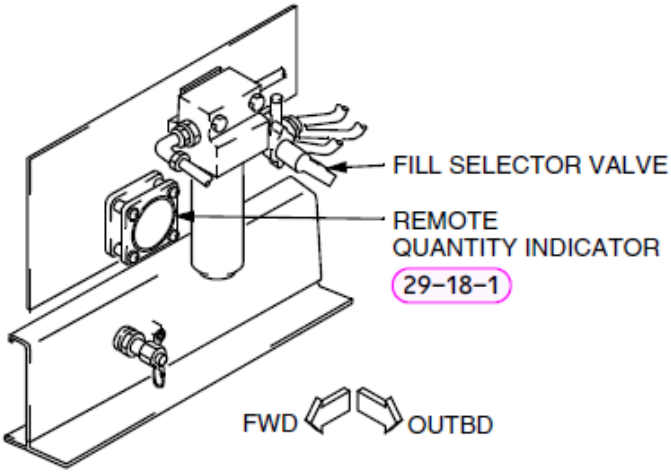
ATA 29 Contents

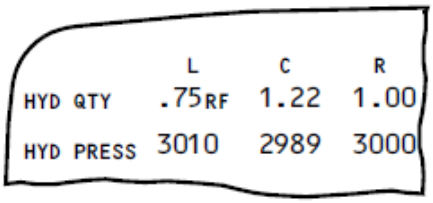
	ENGINE DRIVEN HYDRAULIC PUMPS	29-4
29-11-01	Depressurization Function	29-4
29-11-02	Center System (Electric) Hydraulic Pumps	29-5
29-18-01	Remote Quantity Indicator	29-6
29-31-01	Hydraulic Low SYS PRESS Lights	29-7
	Pump Low PRESS Indication Systems	29-8
29-31-02A	Left Pump Indication Systems	29-8
29-31-02B	Center and Right Pump Indication Systems	29-8
29-31-02C	Center Electric Pump Indication Systems	29-8
29-31-03	HYD PRESS Indications (EICAS)	29-11
	PUMP OVHT INDICATION SYSTEMS	29-12
29-32-01A	Left, Center, and Right Pump OVHT Lights	29-12
29-32-01B	Center Electric Pump Indication Systems	29-12
29-33-01A	Hydraulic System Low QTY or RSVR Lights	29-14
29-33-02	HYD QTY Indications	29-15



HYDRAULIC SYSTEM BLOCK DIAGRAM

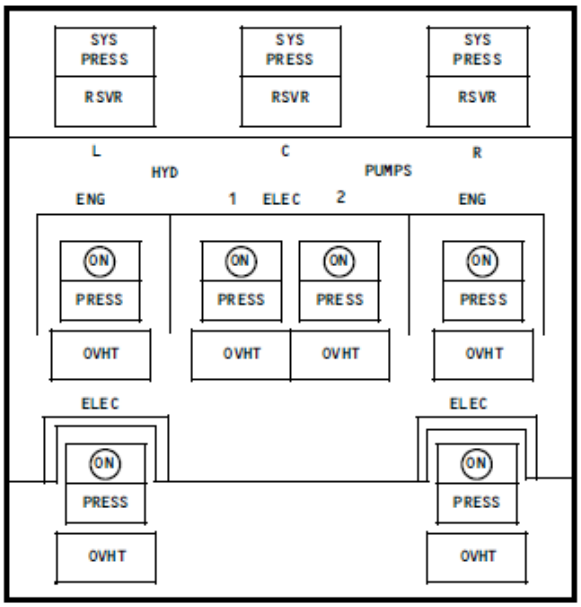






HYD QTY INDICATIONS
29-33-2

HYD PRESS INDICATIONS
29-31-3



HYDRAULIC LOW SYS PRESS LIGHTS
29-31-1

HYDRAULIC SYSTEM LOW QTY OR RSVR LIGHTS
29-33-1

PUMP LOW PRESS LIGHTS
29-31-2

PUMP OVHT LIGHTS
29-32-1

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
	ENGINE DRIVEN HYDRAULIC PUMPS					
29-11-01	Depressurization Function	**Y**	2	0	**C**	

MEL ITEM	TAB LOCATION	PLACARD TEXT
29-11-01	Near Associated EDP Switch	____ Engine Driven Hydraulic Pump(s) 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**	**(M)** One may be inoperative provided pump is deactivated.

MEL ITEM	TAB LOCATION	PLACARD TEXT
29-11-02	Near Associated Center Electric Hydraulic Pump Switch	____ Center System (Electric) Hydraulic Pump INOP

(M) PROCEDURES

Deactivation of the inoperative pump and confirmation that the remaining center pump operates normally may be accomplished as follows:

1. For the inoperative pump, pull and secure the appropriate ELEC HYD PUMP C1(C2) circuit breaker, on the P11 panel.
2. Establish external or APU electrical power.
3. Select both engine generators off.
4. Select the operative C2(C1) electric hydraulic pump on.
5. Confirm center hydraulic pressure on EICAS is 2900 psi (minimum).
6. Set generator control switches as appropriate.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
29-18-01	Remote Quantity Indicator	**Y**	1	0	**C**	

MEL ITEM	TAB LOCATION	PLACARD TEXT
29-18-01	Near Lower EICAS Display	Hydraulic Reservoir Quantity Indication INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
29-31-01	Hydraulic Low SYS PRESS Lights	**Y**	3	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	TAB LOCATION	PLACARD TEXT
29-31-01	Near Affected Hydraulic Low SYS PRESS Light(s)	____ Hydraulic Low SYS PRESS Light(s) INOP

(M) PROCEDURES

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 (AMM 29-11-17). Verify the hydraulic system pressure switch (and the associated HYD SYS PRESS EICAS indication) operates normally as follows:

1. Select all hydraulic pumps off.
2. Verify that the associated L (C or R) HYD SYS PRESS caution message is displayed on EICAS.
3. Select associated ACMP on.
4. Verify that the associated L (C or R) HYD SYS PRESS caution message is not displayed on EICAS.

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 Pump Indication Systems	**Y**	2	1	**C**	**(O)(M)** One 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	Center and Right Pump Indication Systems	**Y**	4	2	**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)**
29-31-02C	Center Electric Pump Indication Systems	**Y**	2	1	**C**	One may be inoperative provided associated pump is selected OFF.

MEL ITEM	TAB LOCATION	PLACARD TEXT
29-31-02A	Near Affected Pump LOW PRESS Light	Left Pump LOW PRESS Light INOP
29-31-02B	Near Affected Pump LOW PRESS Light	____ Pump LOW PRESS Light INOP
29-31-02C	Pump LOW PRESS Light Near	____ Center Electric Pump Low PRESS Light INOP

(O) PROCEDURES

29-31-02A, 29-31-02B

CAUTION: During ground operation of the affected pump, to prevent hydraulic pump damage from overheat, do not operate pumps without a minimum of 600 pounds of fuel in tanks.

NOTE: It is only necessary to verify normal operation of the pump associated with the inoperative low pressure light. Verification procedures for individual pumps are found below. The pump being tested must be the only pump operating within the related hydraulic system at the time of the test.

Left engine driven pump and PTU control logic verification:

1. With the flaps in the up position, select left and right engines OFF.
2. Ensure HYDRAULICS PTU CONT circuit breaker on panel P11 is closed.
3. Select right system pumps ON (electric motor pump and engine driven pump).
4. Select left system engine driven pump ON and electric motor pump OFF.

Continued Next Page

5. Start right engine.
   - Verify left system pressure on EICAS is greater than or equal to 2600 psi.
6. Start left engine.
   - Verify left system pressure on EICAS is greater than or equal to 2850 psi.
7. Pull HYDRAULICS PTU CONT circuit breaker on panel P11 to remove power from PTU control valve.
8. Select left engine driven pump OFF.
9. Select flaps 1.
10. Verify left system pressure on EICAS is less than or equal to 1500 psi. TE FLAP DISAGREE on EICAS occurs.
11. Turn left system engine driven pump on and select flaps up.
12. Verify left system pressure on EICAS is greater than or equal to 2850 psi.
13. Arm and disarm alternate flaps to clear EICAS TE FLAP DISAGREE.
14. Close HYDRAULICS PTU CONT circuit breaker on panel P11.
15. Turn left system engine driven pump OFF.
16. Verify left system pressure on EICAS is greater than or equal to 2600 psi.
17. Restore airplane to its required configuration.

Right engine driven pump:

NOTE: When running the right engine (engine driven pump) the PTU will pressurize the FLAP/SLAT and LANDING GEAR hydraulic systems. The PTU can be deactivated by pulling HYDRAULICS PTU CONT circuit breaker on panel P11 before engine start.

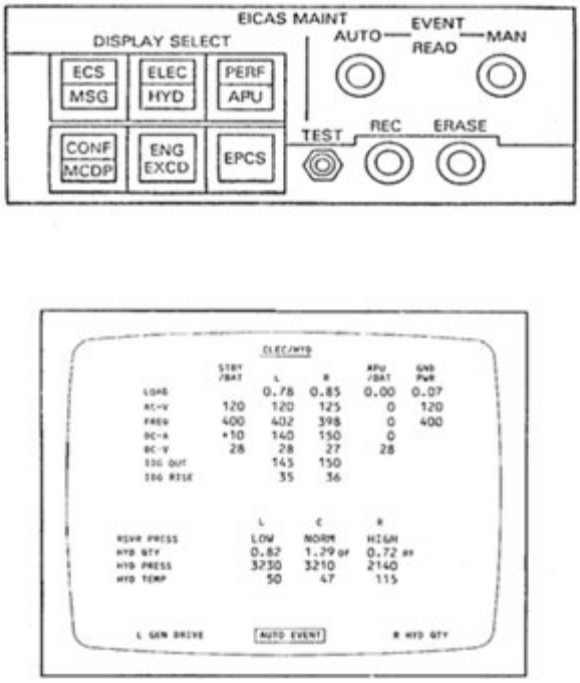
1. Ensure that personnel are clear of flight controls.
2. Set the parking brake.
3. Turn right electric motor pump OFF.
4. Start right engine
5. With right engine running, turn HYD PUMPS ENG switch ON.
6. HYD PRESS reading on EICAS must be 2850 to 3150 psig.
7. Shutdown engine and restore airplane to its required configuration.

   NOTE: If the PTU was deactivated during the test procedure, make sure the PTU is reactivated before engine start by closing HYDRAULICS PTU CONT circuit breaker on the P11 panel.

Alternating current motor pump (Electric Pump):

1. Ensure that personnel are clear of flight controls.
2. With electrical power on airplane, press affected HYD PUMPS ELEC switch to ON.
3. HYD PRESS reading on EICAS must be 2850 to 3150 psig.
4. Restore airplane to its required configuration.

Continued Next Page



EICAS MAINTENANCE PANEL AND ELECTRIC / HYDRAULIC PAGE

(M) PROCEDURES

29-31-02A

Verify Left pump operation by performing applicable section of (O) Procedure.

		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	TAB LOCATION	PLACARD TEXT
29-31-03	Near Lower EICAS Display	____ HYD PRESS Indication(s) INOP

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
	PUMP OVHT INDICATION SYSTEMS					
29-32-01A	Left, Center, and Right Pump OVHT Lights	**Y**	6	3	**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 Electric Pump Indication Systems	**Y**	2	1	**C**	One may be inoperative provided associated pump is selected OFF.

MEL ITEM	TAB LOCATION	PLACARD TEXT
29-32-01A	Near Affected Pump OVHT Light(s)	____ Pump OVHT Light(s) INOP
29-32-01B	Near Affected Center Pump OVHT Light	____ Center Electric Pump OVHT Light INOP

(O) PROCEDURES

29-32-01A

CAUTION: During ground operation of the affected pump, to prevent hydraulic pump damage from overheat, do not operate pumps without a minimum of 600 pounds of fuel in tanks.

NOTE: It is only necessary to verify normal operation of the pump associated with the inoperative low pressure light. Verification procedures for individual pumps are found below. The pump being tested must be the only pump operating within the related hydraulic system at the time of the test.

Engine Driven Pump:

NOTE: When running the right engine (EDP) the PTU will pressurize the FLAP/SLAT and LANDING GEAR hydraulic systems. The PTU can be deactivated by pulling HYDRAULICS PTU CONT circuit breaker on panel P11 before engine start. 1. Ensure that personnel are clear of flight controls.

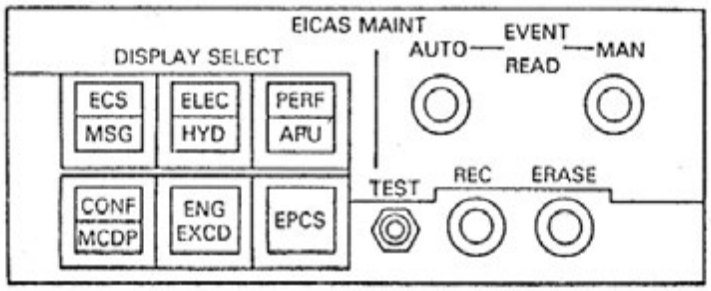
1. Ensure that personnel are clear of flight controls.
2. Set the parking brake.
3. Turn associated ACMP OFF.
4. With affected engine running, turn HYD PUMPS ENG switch to ON.
5. HYD PRESS reading on EICAS must be 2850 to 3150 psig.
6. HYD TEMP reading on EICAS must be below 80°C after stabilization.
7. Shut down engine and restore airplane to its required configuration.

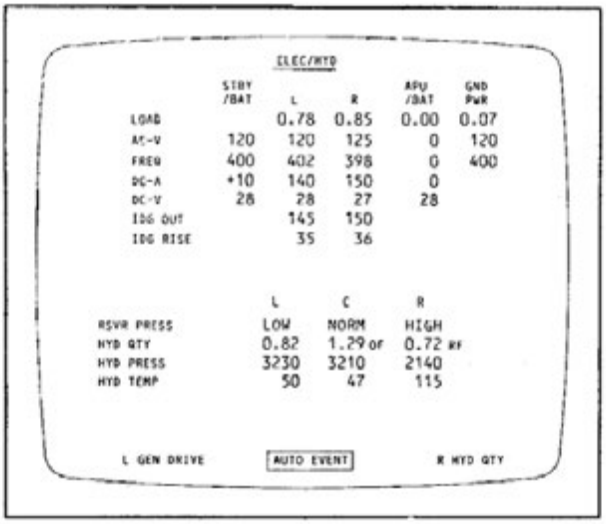
   NOTE: If the PTU was deactivated during the test procedure, make sure the PTU is reactivated before engine start by closing HYDRAULICS PTU CONT circuit breaker on the P11 panel.

Continued Next Page

Alternating current motor pump (Electric Pump):

1. Ensure that personnel are clear of flight controls.
2. With electrical power on airplane, press affected HYD PUMPS ELEC switch to ON.
3. HYD PRESS reading on EICAS must be 2850 to 3150 psig.
4. HYD TEMP reading on EICAS must be below 80°C after stabilization.
5. Restore airplane to its required configuration.





EICAS MAINTENANCE PANEL AND ELECTRIC / HYDRAULIC PAGE

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	**Y**	3	0	**C**	May be inoperative provided associated HYD QTY indication operates 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 (Log Book Entry Required), and b) Associated SYS PRESS lights operate normally. **Repetitive Check Required (Yellow Placard)**

MEL ITEM	TAB LOCATION	PLACARD TEXT
29-33-01A	Near Affected Low QTY or RSVR Light(s)	____ Hydraulic System Low QTY / RSVR Light INOP
29-33-01B	Near Affected Low QTY or RSVR Light(s)	____ Hydraulic System Low QTY / RSVR Light INOP

(M) PROCEDURES

29-33-01B

1. Compare EICAS Status indication of HYD QTY and reservoir level for affected system.
2. Service reservoir as required.

Reservoir Level Verification

1. Check reservoir level for proper fluid quantity using the fill indicator at the fill station.
2. Service the reservoir if required.
3. A sight gauge installed on each reservoir may be used to check the reservoir fluid level if the fill indicator at the fill station is inoperative.

Reservoir Pressure Indication Check

Reference EICAS maintenance page. RSVR PRESS will indicate LOW, NORM or HIGH for each system.

NOTE: If, after engine start, the L, C, or R HYD RSVR PRES EICAS message illuminates (indicating LOW air pressure) dispatch is not allowed.

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 **"Contact MCC"**	**N**	3	0	**C**	**(M)** May be inoperative provided: a) Associated reservoir level(s) is verified normal PRIOR TO EACH DEPARTURE (Log Book Entry Required), and b) Associated SYS PRESS lights operate normally. **Repetitive Check Required (Yellow Placard)**

MEL ITEM	TAB LOCATION	PLACARD TEXT
29-33-02	Near Lower EICAS Display	____ HYD QTY Indication(s) INOP

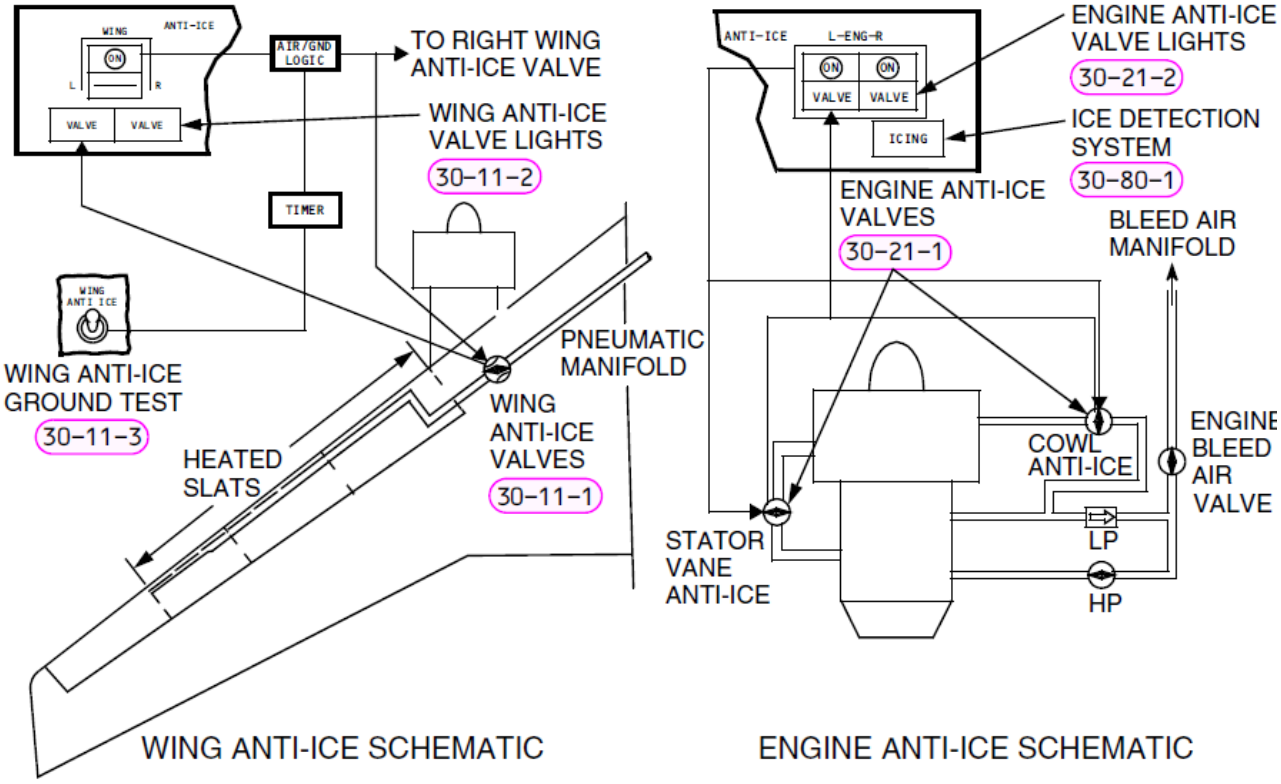
(M) PROCEDURES

1. Check reservoir level for proper fluid quantity using the fill indicator at the fill station.
2. Service the reservoir if required.
3. A sight gauge installed on each reservoir may be used to check the reservoir fluid level if the fill indicator at the fill station is inoperative.

INTENTIONALLY LEFT BLANK

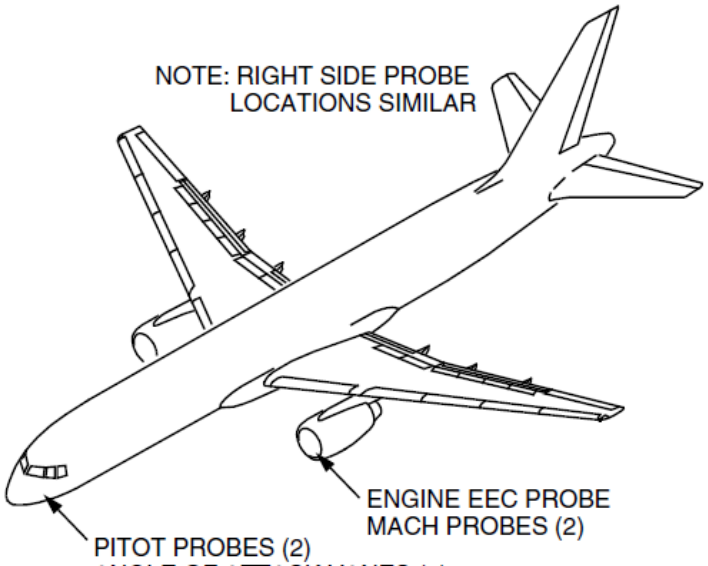
ATA 30 Contents

30-11-01 Wing Anti-Ice Valves 30-4
30-11-02A Wing Anti-Ice VALVE Lights 30-5
30-11-03 Wing Anti-Ice Ground Test 30-6
30-21-01A Engine Anti-Ice Valves 30-7
30-21-02A Engine Anti-Ice VALVE Lights 30-12
30-31-01A Pitot Probe Heater Systems 30-13
30-31-01B Captain's and First Officer's Primary Probe Heaters (ADIRS Equipped Airplanes) (-300) 30-13
30-31-02A Probe Heat Lights (Except CAPT and F/O PITOT) 30-14
30-31-02B Pitot Probe Heat Lights 30-14
30-31-02C Angle of Attack (AOA) and Temperature (TAT) Probe Heat Lights 30-14
30-31-05A CAPT PITOT and F/O PITOT Heat Indicating Systems (Heater OFF Monitor) 30-15
30-32-01 Angle of Attack Sensor Heater Systems 30-16
30-33-01A Temperature (TAT) Probe Heater Systems 30-17
30-34-01 Engine Probe Heater Systems (Engine PT2 / TT2 Probe) 30-18
FLIGHT DECK WINDOW HEAT SYSTEMS 30-19
30-41-01A No. 1 (Fwd) Windows 30-19
30-41-01B No. 2 (Side) Windows 30-19
30-41-01C No. 3 (Side) Windows 30-19
30-41-02A Window Heat INOP Lights 30-21
30-41-03 Window / Probe Heat Ground Test System 30-22
30-42-01A Windshield Wipers 30-23
30-42-01B Windshield Wipers (High Speed) 30-23
30-42-01C Windshield Wipers (Low Speed) 30-23
30-42-01D Windshield Wipers (Park Function) 30-23
30-71-01 Drain Mast Heaters 30-24
30-80-01A Ice Detection System (Advisory) 30-26

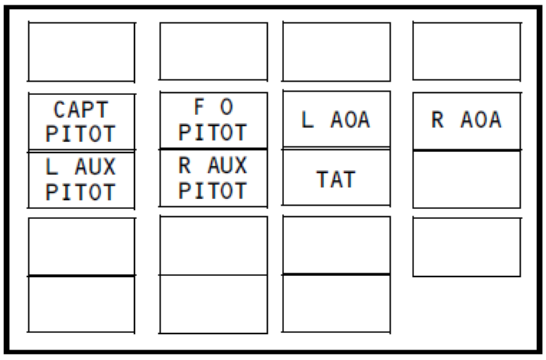


WING ANTI-ICE SCHEMATIC

ENGINE ANTI-ICE SCHEMATIC

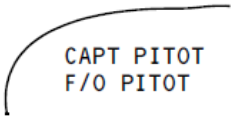


SENSOR LOCATIONS

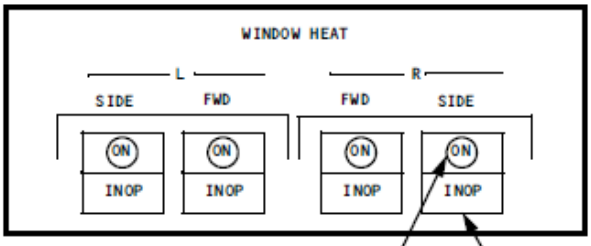


PROBE HEAT LIGHTS
30-31-2

CAPT AND F/O PITOT HEAT INDICATIONS
30-31-5

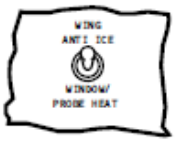


AOA SENSOR HEATER SYSTEMS	PITOT PROBE HEATER SYSTEMS	TAT PROBE HEATER SYSTEM	ENGINE PROBE HEATER SYSTEM
30-32-1	30-31-1	30-33-1	30-34-1

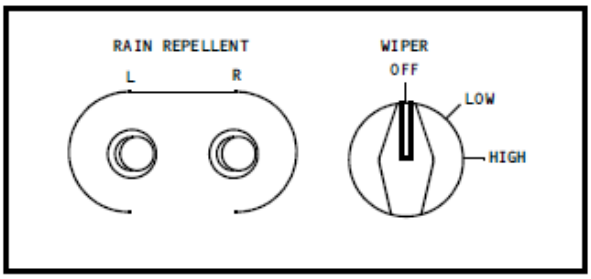


FLIGHT DECK WINDOW HEAT SYSTEMS
30-41-1

WINDOW HEAT INOP LIGHTS
30-41-2

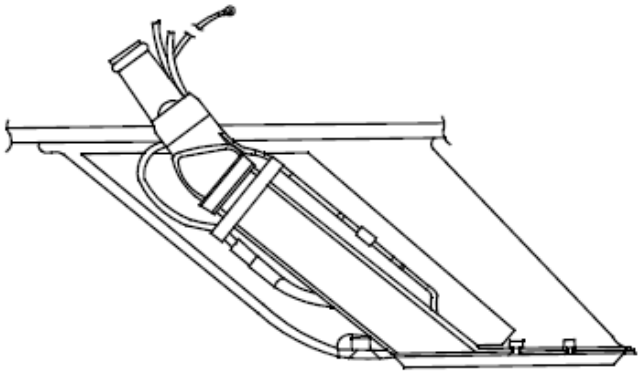


WINDOW/PROBE HEAT GROUND TEST SYSTEM
30-41-3



RAIN REPELLENT SYSTEM
30-43-1

WINDSHIELD WIPERS
30-42-1



DRAIN MAST HEATERS
30-71-1

ICING

ICE DETECTION SYSTEM
30-80-1

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 structural icing conditions. Theatre Restrictions May Apply

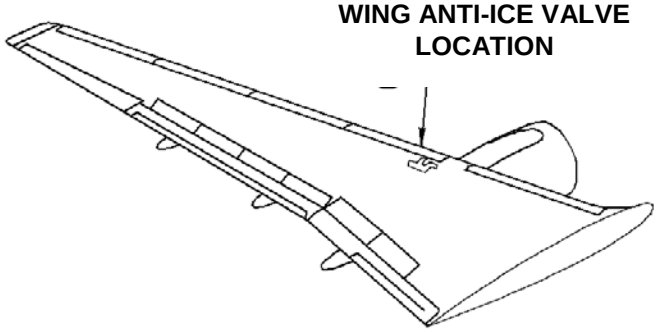
MEL ITEM	TAB LOCATION	PLACARD TEXT
30-11-01	Near Wing Anti-Ice Switch	____ Wing Anti-Ice Valve(s) INOP CLOSED

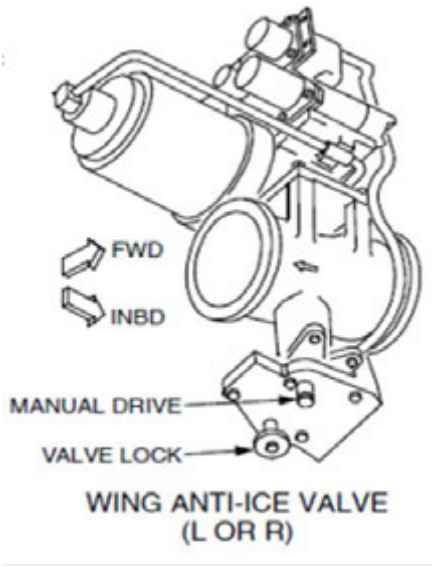
(M) PROCEDURES

1. Check that WING ANTI-ICE switch on overhead panel is OFF.
2. Gain access to wing anti-ice valve through fixed wing lower panel 521AB (left wing) or 621AB (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 pushbutton on the valve housing allows manual operation. The valve can only be locked in the full CLOSED position.





WING ANTI-ICE VALVE
(L OR R)

		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 is inoperative. Theatre Restrictions May Apply
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	TAB LOCATION	PLACARD TEXT
30-11-02A	Near Associated Wing Anti-Ice VALVE Light	____ Wing Anti-Ice VALVE Light(s) INOP
30-11-02B	Near Associated Wing Anti-Ice VALVE Light	____ Wing Anti-Ice VALVE Light(s) INOP
30-11-02C	Near Affected Wing Anti-Ice VALVE Light	____ Wing Anti-Ice VALVE Light(s) INOP

(O) PROCEDURES

30-11-02A

During operations in structural icing conditions, monitor valve operation by observing pressure indicator when repositioning the WING ANTI-ICE switch. Pressure fluctuation is an indication of valve movement.

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	TAB LOCATION	PLACARD TEXT
30-11-03	Near Wing Anti-Ice Ground Test Switch – P61 Panel	Wing Anti-Ice Ground Test INOP

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
30-21-01A	Engine Anti-Ice 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 induction icing conditions. NOTE: The associated engine anti-ice switch-light will remain illuminated for the duration of the flight. Theatre Restrictions May Apply
30-21-01B	Engine Anti-Ice Valves **"DISP.APPR.REQ'D"**	**N**	2	1	**C**	**(O)(M)** One may be inoperative locked open provided: a) Reduced Thrust or Derate operation is not permitted, b) Improved climb performance operation is not permitted, c) Anti-ice OFF thrust settings are reduced by appropriate values, d) Forecast ambient temperature cannot be greater than 38 degrees C, e) Engine anti-ice is selected ON for affected engine during entire flight, and f) Performance corrections are applied. Theatre Restrictions May Apply

MEL ITEM	TAB LOCATION	PLACARD TEXT
30-21-01A	Near Associated Engine Anti-Ice Switch	____ EngIne Anti-Ice Valve INOP CLOSED
30-21-01B	Near Associated Engine Anti-Ice Switch	1. ____ Engine Anti-Ice Valve INOP OPEN 2. Do Not Use APU Bleed Air Until Pushback

(O) PROCEDURES

30-21-01B

1. Increase V1 and VR by 1 knot.
2. Select the associated engine anti-ice switch ON for duration of flight.
3. The associated amber engine anti-ice valve switch-light will remain illuminated for the duration of flight.
4. The associated ENG ANTI-ICE EICAS message will be displayed.
5. Reduced thrust takeoff's using derate or assumed temperature are not permitted.

Continued Next Page

30-21-01B	**ENGINE ANTI-ICE VALVES – INOP OPEN**
EFFECTIVITY	**-200**
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 22,400 lbs. Increase BLOCK FUEL by 100 lbs. per hour.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance weight corrections have been applied. Increase V_1 and V_R by 1 KIAS. Refer to ODM to calculate Takeoff EPR, Maximum Climb Thrust, Maximum Cruise Thrust, Maximum Continuous Thrust and Go-Around-EPR for the affected engine. Only apply chart Packs OFF and/or Wing A/I ON corrections as applicable. Reduce all calculated EPR limit values as follows:

Altitude (feet)	EPR Reduction
-1000 to 6000	0.03
6,100 to 15,000	0.04
15,100 to 25,000	0.05
25,100 to 40,000	0.07
40,100 to 42,000	0.085

TAKEOFF PERFORMANCE WORKSHEET

TAKEOFF

Reduce RATOW by 22,400 lbs.

Reduce T/O CLIMB LIMIT by 22,400 lbs.

LANDING

Reduce RWY ALLOWABLE LANDING WT by 14,600 lbs.

Reduce LANDING CLIMB LIMIT WT by 14,600 lbs.

OTHER CORRECTIONS

Increase V_1 and V_R by 1 KIAS.

Refer to ODM to calculate Takeoff EPR, Maximum Climb Thrust, Maximum Cruise Thrust, Maximum Continuous Thrust and Go-Around-EPR for the affected engine. Only apply chart Packs OFF and/or Wing A/I ON corrections as applicable. Reduce all calculated EPR limit values as follows:

Altitude (feet)	EPR Reduction
-1000 to 6000	0.03
6,100 to 15,000	0.04
15,100 to 25,000	0.05
25,100 to 40,000	0.07
40,100 to 42,000	0.085

Continued Next Page

30-21-01B	**ENGINE ANTI-ICE VALVES – INOP OPEN**
EFFECTIVITY	**-300**
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 32,600 lbs. Increase BLOCK FUEL by 100 lbs. per hour.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance weight corrections have been applied. Increase V_1 and V_R by 1 KIAS. Refer to ODM to calculate Takeoff EPR, Maximum Climb Thrust, Maximum Cruise Thrust, Maximum Continuous Thrust and Go-Around-EPR for the affected engine. Only apply chart Packs OFF and/or Wing A/I ON corrections as applicable. Reduce all calculated EPR limit values as follows:

Altitude (feet)	EPR Reduction
-1000 to 6000	0.03
6,100 to 15,000	0.04
15,100 to 25,000	0.05
25,100 to 40,000	0.07
40,100 to 42,000	0.085

TAKEOFF PERFORMANCE WORKSHEET

TAKEOFF

Reduce RATOW by 32,600 lbs.

Reduce T/O CLIMB LIMIT by 32,600 lbs.

LANDING

Reduce RWY ALLOWABLE LANDING WT by 24,300 lbs.

Reduce LANDING CLIMB LIMIT WT by 24,300 lbs.

OTHER CORRECTIONS

Increase V_1 and V_R by 1 KIAS.

Refer to ODM to calculate Takeoff EPR, Maximum Climb Thrust, Maximum Cruise Thrust, Maximum Continuous Thrust and Go-Around-EPR for the affected engine. Only apply chart Packs OFF and/or Wing A/I ON corrections as applicable. Reduce all calculated EPR limit values as follows:

Altitude (feet)	EPR Reduction
-1000 to 6000	0.03
6,100 to 15,000	0.04
15,100 to 25,000	0.05
25,100 to 40,000	0.07
40,100 to 42,000	0.085

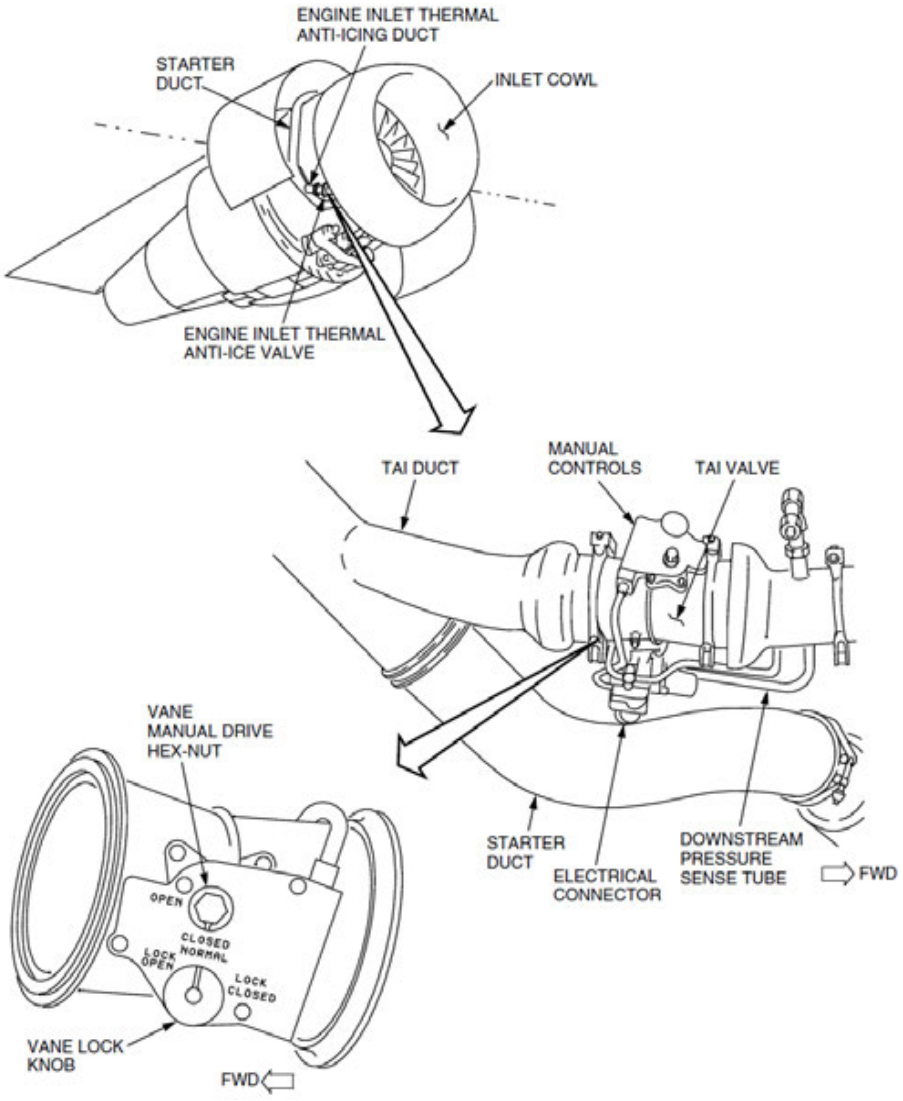
Continued Next Page

(M) PROCEDURES

30-21-01A

1. Deactivate thrust reverser isolation valve for ground maintenance.
2. Access engine inlet thermal anti-ice valve by opening the access panel on the appropriate engine.
   - For left engine, open access panel 414AR.
   - For right engine, open access panel 424AR.
3. Disconnect, cap, and stow TAI valve connector.

   NOTE: Disconnecting the TAI valve connector will cause the associated engine anti-ice switchlight to remain illuminated for the duration of flight.
4. Perform the following if desired valve position is closed.
5. Check that vane manual drive indicates valve “CLOSED”.
6. Pull vane lock out and rotate 90° clockwise to “LOCK CLOSED” position.
7. Activate thrust reverser isolation valve.



Continued Next Page

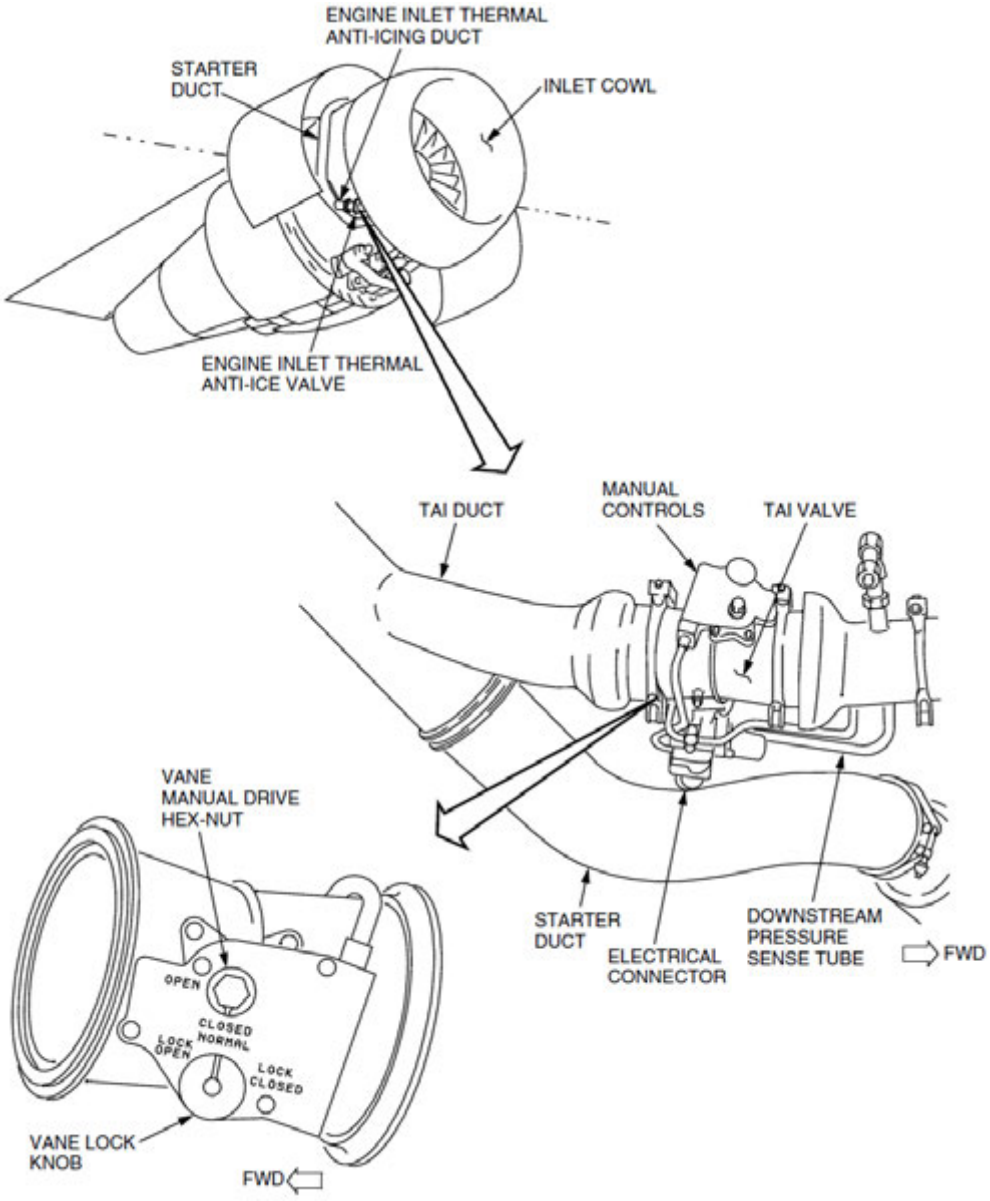
30-21-01B

Perform the following if desired valve position is open.

1. Deactivate thrust reverser isolation valve for ground maintenance.
2. Access engine inlet thermal anti-ice valve by opening the access panel on the appropriate engine.
   - For left engine, open access panel 414AR.
   - For right engine, open access panel 424AR.
3. Disconnect, cap, and stow TAI valve connector.

WARNING: TO PREVENT BURN HAZARD FROM ENGINE COWL, DO NOT USE APU BLEED AIR UNTIL PUSHBACK.

4. Check that vane manual drive indicates valve “OPEN”.
5. Pull vane lock out and rotate 90° counterclockwise to “LOCK OPEN” position.
6. Activate thrust reverser isolation valve.



		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
30-21-02A	Engine Anti-Ice VALVE Lights **"DISP.APPR.REQ'D"**	**N**	2	1	**C**	**(M)** One may be inoperative provided associated valve is verified to operate normally before operating in known or forecast induction icing conditions.
30-21-02B	Engine Anti-Ice VALVE Lights **"DISP.APPR.REQ'D"**	**N**	2	1	**C**	One may be inoperative provided associated valve is inoperative and deferred per MEL 30-21-01.
30-21-02C	Engine Anti-Ice VALVE Lights	**Y**	2	1	**C**	One may be inoperative provided associated EICAS Advisory message L/R ENG ANTI-ICE operates normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
30-21-02A	Near Associated Engine Anti-Ice VALVE Light	____ Engine Anti-Ice VALVE Indication System INOP
30-21-02B	Near Associated Engine Anti-Ice VALVE Light	1. ____ Engine Anti-Ice VALVE Indication System INOP 2. Do Not Use APU Bleed Air Until Pushback
30-21-02C	Near Associated Engine Anti-Ice VALVE Light	Engine Anti-Ice VALVE Indication System Light INOP

(M) PROCEDURES

Prior to flight into induction icing conditions verify operation of engine anti-ice valve(s) as follows:

1. With electrical power on airplane, station observer near affected valve.
2. Turn affected anti-ice switch on and then off. Ground observer should hear solenoid operate. If area is too noisy to hear solenoid, it may be necessary to open access door or cowling.
3. The nacelle anti-ice valve access panels in nacelle strut are:
   - Left engine 414AR
   - Right engine 424AR
4. 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
30-31-01A	Pitot Probe Heater Systems **"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 structural icing conditions.
30-31-01B	Captain's and First Officer's Primary Probe Heaters (ADIRS Equipped Airplanes) (-300) (A/C 6819-6823) **"DISP.APPR.REQ'D"**	**N**	2	1	**C**	**(O)(M)** May be inoperative provided: a) Associated Air Data System is considered inoperative and deferred per MEL 34-26-01A, and b) Remaining probe heater indicating systems for operative probe heaters operate normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
30-31-01A	Near Overhead Annunciator Panel	____ Pitot Static Probe Heater INOP
30-31-01B	Near Overhead Annunciator Panel	____ Pitot Static Probe Heater INOP

(O) PROCEDURES

30-31-01B

Comply with MEL Item 34-26-01A (O) procedure.

(M) PROCEDURES

30-31-01B

Defer the Associated Air Data System per MEL 34-26-01A.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
30-31-02A	Probe Heat Lights (Except CAPT and F/O PITOT)	**N**	-	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 **"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**	-	1	**C**	May be inoperative provided associated probe heater is considered inoperative and deferred per appropriate MEL (30-32-01 or 30-33-01).

MEL ITEM	TAB LOCATION	PLACARD TEXT
30-31-02A	Near Overhead Annunciator Panel	____ Probe Heat Light(s) INOP
30-31-02B	Near Overhead Annunciator Panel	____ Probe Heat Light(s) INOP
30-31-02C	Near Overhead Annunciator Panel	____ Probe Heat Light(s) INOP

(M) PROCEDURES

30-31-02A

Verify probe heater functions as follows:

1. Apply electrical power to the aircraft.

WARNING: DO NOT TOUCH PROBES DURING TEST. SEVERE BURNS MAY RESULT.

CAUTION: Do not operate probe heaters for more than 10 minutes. Damage to the probe and heater may result.

2. At miscellaneous test panel (P61), hold test switch in WINDOW/PROBE HEAT position. Hold hand near probe and check that probe is warming up. Release test switch.
3. Verify associated EICAS advisory message operates normally:
   a) Close all probe heat (pitot, AOA and TAT) and probe heat indication circuit breakers.
   b) Verify PROBE HEAT message is displayed on EICAS.
   c) On P61 Test Panel, hold the WING ANTI ICE - WINDOW/PROBE HEAT test switch in the WINDOW/ PROBE HEAT position.
   d) Verify no probe heat advisory messages are displayed on EICAS.
   e) Release the test switch.
   f) Open the appropriate probe heat circuit breaker.
   g) Hold the test switch in the WINDOW/PROBE HEAT position.
   h) Verify that associated probe heat EICAS advisory message annunciates (L/R AUX PITOT, STBY INST PITOT, C ADIRU (-300)(A/C 6819-6823), TAT PROBE, L/R TAT PROBE, and L/R AOA PROBE).
   i) Close circuit breaker.
   j) Restore airplane to its normal configuration.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
30-31-05A	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 structural icing conditions.
30-31-05B	CAPT PITOT and F/O PITOT Heat Indicating Systems (Heater OFF Monitor) (ADIRS Equipped Airplanes) (-300) (A/C 6819-6823) **"DISP.APPR.REQ'D"**	**N**	2	1	**C**	**(O)(M)** May be inoperative provided: a) Associated Air Data System is considered inoperative and deferred per MEL 34-26-01A, and b) Remaining probe heater indicating systems for operative probe heaters operate normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
30-31-05A	Near Overhead Annunciator Panel	CAPT PITOT / F/O PITOT Heat Indicating System(s)
30-31-05B	Near Overhead Annunciator Panel	CAPT PITOT / F/O PITOT Heat Indicating System(s)

(O) PROCEDURES

30-31-05B

Comply with MEL Item 34-26-01A (O) procedure.

(M) PROCEDURES

30-31-05B

Defer the Associated Air Data System per MEL 34-26-01A.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
30-32-01	Angle of Attack Sensor Heater Systems **"DISP.APPR.REQ'D"**	**N**	2	1	**C**	**(M)** One 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 structural icing conditions.

MEL ITEM	TAB LOCATION	PLACARD TEXT
30-32-01	Near 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
30-33-01A	Temperature (TAT) Probe Heater Systems **"DISP.APPR.REQ'D"**	**Y**	-	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 structural icing conditions, and c) LNAV and VNAV are considered inoperative and deferred per MEL 22-11-04K and 22-11-04L, and d) Auto throttles are considered inoperative and deferred per MEL 22-30-01A. CAT II/III Not Authorized
30-33-01B	Temperature (TAT) Probe Heater Systems ADIRS Equipped Airplanes (-300) **"DISP.APPR.REQ'D"**	**N**	2	1	**C**	**(O)(M)** May be inoperative provided: a) Associated Air Data System is considered inoperative and deferred per MEL 34-26-01A, and b) Remaining probe heater indicating systems for operative probe heaters operate normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
30-33-01A	Near Overhead Annunciator Panel	___ TAT Probe Temp Heater INOP
30-33-01B	Near Overhead Annunciator Panel	___ TAT Probe Temp Heater INOP

(O) PROCEDURES

30-33-01A

1. LNAV, VNAV and Autothrottles will be unavailable. Waypoints in the FMC flight plan will not be sequenced, and performance predictions will be unavailable. Navigation calculations will continue to be provided. Review the destination weather and approach charts to determine if an approach may be conducted without the use of LNAV, VNAV and Autothrottles.
2. 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.

30-33-01B

Comply with MEL Item 34-26-01A (O) procedure.

(M) PROCEDURES

30-33-01B

Defer the Associated Air Data System per MEL 34-26-01A.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
30-34-01	Engine Probe Heater Systems (Engine PT2 / TT2 Probe) **"DISP.APPR.REQ'D"**	**Y**	2	1	**C**	Except for ER operations (ETOPS) beyond 120 minutes, one may be inoperative provided airplane is not operated in known or forecast induction icing conditions.

MEL ITEM	TAB LOCATION	PLACARD TEXT
30-34-01	Near Overhead Annunciator Panel	____ Engine PT2 / TT2 Probe Heater INOP

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					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, one may be inoperative provided: a) Airplane is not operated in known or forecast structural 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)** One 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	TAB LOCATION	PLACARD TEXT
30-41-01A	Near Associated Window Heat Switch	____ Window Heat INOP
30-41-01B	Near Associated Window Heat Switch	____ Window Heat INOP
30-41-01C	Near Associated Window Heat Switch	____ Window Heat INOP

NOTE: As a result of deactivation, the L(R) FWD WINDOW or L(R) SIDE WINDOW advisory messages will be displayed for a single window heat inoperative, or the WINDOW HEAT advisory message will be displayed for multiple window heaters inoperative.

(M) PROCEDURES

NOTE: The L(R) SIDE WINDOW advisory message indicates a failure of either the No. 2 or No.3 side window heater. The inoperative heater can be verified operative by turning ON the associated SIDE window heat switch and touching the No.2 and No. 3 windows to verify which window heat is operative.

30-41-01A

Deactivate inoperative flight deck window heater by pulling and securing associated circuit breaker:

- No. 1L Window Ht (P-70 Panel)
- No. 1R Window Ht (P-37 Panel)

Continued Next Page

30-41-01B

Deactivate inoperative flight deck window heater by pulling and securing associated circuit breaker:

- No. 2L Window Ht (P-37 Panel)
- No. 2R Window Ht (P-70 Panel)

30-41-01C

Deactivate inoperative flight deck window heater by pulling and securing associated circuit breaker:

- No. 3L Window Ht (P-37 Panel)
- No 3R Window Ht (P-70 Panel)

		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"**	**N**	4	1	**C**	May be inoperative provided associated window heat system is inoperative and deferred per MEL 30-41-01.

MEL ITEM	TAB LOCATION	PLACARD TEXT
30-41-02A	Near Affected Window Heat INOP Light	____ Window Heat INOP Light INOP
30-41-02B	Near Affected Window Heat INOP Light	____ Window Heat INOP Light INOP

(M) PROCEDURES

30-41-02A

PRIOR TO EACH DEPARTURE:

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 advisory level message appears on the EICAS display.
4. Press four WINDOW HEAT switches (P5) to ON (latched-in) position.
5. Verify none of the following EICAS advisory level messages are displayed:
   - WINDOW HEAT
   - L SIDE WINDOW
   - L FWD WINDOW
   - R SIDE WINDOW
   - 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	TAB LOCATION	PLACARD TEXT
30-41-03	Near 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 5 statute miles of airport of takeoff or intended landing, and b) Approach minimums do not require their use. <u>CAT II/III</u> Not Authorized
30-42-01B	Windshield Wipers (High Speed)	**Y**	1	0	**C**	May be inoperative provided low speed operates normally.
30-42-01C	Windshield Wipers (Low Speed)	**Y**	1	0	**C**	May be inoperative provided high speed operates normally.
30-42-01D	Windshield Wipers (Park Function)	**Y**	2	0	**C**	May be inoperative for all flight conditions provided the blade(s) can be positioned in a location that will not obstruct forward vision.

MEL ITEM	TAB LOCATION	PLACARD TEXT
30-42-01A	Near Windshield Wiper Panel	____ Windshield Wiper(s) INOP
30-42-01B	Near Windshield Wiper Panel	Windshield Wiper High Speed INOP
30-42-01C	Near Windshield Wiper Panel	Windshield Wiper Low Speed INOP
30-42-01D	Near Windshield Wiper Panel	Windshield Wiper Park Function INOP

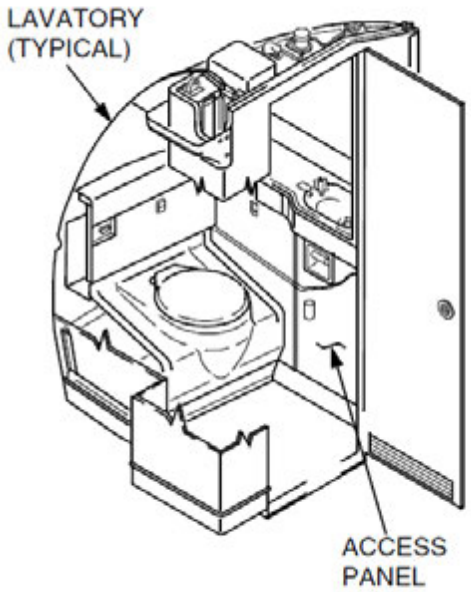
NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
30-71-01	Drain Mast Heaters **"DISP.APPR.REQ'D"**	**N**	2	0	**C**	**(M)** May be inoperative provided water supply to associated galley, lavatory sink and drinking fountain is secured OFF.

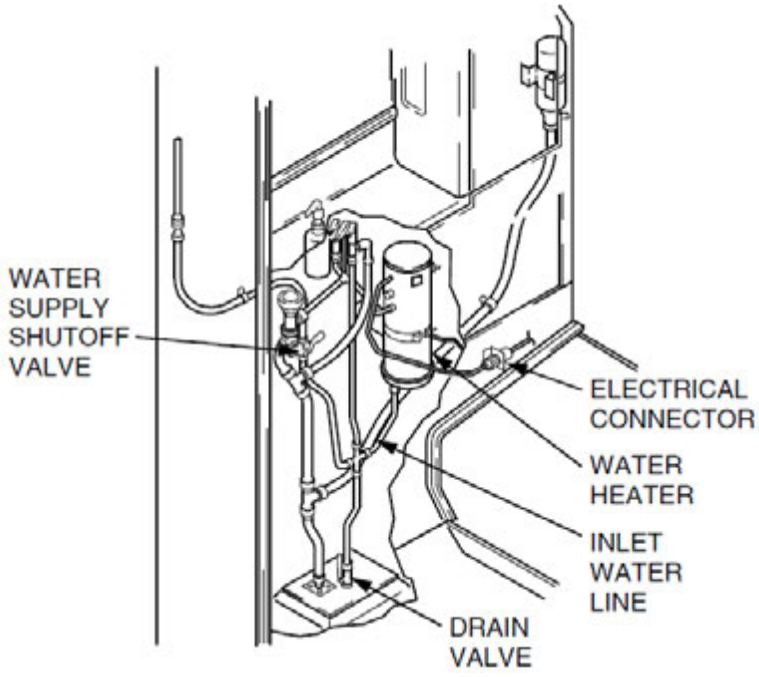
MEL ITEM	TAB LOCATION	PLACARD TEXT
30-71-01	Logbook	____ Drain Mast Heater(s) INOP

(M) PROCEDURES

(-200)

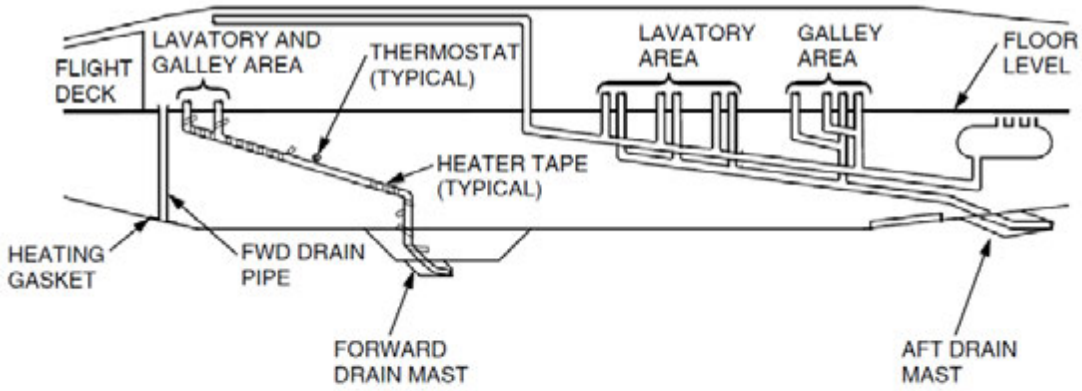
1. If drain mast heater is inoperative, close affected water supply shutoff valves located as follows:
   - Galley shutoff valve; the location of each galley shutoff valve is given on an identification placard installed in the galley.
   - Lavatory shutoff valve; each lavatory shutoff valve is about 10 inches above the floor inside the lavatory sink cabinet.
2. If both drain mast heaters are inoperative:
   - Pull and secure circuit breakers DRAIN MAST HTR-AIR and DRAIN MAST HTR-GND on the P37 RIGHT MISCELLANEOUS RELAY PANEL (E/E Compartment).

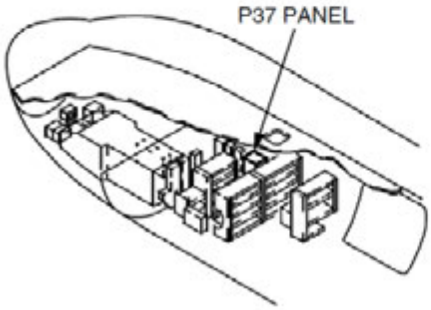


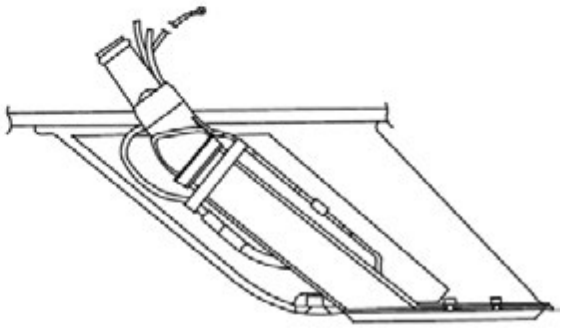


Continued Next Page

3. If forward or aft drain mast heater is inoperative, and it is desirable to deactivate either heater:
   a) Pull circuit breakers DRAIN MAST HTR-AIR on the P37 RIGHT MISCELLANEOUS RELAY panel and DRAIN MAST HTR-GND on the P34 APU/EXTERNAL POWER panel. (E/E Compartment).
   b) Open P37 panel.
   c) Disconnect, cap and stow the power wire for the affected drain mast heater at the nearest terminal block. Refer to WDM 30-71-11 for terminal block WDEL number and location.
   d) Close circuit breakers opened in Step a. above and close P37 panel.







TYPICAL DRAIN MAST HEATER

(-300)

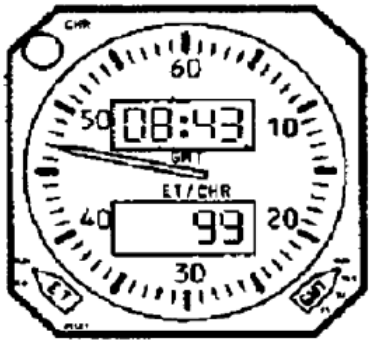
1. At each affected galley, turn the potable water EMERGENCY WATER SHUT-OFF valve to CLOSED or OFF. Use a wire tie wrap to secure the valve(s) closed, or wrap the valve handle(s) with tape.
2. Place a strip tape across the applicable galley basin drain.
3. At each affected lavatory, open the access door below the wash basin. Turn the water valve to CLOSE (A/C5801-5816 to TOILET ONLY). Use a wire tie wrap to secure the valve(s) closed (A/C5801-5816 TOILET ONLY), or wrap the valve handle(s) with tape.
4. On A/C 5801-5816, flush each toilet to verify that water is visible in the bowl and operates normally.
5. Place a strip of tape across the applicable lavatory basin drain.
6. At each affected lavatory, turn water heater switch to the off position, located on the water heater.

	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	**C**	

MEL ITEM	TAB LOCATION	PLACARD TEXT
30-80-01	Near Engine Anti-Ice Panel	Ice Detection System INOP

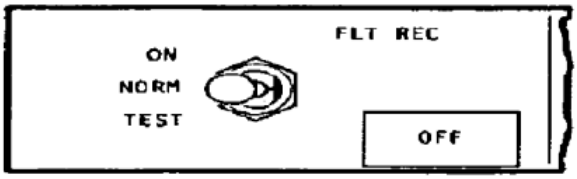
ATA 31 Contents

31-25-01 Clocks 31-3
31-31-01A Flight Data Recorder (FDR) System (Includes Digital Flight Data Acquisition Unit (DFDAU)) 31-4
31-31-01B DFDR Recording Parameters required by 14 CFR 31-4
31-31-01C DFDR Recording Parameters not required by 14 CFR 31-4
31-31-01D Quick Access Recorder (QAR) 31-4
31-35-03 Aircraft Condition Monitoring System (ACMS) 31-5
Engine Indication and Crew Alerting Systems (EICAS) 31-6
31-41-01A Display Unit (DU) 31-6
31-41-01B Computer 31-6
MASTER CAUTION / WARNING SYSTEMS 31-8
31-51-01A Master Warning Lights (Pilot's Glare Shield) 31-8
31-51-01B Master Caution Lights (Pilot's Glare Shield) 31-8
31-61-04A EICAS Status Messages 31-9



CLOCK

31-25-01



FLIGHT RECORDER SYSTEM

31-31-01

WARNING MESSAGES (red)
- conditions that require prompt corrective action

CAUTION MESSAGES (amber)
- conditions that require timely corrective action

ADVISORY MESSAGES (amber)
- conditions that require time available corrective action

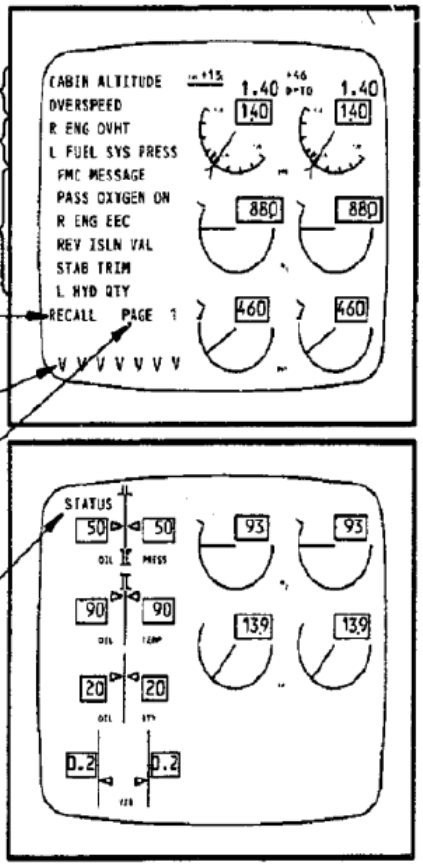
RECALL MESSAGE (white)
- displayed when recall switch is pushed

ENGINE SECONDARY DATA CUE
IN VIEW - secondary engine data sould be displayed on lower CRT

PAGE NUMBER (white)
IN VIEW - more than one page of alert messages exists
- indicates number of page selected

STATUS CUE (cyan)
IN VIEW - a new status condition exists

EICAS FULL UP ENGINE MODE WITH TYPICAL ALERT MESSAGES



ENGINE INDICATING AND CREW ALERTING SYSTEM

31-41-01

MASTER CAUTION/ WARNING SYSTEMS

31-51-01

		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	TAB LOCATION	PLACARD TEXT
31-25-01	Near 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)) **"DISP.APPR.REQ'D"**	**Y**	1	0	**A**	May be inoperative provided: a) Cockpit Voice Recorder (CVR) operates normally, b) Airplane is not dispatched from ATL, DTW, MSP, MCO or NRT 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, the aircraft may be dispatched on a flight or series of flights but shall not continue beyond ATL, DTW, MSP, MCO or NRT where repair must be accomplished prior to dispatch, d) It is required that the MCC initiate a Corrective Action Required (CAR) for the initial repair location (ATL, DTW, MSP, MCO or NRT) at the time of deferral and issue a second CAR for the next designated airport if the initial repair attempt was not successful, and e) Repairs are made within three flight days.
31-31-01B	DFDR Recording Parameters required by 14 CFR **"Contact MCC"**	**N**	-	0	**A**	Up to three recording parameters may be inoperative provided: a) Cockpit Voice Recorder (CVR) operates normally, and b) Repairs are made within twenty calendar days.
31-31-01C	DFDR 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.
31-31-01D	Quick Access Recorder (QAR)	**Y**	1	0	**D**	

MEL ITEM	TAB LOCATION	PLACARD TEXT
31-31-01A	Near Flt Recorder OFF Light – P61 Panel	Flight Recorder INOP
31-31-01B	Near Flt Recorder OFF Light – P61 Panel	Flight Recorder Parameter ____ INOP
31-31-01C	Near Flt Recorder OFF Light – P61 Panel	Flight Recorder Parameter ____ INOP
31-31-01D	Near 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**	**(O)(M)** May be inoperative provided engine trend data is manually entered on Engine Trend Data Sheets.

MEL ITEM	TAB LOCATION	PLACARD TEXT
31-35-03	Near Lower EICAS Display	ACMS INOP

(O) PROCEDURES

1. Refer to Operations Manual, Volume 1, Supplementary Procedures, Engines, APU, Engine Condition Monitoring (ECM) Report Documentation.
2. Refer to MDM, TOPP 50-10-25.
3. Refer to FOM, Administration, Engine Performance Report.

(M) PROCEDURES

Note on maintenance placard, “Auto Engine Trend Data Report Not Transmitting – Record Data in Engine Performance Log.”

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
	ENGINE INDICATION 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. **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 system operates normally, c) At least one autopilot operates normally, d) Both Display Units operate normally, and e) Repairs or replacements are made within one flight day.

MEL ITEM	TAB LOCATION	PLACARD TEXT
31-41-01A	Near Affected EICAS Display	____ EICAS Display INOP
31-41-01B	Near EICAS Control Panel	____ EICAS Computer INOP

Continued Next Page

(O) PROCEDURES

31-41-01A, 31-41-01B

1. For an EICAS computer inoperative, before takeoff, with engines running, compare engine display of EICAS with the Standby Engine Instrument. The EICAS / SEI engine display cross-compare tolerances are as follows:

Engine Display	EICAS / SEI Engine Display Cross-Compare Tolerance
EPR	.01
EGT	12.0°C
N1	0.2%
N2	1.0%

2. Power setting for Takeoff must be made with EICAS.
3. If remaining EICAS fails:
   a) Use SEI to observe engine parameters.
   b) Prior to descent, scan overhead panel for possible abnormal indications.

NOTE: Except for Pegasus FMC equipped aircraft, with one EICAS computer inoperative, the FMC will not calculate fuel flow which will cause the fuel quantity value normally displayed on progress page (2/2) to blank.

(M) PROCEDURES

31-41-01A

1. Set the parking brake to ON in order to enable the EICAS test function.
2. Press the TEST switch on maintenance panel P61.
3. A satisfactory test will be indicated by SELF TEST COMPLETE, NO INTERFACE FAULTS and NO INTERNAL FAULTS messages on EICAS.
4. Pull and secure associated CRT circuit breaker EICAS UPPER **or** LOWER DSPL (P11 panel).
5. **PRIOR TO EACH DEPARTURE,** perform the CARGO FIRE / OVHT TEST by pressing the ENG / APU / CARGO FIRE / OVERHEAT TEST SWITCH.

31-41-01B

1. Test the remaining (operative) computer as follows:
   a) Set the parking brake to ON in order to enable the EICAS test function.
   b) Set the computer select switch to the operative computer. Press the TEST switch on maintenance panel P61.
      - A satisfactory test will be indicated by SELF TEST COMPLETE, NO INTERFACE FAULTS and NO INTERNAL FAULTS messages on EICAS.
2. After the inoperative computer has been identified, pull and secure the associated L (or R) EICAS COMPUTER (P11 panel) circuit breaker.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
	MASTER CAUTION / WARNING SYSTEMS					
31-51-01A	Master Warning Lights (Pilot's Glare Shield)	**Y**	2	1	**C**	One 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**	One may be inoperative provided master caution aural system and all discrete caution lights operate normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
31-51-01A	Near Affected Master Warning Light	____ Master Warning Light INOP
31-51-01B	Near 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 **"DISP.APPR.REQ'D"**	**N**	-	0	**C**	**(M)** May be inoperative provided associated equipment is verified to operate normally PRIOR TO EACH DEPARTURE (Log Book Entry Required). **Repetitive Check Required (Yellow Placard)**
31-61-04B	EICAS Status Messages **"DISP.APPR.REQ'D"**	**N**	-	0	**C**	**(O)(M)** May be inoperative provided dispatch deviations for associated equipment are observed.

MEL ITEM	TAB LOCATION	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

31-61-04B

If applicable, comply with restrictions and/or operating procedures for associated MEL item(s).

(M) PROCEDURES

31-61-04A

Dispatch with inoperative (nuisance) Status level messages is allowed by the provisions of this MEL item. An inoperative message is one which is displayed when there is no actual equipment fault. If such an EICAS message is suspected, dispatch may still be accomplished by verifying that the equipment associated with the inoperative EICAS status message operates normally. Procedures below are intended to verify normal operation of equipment for the following nuisance Status messages:

- L(R) OIL SCAV VAL
- FUEL QTY CHANNEL
- POWER XFER UNIT

PRIOR TO EACH DEPARTURE: Verify that the associated equipment operates normally for the appropriate displayed message.

L(R) OIL SCAV VAL (Status Message)

1. Confirm that the scavenge valve operates normally and #4 carbon seal is intact by operating the engine on the ground at an N2 speed greater than 88% or reading data taken from an EICAS manual event with a burner pressure greater than 300 psig and verifying the following parameters on the EICAS Perf / APU page, the Status page, and the Exceedence page.
   a) Verify Scavenge Oil Pressure (SCAV) shown on the Perf / APU page is between 45 and 155 psig.
   b) Verify that there has not been a Main Oil Temperature exceedence on the previous flight.
   c) Verify that there has not been a step increase in oil consumption.
   d) Verify that the affected engine does not display any of the following EICAS messages:
      - L(R) ENG OIL SEAL (Status Message)
      - L(R) OIL FILTER (Advisory / Status Message)
      - L(R) SCAV OPEN (ECS/MSG Maintenance Level Message)
2. Dispatch is not permitted if any of the above tests are failed.

Continued Next Page

3. If all the tests in steps 1 thru 1d are passed, then the L(R) OIL SCAV VAL message is a nuisance message and dispatch is permitted.

FUEL QTY CHANNEL

1. Record last flight leg fault to develop fault history.
2. Run the FQIS self test.
3. If no faults are displayed, the “FUEL QTY CHANNEL” message is nuisance message and dispatch is permitted.

POWER XFER UNIT

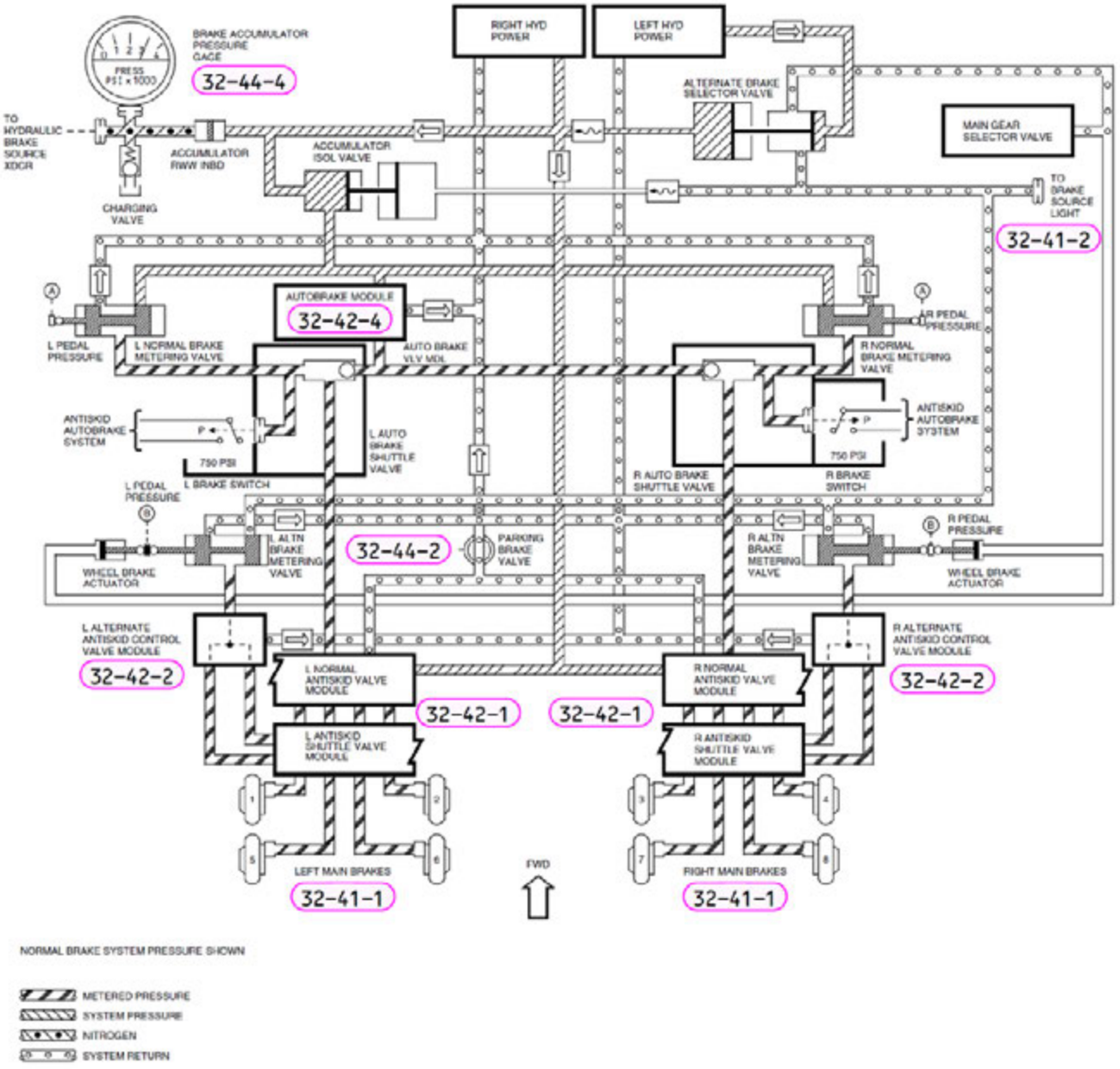
1. Display ELEC / HYD on EICAS.
2. Power right hydraulic system with ACMP (Left ACMP is OFF).
3. Open the ENGINE SPEED CARD R circuit breaker, B32 on P11-2 panel. This removes electrical power from the right engine out relay.
4. Verify left hydraulic system pressure is high (PTU is ON).
5. Turn OFF right ACMP.
6. Confirm right hydraulic system pressure decays to less than 200 psi. (Pumps OFF)
7. Confirm left hydraulic system pressure decays to less than 200 psi. (Pumps OFF)
8. Switch right ACMP ON and confirm pressure rises in right hydraulic system.
9. Verify that no rise in left hydraulic system pressure occurs, either control pressure switch (S10129), the PTU relay (K10051), or the time delay (M10146) has failed. Rise in the left hydraulic system pressure means no dispatch is allowed.
10. Close the ENGINE SPEED CARD R circuit breaker, B32, on the P11-2 panel. This provides electrical power to the right engine out relay and recycles the relays.
11. Erase the ECS / HYD Maintenance page.
12. Start right engine. (Configuration: EDP’s ON, left and right ACMPs ON.)
13. Turn the left ACMP OFF.
14. Verify left hydraulic pressure is high.
15. Start left engine.
16. Turn OFF left EDP and verify left ACMP remains OFF.
17. Verify left hydraulic system pressure remains high.
18. Turn left EDP ON.
19. Verify that EDP low pressure light goes out.
20. Pull hydraulic PTU control D31 circuit breaker on P11-2 panel.
21. Turn left EDP OFF.
22. Verify left system pressure is low.
23. Close circuit breaker D31 and verify hydraulic system pressure is high.
24. Restore system to normal.

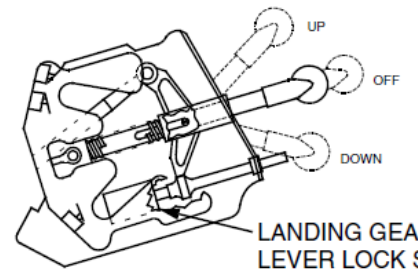
31-61-04B

If MEL relief is available, dispatch may be possible by observing the MEL remarks or exceptions for the associated inoperative equipment. The EICAS Message List can be used to locate the appropriate item for possible MEL relief. Defer associated equipment inoperative per the applicable MEL.

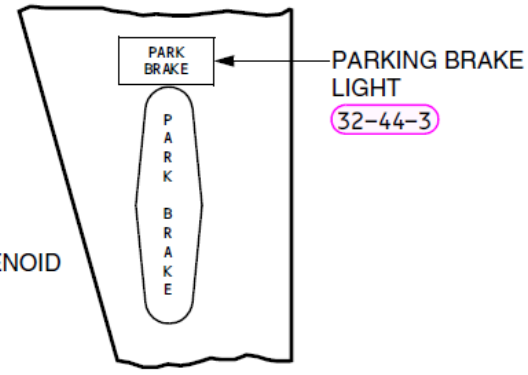
ATA 32 Contents

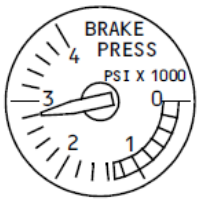
	GEAR DOOR GROUND CONTROL SWITCHES / LIGHTS (P72 PANEL)	32-4
32-00-01A	Gear Door Close Switches	32-4
32-00-01B	Gear Door Open / Door Arm Switches	32-4
32-00-01C	Gear Door Unlock / Unsafe Lights	32-4
32-31-01	Landing Gear Lever Lock Solenoid	32-7
32-32-01	Main Landing Gear Uplock Springs	32-9
32-41-01A	Wheel Brakes	32-10
32-41-02A	BRAKE SOURCE Indication System	32-15
32-41-03	Gear Retraction Braking System	32-17
32-42-01A	Antiskid System	32-18
32-42-01B	Channels	32-18
32-42-02A	Alternate Antiskid Valves	32-21
32-42-03A	ANTISKID Light	32-25
32-42-04A	Autobrake System	32-27
32-44-02	Parking Brake Valve (5501-5657)	32-30
	PARKING BRAKE LIGHTS	32-32
32-44-03A	PARK BRAKE Light	32-32
32-44-03D	Nose Gear Parking Brake Status Indicator Light (PARKING BRAKE ON)	32-32
32-44-04	Brake Accumulator Pressure Gauge (Wing Fairing)	32-35
32-44-05	BRAKE PRESS Gauge (Flight Deck)	32-36
32-45-02	Nose Wheel Spin Brakes (Snubbers)	32-38
32-46-01	Brake Temperature Monitoring System (BTMS)	32-39
32-51-01	Rudder Pedal Nose Wheel Steering	32-40
32-61-01	Landing Gear DOORS Light System	32-41
	LANDING GEAR POSITION SENSORS	32-42
32-61-02A	Nose Gear Up Sensors	32-42
	MAIN GEAR UP AND LOCKED SENSORS	32-42
32-61-02B	System One	32-42
32-61-02C	System Two	32-42
	GEAR DOOR POSITION SENSORS	32-42
32-61-02D	System One	32-42
32-61-02E	System Two	32-42
	Tail Skid (-300)	32-47
32-71-01A	Retraction Mechanism	32-47
32-71-01B	Crushable Cartridge	32-47
32-71-02A	Tail Skid Indication System (-300)	32-50
32-71-02D	TAIL SKID Light (-300)	32-50
32-71-02E	Proximity Switch System (-300)	32-50
32-72-01A	Tail Strike Detector Channels (-300)	32-52


BRAKE ACCUMULATOR PRESSURE GAGE
32-44-4
PRESS PSI x 1000
TO HYDRAULIC BRAKE SOURCE XDCR
ACCUMULATOR RWW INBD
CHARGING VALVE
ACCUMULATOR ISOL VALVE
RIGHT HYD POWER
LEFT HYD POWER
ALTERNATE BRAKE SELECTOR VALVE
MAIN GEAR SELECTOR VALVE
TO BRAKE SOURCE LIGHT
32-41-2
AUTOBRAKE MODULE
32-42-4
L PEDAL PRESSURE
L NORMAL BRAKE METERING VALVE
AUTO BRAKE VLV MDL
R PEDAL PRESSURE
R NORMAL BRAKE METERING VALVE
ANTISKID AUTOBRAKE SYSTEM
750 PSI
L AUTO BRAKE SHUTTLE VALVE
L BRAKE SWITCH
R AUTO BRAKE SHUTTLE VALVE
R BRAKE SWITCH
ANTISKID AUTOBRAKE SYSTEM
L PEDAL PRESSURE
L ALTN BRAKE METERING VALVE
32-44-2
PARKING BRAKE VALVE
R ALTN BRAKE METERING VALVE
R PEDAL PRESSURE
WHEEL BRAKE ACTUATOR
WHEEL BRAKE ACTUATOR
L ALTERNATE ANTISKID CONTROL VALVE MODULE
32-42-2
L NORMAL ANTISKID VALVE MODULE
32-42-1
L ANTISKID SHUTTLE VALVE MODULE
R NORMAL ANTISKID VALVE MODULE
32-42-1
R ANTISKID SHUTTLE VALVE MODULE
R ALTERNATE ANTISKID CONTROL VALVE MODULE
32-42-2
LEFT MAIN BRAKES
32-41-1
FWD
RIGHT MAIN BRAKES
32-41-1
NORMAL BRAKE SYSTEM PRESSURE SHOWN
METERED PRESSURE
SYSTEM PRESSURE
NITROGEN
SYSTEM RETURN

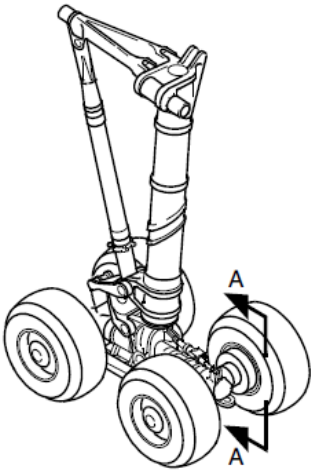


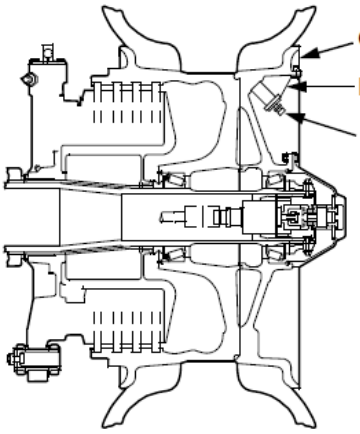
LANDING GEAR
CONTROL LEVER MODULE



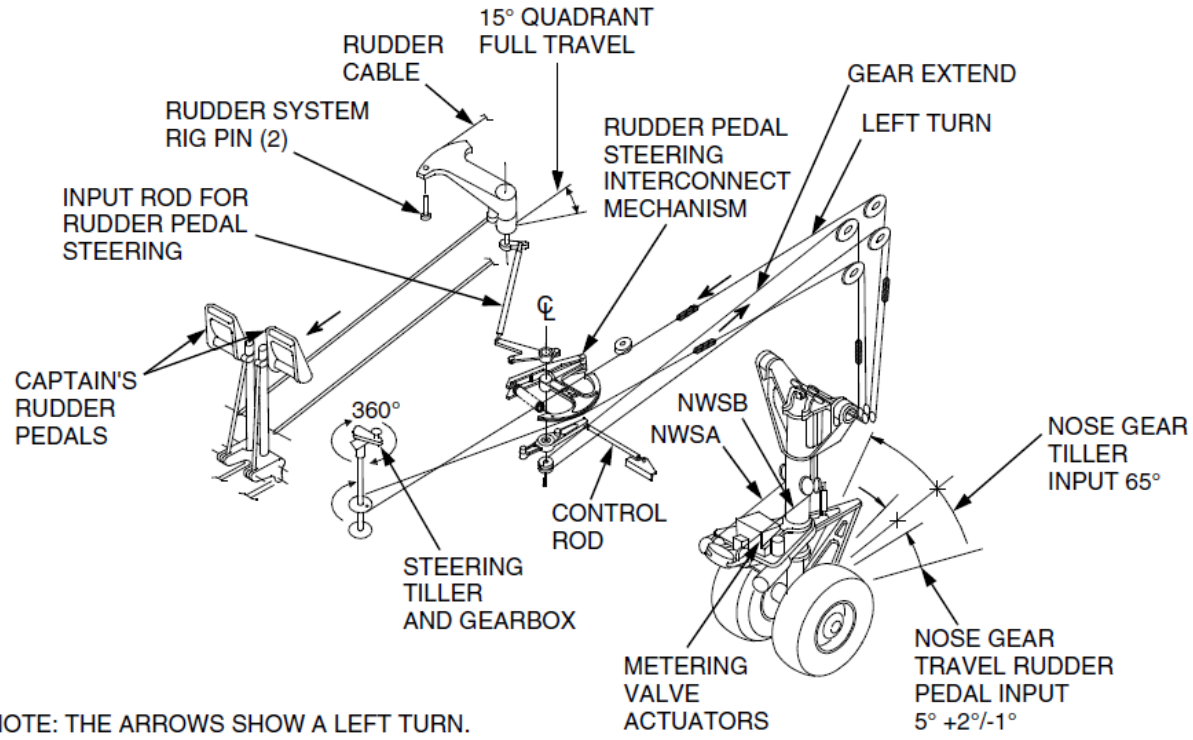


BRAKE PRESSURE
GAUGE
32-44-5





A-A



NOTE: THE ARROWS SHOW A LEFT TURN.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
	GEAR DOOR GROUND CONTROL SWITCHES / LIGHTS (P72 PANEL)					
32-00-01A	Gear Door Close Switches	**N**	-	0	**C**	**(M)** May be inoperative provided alternate procedures are used.
32-00-01B	Gear Door Open / Door Arm Switches	**N**	-	0	**C**	**(M)** May be inoperative provided: a) Inoperative switch is verified failed in open circuit position, and b) Alternate gear extension switch ALTN GEAR EXTEND on flight deck is verified to operate normally.
32-00-01C	Gear Door Unlock / Unsafe Lights	**Y**	3	0	**C**	

MEL ITEM	TAB LOCATION	PLACARD TEXT
32-00-01A	Near Landing Gear Handle	____ Gear Door Close Switch(es) INOP
32-00-01B	Near Landing Gear Handle	____ Gear Door Open / Door Arm Switch(es) INOP
32-00-01C	Near Landing Gear Handle	____ Gear Door Unlock / Unsafe Light(s) INOP

(M) PROCEDURES

32-00-01A

To **OPEN** the landing gear door(s) with the Gear Door Close Switch failed CLOSED:

1. Install downlocks on the nose and main landing gear.
2. Remove hydraulic pressure from the left and right hydraulic systems prior to opening the gear doors to prevent possible immediate door closure when the power pack shuts off.

WARNING: MAKE SURE HYDRAULIC PRESSURE IS REMOVED FROM THE LEFT AND RIGHT HYDRAULIC SYSTEMS BEFORE YOU GO INTO THE WHEEL WELL(S). APPLYING HYDRAULIC PRESSURE TO THE LEFT OR RIGHT HYDRAULIC SYSTEM MAY CAUSE THE LANDING GEAR DOORS TO CLOSE IF THE LANDING GEAR LEVER IS NOT IN THE OFF POSITION.

3. Move the landing gear lever to the OFF position and attach a DO-NOT-OPERATE tag to the lever.
4. Pull and secure the DOOR CLOSE GND ACCESS circuit breaker S-16 on the P11 panel.
5. Open the gear doors.
6. Install the door lock pins.
7. Remove the DO-NOT-OPERATE tag and move the landing gear lever to the DN position.

Continued Next Page

To **CLOSE** the landing gear door(s) with the Gear Door Close switch failed CLOSED:

WARNING: MAKE SURE HYDRAULIC PRESSURE IS REMOVED FROM THE LEFT AND RIGHT HYDRAULIC SYSTEMS BEFORE YOU GO INTO THE WHEEL WELL(S). APPLYING HYDRAULIC PRESSURE TO THE LEFT OR RIGHT HYDRAULIC SYSTEM MAY CAUSE THE LANDING GEAR DOORS TO CLOSE IF THE LANDING GEAR LEVER IS NOT IN THE OFF POSITION.

1. Remove hydraulic pressure from the left and right hydraulic systems.
2. Move the landing gear lever to the OFF position and attach a DO-NOT-OPERATE tag to the lever.
3. Pull and secure the DOOR CLOSE GND ACCESS circuit breaker S-16 on the P11 panel.
4. Remove the door locks from the landing gear doors.

WARNING: KEEP PERSONS AND EQUIPMENT AWAY FROM THE WHEEL WELL AREAS WHEN YOU CONNECT THE HYDRAULIC POWER TO CLOSE THE LANDING GEAR DOOR(S). THE DOOR(S) WILL CLOSE AUTOMATICALLY WHEN THE HYDRAULIC SYSTEM IS PRESSURIZED AND THE LANDING GEAR LEVER IS MOVED FROM THE OFF POSITION.

5. Close the DOOR CLOSE GND ACCESS circuit breaker S-16 on the P11 panel.
6. Pressurize the left hydraulic system.

WARNING: KEEP PERSONS AND EQUIPMENT AWAY FROM THE WHEEL WELL AREAS WHEN YOU MOVE THE LANDING GEAR LEVER TO CLOSE THE GEAR DOOR(S). THE DOOR(S) OPEN AND CLOSE QUICKLY AND CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

7. Remove the DO-NOT-OPERATE tag and move the landing gear lever to the DN position. This will automatically close the landing gear door(s).
8. Remove hydraulic pressure from the left hydraulic system if it is not needed.
9. Remove the nose and main landing gear downlocks.

To **CLOSE** the landing gear door(s) with the Gear Door Close switch failed OPEN:

1. Install downlocks on the nose and main landing gear.
2. Remove hydraulic pressure from the left and right hydraulic systems.
3. Move the landing gear lever to the OFF position and attach a DO-NOT-OPERATE tag to the lever.
4. Remove the door locks from the landing gear doors.
5. Manually reset the safety valve by rotating the latch holding the door safety valve cam (main gear door) or by rotating the latch holding the sequencing crank (nose gear door). The return springs will reset the safety valve when the latch is rotated, and the DOOR UNSAFE Light will illuminate.

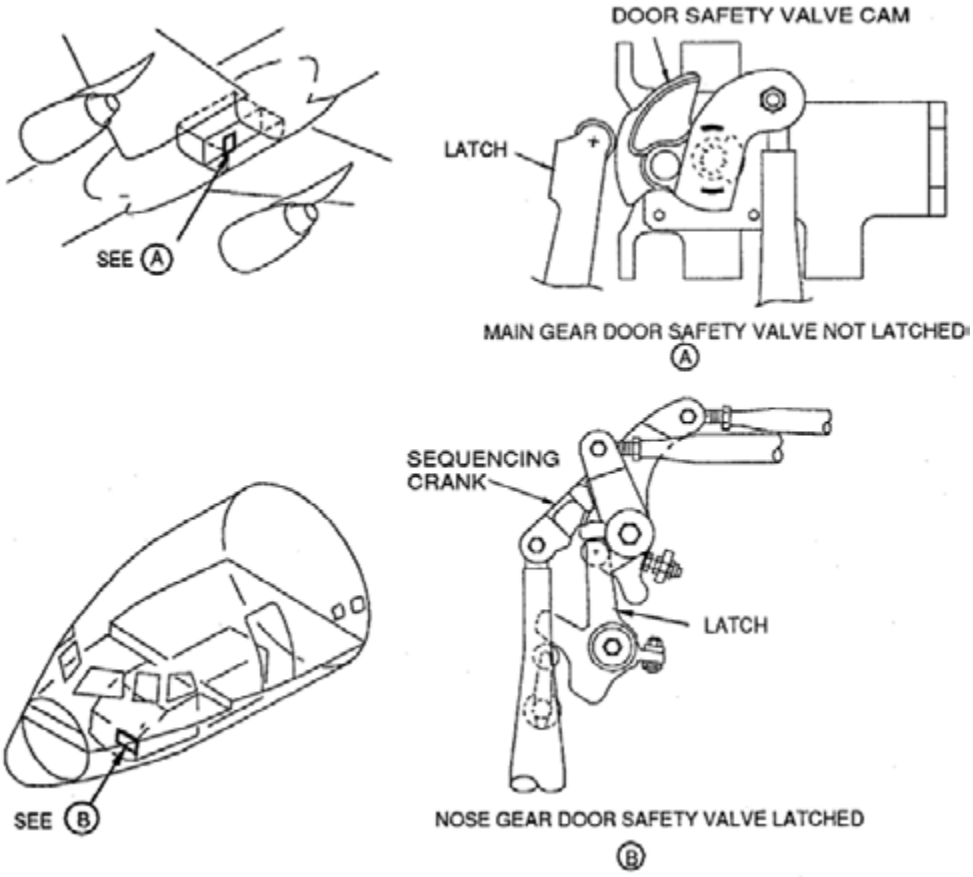
WARNING: KEEP PERSONS AND EQUIPMENT AWAY FROM THE WHEEL WELL AREAS WHEN YOU CONNECT THE HYDRAULIC POWER TO CLOSE THE LANDING GEAR DOOR(S). THE DOOR(S) WILL CLOSE AUTOMATICALLY WHEN THE HYDRAULIC SYSTEM IS PRESSURIZED AND THE LANDING GEAR LEVER IS MOVED FROM THE OFF POSITION.

6. Pressurize the left hydraulic system.

WARNING: KEEP PERSONS AND EQUIPMENT AWAY FROM THE WHEEL WELL AREAS WHEN YOU MOVE THE LANDING GEAR LEVER TO CLOSE THE DOOR(S). THE DOOR(S) OPEN AND CLOSE QUICKLY AND CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

Continued Next Page

7. Remove the DO-NOT-OPERATE tag and move the landing gear lever to the DN position. This will automatically close the landing gear door(s).
8. Remove hydraulic pressure from the left system if it is not needed.
9. Remove the nose and main landing gear downlocks.



32-00-01B

1. To verify Gear Door Open / Arm switches failed in the open circuit position, one at a time, cycle the switches. If nothing happens, the switches are failed in the open circuit position.

WARNING: KEEP PERSONS AND EQUIPMENT AWAY FROM THE WHEEL WELL AREAS WHEN YOU MOVE THE LANDING GEAR LEVER TO CLOSE THE DOOR(S). THE DOOR(S) OPEN AND CLOSE QUICKLY AND CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

2. Verify the ALTN GEAR EXTEND switch operates as follows:

WARNING: KEEP PERSONS AND EQUIPMENT AWAY FROM THE WHEEL WELL AREAS WHEN YOU MOVE THE LANDING GEAR LEVER TO CLOSE THE DOOR(S). THE DOOR(S) OPEN AND CLOSE QUICKLY AND CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

a) Close the gear doors.

b) Move the ALTN GEAR EXTEND switch to the down position.

c) Verify the gear doors open.

d) Return the airplane to normal configuration.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
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	TAB LOCATION	PLACARD TEXT
32-31-01	Near Landing Gear Handle	Landing Gear 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:
   - 11C30, LANDING GEAR POS SYS 1 (11C20 A/C 5501-5534)
   - 11S23, LANDING GEAR POS SYS 2
   - 11A35, IND LIGHTS 4
   - 11P28, R IND LTS 1
   - 11S20, LEVER LOCK
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 (AMM 32-00-20/201).

b) Supply electrical power (AMM 24-22-00/201).

WARNING: MAKE SURE THE MAIN AND NOSE LANDING GEAR AREAS ARE CLEAR OF PERSONS AND EQUIPMENT BEFORE YOU DO THIS TEST. THE LANDING GEAR DOORS OPEN AND CLOSE QUICKLY AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

c) Pressurize the left hydraulic system (AMM 29-11-00/201).

d) Open LEVER LOCK circuit breaker on the overhead circuit breaker panel, P11, and attach DO NOT-CLOSE identifier.

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.

Continued Next Page

f) Move the landing gear control to DN. Make sure the green NOSE, LEFT, and RIGHT lights on panel P3-1 are on.

g) Make sure the LEVER LOCK circuit breaker on the overhead circuit breaker panel, P11, is closed.

h) Remove the pressure from the left hydraulic system if no longer necessary.

i) 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
32-32-01	Main Landing Gear Uplock Springs	**N**	4	3	**B**	**(M)** One spring on one main gear uplock mechanism may be missing provided landing gear lever remains in UP position until gear extension is required.

MEL ITEM	TAB LOCATION	PLACARD TEXT
32-32-01	Near Landing Gear Handle	Main Landing Gear Uplock Spring MISSING

(M) PROCEDURES

Remove the affected main landing gear uplock 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)** One brake may be deactivated with a deactivation tool provided: a) Performance corrections for one brake deactivated are applied, b) Antiskid operates normally on remaining wheels, and c) Approach minimums do not require its use. CAT II/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) Performance corrections for one brake deactivated are applied, 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 II/III Not Authorized

MEL ITEM	TAB LOCATION	PLACARD TEXT
32-41-01A	Near Brake Pressure Gauge	____ Wheel Brake INOP
32-41-01B	Near Brake Pressure Gauge	____ Wheel Brake INOP

(O) PROCEDURES

32-41-01A (When disconnect tool is used)

32-41-01A	**WHEEL BRAKES – ASSOCIATED BRAKE DEACTIVATED WITH TOOL**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	AWABS Takeoff data is provided for DRY or SLP-WET runway conditions only. 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.**

Continued Next Page

32-41-01B (When brake line is capped)

After takeoff, leave the landing gear extended for two minutes to allow the wheels to spin down prior to gear retraction.

32-41-01B	WHEEL BRAKES – ASSOCIATED BRAKE LINE CAPPED
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 300 lbs.
NOTES	AWABS Takeoff data is provided for DRY or SLP-WET runway conditions only. Takeoffs using ICY, 25 CTR or 50 CTR data are not authorized. Brake Line Capped requires a significant weight penalty 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.**

(M) PROCEDURES

32-41-01A

1. Install brake disconnect tool in place of removed antiskid shuttle valve end cap as follows: Use the brake dispatch disconnect tool part number DL 251209738 (mfg.# A32080-4) located in the flight dispatch kit in the cockpit.

   a) Check that landing gear ground lock pins are properly installed and wheels are adequately chocked.

WARNING: DOOR LOCKS MUST BE PROPERLY INSTALLED PRIOR TO ACCESS TO ANTI-SKID SHUTTLE VALVE MODULE. RAPID ACTION OF DOORS MAY INJURE PERSONNEL OR DAMAGE EQUIPMENT IF LOCKS ARE NOT PROPERLY INSTALLED.

   b) Install main gear door locks.

   c) Depressurize right and left hydraulic systems (including reservoirs).

   d) Release parking brakes by 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, until the cockpit brake pressure gauge indication no longer decreases.

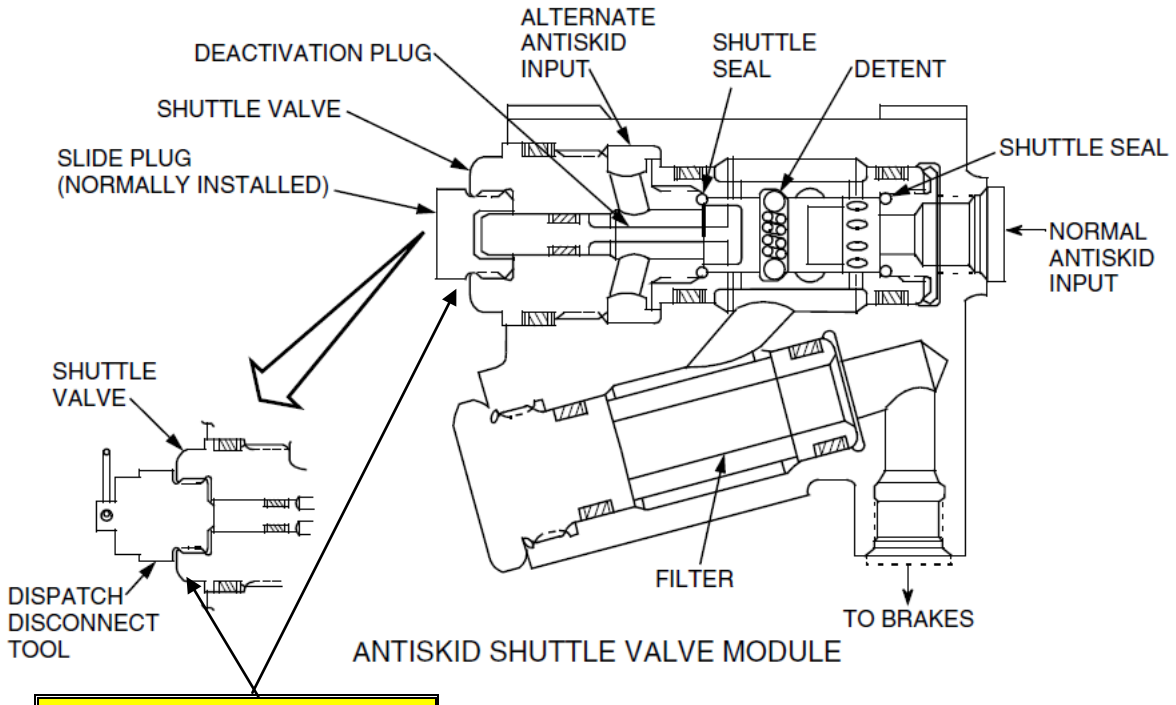
   f) Gain access to antiskid shuttle valve module located in the left or right main gear wheel outboard bulkhead.

CAUTION: Remove only the shuttle valve slide plug. Removal of the shuttle valve can result in injury due to rapid ejection of the valve.

   g) Remove appropriate antiskid shuttle valve slide plug only from module (See Table I and following illustrations).

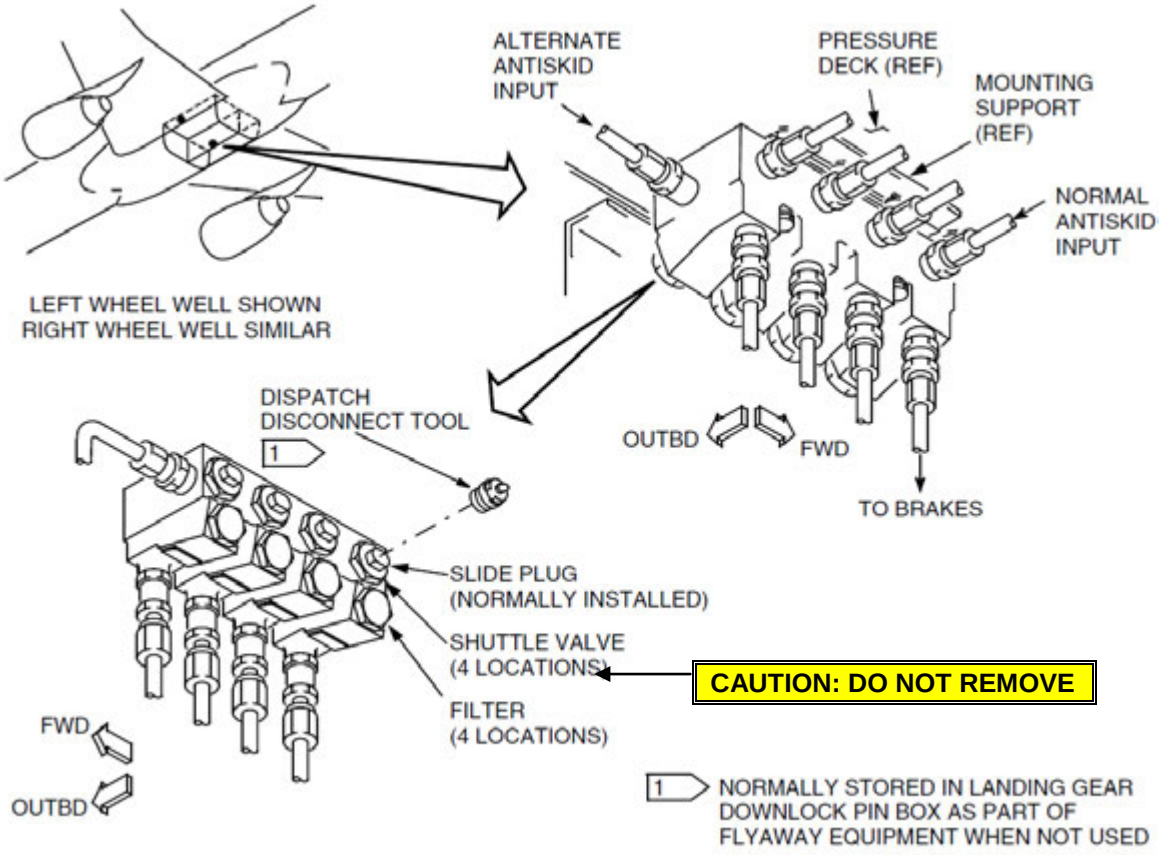
      NOTE: Table I identifies which shuttle valve slide plug should be removed to deactivate a particular brake.

Continued Next Page



ANTISKID SHUTTLE VALVE MODULE

CAUTION: DO NOT REMOVE



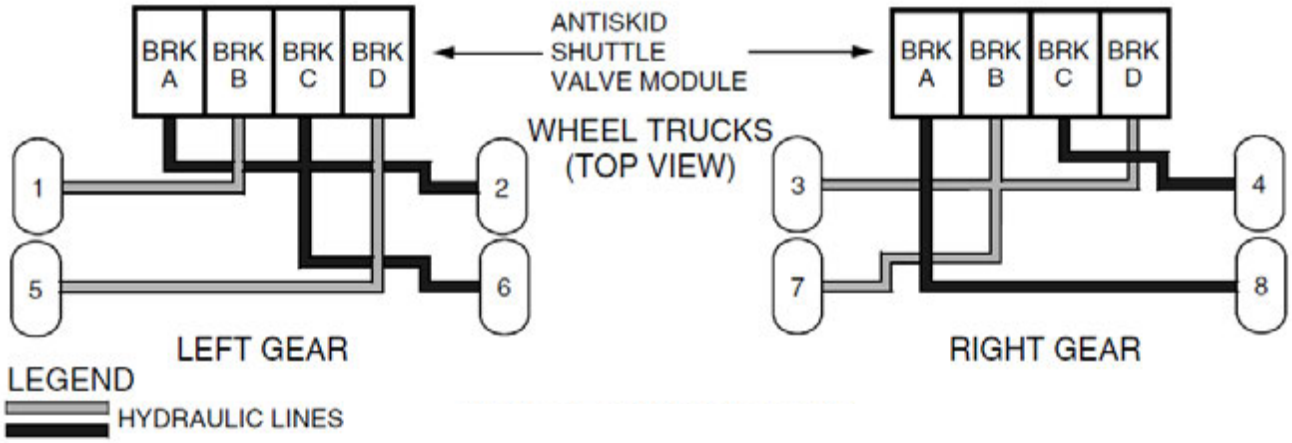
ANTISKID SHUTTLE VALVE MODULE

Continued Next Page

TABLE I

LEFT ANTISKID SHUTTLE VALVE MODULE *	**LEFT GEAR WHEEL BRAKE**
VALVE "BRK B"	No. 1 (FWD OUTBD)
VALVE "BRK A"	No. 2 (FWD INBD)
VALVE "BRK D"	No. 5 (AFT OUTBD)
VALVE "BRK C"	No. 6 (AFT INBD)
RIGHT ANTISKID SHUTTLE VALVE MODULE *	**RIGHT GEAR WHEEL BRAKE**
VALVE "BRK B"	No. 7 (AFT INBD)
VALVE "BRK A"	No. 8 (AFT OUTBD)
VALVE "BRK D"	No. 3 (FWD INBD)
VALVE "BRK C"	No. 4 (FWD OUTBD)

*IDENTIFICATION IS MARKED ON MODULE



h) Install special brake dispatch disconnect tool (use applicable part number) in place of removed shuttle valve slide plug. Tighten disconnect tool to 50 pound-inches, and lockwire.

i) Gain access to the antiskid / autobrake control unit in the E6 aft equipment center (see illustration).

j) Position brake test disable selector to the brake which was deactivated.

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 adjusters) on deactivated brake do not move or change position, while movement is observed for all other brakes.

c) Restore airplane to its required configuration.

Continued Next Page

32-41-01B

Disconnect hydraulic line at self-sealing quick-disconnect fitting on the brake as follows:

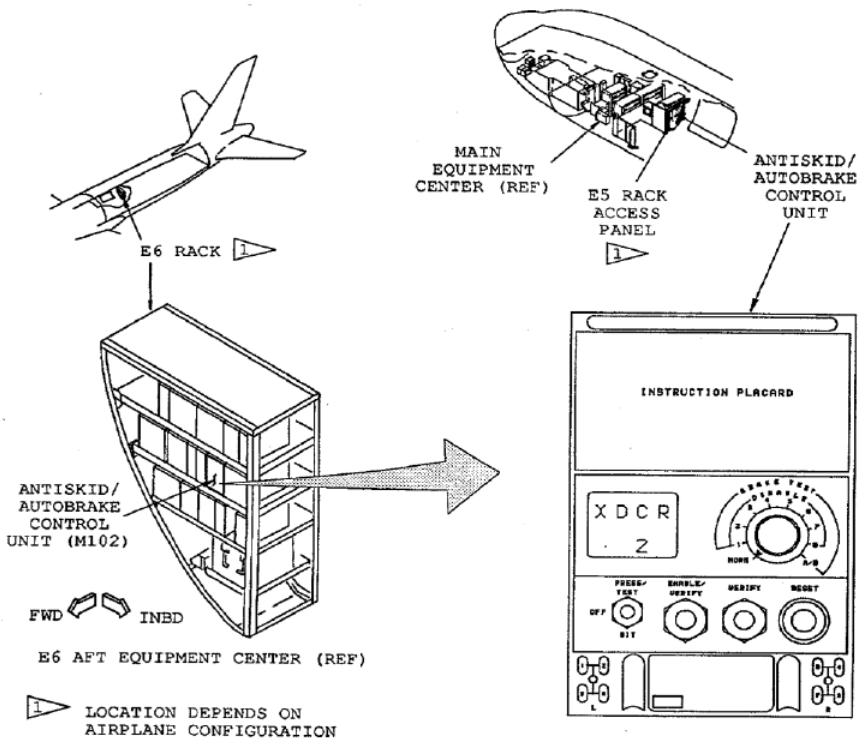
1. Check that landing gear ground lock pins are properly installed and wheels are adequately chocked.
2. Depressurize right and left hydraulic systems (including reservoirs).

WARNING: DOOR LOCKS MUST BE PROPERLY INSTALLED WHILE WORKING IN THE VICINITY OF THE WHEEL WELLS. RAPID ACTION OF DOORS MAY INJURE PERSONNEL OR DAMAGE EQUIPMENT IF LOCKS ARE NOT PROPERLY INSTALLED.

3. Install main gear door locks.
4. Pump brake pedals to bleed pressure off brake system.
5. Disconnect the hydraulic line at the brake quick disconnect B-nut fitting (leave quick disconnect installed on brake).
6. Using STEEL fittings, plug the hydraulic line and cap the quick disconnect.

   NOTE: If steel cap and plug are not available, deactivate the inoperative brake using MEL 32-41-01A.
7. Stow hose and ensure no interference with gear rotation and retraction.
8. Open the brake bleed fitting approximately 1-1/2 full turns and then lockwire in this open position.

   NOTE: Leaving the brake bleed fitting open will prevent brake drag due to thermal effect.
9. Gain access to the antiskid/autobrake control unit in the E6 aft equipment center.
10. Position brake test disable selector to the brake which was disabled (see illustration).
11. Pressurize right hydraulic system.
12. Apply brake pressure by depressing brake pedal and check for leaks.



NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
32-41-02A	BRAKE SOURCE Indication System	**Y**	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	**Y**	1	0	**B**	**(M)** May be inoperative provided: a) L 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	TAB LOCATION	PLACARD TEXT
32-41-02A	BRAKE SOURCE Light	BRAKE SOURCE Light INOP
32-41-02B	BRAKE SOURCE Light	BRAKE SOURCE Light 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

Flight dispatch is permitted with the BRAKE SOURCE light inoperative provided the EICAS advisory message is operative. Verify BRAKE SOURCE advisory message operates per the following:

1. Start with a powered airplane and hydraulics on.
2. Select left and right hydraulics to OFF from the overhead panel P5.
3. Verify the BRAKE SOURCE advisory message illuminates on EICAS.
4. Select left and right hydraulics to ON from the overhead panel P5.
5. Verify the BRAKE SOURCE advisory message extinguishes.

Continued Next Page

32-41-02B

Flight dispatch is permitted with the BRAKE SOURCE indicator light and associated EICAS advisory message inoperative if the following procedures are taken. Check that normal and alternate hydraulic brake systems, and brake accumulator are operational:

1. Check that landing gear down locks are installed (AMM 32-00-20) 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. Confirm R SYS PRESS light is not illuminated.
4. Depress and release both captain's or first officer's brake pedals ten times minimum. Brake pressure gauge should dip momentarily (2000 to 2500 psi) at each 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.
5. Confirm the BRAKE PRESS pressure gage on first officer's main instrument panel P3 indicates 2850 to 3150 psig.
6. Pressurize the left hydraulic system with one electric pump. Confirm L SYS PRESS light is not illuminated.
7. Depressurize the right hydraulic system without applying brakes. Confirm R SYS PRESS light illuminates and indicated pressure for right hydraulic system is less than 500 psi.
8. Slowly depress and release both captain's or first officer's brake pedals seven times minimum. Confirm that brake pressure gauge does not dip with 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.
9. Confirm the BRAKE PRESS pressure gage on P3 panel indicates 2850 to 3150 psig.
10. Depressurize the left hydraulic system.
11. Depress and release both captain's or first officer's brake pedals seven times minimum.
12. Confirm the BRAKE PRESS pressure gage on P3 panel indicates a lower value each time the brakes are applied. Final pressure should be about 1150 - 1500 psig.
13. Ensure brake accumulator is correctly serviced. 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"**	**N**	1	0	**C**	**(O)** May be inoperative provided: a) After takeoff, gear remains down for two minutes before retraction, b) Takeoff performance is based on landing gear extended, and c) Performance corrections are applied.

MEL ITEM	TAB LOCATION	PLACARD TEXT
32-41-03	Near Landing Gear Handle	Gear Retraction Braking System INOP

(O) PROCEDURES

32-41-03	**GEAR RETRACTION BRAKING SYSTEM**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	Increase BLOCK FUEL by 300 lbs.
NOTES	AWABS Takeoff data is provided for DRY or SLP-WET runway conditions only. 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 32-41-03.**

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
32-42-01A	Antiskid System **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Performance corrections are applied for antiskid inoperative operations, and b) Approach minimums do not require its use. CAT II/III Not Authorized
32-42-01B	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 deferred per MEL 32-41-01A, and b) Approach minimums do not require its use. CAT II/III Not Authorized
32-42-01C	Channels **"DISP.APPR.REQ'D"**	**N**	8	7	**C**	**(O)(M)** One channel and associated brake may be inoperative (line capped) provided: a) Brake is deactivated and deferred per MEL 32-41-01B, and b) Approach minimums do not require its use. CAT II/III Not Authorized

MEL ITEM	TAB LOCATION	PLACARD TEXT
32-42-01A	Near ANTISKID Light	ANTISKID System INOP
32-42-01B	Near ANTISKID Light	____ ANTISKID Channel INOP
32-42-01C	Near ANTISKID Light	____ ANTISKID Channel INOP

Continued Next Page

(O) PROCEDURES

32-42-01A

Takeoff

1. Request with ATC use of the longest available runway.
2. Select AUTO BRAKES OFF.
3. Leave ANTI-SKID switch ON (if installed).
4. Tailwind takeoffs are NOT authorized.
5. Improved performance takeoffs are NOT permitted.
6. Reduced thrust takeoff is NOT permitted.
7. Accomplish normal power takeoffs ONLY.
8. When stopping for rejected takeoffs:
   a) Close thrust levers and raise speedbrakes.
   b) Initiate wheel braking using light pedal pressure and increase as ground speed decreases.

Landing

For landing, refer to the QRH and accomplish the ANTISKID, Non-Normal checklist.

32-42-01A	**ANTISKID SYSTEM**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	AWABS Takeoff data is provided for DRY runway conditions only. 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.**

Continued Next Page

32-42-01B BRAKE DEACTIVATED

NOTE: If a transducer fault exists, EICAS status message ALTN ANTISKID will remain displayed. Flight crews should be aware that loss of the right hydraulic system enroute will result in illumination of the ANTISKID light and display of the EICAS message. Braking effectiveness on the alternate system is reduced - brake with caution.

32-42-01C BRAKE LINE CAPPED

After takeoff the landing gear must remain extended for a minimum of two minutes to allow the wheel to spin down prior to gear retraction.

NOTE: If a transducer fault exists, EICAS status message ALTN ANTISKID will remain displayed. Flight crews should be aware that loss of the right hydraulic system enroute will result in illumination of the ANTISKID light and display of the EICAS message. Braking effectiveness on the alternate system is reduced - brake with caution.

(M) PROCEDURES

32-42-01A

Deactivate the antiskid system as follows:

A. Pull and secure the following P11 panel circuit breakers:
   1) LANDING GEAR ANTISKID 1-5
   2) LANDING GEAR ANTISKID 2-6
   3) LANDING GEAR ANTISKID 3-7
   4) LANDING GEAR ANTISKID 4-8

B. Set the AUTO BRAKES selector to OFF.

32-42-01B

Defer associated brake inoperative (deactivated) per MEL 32-41-01A.

32-42-01C

Defer associated brake inoperative (line capped) per MEL 32-41-01B.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
32-42-02A	Alternate Antiskid Valves	**N**	4	0	**C**	**(O)(M)** May be inoperative provided: a) Manual braking capability on alternate brake system is verified on associated wheels, and b) Normal antiskid system operates normally.
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, and b) Antiskid inoperative performance corrections are applied, and c) Approach minimums do not require its use. CAT II/III Not Authorized

MEL ITEM	TAB LOCATION	PLACARD TEXT
32-42-02A	Near ANTISKID Light	____ Alternate Antiskid Valve(s) INOP
32-42-02B	Near ANTISKID Light	____ Alternate Antiskid Valve(s) INOP

(O) PROCEDURES

32-42-02A

Inoperative Alternate Anti-Skid Valves do not affect the normal braking system. However, flight crews 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. Select AUTO BRAKES OFF. Autobrakes are inoperative (auto spoilers remain operative).
2. Use moderate braking action, consistent with runway conditions, for stopping.
3. Improved performance takeoffs are NOT permitted.
4. Reduced thrust takeoffs are NOT permitted.
5. Normal power takeoffs ONLY.
6. Tailwind takeoffs are NOT authorized.

32-42-02B	**ALTERNATE ANTISKID VALVES – ANTISKID SYSTEM INOPERATIVE**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	AWABS Takeoff data is provided for DRY runway conditions only. 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.**

Continued Next Page

(M) PROCEDURES

32-42-02A

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 left system hydraulic power.
   f) Depress and release brake pedals. Observe brake unit wear indicator pins to check that all 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 on all brakes, deactivate alternate anti-skid valve(s) for affected brakes.
3. To deactivate, disconnect and stow connector for affected alternate anti-skid valve (see graphic):

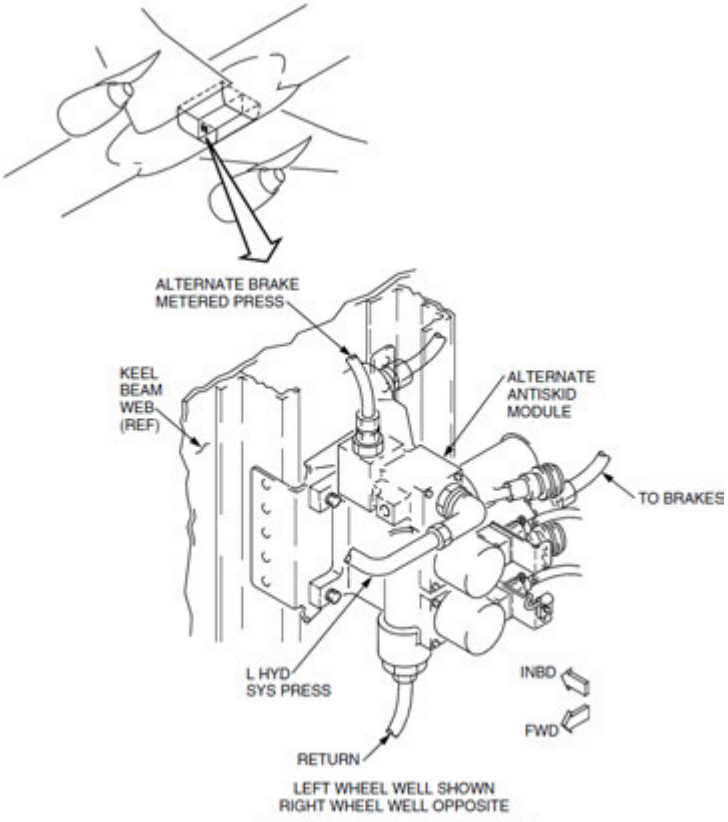
WHEELS	VALVE NUMBER	VALVE LOCATION
1 and 2	V37	L Wing, Outboard
3 and 4	V39	R Wing, Outboard
5 and 6	V38	L Wing, Inboard
7 and 8	V40	R Wing, Inboard

4. Depress and release brake pedals. Observe brake unit wear indicator pins to check that all brakes apply and release.
5. If brakes apply and release on all brakes, manual braking capability on the alternate brake system is verified and dispatch is allowed with no AFM performance penalties.

Continued Next Page

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 left system hydraulic power.
   f) Depress and release brake pedals. Observe brake unit wear indicator pins to check that all 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 on all brakes, deactivate anti-skid system for affected brakes by pulling and collaring the appropriate circuit breakers as follows:
   a) 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.
   b) 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.
   c) Depress and release brake pedals. Observe brake unit wear indicator pins to check that all brakes apply and release.
   d) If brakes apply and release on all brakes, manual braking capability on the alternate brake system is verified and dispatch is allowed.



ALTERNATE ANTI-SKID MODULE

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		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	**C**	**(O)** May be inoperative provided: a) Performance corrections are applied for antiskid inoperative operations, and b) Approach minimums do not require its use. NOTE: With a fault in the Anti-skid System, RTO will latch but will not apply auto brakes during a rejected takeoff. CAT II/III Not Authorized

MEL ITEM	TAB LOCATION	PLACARD TEXT
32-42-03A	Near ANTISKID Light	ANTISKID Light INOP
32-42-03B	Near ANTISKID Light	ANTISKID Light INOP

(O) PROCEDURES

32-42-03B

1. Select AUTO BRAKES OFF.
2. When stopping after landing and for rejected takeoffs:
   a) Close thrust levers and raise speedbrakes.
   b) Initiate wheel braking using light pedal pressure and increase as ground speed decreases.
3. Improved performance takeoffs are NOT permitted.
4. Reduced thrust takeoffs are NOT permitted.
5. Normal power takeoffs ONLY.
6. Tailwind takeoffs are NOT authorized.

32-42-03B	**ANTISKID LIGHT – ANTISKID SYSTEM INOPERATIVE**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	AWABS Takeoff data is provided for DRY runway conditions only. 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.**

Continued Next Page

(M) PROCEDURES

32-42-03A

Verify that the antiskid system is operative as follows:

1. With electrical power on airplane and wheels chocked, release parking brake and check that the valve is full open.

WARNING: INSTALL DOOR LOCKS BEFORE ENTERING WHEEL WELL.

   a) Gain access to valve, located on forward bulkhead of right main gear wheel well.

   b) Check that the manual override handle on valve is at POS 1 (full open).

2. On the antiskid / autobrake control unit in the aft equipment center E6, perform the following:

   a) Press the BIT switch to check for the absence of faults until the unit display reads TEST END.

   b) Confirm that no faults are displayed.

   c) Press the RESET switch to clear memory.

3. 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: a) AUTO BRAKES light is not illuminated with autobrake switch OFF, and b) Approach minimums do not require its use. CAT III Not Authorized
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: a) Autobrake solenoid valve is verified closed, and b) Approach minimums do not require its use. CAT III Not Authorized
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: a) Module is deactivated in accordance with an accepted procedure, and b) Approach minimums do not require its use. CAT III Not Authorized

MEL ITEM	TAB LOCATION	PLACARD TEXT
32-42-04A	Near Autobrake Switch	Autobrake System(s) INOP
32-42-04B	Near Autobrake Switch	Autobrake System(s) INOP
32-42-04C	Near Autobrake Switch	Autobrake System(s) INOP

(M) PROCEDURES

32-42-04B

Verify autobrake solenoid valve is CLOSED:

1. Apply electrical power to the airplane.
2. Chock the wheels.
3. Release the parking brake.
4. Retard both thrust levers.
5. Place the AUTOBRAKE SELECTOR SWITCH to the OFF position.
6. Pressurize the RIGHT hydraulic system.
7. If the AUTOBRAKE light is not illuminated, then an autobrake solenoid valve is CLOSED. No further maintenance action required.

Continued Next Page

8. If the AUTO BRAKE light remains illuminated, perform the following:
   a) Depressurize the RIGHT and LEFT hydraulic systems.
   b) Pump the brake pedals until the brake accumulator pressure gage on the First Officer's panel will reduce no further (approximately 1300 psi).
9. If the AUTO BRAKE light remains illuminated, the autobrake solenoid valve is CLOSED (the autobrake solenoid valve pressure switch or indication system malfunction is has a fault). No further maintenance action required.
10. If the AUTO BRAKE light is not illuminated, the autobrake solenoid valve has failed open and the autobrake valve module must be hydraulically deactivated. Refer to MEL 32-42-04C.

32-42-04C

Deactivate autobrake module:

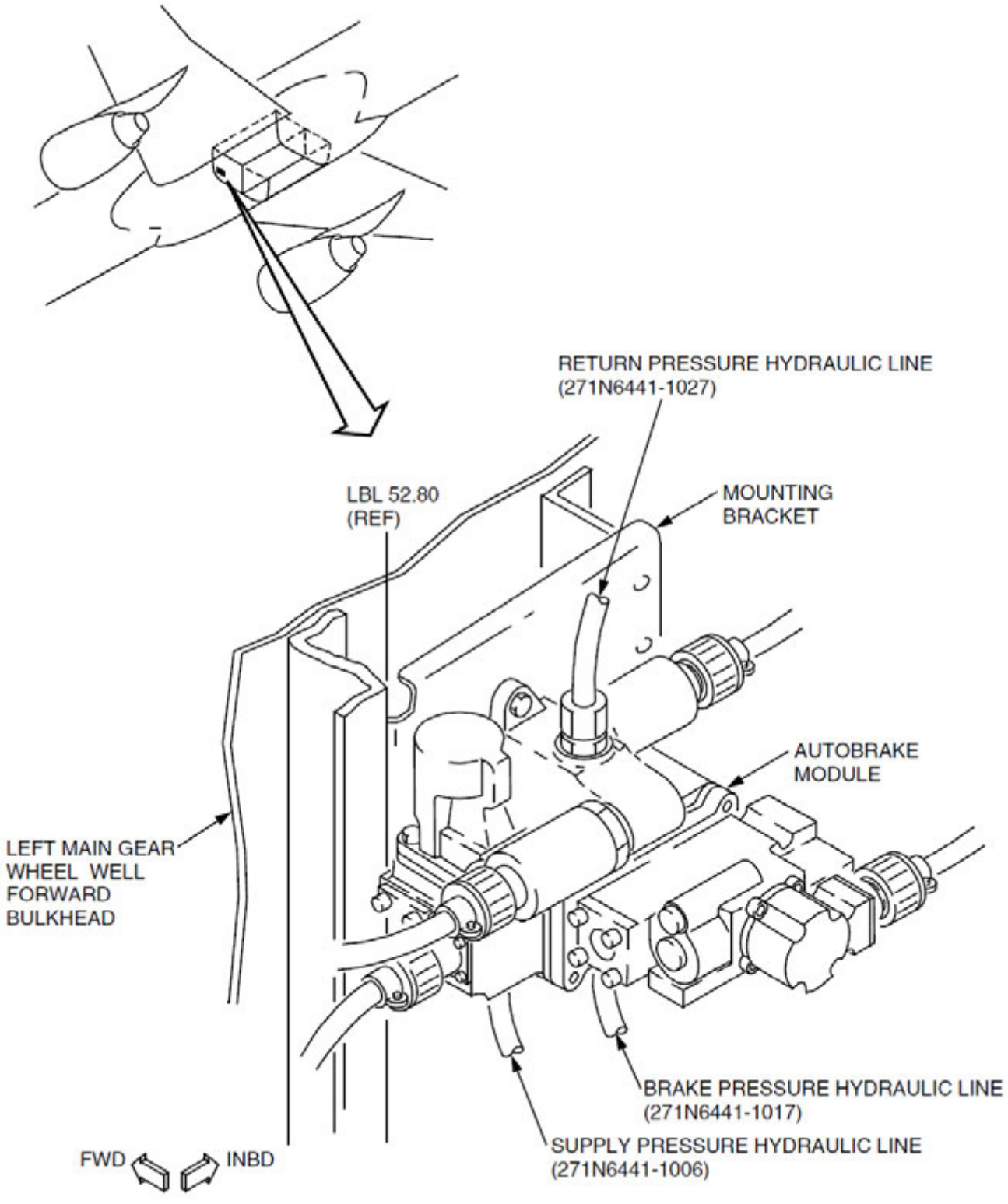
1. Depressurize the right and left hydraulic systems.
2. Depressurize the right hydraulic system reservoir.
3. Pump the brake pedals until the brake accumulator pressure gage on the First Officer's panel will reduce no further (approximately 1300 psi)
4. Pull and secure the following circuit breakers on the overhead circuit breaker panel P11:
   - 11S14, LDG GEAR AUTOBRK ANTISKID TEST IND1
   - 11S21, LDG GEAR 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 in the left main gear wheel well on the forward bulkhead.
6. Remove, cap, and stow four electrical connectors D2668, D2670, D2672, and D2674.

   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 prevent leaks.
7. Perform step a. or step b.
   a) To disable the autobrake valve module in place:
      1) Disconnect and cap system pressure hydraulic line (271N6441-1006) at module with BAC P20AU8J, K or S.
      2) Plug the valve PRESSURE port.
   b) To remove the autobrake valve module:
      1) Remove the autobrake valve module.
      2) Cap the system pressure hydraulic line (271N6441-1006) with BAC P20AU8J, 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:
   - 11S12, LDG GEAR AUTOBRK ANTISKID TEST IND1
   - 11S21, LDG GEAR AUTOBRK ANTISKID TEST IND2
9. Restore right hydraulic system power and check for leaks.
10. Restore the airplane to its normal configuration.

Continued Next Page


RETURN PRESSURE HYDRAULIC LINE
(271N6441-1027)
LBL 52.80
(REF)
MOUNTING
BRACKET
AUTOBRAKE
MODULE
LEFT MAIN GEAR
WHEEL WELL
FORWARD
BULKHEAD
BRAKE PRESSURE HYDRAULIC LINE
(271N6441-1017)
SUPPLY PRESSURE HYDRAULIC LINE
(271N6441-1006)
FWD
INBD

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED	FLIGHT CREW MAY PLACARD	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
32-44-02	Parking Brake Valve (5501-5657) **"DISP.APPR.REQ'D"**	**N**	1	0	**C**	**(O)(M)** May be inoperative closed provided: a) Performance corrections for antiskid inoperative are applied, and b) Approach minimums do not require its use. CAT II/III Not Authorized

MEL ITEM	TAB LOCATION	PLACARD TEXT
32-44-02	1. Near Parking Brake Handle 2. Autobrake Switch 3. Antiskid Light	Parking Brake Valve INOP Autobrakes INOP Antiskid INOP

(O) PROCEDURES

1. Tailwind takeoffs are NOT authorized.
2. Improved performance takeoffs are NOT permitted.
3. Reduced thrust takeoffs are NOT permitted.
4. Normal power takeoffs ONLY.
5. Select AUTO BRAKES OFF.
6. 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	AWABS Takeoff data is provided for DRY runway conditions only. 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.**

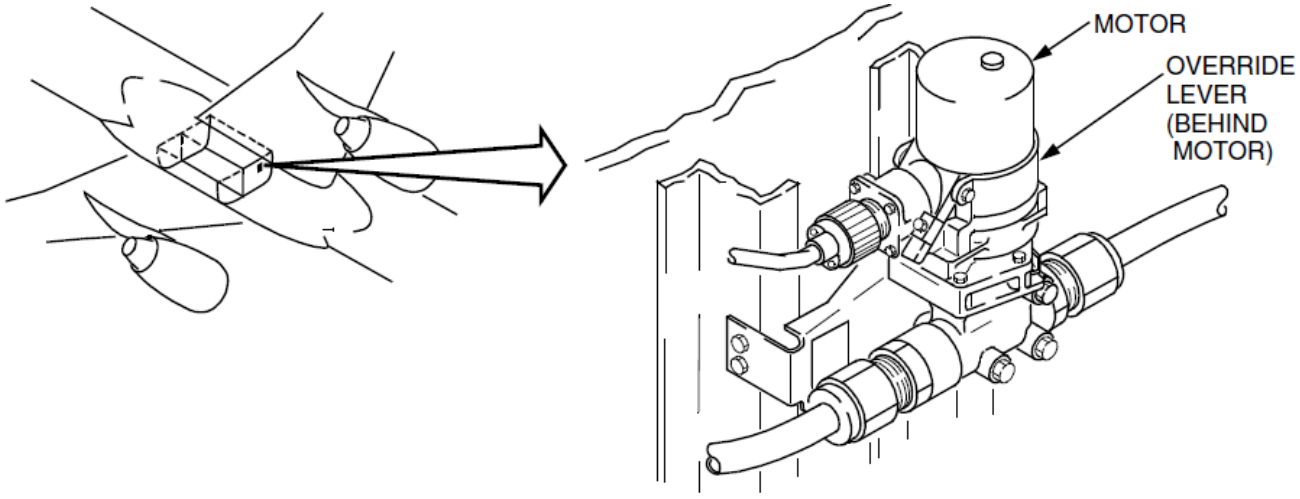
Continued Next Page

(M) PROCEDURES

1. Check that parking brake valve is fully closed as follows:
   a) With electrical power on airplane and wheels chocked, release parking brake.
   b) Pull and secure LANDING GEAR PARKING BRAKE VLV circuit breaker (P6 panel).
   c) Gain access to valve (right wheel well).

WARNING: DOOR LOCKS MUST BE PROPERLY INSTALLED PRIOR TO ACCESS TO PARKING BRAKE VALVE (AMM 32-00-15). RAPID ACTION OF DOORS MAY INJURE PERSONNEL OR DAMAGE EQUIPMENT IF LOCKS ARE NOT PROPERLY INSTALLED.

   d) Manually position override lever on parking brake valve to full closed position (POS 2).



2. With parking brake released, and antiskid switch ON (if installed on overhead P5 panel), verify that ANTISKID light and EICAS message ANTISKID OFF are annunciated. Leave antiskid switch (if installed) ON.
3. With parking brake set, position and hold the configuration test switch (P61 panel) in the T/O position.
   a) Verify PARKING BRAKE takeoff warning message is displayed.
   b) Release parking brake.
   c) Verify PARKING BRAKE takeoff warning message is not displayed.
4. Restore airplane to its required configuration (leave LANDING GEAR PARKING BRAKE VLV circuit breaker open and position indicator to POS 2).

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
PARKING BRAKE LIGHTS					
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 to operate normally 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	**C**	**(O)** May be inoperative provided: a) Performance corrections for antiskid inoperative are applied, and b) Approach minimums do not require its use CAT II/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.
32-44-03D Nose Gear Parking Brake Status Indicator Light (PARKING BRAKE ON)	**Y**	1	0	**C**	**(O)(M)** May be inoperative provided alternate procedures are established and used.

MEL ITEM	TAB LOCATION	PLACARD TEXT
32-44-03A	Near PARK BRAKE Light	PARK BRAKE Light INOP
32-44-03B	Near PARK BRAKE Light	PARK BRAKE Light INOP
32-44-03C	Near PARK BRAKE Light	PARK BRAKE Light INOP
32-44-03D	Near PARK BRAKE Light	PARK BRAKE Light INOP

(O) PROCEDURES

32-44-03B

1. Improved performance takeoffs are NOT permitted.
2. Reduced thrust takeoffs are NOT permitted.
3. Normal power takeoffs ONLY.
4. Tailwind takeoffs are NOT authorized.
5. When releasing parking brakes:
   a) Check that ANTISKID light (P5 panel) is extinguished.
   b) If the light is illuminated, dispatch must be with antiskid system inoperative, but leave antiskid switch (if installed) selected ON.
6. Initiate wheel braking using light pedal pressure.

Continued Next Page

32-44-03B	
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	AWABS Takeoff data is provided for DRY runway conditions only. 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

When parking brake is set, ensure advisory EICAS message PARKING BRAKE is displayed.

NOTE: With EICAS message PARKING BRAKE operating normal, no additional procedures required.

32-44-03D

1. Establish communications between ground and flight deck..
2. Notify ground crew when the parking brake is set.

(M) PROCEDURES

32-44-03A

Verify antiskid light monitor is operational ONCE EACH FLIGHT DAY:

1. Select antiskid switch ON (if installed).
2. Provide electrical power.
3. Provide right hydraulic system pressure.
4. Close LDG GEAR PARKING BRAKE VLV circuit breaker F-4 on main power distribution panel P6.
5. Set parking brakes.
6. Check that ANTISKID light on pilot's overhead (P5 Panel) is not illuminated.
7. Open LDG GEAR PARKING BRAKE VLV circuit breaker.
8. After approximately 3 seconds verify that ANTISKID light illuminates.
9. Release the parking brake by depressing the brake pedals.
10. Close LDG GEAR PARKING BRAKE VLV circuit breaker and verify that ANTISKID light extinguishes.
11. Set parking brakes.
12. Position and hold configuration test switch (P61 Panel), in the T/O position.
13. Verify that PARKING BRAKE takeoff warning message is displayed.
14. Release parking brake.
15. Verify that PARKING BRAKE takeoff warning message is not displayed.
16. Verify ANTISKID light is extinguished.

Continued Next Page

17. Release configuration test switch (P61 panel).
18. Open LDG GEAR PARKING BRAKE VLV circuit breaker.
19. Verify that ANTISKID light is extinguished (wait at least 3 seconds).
20. Close LDG GEAR PARKING BRAKE VLV circuit breaker.
21. Restore airplane to its required configuration

32-44-03D

Establish communications between ground and flight deck.

Have flight crew notify ground crew when 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 Gauge (Wing Fairing)	**Y**	1	0	**C**	May be inoperative provided associated flight deck indication operates normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
32-44-04	Near Brake Pressure Indicator	Wheel Well Brake Accumulator Pressure Indicator INOP

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
32-44-05	BRAKE PRESS Gauge (Flight Deck)	**N**	1	0	**C**	**(M)** May be inoperative provided: a) Brake accumulator charge is verified normal ONCE EACH FLIGHT DAY (Log Book Entry Required), and b) Right low SYS PRESS light operates normally. **Repetitive Check Required (Yellow Placard)**

MEL ITEM	TAB LOCATION	PLACARD TEXT
32-44-05	Near BRAKE PRESS Indicator	BRAKE PRESS Indicator INOP

(M) PROCEDURES

ONCE EACH FLIGHT DAY verify brake accumulator charge is normal as follows:

1. Check that landing gear ground lock pins are installed and wheels are adequately chocked.
2. With the right and left hydraulic systems depressurized, confirm that the R SYS PRESS indicator light on P5 panel is illuminated.
3. Provide electrical power to hydraulic brake system.
4. Pressurize the right hydraulic system. Confirm that the R SYS PRESS indicator light on P5 panel is extinguished.
5. Gain access to accumulator pressure indicator in the aft hydraulics bay (197KL, in the wing fairing, see illustration).

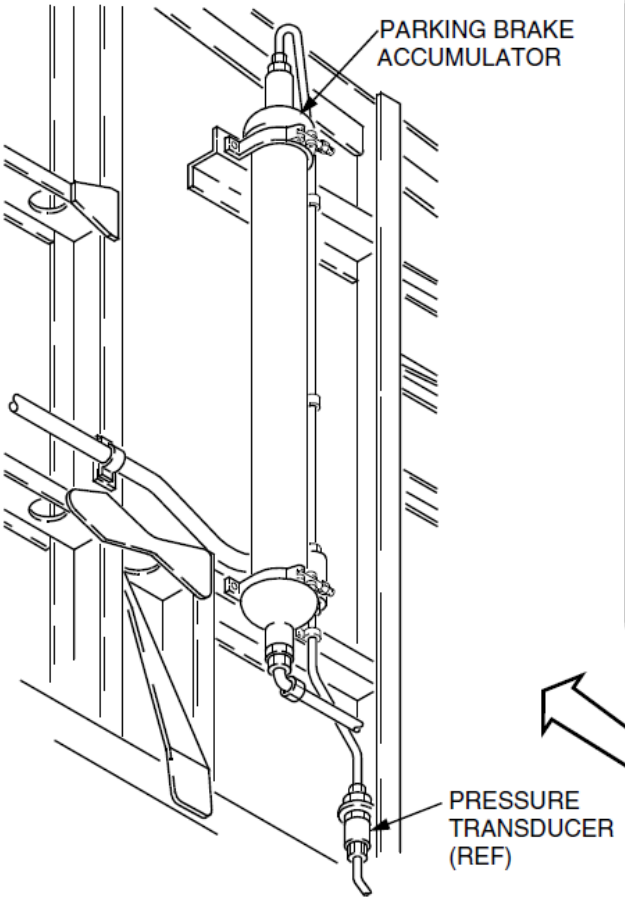
WARNING: DOOR LOCKS MUST BE PROPERLY INSTALLED BEFORE GAINING ACCESS TO PARKING BRAKE ACCUMULATOR. RAPID ACTION OF DOORS MAY CAUSE INJURY OR DAMAGE, IF LOCKS ARE NOT PROPERLY INSTALLED.

6. Confirm that the pressure indicator indicates 2850 to 3150 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. Confirm that the R SYS PRESS indicator light is illuminated.

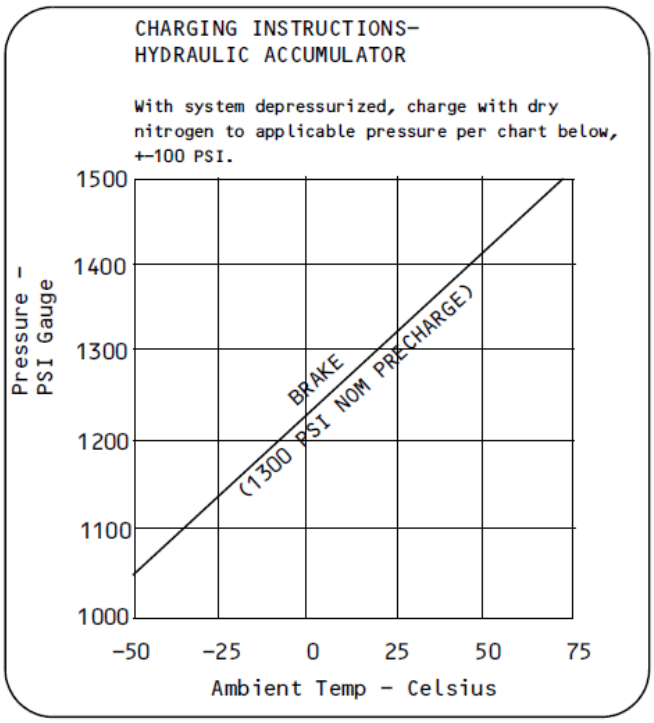
   NOTE: Pause a minimum of 5 seconds after each brake application before next application.
9. Verify accumulator pressure is 1150 to 1500 psig.

   NOTE: On a day cooler than 68° f (20° c), proper accumulator pressure is below 1300 psi. Correct pressure as a function of ambient temperature is identified on a placard near the charge valve.
10. Restore airplane to its required configuration.

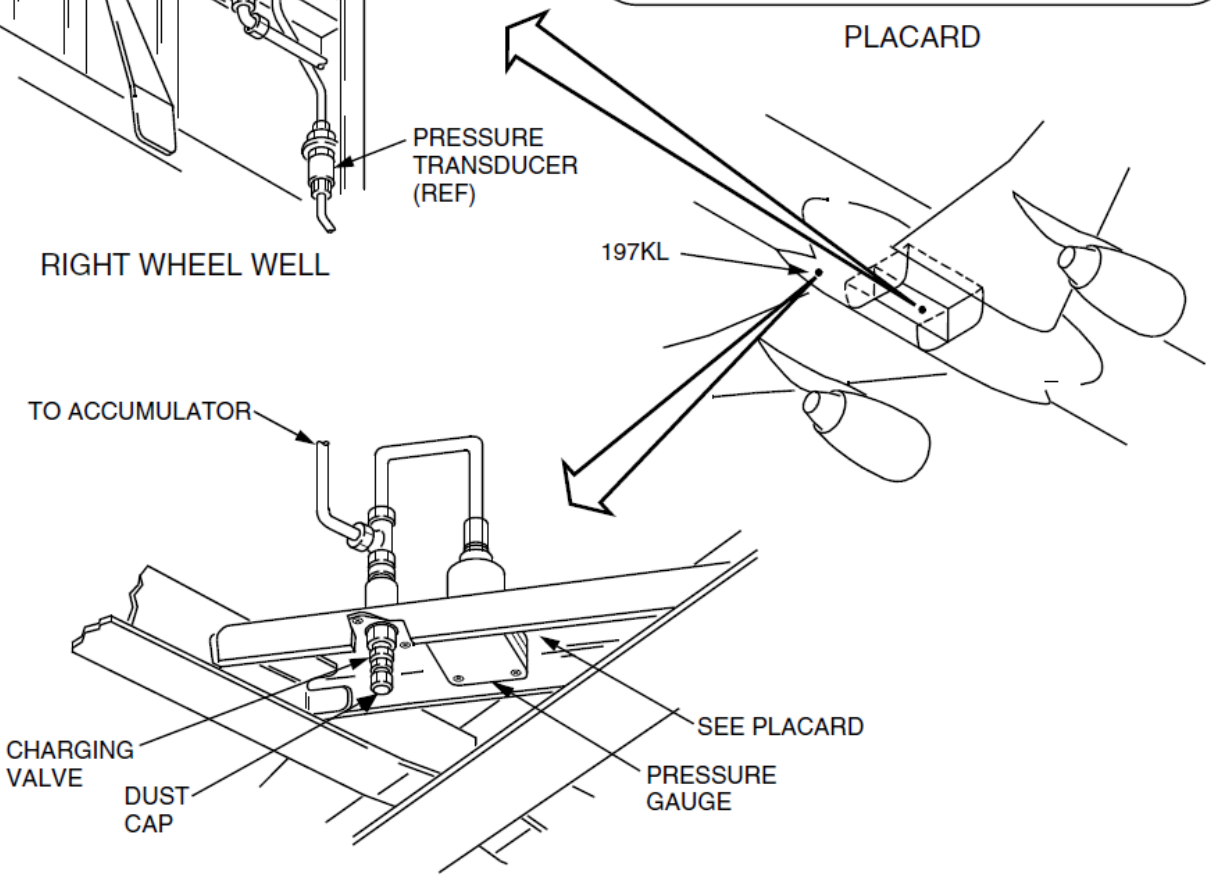
Continued Next Page



RIGHT WHEEL WELL



PLACARD



AFT HYDRAULICS BAY

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	TAB LOCATION	PLACARD TEXT
32-45-02	Near Brake Pressure Indicator	____ Nose Wheel Spin Brake INOP / Missing

(M) PROCEDURES

Ensure there are no exposed bolts or metal pieces which could cut the tire. If part of the brake shoe pad is missing, Maintenance will be required to remove any exposed bolts/rivets as necessary. If the spring arm is broken, remove the remaining piece and reinstall the bolts to maintain pressure zone integrity.

		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	TAB LOCATION	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 a pilot with access to an operating tiller. CAT II/III Not Authorized

MEL ITEM	TAB LOCATION	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 should be informed that the crewmember with access to the tiller will be flying, and the following procedures shall be used.

Takeoff: The crewmember should steer the airplane, manipulating the nose wheel steering tiller with his hand, until the rudder becomes effective (approximately 40 to 50 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 nose wheel steering tiller 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:
   a) Visually inspect mechanism below flight compartment floor for broken or disconnected components.
   b) Displace rudder pedals full travel in both directions to ensure pedals move freely.
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	TAB LOCATION	PLACARD TEXT
32-61-01	Landing Gear DOORS Light	Landing Gear DOOR 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.

ITEM NO. NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
LANDING GEAR POSITION SENSORS					
32-61-02A Nose Gear Up Sensors	**N**	2	1	**C**	**(M)** One may be inoperative provided nose gear door sensors are verified to operate normally.
MAIN GEAR UP AND LOCKED SENSORS					
32-61-02B System One	**N**	2	0	**C**	**(M)** May be inoperative provided: a) Main gear door closed sensors are verified to operate normally, and b) Both main gear up and locked sensors from System 2 are verified to operate normally.
32-61-02C System Two	**N**	2	0	**C**	**(M)** May be inoperative provided: c) Main gear door closed sensors are verified to operate normally, and d) Both main gear up and locked sensors from System 1 are verified to operate normally.
GEAR DOOR POSITION SENSORS					
32-61-02D System One	**N**	3	0	**C**	**(M)** May be inoperative provided System 2 door sensors are verified to operate normally.
32-61-02E System Two	**N**	3	0	**C**	**(M)** May be inoperative provided System 1 door sensors are verified to operate normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
32-61-02A	Near Landing Gear Handle	____ Nose Gear Up Position Sensor INOP
32-61-02B	Near Landing Gear Handle	____ Main Ldg Gear Up and Locked Sensor(s) INOP
32-61-02C	Near Landing Gear Handle	____ Main Ldg Gear Up and Locked Sensor(s) INOP
32-61-02D	Near Landing Gear DOORS Light	____ Ldg Gear Door Latch Position Sensor(s) INOP
32-61-02E	Near Landing Gear DOORS Light	____ Ldg Gear Door Latch Position Sensor(s) INOP

Continued Next Page

(M) PROCEDURES

32-61-02A

Verify Nose gear door sensors operate normally as follows:

NOTE: Maintenance personnel should be familiar with standard safety precautions regarding working around the landing gear as noted throughout the Maintenance Manual. Proximity Sensor Actuator/Deactuator set A27092-61 should be used throughout this procedure to simulate the desired position of the sensors.

WARNING: MAKE SURE THERE ARE NO PERSONS OR EQUIPMENT AROUND THE NOSE OR MAIN LANDING GEAR BEFORE YOU OPEN THE DOORS. THE DOORS OPEN AND CLOSE QUICKLY AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

CAUTION: Do not hold the "all doors open" switches in the "ARM" and "OPEN" positions for more than two (2) seconds. If you hold the switches too long, the power pack will overheat, and can cause the alternate extension system to not operate.

For one Nose Gear Up sensor inoperative, verify Nose Gear Door Sensors operate normally as follows:

1. Locate Proximity Switch Electronics Unit (PSEU) in main E/E equipment center.
2. Perform PSEU BITE test.
3. If faults are displayed, verify that they are Nose Gear Up faults only.
4. Open gear doors.
5. Verify GEAR DOORS message (Advisory) is displayed on EICAS after 35 seconds.
6. Place targets on the following sensors to simulate the main gear doors being closed:
   - System 1 Right Gear Door Closed S10241.
   - System 2 Right Gear Door Closed S10072.
   - System 1 Left Gear Door Closed S10242.
   - System 2 Left Gear Door Closed S10076.
   - System 1 Nose Gear Door Closed S10243.
   - System 2 Nose Gear Door Closed S10081.
7. Verify that GEAR DOORS EICAS message (Advisory) is not displayed.
8. Remove the targets from S10243 and S10081 Nose Gear Door closed sensors.
9. Verify that GEAR DOORS EICAS message (Advisory) is displayed after 35 seconds.
10. Remove all targets.

Continued Next Page

32-61-02B

For inoperative Main Gear Up and Locked Sensors, do the following:

1. Verify Main Gear Door Closed Sensors operate normally as follows:
2. Perform the PSEU BITE test.
3. Verify that no Main Gear Door sensors are faulted.
4. Open gear doors.
5. Verify that GEAR DOORS (Advisory) message is displayed on EICAS after 35 seconds.
6. Place targets on the following sensors to simulate gear doors being closed:
   - System 1 Nose Gear Door Closed S10243.
   - System 2 Nose Gear Door Closed S10081.
   - System 1 Left Gear Door Closed S10242.
   - System 2 Left Gear Door Closed S10076.
   - System 1 Right Gear Door Closed S10241.
   - System 2 Right Gear Door Closed S10072.
7. Verify the GEAR DOORS Advisory message is no longer displayed.
8. Remove the targets from S10241 and S10072 Right Gear Door Closed sensors.
9. Wait at least 35 seconds, then verify the GEAR DOORS Advisory EICAS message is displayed.
10. Reinstall targets on S10241 and S10072 Right Gear Door Closed sensors.
11. Verify the GEAR DOORS Advisory message is no longer displayed.
12. Remove the targets from S10242 and S10076 Left Gear Door Closed sensors.
13. Wait at least 35 seconds, then verify the GEAR DOORS Advisory EICAS message is displayed.
14. Remove all targets.

Verify Main Gear Up and Locked System 2 Sensors operate normally as follows:

1. Perform the PSEU BITE test.
2. Verify that no System 2 Main Gear Up and Locked sensors are faulted.
3. Place safety pins in gears. Move landing gear lever to OFF position.
4. Place targets on the following system 2 sensors:
   - Nose Gear Up S10077
   - Nose Gear Locked S10078
   - Right Gear Up and Locked S10069
   - Left Gear Up and Locked S10073
5. Verify there is no GEAR DISAGREE message displayed on EICAS.
6. Remove the target from S10069 Right Gear Up and Locked sensor.
7. Wait at least 25 seconds.
8. Verify the GEAR DISAGREE EICAS Advisory message is displayed.
9. Reinstall target on S10069 Right Gear Up and Locked sensor. Verify GEAR DISAGREE message is no longer displayed.
10. Remove the target from S10073 Left Gear Up and Locked sensor.
11. Wait at least 25 seconds.
12. Verify the GEAR DISAGREE EICAS Advisory message is displayed.
13. Remove all targets.

Continued Next Page

32-61-02C

Verify Main Gear Door Closed Sensors operate normally as follows:

1. Perform the PSEU BITE test.
2. Verify that no Main Gear Door sensors are faulted.
3. Open gear doors.
4. Verify that GEAR DOORS (Advisory) message is displayed on EICAS after 35 seconds.
5. Place targets on the following sensors to simulate gear doors being closed:
   - System 1 Nose Gear Door Closed S10243.
   - System 2 Nose Gear Door Closed S10081.
   - System 1 Left Gear Door Closed S10242.
   - System 2 Left Gear Door Closed S10076.
   - System 1 Right Gear Door Closed S10241.
   - System 2 Right Gear Door Closed S10072.
6. Verify the GEAR DOORS Advisory message is no longer displayed.
7. Remove the targets from S10241 and S10072 Right Gear Door Closed sensors.
8. Wait at least 35 seconds, then verify the GEAR DOORS Advisory EICAS message is displayed.
9. Reinstall targets on S10241 and S10072 Right Gear Door Closed sensors.
10. Verify the GEAR DOORS Advisory message is no longer displayed.
11. Remove the targets from S10242 and S10076 Left Gear Door Closed sensors.
12. Wait at least 35 seconds, then verify the GEAR DOORS Advisory EICAS message is displayed.
13. Remove all targets.

Verify Main Gear Up and Locked System 1 Sensors operate normally as follows:

1. Perform PSEU BITE test.
2. Verify no System 1 Main Gear Up and Locked sensors are faulted.
3. Place Safety Pins in gears. Move landing gear lever to OFF position.
4. Place targets on the following system 1 Sensors.
   - Nose Gear Up S10238
   - Nose Gear Locked S10065
   - Right Gear Up and Locked S10239
   - Left Gear Up and Locked S10240
5. Verify that GEAR DISAGREE EICAS message is not displayed.
6. Remove the target from S10239 Right Gear Up and Locked sensor.
7. Wait at least 25 seconds.
8. Verify the GEAR DISAGREE EICAS Advisory message is displayed.
9. Reinstall the target to S10239 Right Gear Up and Locked sensor.
10. Verify the GEAR DISAGREE message is no longer displayed.
11. Remove the target from S10240, Left Gear Up and locked sensor.
12. Wait at least 25 seconds.
13. Verify the GEAR DISAGREE EICAS Advisory message is displayed.
14. Remove all targets.

Continued Next Page

32-61-02D

Verify System 2 Gear Door Position Sensors operate normally as follows:

1. Perform PSEU BITE test.
2. Verify no System 2 Gear Door Closed position sensors are faulted.
3. Open the gear doors.
4. Verify GEAR DOORS EICAS Advisory message displays after 35 seconds.
5. Place targets on the following System 2 sensors:
   - Nose Gear Door Closed S10081 sensor
   - Left Gear Door Closed S10076 sensor
   - Right Gear Door Closed S10072 sensor
6. Perform a PSEU target test and verify that sensors S10081, S10076, and S10072 are all TARGET NEAR.
7. Remove all targets.

32-61-02E

Verify System 1 Gear Door Position Sensors operate normally as follows:

1. Perform PSEU BITE test.
2. Verify no System 1 Gear Door Closed position sensors are faulted.
3. Open the gear doors.
4. Verify GEAR DOORS EICAS Advisory message displays after 35 seconds.
5. Place targets on the following System 1 sensors:
   - Nose Gear Door Closed S10243 sensor
   - Left Gear Door Closed S10242 sensor
   - Right Gear Door Closed S10241 sensor
6. Perform a PSEU target test and verify that sensors S10243, S10242, and S10241 are all TARGET NEAR.
7. Remove all targets.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH		REPAIR CATEGORY	REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD				
	TAIL SKID (-300)					
32-71-01A	Retraction Mechanism **"DISP.APPR.REQ'D"**	**N**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Tail skid is secured in extended position, and b) Performance corrections are applied.
32-71-01B	Crushable Cartridge **"DISP.APPR.REQ'D"**	**N**	1	0	**B**	**(O)(M)** May be crushed beyond replacement limit provided: a) AMM inspection procedure reveals no structural damage, b) At least one Tail Strike Detector Channel operates normally, and c) Performance corrections are applied. NOTE: Flaps 30 provides maximum aft body clearance for landing.

MEL ITEM	TAB LOCATION	PLACARD TEXT
32-71-01A	Near Tail Skid Light	Tail Skid Retraction Mechanism INOP
32-71-01B	Near Tail Skid Light	Tail Skid Crushable Cartridge INOP

(O) PROCEDURES

32-71-01A

Landing approach should be conducted at Flaps 30, Vref +5 unless a Non-Normal Checklist requires a different flap setting and approach speed. During the landing flare, ensure that airspeed does not drop below Vref until after touchdown.

32-71-01A	**TAIL SKID**
EFFECTIVITY	**-300**
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 1,550 lbs. Increase BLOCK FUEL by 0.9%.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** Reduce RATOW by 1,410 lbs. Reduce T/O CLIMB LIMIT by 1,410 lbs. **LANDING** Reduce RWY ALLOWABLE LANDING WT by 1,410 lbs. Reduce LANDING CLIMB LIMIT WT by 1,410 lbs.

Continued Next Page

32-71-01B

During pre-flight, ensure tailskid Pop Out Indicator is not extended (displaying red).

NOTE: The Pop Out Indicator on the Tailskid shock absorber assembly has been reset by Maintenance. Use flaps 30 landing at Vref + 5 unless Abnormal procedure requires a different flap and approach speed setting. During landing flare, ensure airspeed does not drop below Vref until after touchdown.

32-71-01B	**TAIL SKID**
EFFECTIVITY	**-300**
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 1,550 lbs.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance weight corrections have been applied. Increase AWABS V_1, V_R and V_2 by 6 KIAS.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** Reduce RATOW by 21,500 lbs. **LANDING** None **Other** Increase ODM, Takeoff Section V_R and V_2 by 6 KIAS.

(M) PROCEDURES

32-71-01A

DISPATCH IS ALLOWED ONLY IF TAIL SKID IS FULLY EXTENDED OR CAN BE FULLY EXTENDED MANUALLY. DISPATCH IS NOT ALLOWED IF THERE IS EVIDENCE OF HYDRAULIC LEAKAGE FROM THE SKID ACTUATION SYSTEM.

Secure tail skid in fully extended position:

1. Install downlocks on the nose and main landing gear (AMM 32-00-20).
2. Open service access door 311AL.
3. Ensure that the landing gear lever on the First Officer's instrument panel is in the DN detent.
4. Pressurize the Left Hydraulic System (Ref. AMM 29-11-00/201).
5. Check for leaks of the tail skid hydraulic actuator and associated hydraulic lines.
6. Depressurize the Left Hydraulic System (Ref. AMM 29-11-00/201).
7. If the tail skid is fully extended, install the downlock pin B32069 in the lock links for the tail skid. Remove or stow the REMOVE-BEFORE-FLIGHT streamer on the downlock pin.
8. If the tail skid is NOT fully extended, perform the following:

   NOTE: Illumination of the TAIL SKID light and EICAS message, with landing gear lever in the DN position, indicates that the tail skid is not fully extended.

WARNING: CHECK THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF TAIL SKID AREA BEFORE MANUALLY EXTENDING TAIL SKID. RESULTING MOVEMENT MAY CAUSE PERSONNEL INJURY OR DAMAGE TO EQUIPMENT.

   a) Manually move the tail skid to the fully extended position:
      1) Crack open the tail skid actuator bleed valve.
      2) If necessary, pull on lock links to unlock.

Continued Next Page

3) If necessary, pull on upper attach link.

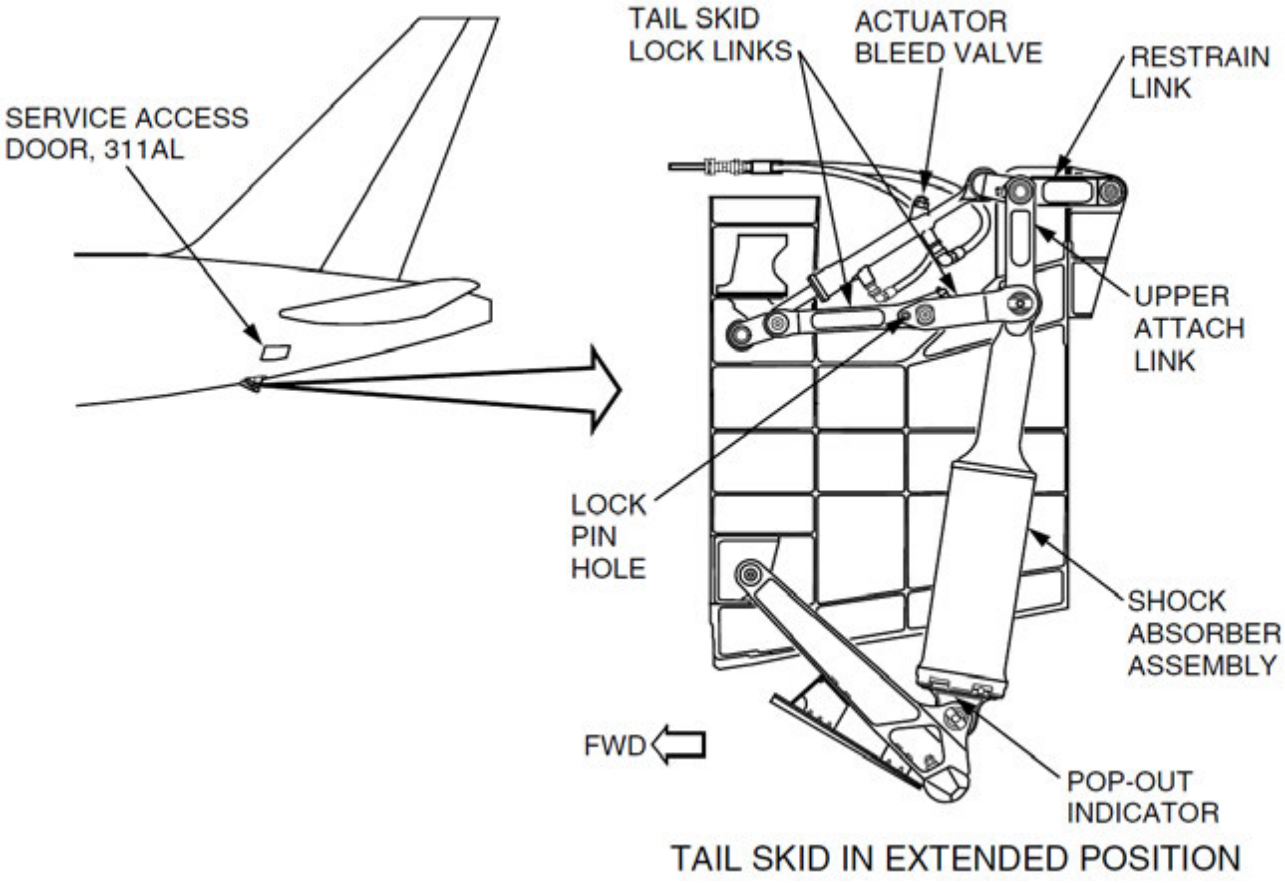
4) When tail skid is fully extended, close the actuator bleed valve.

b) Ensure that the TAIL SKID light and EICAS message extinguish once the tail skid is down and locked.

c) Install the downlock pin B32069 in the lock links for the tail skid. Remove or stow the REMOVEBEFORE-FLIGHT streamer on the downlock pin.

9. Close the service access door, 311AL.

10. Remove downlocks on the nose and main landing gear.



TAIL SKID IN EXTENDED POSITION

32-71-01B

Cartridge crush limits are defined in AMM 32-71-01. Perform structural inspection of aft body and tail skid per AMM 05-51-32. Dispatch is not permitted if internal or external damage is found.

For dispatch under this item, reset the pop-out indicator on the bottom of the tail skid shock absorber assembly. Continue normal daily inspection of this indicator while operating under the MEL.

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 (-300)	**Y**	1	0	**C**	May be inoperative provided tail skid retraction mechanism is inoperative.
32-71-02B	Tail Skid Indication System (-300)	**N**	1	0	**C**	**(M)** May be inoperative provided tail skid extend/retract function is verified to operate normally ONCE EACH FLIGHT DAY (Log Book Entry Required). **Repetitive Check Required (Yellow Placard)**
32-71-02C	Tail Skid Indication System (-300) **"DISP.APPR.REQ'D"**	**N**	1	0	**C**	**(O)(M)** May be inoperative provided tail skid is secured in the extended position, and deferred per MEL 32-71-01A.
32-71-02D	TAIL SKID Light (-300)	**Y**	1	0	**C**	May be inoperative provided "TAILSKID" EICAS advisory message operates normally.
32-71-02E	Proximity Switch System (-300)	**N**	1	0	**C**	**(M)** May be inoperative provided tail skid extend/retract function is verified to operate normally ONCE EACH FLIGHT DAY (Log Book Entry Required). **Repetitive Check Required (Yellow Placard)**

MEL ITEM	TAB LOCATION	PLACARD TEXT
32-71-02A	Near Tail Skid Light	Tail Skid Indication System INOP
32-71-02B	Near Tail Skid Light	Tail Skid Indication System INOP
32-71-02C	Near Tail Skid Light	Tail Skid Indication System INOP
32-71-02D	Near Tail Skid Light	TAIL SKID Light INOP
32-71-02E	Near Tail Skid Light	Tail Skid Proximity Switch System INOP

(O) PROCEDURES

32-71-02C

Use flaps 30 landing at Vref + 5 unless Abnormal procedure requires a different flap and approach speed setting. During landing flare, ensure airspeed does not drop below Vref until after touchdown.

Continued Next Page

(M) PROCEDURES

32-71-02B, 32-71-02E

CAUTION: MAKE SURE THE NOSE AND MAIN GEAR DOWNLOCKS ARE INSTALLED BEFORE YOU MOVE THE CONTROL LEVER. IF THE CONTROL LEVER IS MOVED WITHOUT THE DOWNLOCKS INSTALLED THIS CAN CAUSE THE LANDING GEAR TO RETRACT AND INJURE PERSONS OR CAUSE DAMAGE TO EQUIPMENT.

1. Make sure the downlocks are installed on the nose and main landing gear (AMM 32-00-20/201).

WARNING: USE THE PROCEDURE IN AMM 32-00-15/201 TO INSTALL THE DOOR LOCKS. THE DOORS OPEN AND CLOSE QUICKLY AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

2. Open the doors for the main landing gear and install the door locks (AMM 32-00-15/201).
3. Supply pressure to the left hydraulic system (AMM 29-11-00/201).
4. Make sure the control lever for the landing gear is in the DN position.
5. Remove the downlock pin for the tail skid, if it is installed (AMM 32-00-20/201)

WARNING: MAKE SURE THAT PERSONS AND EQUIPMENT ARE CLEAR OF THE TAIL SKID. INJURY TO PERSONS OR DAMAGE TO EQUIPMENT CAN RESULT.

6. Move the control lever for the landing gear to the UP position.

   NOTE: You must operate the override button to do this.
7. Make sure the tail skid is in the retracted position.
8. Move the control lever for the landing gear to the DN position.
9. Make sure the tail skid is extended.
10. Remove the doors locks from the main landing gear doors and close the doors (AMM 32-00-15/201).
11. Remove pressure from the left hydraulic system if it is not necessary (AMM 29-11-00/201).

32-71-02C

Defer the tail skid in the extended position per MEL 32-71-01A.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
32-72-01A	Tail Strike Detector Channels (-300)	**Y**	2	1	**C**	
32-72-01B	Tail Strike Detector Channels (-300)	**Y**	2	0	**B**	**(O)** May be inoperative provided alternate tail strike detection procedures are established and used. NOTE: TAIL STRIKE Caution message will be displayed on EICAS.

MEL ITEM	TAB LOCATION	PLACARD TEXT
32-72-01A	Near Lower EICAS Display	Tail Strike Detector Channel ___ INOP
32-72-01B	Near Lower EICAS Display	Tail Strike Detector Channel ___ INOP

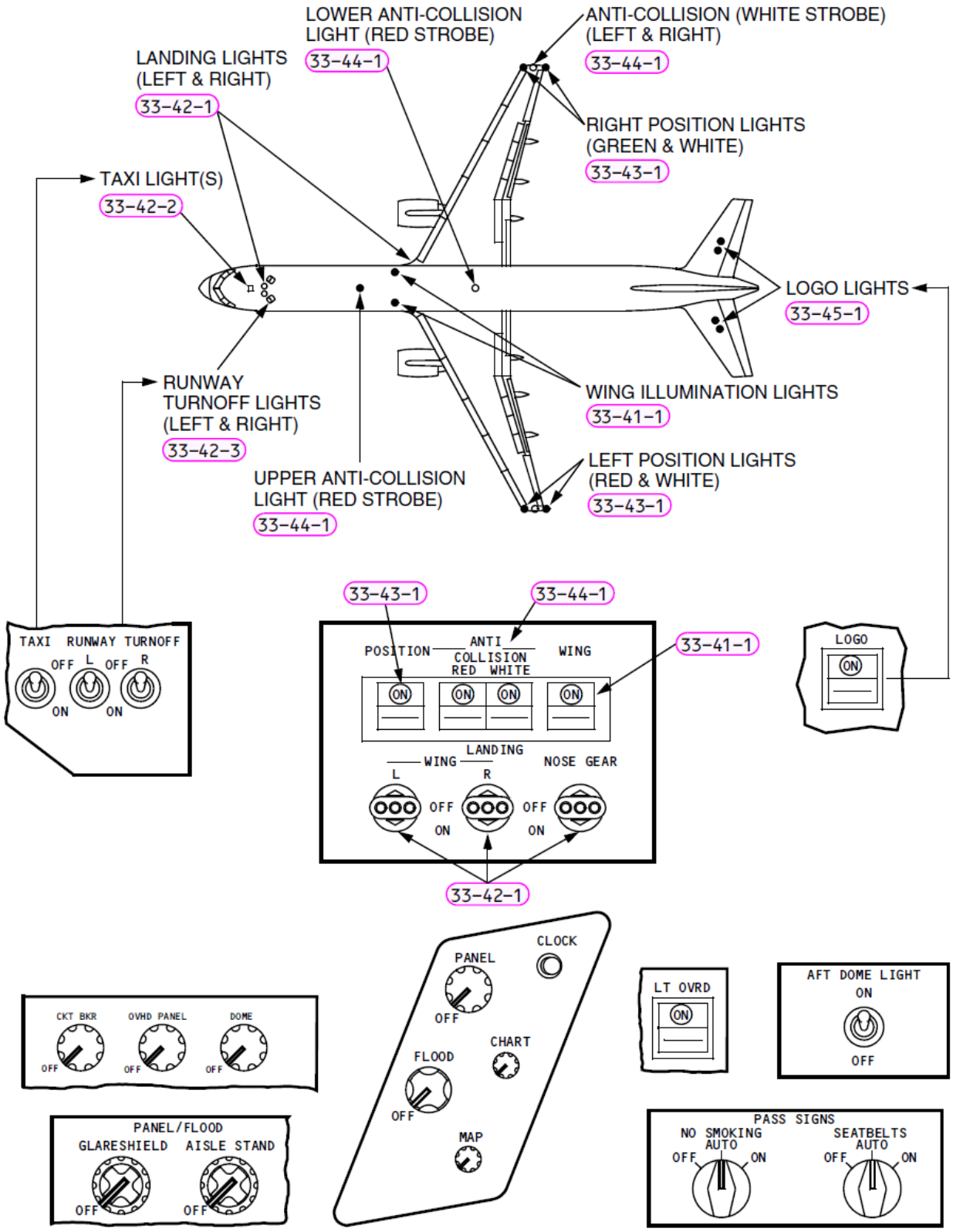
(O) PROCEDURES

32-72-01B

During takeoff, if a tail strike is perceived by the flight crew or reported from the cabin, perform the Non-Normal Checklist, TAIL STRIKE ON TAKEOFF.

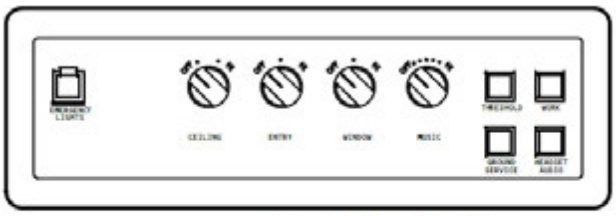
ATA 33 Contents

33-11-01 Flight Compartment and Instrument Lighting System 33-5
MASTER DIM AND TEST SYSTEM 33-6
33-16-01A Test Function 33-6
33-16-01B Dim Function 33-6
33-21-01 Cabin Interior Illumination System 33-7
33-24-01A Passenger Lighted Information Signs (No Smoking / Fasten Seat Belt / Return To Seat) 33-8
33-24-01C Aural Tone System 33-8
33-24-01D Flight Deck Automatic Function 33-8
33-25-01 Sterile Flight Compartment Light System (ATTND ADVISORY Light) 33-10
33-31-01 Wheel Well Lights 33-11
33-31-02 Exterior Cargo Loading Area Lights 33-12
33-31-03 Service Lights 33-13
33-31-04 Electrical Equipment Center Lights 33-14
33-37-01A Cargo Compartment Lights 33-15
33-37-01B Cargo Compartment Lights (Light Lens) 33-15
33-41-01 Wing Illumination Lights 33-16
33-42-01A Landing Lights 33-17
33-42-02 Taxi Lights 33-18
33-42-03 Runway Turnoff Lights 33-19
33-43-01A Position Lights (Bulbs) 33-20
33-44-01A Anti-Collision Lights (Red Strobes / White Strobes) 33-21
33-45-01 Logo Lights 33-22
33-51-01 Interior Emergency Lights (Battery Powered) 33-23
33-51-02 Exterior Emergency Lighting System (Battery Powered) 33-24
33-51-03A Emergency Escape Path Marking System 33-25

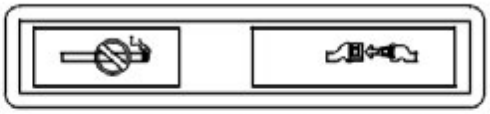


FLIGHT COMPARTMENT AND INSTRUMENT LIGHTING

33-11-1

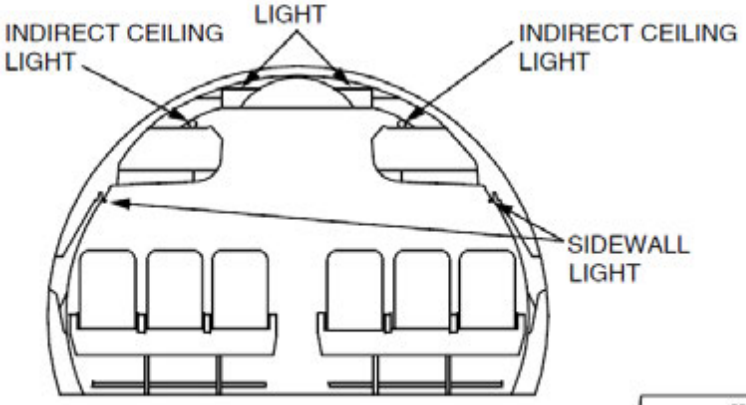


RECESSED CEILING LIGHT



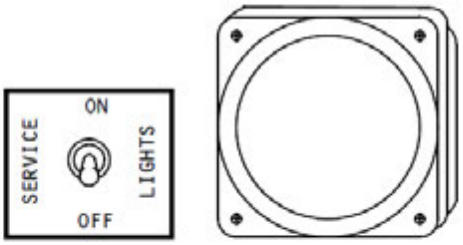
PASSENGER INFORMATION SIGNS

33-24-1



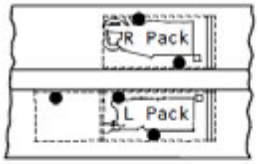
CABIN INTERIOR ILLUMINATION

33-21-1

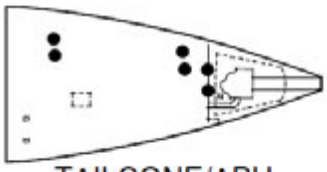


ELECTRICAL EQUIPMENT CENTER LIGHTS

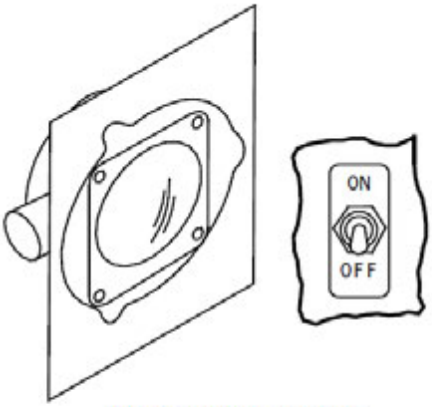
33-31-4



ECS BAYS

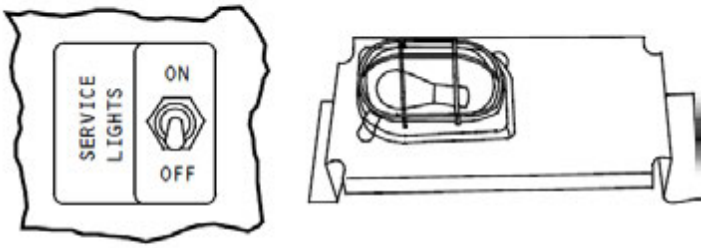


TAILCONE/APU



WHEEL WELL LIGHTS

33-31-1

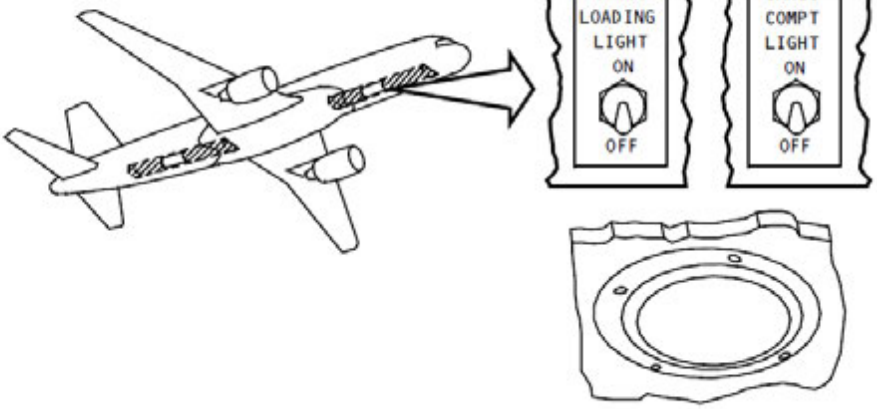


SERVICE LIGHTS

33-31-3

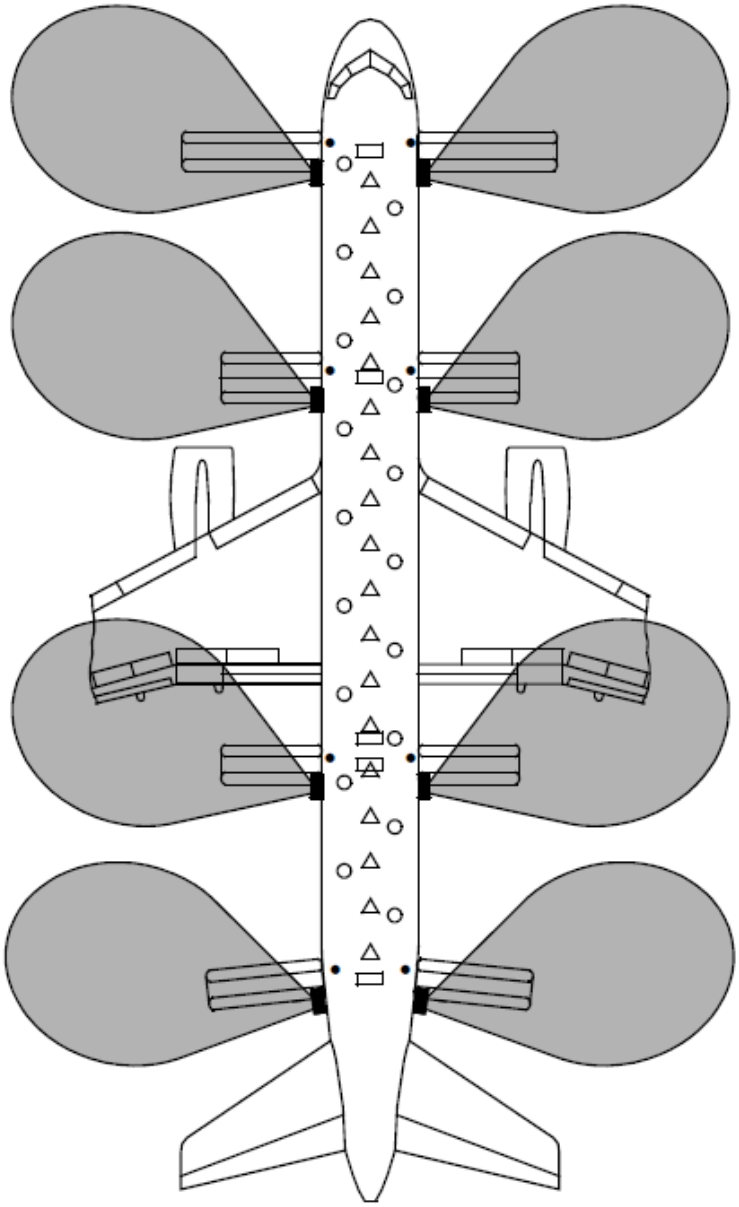
CARGO LOADING EXTERIOR AREA LIGHTS

33-31-2



CARGO COMPARTMENT LIGHTS

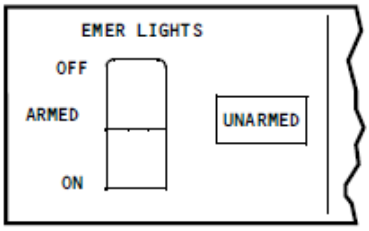
33-37-1



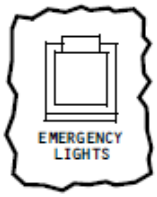
INTERIOR EMERGENCY LIGHTS
33-51-1

EXTERIOR EMERGENCY LIGHTING SYSTEM
33-51-2

EMERGENCY ESCAPE PATH MARKING SYSTEM
33-51-3



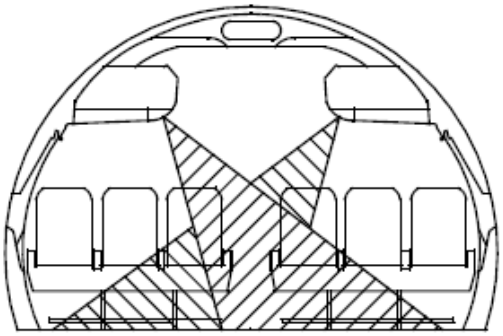
OVERHEAD PANEL



FWD FLIGHT ATTENDANT PANEL

- ● EXIT SIGN
- ○ AISLE LIGHT
- ▭ EXIT LOCATOR SIGN
- ▮ EXTERIOR SLIDE ILLUMINATION LIGHT
- △ FLOOR PROXIMITY EMERGENCY ESCAPE PATH LIGHTING

INTERIOR EMERGENCY LIGHTS
33-51-1



AISLE LIGHTS (TYP)

		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 may be inoperative provided: a) Remaining lighting system lights are sufficient to clearly illuminate all required instruments, controls, and other devices for which they are provided, b) Remaining lighting system lights are positioned so direct rays are shielded from flight crewmembers' eyes, and c) Lighting configuration and intensity is acceptable to flight crew. NOTE: This MEL relief applies ONLY to Flight Compartment and Instrument Lighting. Individual button/switch lights and/or annunciations/indications are excluded from this relief.

MEL ITEM	TAB LOCATION	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	TAB LOCATION	PLACARD TEXT
33-16-01A	Near Associated Lighting Control	Master Dim and Test System Test Function INOP
33-16-01B	Near Associated Lighting Control	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.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
33-21-01	Cabin Interior Illumination System **"DISP.APPR.REQ'D"**	**Y**	-	-	**C**	Individual lights may be inoperative provided: a) Remaining lighting is sufficient for cabin attendants to perform their duties, and b) For night ER operations (ETOPS), at least 75% of Night Lights operate normally. NOTE: The following number of Night Lights may be inoperative for night ER operations: • -200 Aircraft = 2 Lights • -300 Aircraft = 3 Lights

MEL ITEM	TAB LOCATION	PLACARD TEXT
33-21-01	Near Associated Lighting Control	____ Cabin Lighting INOP

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
33-24-01A	Passenger Lighted Information Signs (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 1: These provisions are not intended to prohibit lavatory use or inspections by crewmembers. NOTE 2: For A/C 5635-5649 only, on scheduled flights greater than 6 hours with more than 110 passengers, **all** lavatories **must** be operative.
33-24-01B	Passenger Lighted Information Signs (No Smoking / Fasten Seat Belt / Return To Seat)	**Y** -	-	**C**	**(O)** May be inoperative and associated passenger seat(s) or lavatories may be occupied provided: a) PA System operates normally, and b) PA system is used to alert cabin crew and to notify passengers when seat belts should be fastened, when smoking is prohibited, and when passengers should return to their seats.
33-24-01C	Passenger Lighted Information Signs (No Smoking / Fasten Seat Belt / Return To Seat)	**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 121.583 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** -	0	**C**	**(O)** May be inoperative provided: a) Manual control function operates normally, and b) Alternate procedures are used.

MEL ITEM	TAB LOCATION	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 FOM, Operational Policy (Chapter 3) for when the pilot in command shall 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. Persons being carried must be approved by the Flight Control Dispatcher.
2. Captain to brief persons authorized to be carried on safety/evacuation procedures.

(M) PROCEDURES

33-24-01A

3. Tapes or ropes of conspicuous contrasting colors must be installed to block access to unusable seats prior to boarding of passengers.
4. Conspicuous signs or placards shall be placed in appropriate locations to indicate seats or lavatory which are not to be occupied by passengers or cabin attendants.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
33-25-01	Sterile Flight Compartment Light System (ATTND ADVISORY Light)	**Y**	1	0	**C**	**(O)** May be inoperative provided alternate procedures are used.

MEL ITEM	TAB LOCATION	PLACARD TEXT
33-25-01	Near Sterile Attendant Advisory Switch	ATTND ADVISORY Light INOP

(O) PROCEDURES

1. Brief Flight Attendants on sterile flight deck procedures that must be observed in flight.
2. During climb–out, after passing 10,000 ft, notify Flight Attendants that sterile flight deck conditions are no longer in effect.
3. When below FL180 or 18,000 feet MSL, but not lower than FL120 or 12,000 feet MSL, notify Flight Attendants that sterile flight deck conditions are in effect.
4. Approximately one aircraft length from the gate: F/O should call “Flight Attendants prepare for arrival.”

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
33-31-01	Wheel Well Lights	**Y**	8	0	**C**	

MEL ITEM	TAB LOCATION	PLACARD TEXT
33-31-01	Near Exterior Light Control Panel	___ Wheel Well Light 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	**D**	

MEL ITEM	TAB LOCATION	PLACARD TEXT
33-31-02	Near Cargo Compartment Light Switch	___ Exterior Cargo Loading Area Light 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	**Y**	11	0	**C**	

MEL ITEM	TAB LOCATION	PLACARD TEXT
33-31-03	Near Exterior Light Control Panel	___ Service Light INOP

	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	**Y**	10	0	**C**	

MEL ITEM	TAB LOCATION	PLACARD TEXT
33-31-04	Near Exterior Light Control Panel	___ Electrical Equipment Center Light INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
33-37-01A	Cargo Compartment Lights	**Y**	15	0	**C**	
33-37-01B	Cargo Compartment Lights (Light Lens)	**Y**	15	0	**C**	**(M)** May be broken/missing provided associated light bulb is removed.

MEL ITEM	TAB LOCATION	PLACARD TEXT
33-37-01A	Near Exterior Light Control Panel	____ Cargo Compartment Light INOP
33-37-01B	Near Exterior Light Control Panel	____ Cargo Compartment Light INOP

(M) PROCEDURES

33-37-01B

Remove light bulb and tape opening created by broken or removed light lens with fiberglass 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**	2	0	**C**	**(O)** May be inoperative provided ground de-icing procedures do not require their use.

MEL ITEM	TAB LOCATION	PLACARD TEXT
33-41-01	Near Exterior Light Control Panel	___ Wing Illumination Light INOP

(O) PROCEDURES

Ensure that de-icing is complete, when needed.

		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	TAB LOCATION	PLACARD TEXT
33-42-01A	Near Exterior Light Control Panel	___ Landing Light INOP
33-42-01B	Near Exterior Light Control Panel	___ Landing Light 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	TAB LOCATION	PLACARD TEXT
33-42-02	Near Exterior Light Control Panel	___ Taxi Light 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	TAB LOCATION	PLACARD TEXT
33-42-03	Near Exterior Light Control Panel	___ Runway Turnoff Light INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
33-43-01A	Position Lights (Bulbs)	**Y**	8	4	**C**	One stationary light on forward and aft tip of each wing may be inoperative.
33-43-01B	Position Lights (Bulbs) **"DISP.APPR.REQ'D"**	**Y**	8	0	**C**	May be inoperative for day operations.

MEL ITEM	TAB LOCATION	PLACARD TEXT
33-43-01A	Near Exterior Light Control Panel	___ Position Light INOP
33-43-01B	Near Exterior Light Control Panel	___ Position Light 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)	**Y**	4	2	**C**	Upper and lower red fuselage strobe lights may be inoperative provided wing tip white strobe lights operate normally.
33-44-01B	Anti-Collision Lights (Red Strobes / White Strobes)	**Y**	4	2	**C**	Wing tip white strobe lights may be inoperative provided upper and lower red fuselage strobe lights operate normally.
33-44-01C	Anti-Collision Lights (Red Strobes / White Strobes) **"DISP.APPR.REQ'D"**	**Y**	4	0	**C**	May be inoperative for day operations.

MEL ITEM	TAB LOCATION	PLACARD TEXT
33-44-01A	Near Exterior Light Control Panel	____ Anti-Collision / Strobe Light INOP
33-44-01B	Near Exterior Light Control Panel	____ Anti-Collision / Strobe Light INOP
33-44-01C	Near Exterior Light Control Panel	____ Anti-Collision / Strobe Light 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	TAB LOCATION	PLACARD TEXT
33-45-01	Near Exterior Light Control Panel	___ Logo Light INOP

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
33-51-01	Interior Emergency Lights (Battery Powered)	Y	-	-	C	Light assemblies installed above aisle (curved edge of stowage bins) may be inoperative provided no two adjacent (opposite side) light assemblies are inoperative.

MEL ITEM	TAB LOCATION	PLACARD TEXT
33-51-01	Near Emergency Lighting Switch	___ Interior Emergency Light INOP

	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	TAB LOCATION	PLACARD TEXT
33-51-02	Near Emergency Lighting Switch	Exterior Emergency Lights INOP

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
33-51-03A	Emergency Escape Path Marking System Seat Mounted Lamps	**Y**	1	1	**C**	Must be operative except as provided: a) For Seat Mounted Modules: • Red - 50% may be inoperative per module. One bulb may be inoperative where there is a single module installed. One module may be inoperative where there are dual modules installed on a seat. One bulb in each module may be inoperative where there are dual modules installed on a seat. • White - 50% may be inoperative with no two adjacent modules inoperative, b) Two bulbs in each flood light assembly may be inoperative, and c) Two of the five lamps for each emergency EXIT identifier may be inoperative.
33-51-03B	Emergency Escape Path Marking System Floor Mounted Lamps	**Y**	1	1	**C**	Must be operative except as provided: a) Two of the five lamps in each floor level exit sign may be inoperative, b) One of the four or one of the five red filtered “exit cue” floor mounted lamps may be inoperative, c) One-half of the remaining floor mounted lamps may be inoperative provided the inoperative lamps are not in consecutive positions, d) Floor proximity light covers must be installed on all operative lights.

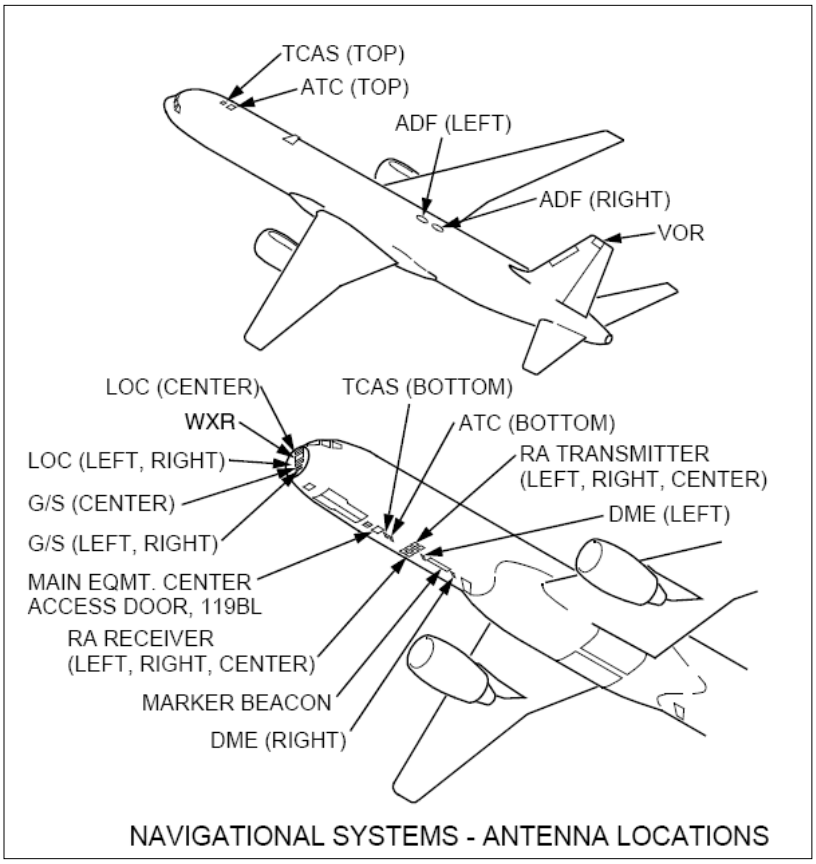
MEL ITEM	TAB LOCATION	PLACARD TEXT
33-51-03A	Near Emergency Lighting Switch	___ Emergency Escape Path Light INOP
33-51-03B	Near Emergency Lighting Switch	___ Emergency Escape Path Light INOP

INTENTIONALLY LEFT BLANK

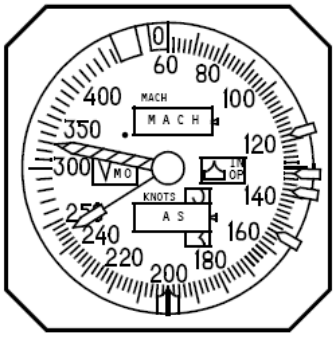
ATA 34 Contents

34-00-00L LLM Category II/III Status 34-7
34-00-05R RNP–5 Status (BRNAV) 34-8
34-00-10R RNP–10 Status 34-8
34-00-01 Instrument Source Select Switches 34-9
MACH / AIRSPEED INDICATORS 34-11
34-13-01A Mach Indicators 34-11
34-13-01C Command Airspeed Cursors 34-11
34-13-01D External Airspeed Markers (Bugs) 34-11
34-13-02 MACH / Airspeed Warning Systems (Visual and Aural) 34-12
34-13-06 Standby Altimeter Vibrator 34-13
34-13-08 Static Air Temperature (SAT) Indicator (Center Panel) 34-14
34-13-09 True Airspeed (TAS) Indicator (Center Panel) 34-15
34-13-10 Speed Command (Fast-Slow) Indicators 34-16
34-16-01A Altitude Alerting System 34-17
34-16-01B Aural Alert 34-17
34-16-01C Visual Alert 34-17
INERTIAL REFERENCE SYSTEMS (IRS) 34-18
34-21-01A IRS Without Hydraulic Motor (HMG) Installed 34-18
34-21-01F IRS With Hydraulic Motor (HMG) Installed 34-19
34-21-01I ADIRU Inertial Reference Function (A/C 5801-5816) 34-19
34-21-01J ADIRU Inertial Reference Function (A/C 5801-5816) 34-20
34-21-01K IRS Mode Selector Panel (Display and Keyboard Functions) 34-20
34-22-03A Radio Distance Magnetic Indicators (RDMI) 34-22
34-22-04A Flight Director Systems 34-23
34-22-04D Flight Director Systems (Displays) 34-23
34-22-05A Electronic Flight Instrument (EFIS) Symbol Generators 34-25
EFIS CONTROLS 34-26
34-22-06A Switches (NAV AID/ARPT/ RTE DATA/ WPT/WXR/ TERR) 34-26
34-22-06B Decision Height Indication (DH REF) 34-26
HSI MODE SELECTOR 34-26
34-22-06C MAP Position 34-26
34-22-06D PLAN Position 34-26
34-22-06E HSI Range Selector 34-26
34-22-08 Pitch Limit Indicators 34-27
34-22-30 Heading Reference (HDG REF) Switch TRUE Function 34-28
34-23-01A Magnetic Compass (Standby) 34-29
STANDBY ATTITUDE / ILS INDICATOR 34-30
34-24-01A Attitude Display 34-30
34-24-01B Approach Mode 34-30
INTEGRATED STANDBY FLIGHT DISPLAY (ISFD) SYSTEM 34-31
34-24-02A Attitude Display 34-31
34-24-02B Approach Mode 34-31
34-24-02C Heading Display 34-31
34-24-02D Dedicated Battery / Charger System 34-31
34-25-01 Instrument Comparator Unit 34-32

	AIR DATA SYSTEMS (ADIRS EQUIPPED AIRPLANES)	34-33
34-26-01A	Left and Right Air Data System (-300)	34-33
34-26-01B	Center Air Data System (-300)	34-33
34-31-01A	ILS System	34-35
34-32-01	Marker Beacon System	34-36
	RADIO ALTIMETER (RA) SYSTEMS (EADI)	34-37
34-33-01A	Radio Altimeter System	34-37
34-33-01B	Radio Altimeter System	34-37
	WEATHER RADAR SYSTEMS	34-39
34-43-01A	Weather Radar Systems	34-39
34-43-01D	Indicators / Displays	34-40
34-43-01E	WXR ON Light	34-40
34-43-01F	Windshear Alert Mode (Predictive)	34-40
34-45-01A	Traffic Alert Collision Avoidance System (TCAS II)	34-41
34-45-01B	Combined Traffic Alert (TA) and Resolution Advisory (RA) Dual Display System(s)	34-41
34-45-01C	Resolution Advisory (RA) Display System(s)	34-41
34-45-01D	Resolution Advisory (RA) Display System(s)	34-41
34-45-01E	Traffic Alert (TA) Display System(s)	34-41
34-45-01F	Audio Functions	34-41
	GOUND PROXIMITY WARNING SYSTEM (GPWS)	34-43
34-46-01A	Ground Proximity Warning System (GPWS)	34-43
34-46-01B	Modes 1 thru 4	34-43
34-46-01C	Test Mode	34-43
34-46-01D	Glideslope Deviation (Mode 5)	34-43
34-46-01E	Advisory Callouts (Mode 6)	34-43
34-46-01F	Windshear Alert Mode (Reactive) (Mode 7)	34-43
34-46-01H	Terrain Awareness Function	34-43
34-46-01I	Terrain Displays	34-43
34-51-01	VOR Navigation Systems	34-45
34-53-01A	ATC Transponders and Automatic Altitude Reporting Systems	34-46
34-53-01C	Elementary and Enhanced Downlink Aircraft Reportable Parameters not Reqd by 14 CFR	34-46
34-53-01D	ADS-B Extended Squitter Transmissions	34-46
34-55-01	Distance Measuring Equipment Systems	34-47
34-57-01	Radio Compass (ADF) Systems	34-48
34-60-03	Global Positioning Systems (GPS)	34-49
34-61-01A	Flight Management Computer Systems (FMCS) (Including CDU/HMCDU/ MCDU)	34-50
34-61-01D	Navigation Databases	34-50
34-61-01E	FMC Annunciator Light	34-51

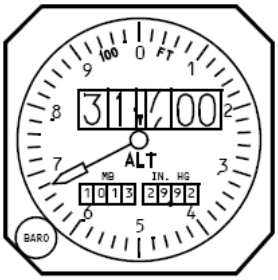


NAVIGATIONAL SYSTEMS - ANTENNA LOCATIONS



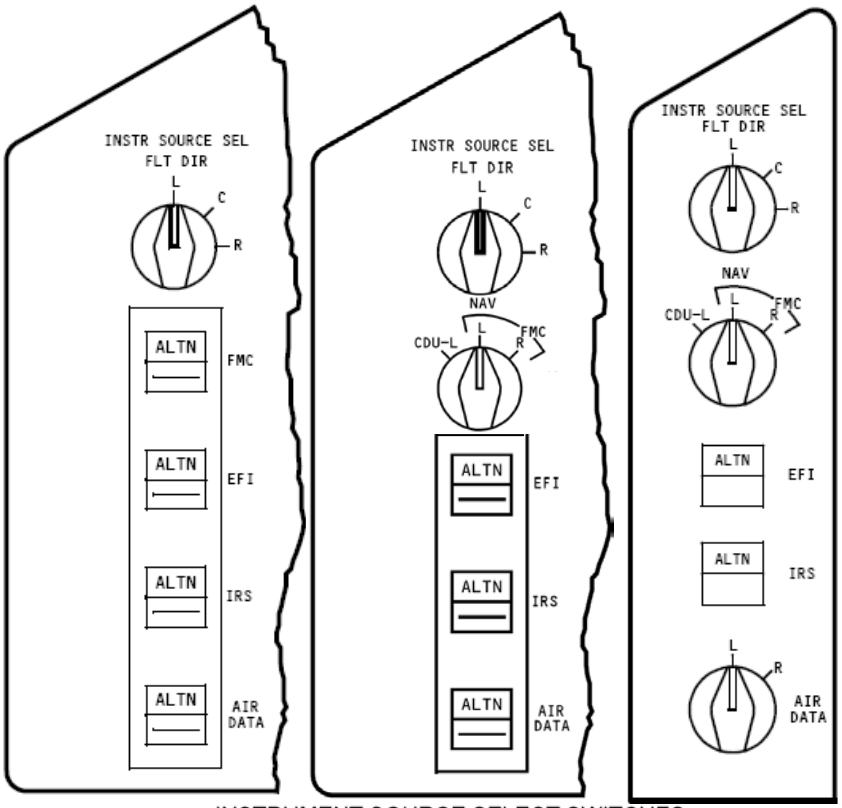
MACH/AIRSPEED INDICATOR

34-13-1



STANDBY ALTIMETER VIBRATOR

34-13-6



INSTRUMENT SOURCE SELECT SWITCHES

34-00-1

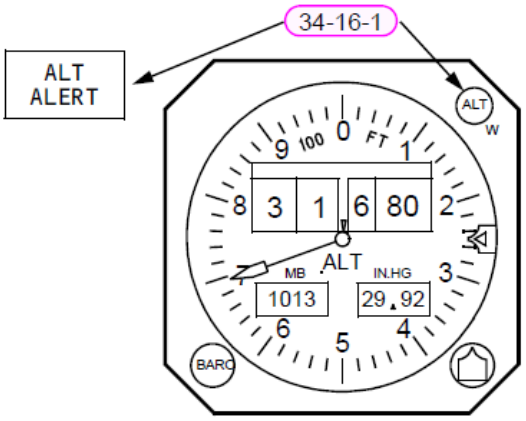
FIRE	CONFIG
PULLUP	A/P DISC
CABIN ALT	OVSPD

MACH/AIRSPEED WARNING SYSTEMS

34-13-2

ALTITUDE ALERTING SYSTEM

34-16-1



ELECTRIC ALTIMETERS

FLIGHT DIRECTOR SYSTEMS

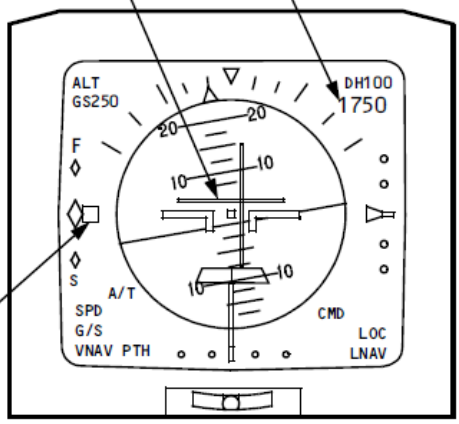
34-22-4

RADIO ALTIMETER (RA) SYSTEMS

34-33-1

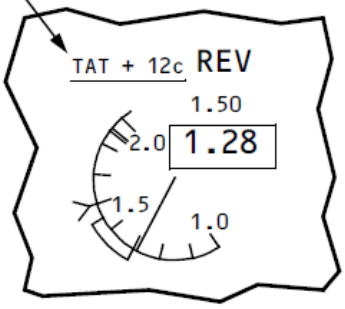
SPEED COMMAND (FAST-SLOW) INDICATORS

34-13-10



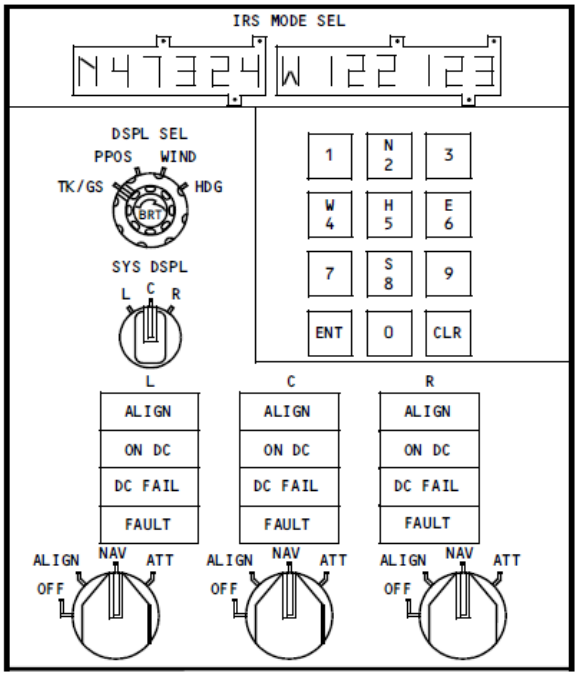
ATTITUDE DIRECTOR INDICATORS (ADI)

TAT INDICATION



TOTAL AIR TEMPERATURE INDICATION (TAT)

34-13-7



INERTIAL REFERENCE SYSTEMS (IRS)

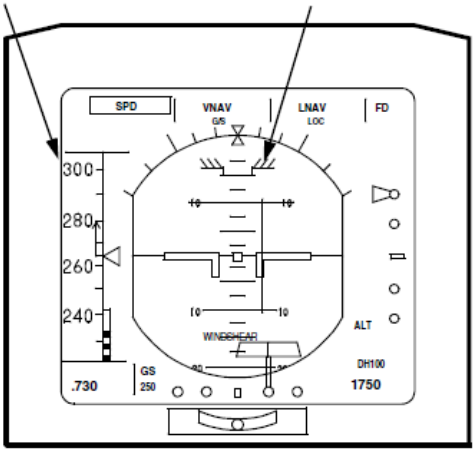
34-21-1

EFIS SPEED TAPE

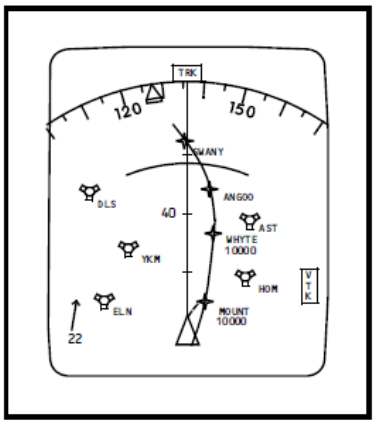
34-22-7

PITCH LIMIT INDICATOR

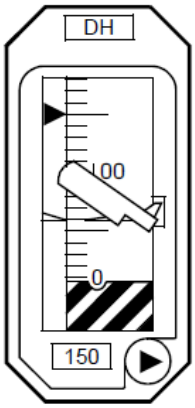
34-22-8



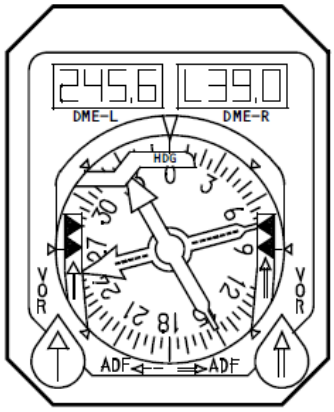
ATTITUDE DIRECTOR INDICATORS (ADI)



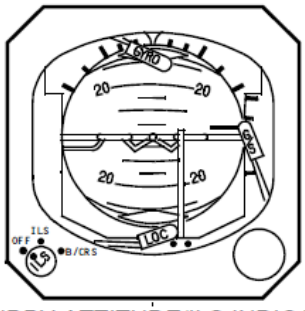
HORIZONTAL SITUATION INDICATOR
(MAP MODE SHOWN)



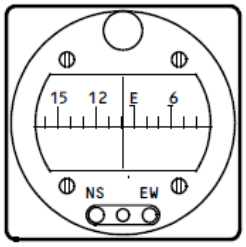
RADIO ALTITUDE INDICATORS
(ALTITUDE TAPE)
34-33-2



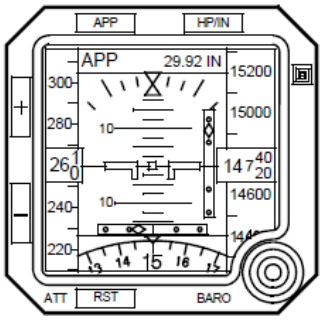
RADIO DISTANCE MAGNETIC
INDICATORS (RDMI)
34-22-3



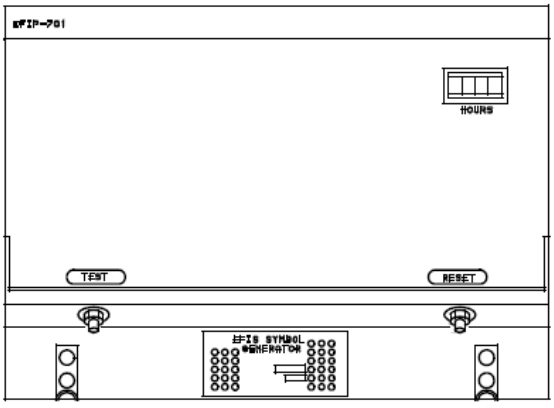
STANDBY ATTITUDE/ILS INDICATOR
34-24-1



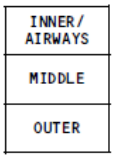
MAGNETIC COMPASS
(STANDBY)
34-23-1



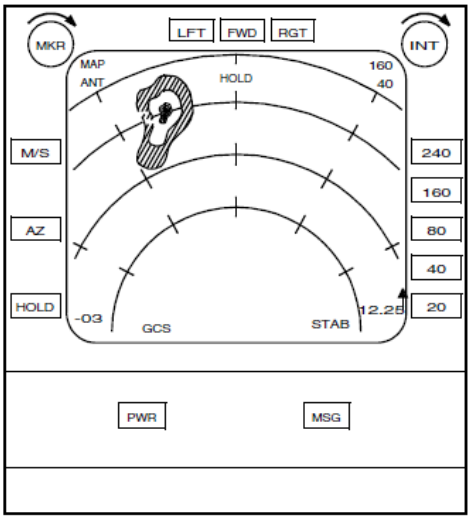
INTEGRATED STANDBY
FLIGHT DISPLAY (IFSD)
34-24-2



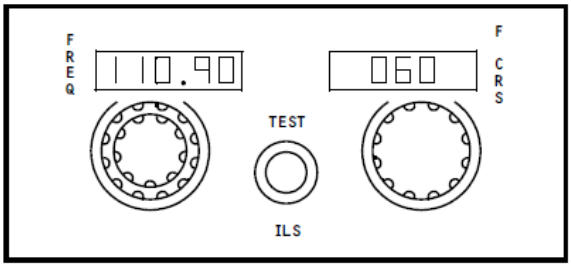
EFIS SYMBOL GENERATOR
34-22-5



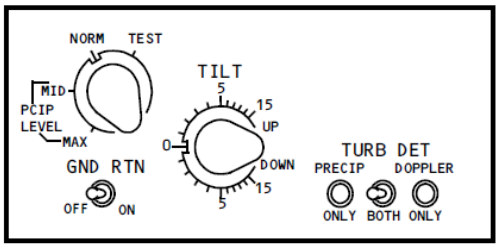
MARKER BEACON
SYSTEM
34-32-1

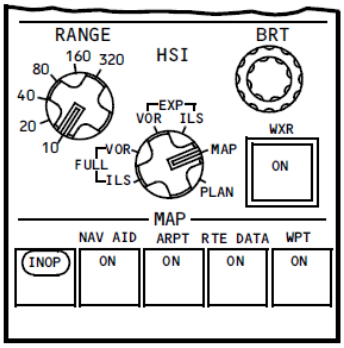


WEATHER RADAR INDICATOR
34-43-1 (1)



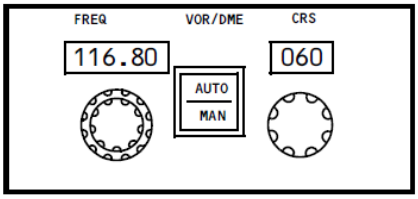
ILS SYSTEM
34-31-1





WEATHER RADAR SYSTEM

34-43-1

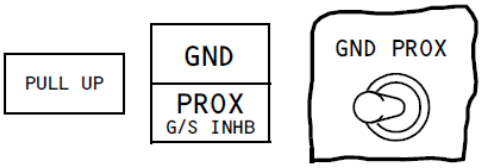


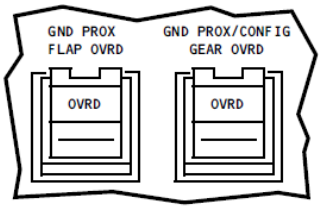
VOR NAVIGATION SYSTEMS

34-51-1

DME SYSTEMS

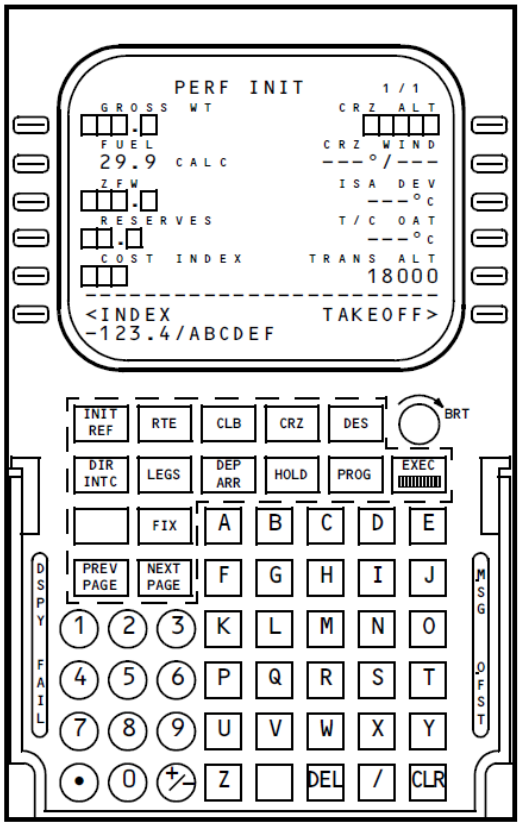
34-55-1





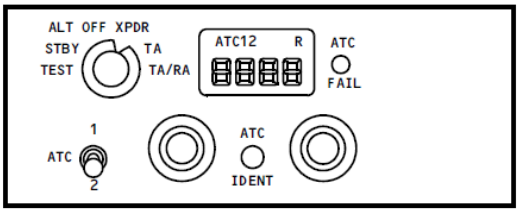
GROUND PROXIMITY
WARNING SYSTEM (GPWS)

34-46-1



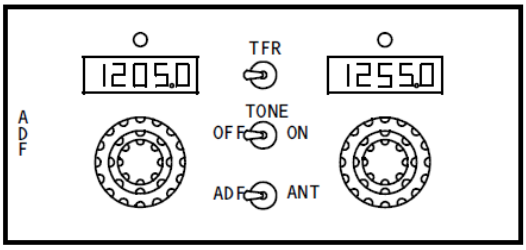
FLIGHT MANAGEMENT
COMPUTER SYSTEM (FMCS)

34-61-1



ATC TRANSPONDER AND AUTOMATIC
ALTITUDE REPORTING SYSTEM

34-53-1



RADIO COMPASS (ADF) SYSTEM

34-57-1

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 **"DISP.APPR.REQ'D"** Administrative Control Item	**N**	-	-		**(M)** May be inoperative provided Aircraft restricted to CAT I due to AMT is non-AFQ authorized. CAT II/III Not Authorized

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-00-00L	Adjacent To Each EADI	STATE THE REASON FOR DEFERRAL (I.E. REPETITIVE WRITE-UPS ON THE AUTOPILOT, INABILITY TO EXERCISE THE AUTOLAND SYSTEM, ETC.)

(M) PROCEDURES

1. Create a new log page in the aircraft logbook using the appropriate MEL Item Number (contact MCC for instructions).
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
34-00-05R RNP–5 Status (BRNAV) **"DISP.APPR.REQ'D"** Administrative Control Item	**Y**	-	-		**(M)** Authorized by MCC when: a) RNP-5 (BRNAV) airspace operations cannot be used, and b) No specific MEL item applies. NOTE: This Item Number is only used for deferring the RNP-5 (BRNAV) status of the aircraft and MCC authorization is required prior to its usage or removal. <u>RNP-5 (BRNAV) Operations</u> Not Authorized
34-00-10R RNP–10 Status **"DISP.APPR.REQ'D"** Administrative Control Item	**Y**	-	-		**(M)** Authorized by MCC when: a) RNP-10 airspace operations cannot be used, and b) No specific MEL item applies. NOTE: 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	TAB LOCATION	PLACARD TEXT
34-00-05R	Adjacent To Each EADI	RNP–5 (BRNAV) AIRSPACE OPERATIONS NOT AUTHORIZED
34-00-10R	Adjacent To Each EADI	RNP–10 AIRSPACE OPERATIONS NOT AUTHORIZED.

(M) PROCEDURES

34-00-05R, 34-00-10R

1. Create a new log page in the aircraft logbook using the appropriate MEL Item Number (contact MCC for instructions).
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
34-00-01	Instrument Source Select Switches **"DISP.APPR.REQ'D"**	**Y**	10	-	**C**	**(O)** May be inoperative provided: a) Associated instruments operate from isolated sources, b) Inoperative switches are not moved in flight, and c) For ER operations (ETOPS), at least one FMC, EFI, and IRS switch must operate normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-00-01	Near Affected Instrument Source Select Switch	___ Instrument Source Select Switch INOP

(O) PROCEDURES

Ensure instruments are operating from isolated sources as follows:

NOTE: Do not move inoperative switches during flight.

FLT DIR Source Selector:

1. Position Captain's or First Officer's unaffected source selector so that both pilot's instruments are operating from different sources.
2. Position Captain's and first Officer's F/D switches ON.
3. For the affected source selector, remove power from the associated FCC by pulling the associated circuit breaker (P11) panel:
   a) FLT CONT CMPTR PWR, L
   b) FLT CONT CMPTR PWR, C
   c) FLT CONT CMPTR PWR, R
4. Check that the flight director command bars disappear on the associated ADI and remain in view on the opposite side ADI. If both flight directors are operating from the same FCC, the flight director command bars will disappear from view on both ADIs.
5. Close the circuit breaker that was pulled in Step 3. above.
6. For the unaffected source selector, remove power form the associated FCC by pulling the associated circuit breaker (P11) panel:
   a) FLT CONT CMPTR PWR, L
   b) FLT CONT CMPTR PWR, C
   c) FLT CONT CMPTR PWR, R
7. Check that the flight director command bars disappear on the associated ADI and remain in view on the opposite side ADI. If both flight directors are operating from the same FCC, the flight director command bars will disappear from view on both ADIs.
8. Close the circuit breaker that was pulled in Step 6. above.

Continued Next Page

FMC Switch or NAV Source Selector (200K FMC):

1. Select different map ranges for each pilot's HSI.
2. If both pilots are operating from the same FMC, a message MAP RANGE DISAGREE will appear across the opposite HSI.

PIP FMC without Enhanced Ground Proximity Warning System (EGPWS) upgrade:

1. Open circuit breaker FMC R on the overhead circuit breaker (P11) panel.
2. Observe that map display fails on right HSI only.
3. Close circuit breaker FMC R on the overhead circuit breaker (P11) panel.

Pegasus FMC with Enhanced Ground Proximity Warning System (EGPWS) upgrade:

1. Position an operative NAV source select switch to the offside FMC.
2. If both pilots are operating from the same FMC, a green FMC L or FMC R annunciation will appear in the lower center portion of the HSI.
3. Return the NAV source select switch to the original selection and confirm a green FMC L or FMC R annunciation is not displayed in the lower center portion of the HSI.

EFI Switch:

1. Using HSI control panels, select VOR mode on Captain's side, ILS or APP mode, as applicable, on First Officer's side.
2. Observe that selected modes are displayed on each HSI.

IRS Switch:

ADC equipped airplanes (All except 5801-5816):

1. Place only the center IRS mode selector switch in ALIGN position.
2. Observe that at least one ADI has a normal background (shaded sky and ground). If background shading is lost on both ADIs, both are using the center IRS.

ADIRU equipped airplanes (5801-5816 and all -300 aircraft):

1. Place the C INERTIAL REF TEST Switch (P61) in the test position and observe that test data (pitch and roll attitude) are displayed on not more than one pilot’s instruments. For normal L and R ADIRU inertial reference source selection, neither pilot’s instruments should display the test data.

AIR DATA Switch:

ADC equipped airplanes (All except 5801-5816):

1. Place the L AIR DATA COMPTR TEST SWITCH (P61) in the test position and observe that test data (airspeed, altitude, etc.) are displayed on only one pilot's instruments.

ADIRU equipped airplanes (5801-5816 and all -300 aircraft):

1. Verify that Advisory message SINGLE AIR DATA is not annunciated on EICAS.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
	MACH / AIRSPEED INDICATORS					
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**	-	2	**C**	**(O)** May be inoperative or missing provided alternate procedures are used.

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-13-01A	Near Affected Mach/Airspeed Indicator	____ Mach Indicator INOP
34-13-01B	Near Affected Mach/Airspeed Indicator	Both Mach Indicators INOP
34-13-01C	Near Affected Mach/Airspeed Indicator	____ Command Airspeed Cursor(s) INOP
34-13-01D	Near 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 airspeed reference marker, 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)	**Y**	2	1	**B**	

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-13-02	Near 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	TAB LOCATION	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	**D**	

MEL ITEM	TAB LOCATION	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	**D**	

MEL ITEM	TAB LOCATION	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	TAB LOCATION	PLACARD TEXT
34-13-10	Near Associated EADI	____ Fast/Slow Indicator 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) Aircraft must be dispatched to remain at or below FL280, d) Repairs are made within three flight days, and e) Airplane does not depart from ATL, DTW, MSP, MCO or NRT where repair or replacement can be made. <u>RVSM Operations</u> Not Authorized
34-16-01B	Aural Alert	**Y**	-	0	**C**	May be inoperative provided: a) Visual alert operates normally, and b) Auto-pilot with altitude hold and altitude capture operates normally.
34-16-01C	Visual Alert	**Y**	-	0	**C**	May be inoperative provided: a) Aural alert operates normally, and b) Auto-pilot with altitude hold and altitude capture operates normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-16-01A	Autopilot MCP	Altitude Alerting System INOP
34-16-01B	Autopilot MCP	Altitude Alerting Aural Alert INOP
34-16-01C	Autopilot MCP	Altitude Alerting Visual Alert INOP

(O) PROCEDURES

34-16-01A

1. RVSM Operations may not be conducted. Refer to Airway Manual, Airspace & Enroute Navigation, NAV, for RVSM procedures and contingencies.
2. Use the autopilot and altitude hold for all operations for which it is appropriate.
3. The usual alerts for altitude deviations will not occur.
4. Flight crew must use Standard Callout procedures to assure flight crew awareness of airplane altitude.
5. Refer to Operations Manual, Volume 1, Normal Procedures, Introduction, Standard Callouts.

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 (HMG) Installed (A/C 602-699, 5650-5657, 6700-6717) **"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 (Log Book Entry Required). CAT III Not Authorized **Repetitive Check Required (Yellow Placard)**
34-21-01B	IRS Without Hydraulic Motor (HMG) Installed (A/C 602-699, 5650-5657, 6700-6717) **"DISP.APPR.REQ'D"**	**N**	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 (Log Book Entry Required). **Repetitive Check Required (Yellow Placard)**
34-21-01C	IRS Without Hydraulic Motor (HMG) Installed (A/C 602-699, 5650-5657, 6700-6717) **"DISP.APPR.REQ'D"**	**Y**	3	2	**C**	Center may be inoperative provided approach minimums do not require its use. CAT III Not Authorized

Continued Next Page

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
	INERTIAL REFERENCE SYSTEMS (IRS) (CONTINUED)					
34-21-01D	IRS With Hydraulic Motor (HMG) Installed (A/C 5635-5649, 6801-6818) **"DISP.APPR.REQ'D"**	**N**	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 (Log Book 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 (HMG) Installed (A/C 5635-5649, 6801-6818) **"DISP.APPR.REQ'D"**	**N**	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 (Log Book Entry Required), c) First officer's IRS instrument source select switch operates normally, and d) Left and center operate normally. CAT III Not Authorized **Repetitive Check Required (Yellow Placard)**
34-21-01F	IRS With Hydraulic Motor (HMG) Installed (A/C 5635-5649, 6801-6818) **"DISP.APPR.REQ'D"**	**Y**	3	2	**C**	Center may be inoperative for Day VMC flight.
34-21-01G	ADIRU Inertial Reference Function (A/C 5801-5816, 6819-6823) **"DISP.APPR.REQ'D"**	**Y**	3	2	**C**	**(O)(M)**Left or right 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 (Log Book Entry Required). CAT III Not Authorized **Repetitive Check Required (Yellow Placard)**

Continued Next Page

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
	INERTIAL REFERENCE SYSTEMS (IRS) (CONTINUED)					
34-21-01H	ADIRU Inertial Reference Function (A/C 5801-5816, 6819-6823) **"DISP.APPR.REQ'D"**	**Y**	3	2	**C**	Center may be inoperative provided approach minimums do not require its use. CAT III Not Authorized
34-21-01I	IRS Mode Selector Panel (Display and Keyboard Functions) **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	May be inoperative provided both FMCS CDUs operate normally.
34-21-01J	IRS Mode Selector Panel (Display and Keyboard Functions) **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	Except for ER operations (ETOPS), may be inoperative provided one FMCS CDU operates normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-21-01A	Near Associated IRS Control Panel	Left IRS INOP
34-21-01B	Near Associated IRS Control Panel	Right IRS INOP
34-21-01C	Near Associated IRS Control Panel	Center IRS INOP
34-21-01D	Near Associated IRS Control Panel	____ IRS INOP
34-21-01E	Near Associated IRS Control Panel	Right IRS INOP
34-21-01F	Near Associated IRS Control Panel	Center IRS INOP
34-21-01G	Near Associated IRS Control Panel	___ ADIRU Inertial Reference Function INOP
34-21-01H	Near Associated IRS Control Panel	Center ADIRU Inertial Reference Function INOP
34-21-01I	Near IRS Mode Selector Panel	IRS Mode Selector Panel INOP
34-21-01J	Near IRS Mode Selector Panel	IRS Mode Selector Panel INOP

NOTE 1: After landing following a flight that was dispatched with one EICAS computer inoperative or one fuel flow indication inoperative, the FMC may determine Flight Completion during high-speed taxi. When this occurs, the IRU residual ground speed may be set at a level above the 21 knots the Maintenance Manual establishes as the threshold to require replacement of the IRU. Under these circumstances, it is not required that the IRU be replaced.

NOTE 2: For non-EGPWS configurations, if the left IRU is inoperative, Windshear Guidance and Alerting System will be inoperative and EICAS status message GND PROX BITE will be displayed. (Defer per MEL 34-46-01).

NOTE 3: IRUs are interchangeable.

Continued Next Page

(O) PROCEDURES

34-21-01A, 34-21-01B, 34-21-01D, 34-21-01E, 34-21-01G

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, select the center A/P ENGAGE switch to engage the autopilot.

NOTE: 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 IRS switch to ALTN.

(M) PROCEDURES

34-21-01A, 34-21-01B, 34-21-01D, 34-21-01E

ONCE EACH FLIGHT DAY: Select the center IRU and verify IRU data source isolation.

1. Set the associated IRS switch to ALTN.
2. Set the IRS mode selector to ALIGN for one of the operating IRUs.
3. Confirm one (not both) pilot's EADI and EHSI lose attitude and heading information.
4. Set the IRS mode selector to NAV.

34-21-01G

1. **For A/C 5807-5816 and 6819-6823 only:** If the left ADIRU is affected, the integrated standby flight display (ISFD) heading information will not be available. Placard the ISFD heading display inoperative per MEL 34-24-02C.
2. **ONCE EACH FLIGHT DAY**, Select the center IRU and verify IRU data source isolation as follows:
   a) Set the associated IRS switch to ALTN.
   b) On P61 Test Panel, momentarily actuate INERTIAL REF Switch for one of the operating ADIRU's to the test position (down).
   c) Verify that the attitude and heading information on associated pilot's displays are active. Verify that displays on opposite side do not change.
   d) Momentarily actuate INERTIAL REF Switch for the remaining operating ADIRU to the test position (down).
   e) Verify that the attitude and heading information on associated pilot's displays are active. Verify that displays on opposite side do not change.

		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	TAB LOCATION	PLACARD TEXT
34-22-03A	Near Affected RDMI	Right RDMI INOP
34-22-03B	Near Affected RDMI	Left RDMI INOP

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
34-22-04A	Flight Director Systems **"DISP.APPR.REQ'D"**	**Y**	3	2	**C**	**(O)** May be inoperative. TAKEOFF Captain's Flight Director must be operative with visibility less than 1600 RVR (1/4 mile). NOTE: Windshear guidance may be unavailable.
34-22-04B	Flight Director Systems **"DISP.APPR.REQ'D"**	**Y**	3	1	**C**	**(O)** May be inoperative provided approach minimums do not require their use. TAKEOFF Captain's Flight Director must be operative with visibility less than 1600 RVR (1/4 mile). CAT II/III Not Authorized NOTE: Windshear guidance may be unavailable.
34-22-04C	Flight Director Systems **"DISP.APPR.REQ'D"**	**Y**	3	0	**C**	**(O)** May be inoperative provided: a) 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. TAKEOFF Captain's Flight Director must be operative with visibility less than 1600 RVR (1/4 mile). CAT II/III Not Authorized NOTE: Windshear guidance may be unavailable.
34-22-04D	Flight Director Systems (Displays) **"DISP.APPR.REQ'D"**	**Y**	2	0	**C**	**(O)** May be inoperative provided: a) 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: Windshear guidance may be unavailable.

Continued Next Page

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-22-04A	Near Autopilot MCP	___ Flight Director INOP
34-22-04B	Near Autopilot MCP	___ Flight Director INOP
34-22-04C	Near Autopilot MCP	___ Flight Director INOP
34-22-04D	Near Autopilot MCP	__ Flight Director Display INOP

(O) PROCEDURES

34-22-04A, 34-22-04B

Use LT or RT FLT DIR INSTR SOURCE SEL to display center (C) flight director on LT or RT EADI as required.

34-22-04C, 34-22-04D

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

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					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 ONCE EACH FLIGHT DAY (Log Book Entry Required). **Repetitive Check Required (Yellow Placard)**
34-22-05B	Electronic Flight Instrument (EFIS) Symbol Generators **"DISP.APPR.REQ'D"**	**Y**	3	2	**C**	**(M)** Left or Right may be inoperative provided symbol generator isolation is verified ONCE EACH FLIGHT DAY (Log Book Entry Required). **Repetitive Check Required (Yellow Placard)**

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-22-05A	Near Associated EFI Switch	____ EFIS Symbol Generator INOP
34-22-05B	Near Associated EFI Switch	____ EFIS Symbol Generator INOP

(M) PROCEDURES

34-22-05A, 34-22-05B

The COMPARATOR BITE status message must be resolved prior to dispatch. Select ALT on either the Captain's or the First Officer's instrument source select EFI switch. If the message does not extinguish, refer to FIM 34-22-00.

ONCE EACH FLIGHT DAY:

Left EFIS Symbol Generator Inoperative:

1. 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 if installed) mode and the Captain's HSI Mode Selector to the ILS or APP (expanded if installed) mode, as appropriate.
2. Observe that VOR R is annunciated on the First Officer's HSI.

Center EFIS Symbol Generator Inoperative:

1. 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 if installed) mode and the Captain's HSI Mode Selector to the ILS or APP (expanded if installed) mode, as appropriate.
2. Observe that VOR R is annunciated on the First Officer's HSI.
3. Place the Captain's HSI Mode Selector to the VOR (expanded if installed) mode and the First Officer's HSI Mode Selector to the ILS or APP (expanded if installed) mode, as appropriate.
4. Observe that VOR L is annunciated on the Captain's HSI.

Right EFIS Symbol Generator Inoperative:

1. 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 if installed) mode and the First Officer's HSI Mode selector to the ILS or APP (expanded if installed) mode, as appropriate.
2. Observe that VOR L is annunciated on the Captain's HSI.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
EFIS CONTROLS					
34-22-06A Switches (NAV AID/ARPT/ RTE DATA/ WPT/WXR/ TERR)	**Y**	-	-	**C**	One switch for each function may be inoperative provided procedures do not require its use.
34-22-06B Decision Height Indication (DH REF)	**Y**	2	0	**C**	May be inoperative. NOTE: Flight crew use EADI DH indication.
HSI MODE SELECTOR					
34-22-06C MAP Position	**Y**	2	1	**B**	**(O)** May be inoperative provided: a) Both FMCs operate normally, and b) Alternate procedures are used.
34-22-06D PLAN Position	**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	TAB LOCATION	PLACARD TEXT
34-22-06A	Near EFIS Control Panel	____ EFIS Map Switch INOP
34-22-06B	Near EFIS Control Panel	EFIS Control Decision Height Indication INOP
34-22-06C	Near EFIS Control Panel	HSI Mode Selector MAP INOP
34-22-06D	Near EFIS Control Panel	HSI Mode Selector PLAN INOP
34-22-06E	Near EFIS Control 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	TAB LOCATION	PLACARD TEXT
34-22-08	Near Associated EADI	___ PLI INOP

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
34-22-30	Heading Reference (HDG REF) Switch TRUE Function **"DISP.APPR.REQ'D"**	**Y** 1	0	**C**	**(O)** May be inoperative provided enroute procedures do not require its use.

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-22-30	Near Heading Reference Switch	Heading Reference TRUE Function Inop

(O) PROCEDURES

Ensure operations are not conducted in regions where true referencing is required.

Refer to Airway Manual, Polar, PO, for polar operations.

		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)	**Y**	1	0	**B**	May be inoperative provided any combination of three INS (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) Any combination of two INS (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.

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-23-01A	Near Standby Compass	Standby Compass INOP
34-23-01B	Near Standby Compass	Standby Compass INOP

(O) PROCEDURES

34-23-01B

Flight crew must ensure that planned routes comply with limitations.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
STANDBY ATTITUDE / ILS INDICATOR					
34-24-01A Attitude Display **"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 Approach Mode	**Y**	1	0	**C**	

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-24-01A	Near Standby Attitude/ILS Indicator	Standby Attitude Display INOP
34-24-01B	Near Standby Attitude/ILS Indicator	Standby Approach Mode INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
	INTEGRATED STANDBY FLIGHT DISPLAY (ISFD) SYSTEM					
34-24-02A	Attitude Display **"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.
34-24-02B	Approach Mode	**Y**	1	0	**C**	
34-24-02C	Heading Display	**Y**	1	0	**C**	
34-24-02D	Dedicated Battery / Charger System **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	Except for ER operations (ETOPS) beyond 120 minutes, may be inoperative.

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-24-02A	Near ISFD	ISFD Attitude Display INOP
34-24-02B	Near ISFD	ISFD Approach Mode INOP
34-24-02C	Near ISFD	ISFD Heading Display INOP
34-24-02D	Near ISFD	ISFD Dedicated Battery/ Charger System 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	TAB LOCATION	PLACARD TEXT
34-25-01	Near Captains EADI	Instrument Comparator Unit INOP

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
AIR DATA SYSTEMS (ADIRS EQUIPPED AIRPLANES)					
34-26-01A Left and Right Air Data System (-300) (A/C 6819-6823)	**N**	2	1	**C**	**(O)(M)** One may be inoperative provided: a) Center Air Data is selected and operates normally, b) Center ADIRU Inertial Reference Function operates normally, and c) Air data isolation is verified.
34-26-01B Center Air Data System (-300) (A/C 6819-6823)	**Y**	1	0	**D**	

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-26-01A	Near Air Data Source Selector Switch	___ Air Data System INOP
34-26-01B	Near Air Data Source Selector Switch	Center Air Data System INOP

(O) PROCEDURES

34-26-01A

The affected system (L or R) will operate using the Center Air Data System via maintenance switching.

(M) PROCEDURES

34-26-01A

For Left or Right Air Data System inoperative, select Center system and verify isolation as follows:

1. On E/E bay Service Panel, locate AIR DATA SELECT SWITCHES:
   a) If Left Air Data System is inoperative, lift guarded cover for CAPT and move switch from L to C (up).
   b) If Right Air Data System is inoperative, lift guarded cover for F/O and move switch from R to C (up).
      NOTE: System interlocks will prevent both CAPT and F/O being simultaneously selected to Center channel.
   c) Replace guard.
2. On flight deck overhead IRS Mode Selector Panel, ensure that C IRU (Center ADIRU Inertial Reference function) is NOT selected OFF.
3. Place flight deck Air Data Instrument Source Select switches on both sides in the normal 12 o'clock position.

Continued Next Page

4. Verify air data isolation as follows:
   a) If Left Air Data System is inoperative, perform the following steps:
      1) On P61 Test Panel, momentarily actuate the Center Air Data Switch to the test position (up).
      2) Verify that Captain's airspeed indicator and altimeter displays increase for at least two seconds and then decrease. Verify that First Officer's airspeed indicator and altimeter displays do not change.
      3) On P61 Test Panel, momentarily actuate the Right Air Data Switch to the test position (up).
      4) Verify that First Officer's airspeed indicator and altimeter displays increase for at least two seconds and then decrease. Verify that Captain's airspeed indicator and altimeter displays do not change.
   b) If Right Air Data System is inoperative, perform the following steps:
      1) On P61 Test Panel, momentarily actuate the Center Air Data Switch to the test position (up).
      2) Verify that First Officer's airspeed indicator and altimeter displays increase for at least two seconds and then decrease. Verify that Captain's airspeed indicator and altimeter displays do not change.
      3) On P61 Test Panel, momentarily actuate the Left Air Data Switch to the test position (up).
      4) Verify that Captain's airspeed indicator and altimeter displays increase for at least two seconds and then decrease. Verify that First Officer's airspeed indicator and altimeter displays do not change.
5. Verify Center ADIRU Pitot Heat Indication operates as follows:
   a) Close all Probe Heat (Pitot, TAT, AOA) and Heat Indication circuit breakers.
   b) Verify PROBE HEAT message is displayed on EICAS and all Probe Heat annunciators are illuminated on the P5 Annunciator panel.
   c) On P61 Test Panel, hold the WING ANTI ICE - WINDOW/PROBE HEAT test switch in the WINDOW/PROBE HEAT position.
   d) Verify no Probe Heat messages are displayed on EICAS and no Probe Heat annunciators are illuminated on the P5 Annunciator panel.
   e) Release the test switch.
   f) Open C ADIRU PITOT HEAT circuit breaker.
   g) Hold the test switch in the WINDOW/PROBE HEAT position.
   h) Verify C ADIRU PITOT message is displayed on EICAS and C ADIRU PITOT annunciator is illuminated on the P5 Annunciator panel.
   i) Close C ADIRU PITOT HEAT circuit breaker.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
34-31-01A	ILS System **"DISP.APPR.REQ'D"**	**Y**	3	2	**C**	**(O)** Left or right may be inoperative provided approach minimums do not require its use. CAT III Not Authorized
34-31-01B	ILS System **"DISP.APPR.REQ'D"**	**Y**	3	1	**C**	**(O)** Left and right may be inoperative provided approach minimums do not require its use. CAT II/III Not Authorized

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-31-01A	Near Associated VOR/ILS Control Panel	___ ILS INOP
34-31-01B	Near Associated VOR/ILS Control Panel	Left and Right ILS INOP

(O) PROCEDURES

34-31-01A

Position EFI SOURCE SELECT switch (affected side) to ALTN.

34-31-01B

Position EFI SOURCE SELECT switches to ALTN.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
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. CAT II RA/NA Not Authorized

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-32-01	Near Captain's Marker Light	Marker Beacon INOP

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
	RADIO ALTIMETER (RA) SYSTEMS (EADI)					
34-33-01A	Radio Altimeter System **"DISP.APPR.REQ'D"**	**Y**	3	2	**C**	**(O)** May be inoperative provided: a) GPWS 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 System **"DISP.APPR.REQ'D"**	**Y**	3	1	**C**	**(O)** May be inoperative provided: a) GPWS 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 II/III Not Authorized
34-33-01C	Radio Altimeter System **"DISP.APPR.REQ'D"**	**Y**	3	0	**A**	**(O)** May be inoperative provided: a) Approach minimums or operating procedures do not require its use, b) Repairs are made within two flight days, and c) RNAV operations do not require their use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements. CAT II/III Not Authorized

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-33-01A	Near Associated EADI	____ Radio Altimeter System INOP
34-33-01B	Near Associated EADI	____ Radio Altimeter System INOP
34-33-01C	Near Associated EADI	All Radio Altimeter Systems INOP

NOTE: If the Enhanced Ground Proximity Warning System with multi-source datalink is not receiving radio altitude information from at least one radio altimeter, the GND PROX SYS status message will be annunciated.

(O) PROCEDURES

34-33-01A, 34-33-01B, 34-33-01C

1. Observe MEL Remarks or Exceptions.
2. 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 EICAS warning message will annunciate; however, the siren will not sound and the master warning lights will not illuminate.

Continued Next Page

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. That is, the CONFIG warning light will illuminate, the GEAR NOT DOWN EICAS 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 EICAS warning message will annunciate, the siren will sound and the master warning lights will illuminate.

3. For one RA inoperative, the autoland status annunciators will indicate NO LAND 3.

4. If more than one RA is inoperative, the autoland status annunciators will indicate NO AUTOLAND.

5. TCAS requires only one radio altimeter for operation. With one radio altimeter inoperative, the flight crew will see no effect on TCAS.

6. If left or right RA inoperative, position EFIS SOURCE SELECT switch (affected side) to ALTN. If left and right RA inoperative, position EFIS SOURCE SELECT switches to ALTN.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD				
	WEATHER RADAR SYSTEMS					
34-43-01A	Weather Radar Systems With Windshear Alert Mode (Predictive) Installed **"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 established and used. NOTE: For ETOPS operations beyond 120 minutes, one weather radar system is required. Theatre Restrictions May Apply
34-43-01B	Weather Radar Systems With Windshear Alert Mode (Predictive) Installed **"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 established and used, and c) Windshear Warning and Guidance System (Reactive) operates normally. NOTE: For ETOPS operations beyond 120 minutes, one weather radar system is required. Theatre Restrictions May Apply
34-43-01C	Weather Radar Systems Without Windshear Alert Mode (Predictive) Installed **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	May be inoperative provided 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. NOTE: For ETOPS operations beyond 120 minutes, one weather radar system is required. Theatre Restrictions May Apply

Continued Next Page

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
WEATHER RADAR SYSTEMS (CONTINUED)					
34-43-01D Indicators / Displays	**Y**	-	1	**C**	
34-43-01E WXR ON Light	**Y**	2	0	**C**	**(O)** May be inoperative provided alternate procedures are established and used.
34-43-01F Windshear Alert Mode (Predictive)	**Y**	1	0	**B**	**(O)** May be inoperative provided alternate procedures are established and used.
34-43-01G Windshear Alert Mode (Predictive)	**Y**	1	0	**C**	**(O)** May be inoperative provided: a) Alternate procedures are established and used, and b) Windshear Warning and Guidance System (Reactive) operates normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-43-01A	Near Weather Radar Control Panel	Weather Radar INOP
34-43-01B	Near Weather Radar Control Panel	Weather Radar INOP
34-43-01C	Near Weather Radar Control Panel	Weather Radar INOP
34-43-01D	Near Weather Radar Control Panel	___ Weather Radar Indicator INOP
34-43-01E	Near Weather Radar Control Panel	Weather Radar WXR ON Light INOP
34-43-01F	Near Weather Radar Control Panel	Predictive Windshear INOP
34-43-01G	Near Weather Radar Control Panel	Predictive Windshear INOP

NOTE: The weather radar system is considered operational provided the transceiver and one radar indicator operate normally.

(O) PROCEDURES

34-43-01A, 34-43-01B

For alternate procedures:

Review standard call-out procedures. Refer to Operations Manual, Volume 1, Normal Procedures.

34-43-01E

1. Status of weather radar can be determined by viewing the EHSI.
2. Check for normal radar display and mode annunciations.
3. Use tilt as necessary to view ground returns.

34-43-01F, 34-43-01G

Flight crew must use Standard Callout procedures to assure flight crew awareness of airplane configuration, speed, altitude and flight path. Refer to Operations Manual, Volume 1, Normal Procedures.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
34-45-01A	Traffic Alert Collision Avoidance System (TCAS) **"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. Theatre 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**	2	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 Functions **"DISP.APPR.REQ'D"**	**Y**	1	0	**B**	May be inoperative provided enroute or approach procedures do not require use of TCAS. Theatre Restrictions May Apply

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-45-01A	Near TCAS Control Panel	TCAS INOP
34-45-01B	Near TCAS Control Panel	TCAS Combined TA/RA Display INOP
34-45-01C	Near TCAS Control Panel	___TCAS RA Display INOP
34-45-01D	Near TCAS Control Panel	Both TCAS RA Displays INOP
34-45-01E	Near TCAS Control Panel	____ TCAS TA Display
34-45-01F	Near TCAS Control Panel	TCAS Audio Function INOP

Continued Next Page

(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 on the P11 panel.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
	GOUND PROXIMITY WARNING SYSTEM (GPWS)					
34-46-01A	Ground Proximity Warning System (GPWS) **"DISP.APPR.REQ'D"**	**Y**	1	0	**A**	**(O)** May be inoperative provided: a) Alternate procedures are established and used, and b) Repairs are made within two flight days. Theatre Restrictions May Apply
34-46-01B	Modes 1 thru 4 **"DISP.APPR.REQ'D"**	**Y**	4	0	**A**	**(O)** May be inoperative provided: a) Alternate procedures are established and used, and b) Repairs are made within two flight days. Theatre Restrictions May Apply
34-46-01C	Test Mode **"DISP.APPR.REQ'D"**	**Y**	1	0	**A**	May be inoperative provided: a) GPWS is considered inoperative and deferred per MEL 34-46-01A, and b) Repairs are made within two flight days. Theatre Restrictions May Apply
34-46-01D	Glideslope Deviation (Mode 5)	**Y**	1	0	**B**	**(O)** May be inoperative provided alternate procedures are used.
34-46-01E	Advisory Callouts (Mode 6)	**Y**	1	0	**B**	**(O)** May be inoperative provided alternate procedures are used.
34-46-01F	Windshear Alert Mode (Reactive) (Mode 7)	**Y**	1	0	**B**	**(O)** May be inoperative provided alternate procedures are used.
34-46-01G	Windshear Alert Mode (Reactive) (Mode 7)	**Y**	1	0	**C**	**(O)** May be inoperative provided: a) Alternate procedures are established and used, and b) Windshear Detection and Avoidance System (Predictive) operates normally.
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. Theatre Restrictions May Apply
34-46-01I	Terrain Displays	**Y**	-	1	**C**	
34-46-01J	Terrain Displays **"DISP.APPR.REQ'D"**	**Y**	-	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. Theatre Restrictions May Apply

Continued Next Page

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, 34-46-01D, 34-46-01E, 34-46-01H, 34-46-01J

1. Review Standard Callout procedures. Refer to Operations Manual, Volume 1, Normal Procedures, Operational 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, landing, and alert the pilot flying if any of the following conditions exist:
   - Excessive descent rate
   - Excessive terrain closure rate
   - Altitude loss after takeoff or go-around
   - Unsafe terrain clearance while not in the landing mode
   - 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. Refer to QRH.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
34-51-01	VOR Navigation Systems **"DISP.APPR.REQ'D"**	**Y**	2	1	**C**	Right ONLY may be inoperative provided approach minimums do not require its use. CAT II/III Not Authorized

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-51-01	VOR/ILS 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 Transponders and Automatic Altitude Reporting Systems **"DISP.APPR.REQ'D"**	**Y**	2	0	**B**	May be inoperative provided: a) Operations do not require its use; refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements, b) Aircraft must be dispatched to remain at or below FL280, and c) Prior to flight, approval is obtained from ATC facilities having jurisdiction over planned route of flight. RVSM Operations Not Authorized Theatre Restrictions May Apply NOTE: TCAS will be inoperative.
34-53-01C	Elementary and Enhanced Downlink Aircraft Reportable Parameters not Required by 14 CFR	**Y**	-	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 Extended Squitter Transmissions	**Y**	-	0	**D**	May be inoperative provided operations do not require its use; refer to navigation Equipment Tab (this manual) for RNAV Minimum Requirements.

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-53-01A	Near ATC Transponder Control Panel	___ ATC Transponder / Automatic Altitude Reporting Function INOP
34-53-01B	Near ATC Transponder Control Panel	Both ATC Transponders / Automatic Altitude Reporting Functions INOP
34-53-01C	Near ATC Transponder Control Panel	ATC Non-Required Parameter INOP
34-53-01D	Near ATC Transponder Control Panel	ADS-B Extended Squitter Transmissions INOP

(O) PROCEDURES

34-53-01B

Refer to the Airway Manual, Airspace & Enroute Navigation, NAV, for RVSM procedures and contingencies.

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 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: May be required as noted on the approach plate.

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-55-01	Near Associated VOS/ILS Control Panel	___ DME INOP

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**	May be inoperative provided enroute operations and/or approach minimums do not require its use. Theatre Restrictions May Apply

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-57-01	Near 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
34-60-03	Global Positioning Systems (GPS) **"DISP.APPR.REQ'D"**	**Y**	2	0	**C**	**(O)** 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. Theatre Restrictions May Apply NOTE: May be required as noted on the approach plate.

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-60-03	Near Associated MCDU	___ GPS INOP

(O) PROCEDURES

Ensure operations do not require the use of GPS.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
34-61-01A	Flight Management Computer Systems (FMCS) (Including CDU/HMCDU/ MCDU) **"DISP.APPR.REQ'D"**	Y	2	1	C	**(O)(M)** Except for ER operations (ETOPS), one may be inoperative provided: a) Enroute operations 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. Theatre Restrictions May Apply
34-61-01B	Flight Management Computer Systems (FMCS) (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 System (FQIS) processor channels are verified to operate normally, b) All flight deck fuel quantity indications operate normally, and c) RNAV operations do not require their use refer to Navigation Equipment Tab (this manual) for RNAV Minimum Requirements. Non-Precision Approaches (VNAV Method) NOT Authorized Theatre Restrictions May Apply
34-61-01C	Flight Management Computer Systems (FMCS) (Including CDU/HMCDU/ MCDU) **"DISP.APPR.REQ'D"**	Y	2	1	C	**(O)(M)** For long-range navigation operation, 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. Theatre Restrictions May Apply
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 a 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. Theatre Restrictions May Apply **Repetitive Check Required (Yellow Placard)**

Continued Next Page

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
(CONTINUED)					
34-61-01E FMC Annunciator Light	**Y**	1	0	**C**	**(M)** May be inoperative provided CDU MSG light and EICAS Advisory message FMC MESSAGE are verified to operate normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
34-61-01A	Near Associated FMS CDU / MCDU	___ FMC INOP
34-61-01B	Near Associated FMS CDU / MCDU	___ FMC INOP
34-61-01C	Near Associated FMS CDU / MCDU	___ FMC INOP
34-61-01D	Near Associated FMS CDU / MCDU	____ FMC Database Not Current
34-61-01E	Near Associated FMS CDU / MCDU	FMC Annunciator Light INOP

NOTE: Dispatch is not allowed with a "WARN ELEX" status message.

(O) PROCEDURES

34-61-01A, 34-61-01B, 34-61-01C

For dispatch with both FMC's inoperative, enter airplane present position using IRS Mode Selector Panel (reference Operations Manual, Supplementary Procedures - Flight Management, Navigation).

Review the destination weather and approach charts to determine if an approach may be conducted using available equipment (FMC/CDU/HMCDU/MCDU).

1. IRS alignment must be completed before airplane moves.
2. Use of LNAV and VNAV with flight director:

   Airplanes without HMCDU / MCDU

   On the side with the inoperative FMC, select ALTN with the FMC source select switch.

   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.

   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.

   RIGHT FMC INOPERTIVE - 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.

   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.

Continued Next Page

Airplanes with HMCDU / MCDU (PIP and PEGASUS FMS):

On the side with the inoperative FMC, select the opposite FMC with the NAV source select switch.

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 switch is selected to R FMC position. 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.

After liftoff (with F/D in TO mode), use HDG SEL and FL CH modes as desired until Captain's NAV selector is moved to an alternate source, or right autopilot is engaged. Then use LNAV and VNAV as desired.

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 switch is selected to the L FMC position, 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.

After liftoff (with F/D in TO mode), use HDG SEL and FL CH modes as desired until First Officer's NAV selector is moved to an alternate source, or left or center autopilot is engaged. Then use LNAV and VNAV as desired.

With a single operational FMC, during VOR approaches, one pilot must have raw data from the VOR associated with the approach displayed on the RDMI, RMI, or HSI in a VOR mode no later than the final approach fix.

FOR LONG RANGE OPERATIONS WITH ONE FMC INOPERATIVE:

NOTE 1: FMC NAV Source Select Switch 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 HMCDUs or MCDUs will meet the minimum requirements for dispatch.

For an inoperative left FMC:

1. Select the FMC-R position with the Captain's FMC NAV Source Select Switch to load data from the right FMC into the left CDU.

   NOTE: The FMC switch 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, select the CDU-L position with the Captain's FMC NAV Source Select switch.
3. Observe that Captain's HSI Map display changes to a simplified route display without normal navigation database symbology. This confirms availability of the Alternate Navigation system.
4. Prior to takeoff, select the FMC-R position with the Captain's FMC NAV Source Select Switch

For an inoperative right FMC:

1. Select the FMC-L position with the First Officer's FMC NAV Source Select Switch to load data from the left FMC into the right CDU.

   NOTE: The FMC switch 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, select the CDU-R position with the First Officer's FMC NAV Source Select switch.
3. Observe that First Officer's HSI Map display changes to a simplified route display without normal navigation database symbology. This confirms availability of the Alternate Navigation system.
4. Prior to takeoff, select the FMC-L position with the First Officer's FMC NAV Source Select Switch.

Continued Next Page

34-61-01D

PRIOR TO EACH DEPARTURE:

1. Select or input the route to be flown from the non-current database.
2. Compare the intended route against current Delta Airway Manual, Navigation Charts and NOTAMS to verify suitability of navigation facilities and accuracy of NAVAID frequencies as compared to out-of-date navigation database.
3. In lieu of current navigation charts, the RVAL Tool may be used to verify the accuracy and suitability of the facilities used for the intended route of flight.
4. 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.
5. Any time the FMS data does not agree with current navigation information, manual tuning and course selection must be accomplished.
6. Review the destination weather and approach charts to determine if an approach may be conducted using available Database.

(M) PROCEDURES

34-61-01A, 34-61-01B, 34-61-01C

NOTE: It is preferable that this test be performed with less than 15,000 lbs. total fuel.

1. Close the fueling panel door.
2. Open the FUEL QTY L and FUEL QTY R circuit breakers on the P11 overhead panel.
3. Verify that the FUEL QTY displays have gone blank.
4. Test FQIS processor channels:
   a) Close FUEL QTY L circuit breaker, wait ten seconds, and record the indicated fuel quantity for each tank.
   b) Open FUEL QTY L circuit breaker and then close FUEL QTY R circuit breaker, wait 10 seconds and record the indicated fuel quantity for each tank.
   c) Close FUEL QTY L circuit breaker.
   d) Compare the quantities recorded in steps 6a and 6b. If quantities differ by 400 lbs. or less per tank, the fuel quantity indicating processor unit is acceptable.

34-61-01E

For dispatch with the FMC Annunciator Light inoperative, verify that FMC EICAS annunciation and CDU MSG light operate normally:

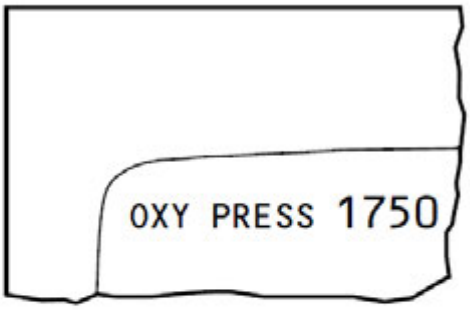
NOTE: This test uses two people, one in the flight compartment and one in the main equipment center.

1. Open the FMCS CMPTR RIGHT circuit breaker on the P11 panel.
2. Push the CLR key on the left CDU to clear all the messages on the left CDU.
3. Push the TEST button on the front of the left FMC.
4. Make sure the EICAS message FMC MESSAGE is shown and the CDU MSG light is illuminated.
5. Close the FMCS CMPTR RIGHT circuit breaker on the P11 panel.
6. Open the FMCS CMPTR LEFT circuit breaker on the P11 panel.
7. Push the CLR key on the right CDU to clear all the messages on the right CDU.
8. Push the TEST button on the front of the right FMC.
9. Make sure the EICAS message FMC MESSAGE is shown and the CDU MSG light is illuminated...
10. Close the FMCS CMPTR LEFT circuit breaker on the P11 panel.

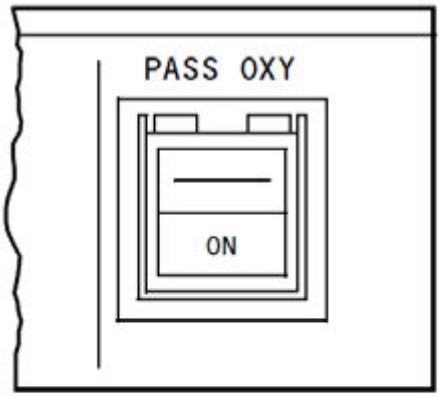
INTENTIONALLY LEFT BLANK

ATA 35 Contents

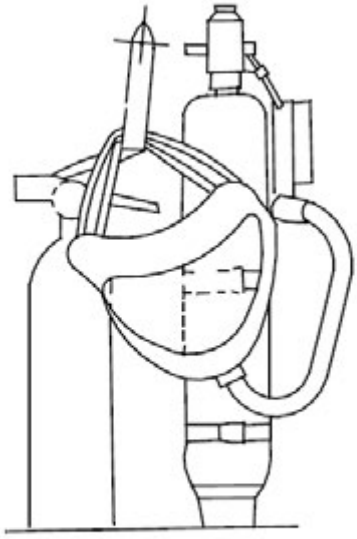
	CREW OXYGEN SYSTEM	35-3
35-11-02A	Pressure Indication System (EICAS)	35-3
35-11-02B	Bottle Gage	35-3
35-11-02C	Oxygen Thermal Relief Indicator	35-3
35-20-01	PBE Smoke Hoods	35-5
35-21-01A	Passenger Oxygen System	35-6
35-21-01C	Passenger Service Units (PSUs)	35-6
35-21-01D	Automatic Presentation System	35-6
35-31-01	Portable Oxygen Dispensing Units (Bottle and Mask)	35-8



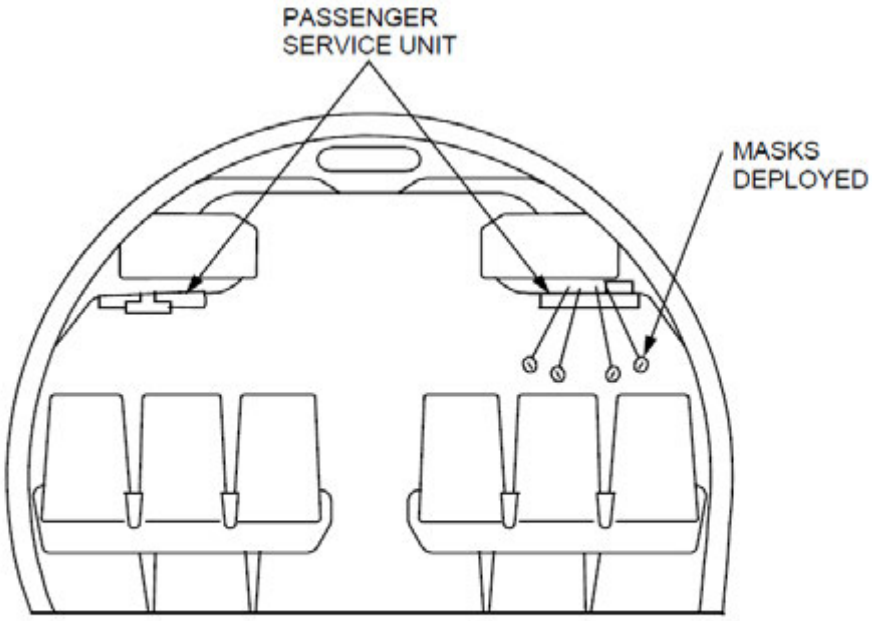
CREW OXYGEN PRESSURE
INDICATION (EICAS)
35-11-2



OVERHEAD PANEL



PORTABLE OXYGEN
DISPENSING UNIT
35-31-1



PASSENGER OXYGEN SYSTEM
35-21-1

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 System (EICAS)	**N**	1	0	**B**	**(M)** May be inoperative provided oxygen supply is verified to be above minimum required PRIOR TO EACH DEPARTURE (Log Book Entry Required). **Repetitive Check Required (Yellow Placard)**
35-11-02B Bottle Gage	**Y**	1	0	**C**	May be inoperative provided pressure indication (EICAS) operates normally.
35-11-02C Oxygen Thermal Relief Indicator	**Y**	1	0	**C**	**(O)** May be damaged or missing.

MEL ITEM	TAB LOCATION	PLACARD TEXT
35-11-02A	Near Lower EICAS Display	EICAS O2 Pressure Indication INOP
35-11-02B	Near Lower EICAS Display	Crew O2 Bottle Indicator INOP
35-11-02C	Near Lower EICAS Display	O2 Thermal Relief Indicator DAMAGED / MISSING

(O) PROCEDURES

35-11-02C

1. Verify that oxygen pressure is adequate for dispatch:
2. Select EICAS status page; note oxygen pressure.
3. Select 100% on the NORMAL/100% switch.
4. Push down and hold the RESET/TEST SLIDE lever.
5. Observe yellow cross appears momentarily in FLOW indicator.
6. Push and hold the EMERGENCY/TEST selector.
   a) While holding RESET/TEST SLIDE lever down, push EMERGENCY TEST selector and observe yellow cross appears in FLOW indicator.
   b) Observe oxygen pressure did not decrease during test.

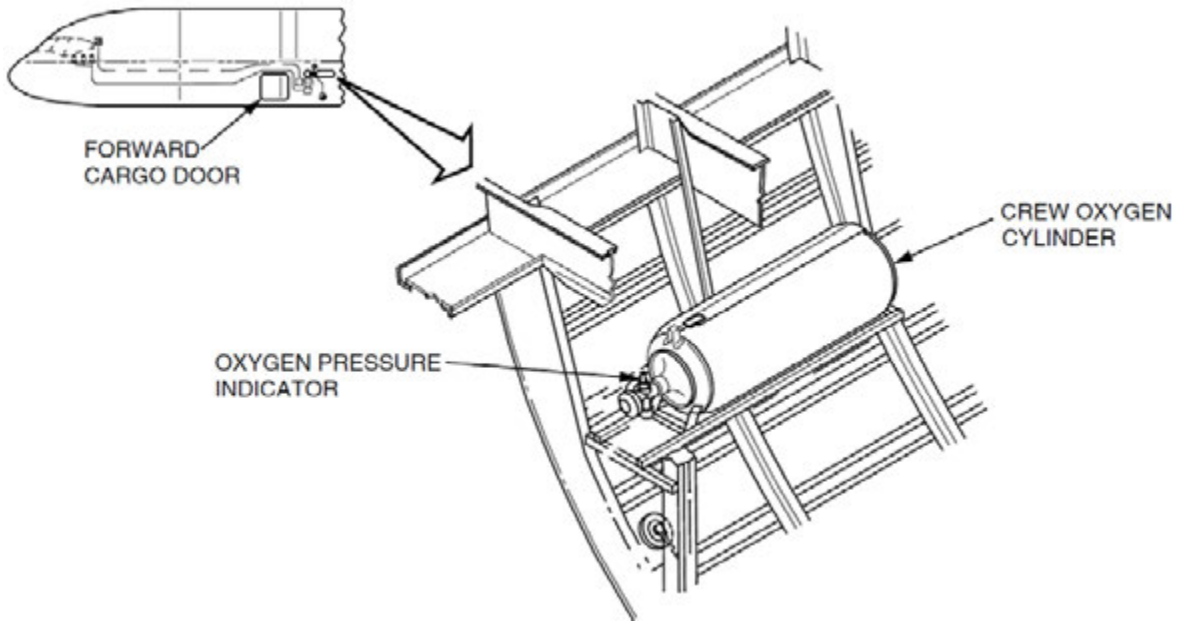
Continued Next Page

(M) PROCEDURES

35-11-02A

PRIOR TO EACH DEPARTURE:

1. Verify that crew oxygen cylinder shutoff valve is open.
2. Determine crew oxygen system pressure by reading the pressure gage at the crew oxygen cylinder (bottle) in the forward cargo compartment.
3. Determine the ambient temperature in the forward cargo compartment at the crew oxygen cylinder. This temperature can be estimated by the personnel checking the system pressure. It is assumed that the temperature of the oxygen in the bottle is stabilized to the same temperature as the ambient air. If this is not true wait 10 to 15 minutes for stabilization to occur, or measure the temperature of the oxygen cylinder directly.
4. Refer to AMM, Chapter 12, Oxygen Servicing, Figure 302, to determine the minimum pressure requirement for dispatch.
5. Compare the measured pressure with the required pressure. Ensure pressure is sufficient for dispatch.



NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
35-20-01	PBE Smoke Hoods	**Y**	-	-	**D**	**(M)** Seals may be broken or missing.

MEL ITEM	TAB LOCATION	PLACARD TEXT
35-20-01	Logbook	____ PBE Seal Broken / Missing

(M) PROCEDURES

ONE SEAL BROKEN OR MISSING:

With one seal missing, the PBE is airworthy.

NOTE: Install broken or missing seal prior to flight or at the next available Delta maintenance station. Replacement seals for new style PBEs are stowed in the plastic logbook pouch.

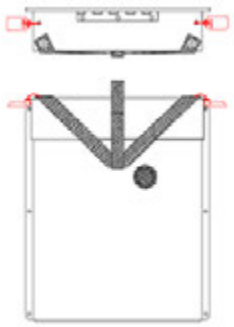
BOTH SEALS BROKEN OR MISSING:

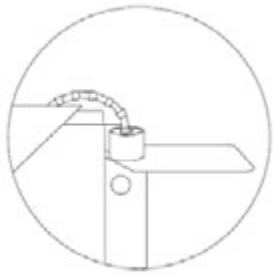
NOTE: Flight crews are authorized to inspect and reseal PBE provided authorization is obtained from MCC.

1. With both seals broken or missing, remove the PBE and inspect for obvious damage (punctures, rips in pouch etc.).
2. Inspect blue / pink humidity indicator (if installed, located near PBE pouch handle):
   - Blue color indicates serviceable PBE
   - Pink color indicates need for replacement within 36 hours of discovery
3. If no obvious damage is found and humidity indicator is blue, reinstall PBE and reseal in container. Replacement seals for new style PBEs are stowed in the plastic logbook pouch.
4. If humidity indicator is pink:
   a) Reinstall PBE and reseal in container. Replacement seals are stowed in the plastic logbook pouch.
   b) Contact Maintenance Coordinator to schedule PBE replacement within 36 hours of discovery.
5. If PBE is damaged, *Maintenance is Required* to replace 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.





		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
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 enroute altitude 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. NOTE: For a pack to be operating normally, certain items associated with that system must be operative. See Note for MEL Item 21-51-01 for a listing of those items.
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 (PSUs) **"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 25-25-01, and c) Associated lavatory door is locked closed and placarded INOPERATIVE – DO NOT ENTER.
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.

MEL ITEM	TAB LOCATION	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 INOP

NOTE: Use MEL item 25-25-01, Flight Attendant Seat Assembly, for dispatch when an inoperative oxygen service unit renders a flight attendant seat unusable.

Continued Next Page

(O) PROCEDURES

35-21-01A

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.

   NOTE: If Automatic Presentation System is inoperative, be prepared to deploy passenger masks manually using the PASS OXY Switch.

(M) PROCEDURES

35-21-01C

Block the seats with the inoperative units against passenger use. Placard the affected seats inoperative with tape. An acceptable placard may be a section of 2 inch wide masking tape with the words ”DO NOT USE” printed legibly in 1 inch black letters.

Placard the affected lavatory door with tape. An acceptable placard may be a section of 2 inch wide masking tape with the words ”INOPERATIVE – DO NOT ENTER” printed legibly in 1 inch black letters.

35-21-01D

Verify the manual deployment system operates normally by performing the Door Latch Mechanism Test (reference AMM 35-21-00/501).

1. Put the oxygen module door test stops at each oxygen module in the test position.
2. Make sure the six EICAS circuit breakers on the overhead circuit breaker panel, P11, are closed.
3. Push the STATUS button on the pilot’s display select panel.
4. Push the PASS OXY switch on emergency lights module on the pilot’s overhead panel, P5.
5. Make sure all the oxygen nodule doors are released and touch the door test stops.
6. Make sure the PASS OXY amber switch-light ON is illuminated.
7. Make sure the message PASS OXY is shown on the EICAS.
8. Open the PASS OXYGEN CONT circuit breaker on the overhead circuit breaker panel, P11.
9. Make sure the PASS OXY amber switch light is not illuminated.
10. Make sure the EICAS message PASS OXY does not show on EICAS.
11. Close the PASS OXYGEN CONT circuit breaker.
12. Close the oxygen module doors.
13. Put the door test stops in the usual position.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
35-31-01	Portable Oxygen Dispensing Units (Bottle and Mask) **"DISP.APPR.REQ'D"**	**Y** -	-	**C**	**(O)(M)** May be unserviceable or missing provided: a) Required distribution of serviceable bottles is maintained throughout aircraft, b) Bottles not properly serviced are replaced, serviced, or removed at next available maintenance facility, and c) MCC is notified regarding unserviceable bottle and location of removed mask assembly. d) The number of full oxygen bottles is verified to meet the minimum number of required bottles for dispatch PRIOR TO EACH DEPARTURE. NOTE: Reference charts in the (M) procedure for minimum number of full oxygen bottles required for dispatch. **Repetitive Check Required (Yellow Placard)**

MEL ITEM	TAB LOCATION	PLACARD TEXT
35-31-01	Logbook	____ Portable O2 Bottle INOP / Missing

(O) PROCEDURES

35-31-01

1. **PRIOR TO EACH DEPARTURE**, verify that the number of full oxygen bottles meets the minimum number of required bottles for dispatch.
2. Ensure cabin crew (Flight Leader) is notified of the unserviceable bottle and its location.

(M) PROCEDURES

35-31-01

1. Ensure serviceable bottles 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. Disconnect mask assembly from oxygen cylinder outlet by rotating hose fitting $^{1}/_{2}$ turn and pulling out.
3. Place a piece of masking tape over the pressure gage of oxygen bottle and label INOP. Position the unserviceable cylinder in holder and fasten quick release clamp.
4. Using tape or other suitable means, cover affected oxygen bottle location placarding.

   NOTE: For locations with two oxygen bottles installed, do NOT cover placard if remaining bottle is operative.

Continued Next Page

NON-ER (ETOPS) CONFIGURED AIRCRAFT
Portable Oxygen Requirements - Minimum for Dispatch
Pre AA 2560-01524 (Seat Density Mod)

NON-ER (ETOPS) CONFIGURED A/C 602-699, 6700-6717	
Number of passengers and flight attendants	Minimum number of full oxygen bottles required.
1-200	4

NON-ER (ETOPS) CONFIGURED A/C 5650-5657	
Number of passengers and flight attendants	Minimum number of full 7.2 oxygen bottles required.
1-50	4
51-100	4
101-150	4
151-200	5
201-250	6

Continued Next Page

ER (ETOPS) CONFIGURED AIRCRAFT
Portable Oxygen Requirements - Minimum for Dispatch
Pre AA 2560-01524 (Seat Density Mod)

ER (ETOPS) CONFIGURED A/C 5635-5649			
Number of passengers and flight attendants	Minimum Number of full 11 cu. ft. oxygen bottles required based on duration of flight that an enroute alternate is not available.		
	For Non-ER (ETOPS) Operations	For ER (ETOPS) operations up to 120 minutes.	For ER (ETOPS) operations beyond 120 minutes.
1-50	4	4	4
51-100	4	4	5
101-150	4	5	7
151-200	4	6	9
201-250	5	7	11

ER (ETOPS) CONFIGURED A/C 5801-5816			
Number of passengers and flight attendants	Minimum Number of full 11 cu. ft. oxygen bottles required based on duration of flight that an enroute alternate is not available.		
	For Non-ER (ETOPS) Operations	For ER (ETOPS) operations up to 120 minutes.	For ER (ETOPS) operations beyond 120 minutes.
1-50	5	5	5
51-100	5	5	5
101-150	5	5	7
151-200	5	6	9
201-250	5	7	11

ER (ETOPS) CONFIGURED A/C 6801-6818			
Number of passengers and flight attendants	Minimum Number of full 11 cu. ft. oxygen bottles required based on duration of flight that an enroute alternate is not available.		
	For Non-ER (ETOPS) Operations	For ER (ETOPS) operations up to 120 minutes.	For ER (ETOPS) operations beyond 120 minutes.
1-200	4	5	8

Continued Next Page

ER (ETOPS) CONFIGURED AIRCRAFT
Portable Oxygen Requirements - Minimum for Dispatch
Post AA 2560-01524 (Seat Density Mod)

NON-ER (ETOPS) CONFIGURED A/C 685-699, 6700-6717	
Number of passengers and flight attendants	Minimum number of full 11 cu. ft. oxygen bottles required.
1-205	4

NON-ER (ETOPS) CONFIGURED A/C 5650-5657	
Number of passengers and flight attendants	Minimum number of full 11 cu. ft. oxygen bottles required.
1-205	4

ER (ETOPS) CONFIGURED A/C 5635-5649			
Number of passengers and flight attendants	Minimum Number of full 11 cu. ft. oxygen bottles required based on duration of flight for which an enroute alternate is not available.		
	For Non-ER (ETOPS) Operations	For ER (ETOPS) operations up to 120 minutes.	For ER (ETOPS) operations beyond 120 minutes.
1-50	4	4	4
51-100	4	4	5
101-150	4	5	7
151-200	4	6	9
201-250	5	7	11

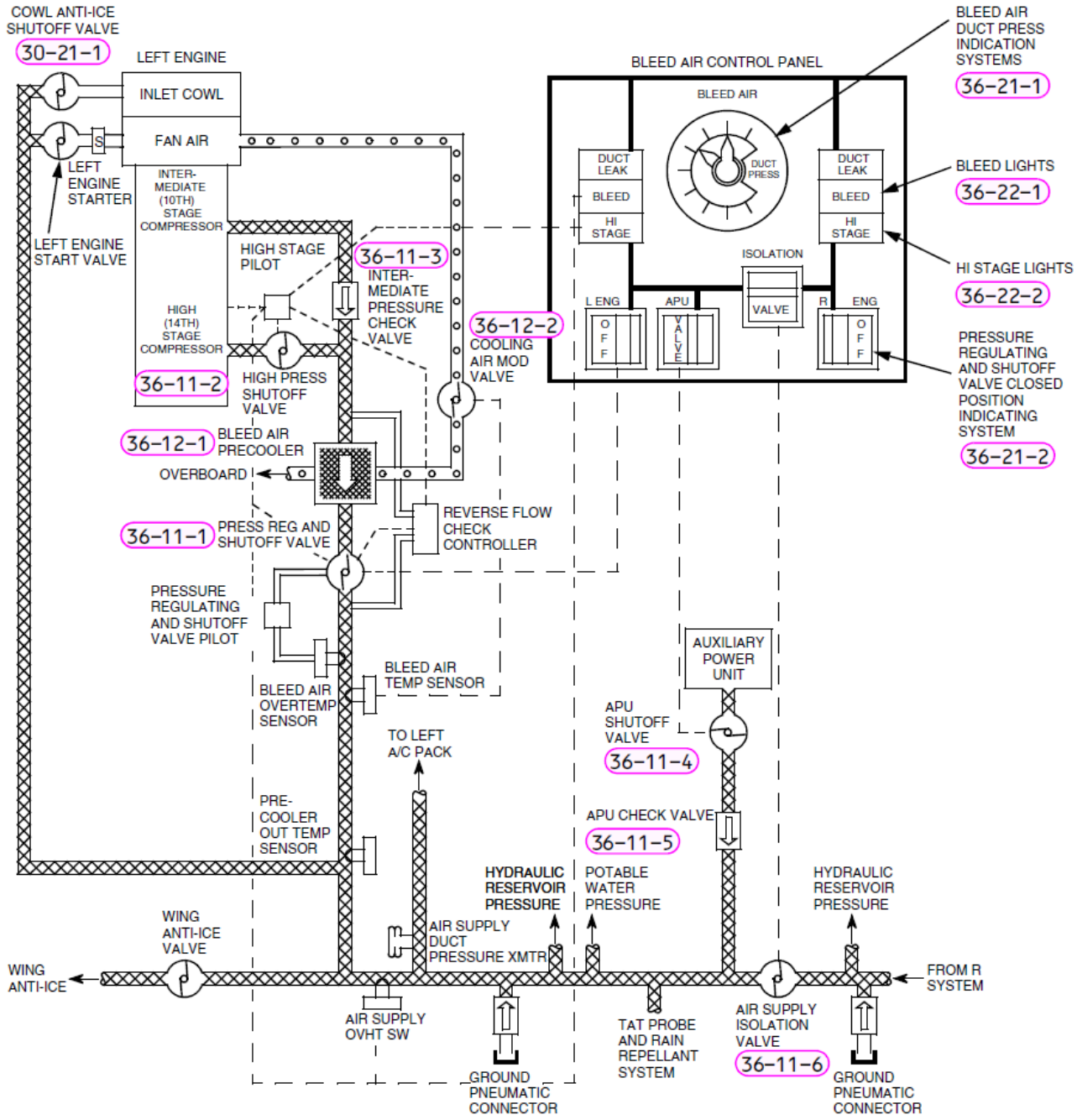
ER (ETOPS) CONFIGURED AIRCRAFT
Portable Oxygen Requirements - Minimum for Dispatch
A/C 6819-6823 ONLY

ER (ETOPS) CONFIGURED A/C 6819-6823			
Number of passengers and flight attendants	Minimum Number of full 11 cu. ft. oxygen bottles required based on duration of flight that an enroute alternate is not available.		
	For Non-ER (ETOPS) Operations	For ER (ETOPS) operations up to 120 minutes.	For ER (ETOPS) operations beyond 120 minutes.
1-177	4	5	8

INTENTIONALLY LEFT BLANK

ATA 36 Contents

36-11-01 Pressure Regulating and Shutoff Valves (PRSOV) (L & R) 36-3
36-11-02 High Pressure Shutoff Valve (HPSOV) Systems 36-6
36-11-03 Intermediate Pressure Check Valves (Low Pressure) 36-8
36-11-04 APU Shutoff Valve 36-9
36-11-05 APU Check Valve 36-10
36-11-06 Bleed Air ISLN Valve 36-11
36-12-01 Precoolers 36-12
36-12-02 Fan Air (Precooler) Control Systems 36-13
BLEED AIR DUCT PRESS INDICATING SYSTEM 36-14
36-21-01 DUCT PRESS Indicators (P5 Panel) 36-14
36-21-02A Pressure Regulating and Shutoff Valve Closed Position Indicating System 36-15
36-22-01A BLEED Lights 36-16
36-22-02A HI STAGE Lights 36-18
36-22-04 Bleed ISLN Valve Light 36-19



NOTE: LEFT SIDE SHOWN,
RIGHT SIDE SIMILAR.

BLEED AIR

FAN AIR

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
36-11-01	Pressure Regulating and Shutoff Valves (PRSOV) (L & R) **"DISP.APPR.REQ'D"**	**Y**	2	1	**C**	**(O)(M)**Except for ER operations (ETOPS) beyond 120 minutes, one may be inoperative provided: a) PRSOV is closed, b) Associated ENG bleed air switch remains OFF, c) Airplane is not operated in known or forecast induction icing conditions, d) Remaining (opposite) engine bleed system and its associated pack operate normally, and e) Airplane remains at or below FL 350. NOTE 1: For a pack to be operating normally, certain items associated with that system must be operative. See Note for MEL Item 21-51-01 for a listing of those items. NOTE 2: For an engine bleed system to be operating normally, certain items associated with that system must be operative. See Note for MEL Item 36-11-01 for a listing of those items. Theatre Restrictions May Apply

MEL ITEM	TAB LOCATION	PLACARD TEXT
36-11-01	Near Associated Engine Bleed Switch	____ PRSOV INOP

NOTE: For an engine bleed system to be operating normally, the following associated items must be operative:

MEL Item	Item Title
36-11-01	Pressure Regulating and Shutoff Valves (PRSOV) (L & R)
36-11-02	High Pressure Shutoff Valve (HPSOV) Systems
36-11-03	Intermediate Pressure Check Valves
36-12-01	Precoolers
36-12-02	Fan Air (Precooler) Control Systems
36-22-01	BLEED Lights
36-22-02	HI STAGE Lights

Continued Next Page

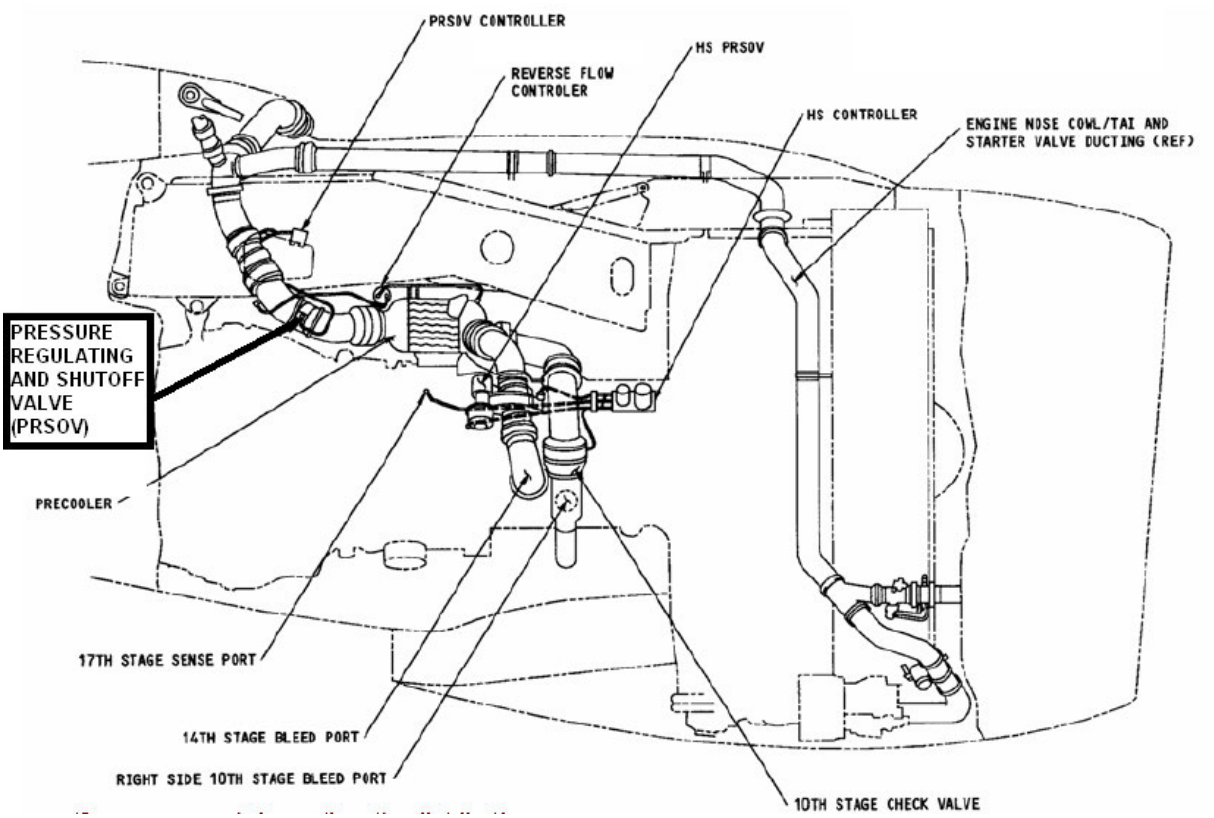
(O) PROCEDURES

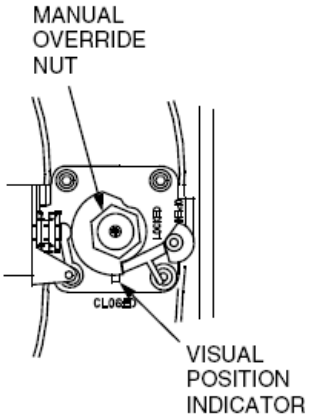
1. Airplane is not operated in known or forecast induction icing conditions.
2. Airplane remains at or below FL 350.
3. Do not operate two air conditioning packs with air supplied from a single engine bleed source.
4. Bleed air isolation valve is normally OFF.
5. With the isolation valve OFF, and operating with a single bleed air source, wing and engine anti-ice are not available on the affected side.
6. For left PRSOV inoperative, the left pack may be operated using APU bleed air below 17,000 feet.
7. When the APU is used as a bleed air source, average fuel consumption of the APU is 200 pounds/hour.
8. In the event of failure of the operating pack, opening the isolation valve will permit operation of the opposite side A/C pack.

(M) PROCEDURES

1. Press BLEED AIR L and R ENG switchlight on pilot's overhead P5 panel to OFF. Verify OFF lights come on.
2. If OFF light does not come on: (*Maintenance Will be Required and Flight Crew May NOT Placard*)
   a) Open applicable core cowls 418AR Left, 428AR Right.
   b) Rotate the manual override hex nut on the pressure regulating and shutoff valve clockwise until the poppet valve lever falls into the lock arm assembly notch. The word "LOCKED" should be visible on the valve body beneath the cam. Make sure the poppet valve lever is not in the detent position.
   c) Close core cowls.

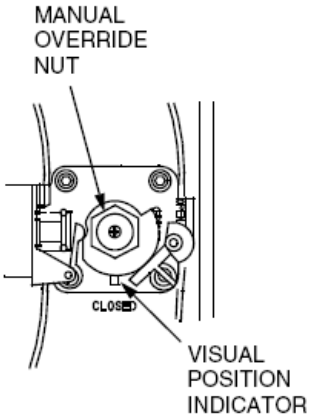
Continued Next Page





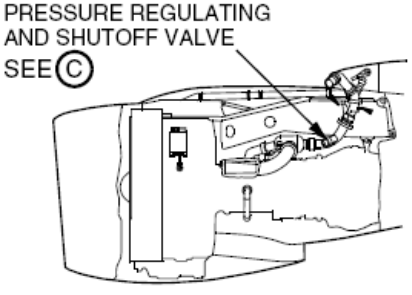
THE PRSOV IS CLOSED AND LOCKED

B

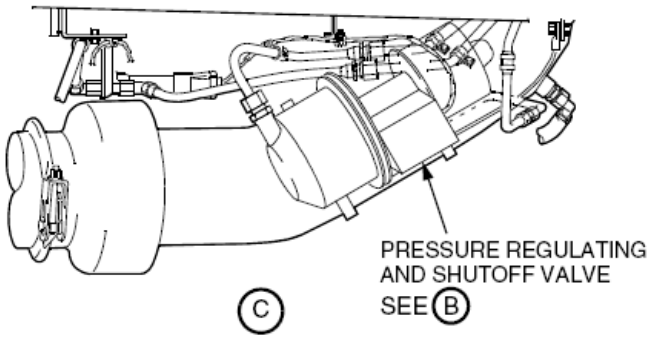


THE PRSOV IS NOT LOCKED CLOSED

B



PW ENGINE



C

PRESSURE REGULATING AND SHUTOFF VALVE

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
36-11-02	High Pressure Shutoff Valve (HPSOV) Systems **"DISP.APPR.REQ'D"**	**N** 2	1	**C**	**(O)(M)** One may be inoperative provided: a) Valve is secured closed, b) A minimum N1 is maintained on associated engine in induction icing conditions as follows: 70% N1 above 10,000 feet MSL, 60% N1 below 10,000 feet MSL, c) Descent, approach and landing are not made in induction icing conditions within 5,000 feet AGL, and d) Remaining (opposite) engine bleed system operates normally. NOTE: For an engine bleed system to be operating normally, certain items associated with that system must be operative. See Note for MEL Item 36-11-01 for a listing of those items.

MEL ITEM	TAB LOCATION	PLACARD TEXT
36-11-02	Near Associated Engine Bleed Switch	____ HPSOV INOP

(O) PROCEDURES

At low engine power settings with the HPSOV closed, reduced pneumatic duct pressure and insufficient air supply may cause the associated air conditioning pack to shut down.

Maintain a minimum of 70% N1 above 10,000 feet MSL or 60% N1 below 10,000 feet MSL on the affected engine in induction icing conditions.

(M) PROCEDURES

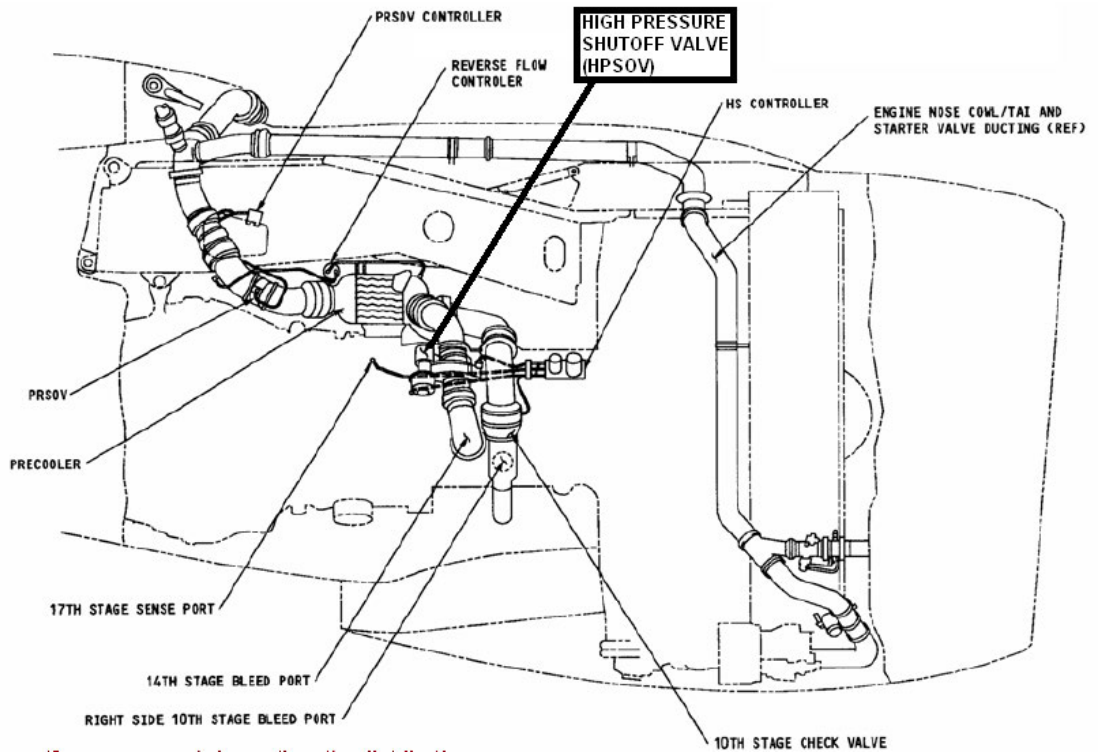
WARNING: FAILURE TO FOLLOW PROCEDURES TO OPEN AND CLOSE FAN COWL, CORE COWL, FAN DUCT COWL AND THRUST REVERSER COULD RESULT IN INJURY TO PERSONNEL AND/OR DAMAGE TO FAN COWL, CORE COWL, FAN DUCT COWL AND THRUST REVERSER.

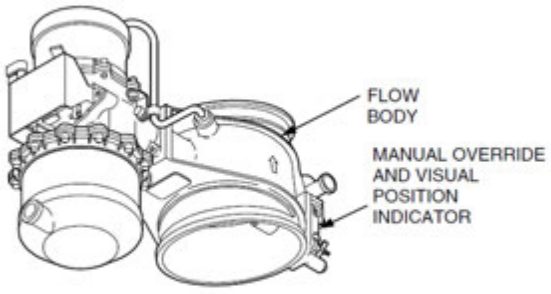
1. Open applicable engine fan duct cowl (Right cowl) and thrust reverser.
2. Rotate the manual override hex nut on the high-pressure shutoff valve clockwise until the poppet valve lever falls into the lock arm assembly notch. The word "LOCKED" should be visible on the valve body beneath the cam. Make sure the poppet valve lever is not in the detent position.

   NOTE 1: This locks valve in closed position. Valve must be manually wrenched from CLOSE before valve will open.

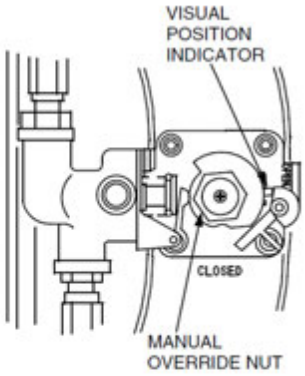
   NOTE 2: A faulty, or out of calibration, over-pressure sensor could cause the HI STAGE light to illuminate and the advisory EICAS message to appear, regardless of valve position.
3. Disconnect High Stage Pilot electrical connector, cap and stow.
4. Close fan cowl duct and thrust reverser.

Continued Next Page

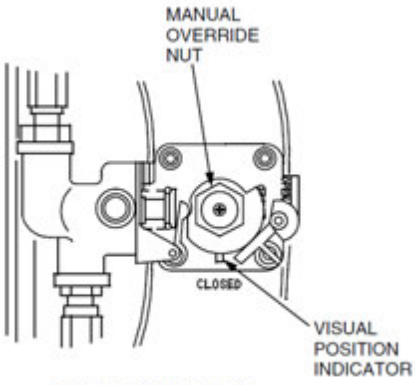




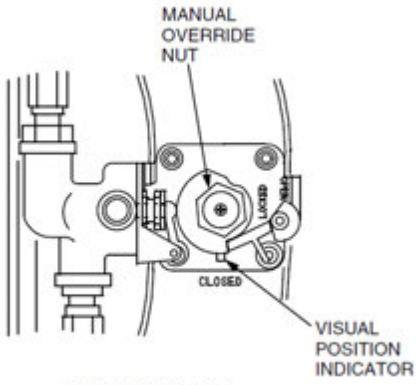
HIGH PRESSURE SHUTOFF VALVE (HPSOV)



MANUAL OVERRIDE AND VISUAL POSITION INDICATOR



THE HPSOV IS NOT LOCKED CLOSED



THE HPSOV IS LOCKED CLOSED

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
36-11-03	Intermediate Pressure Check Valves (Low Pressure) **"DISP.APPR.REQ'D"**	**N**	2	1	**C**	**(O)(M)** One may be inoperative open provided: a) Associated HPSOV is secured closed, b) A minimum N1 is maintained on associated engine in induction icing conditions as follows: 70% N1 above 10,000 feet MSL, 60% N1 below 10,000 feet MSL, c) Descent, approach and landing are not made in induction icing conditions within 5,000 feet AGL, d) Remaining (opposite) engine bleed system operates normally, and e) Isolation valve remains closed, except for engine start. NOTE: For an engine bleed system to be operating normally, certain items associated with that system must be operative. See Note for MEL Item 36-11-01 for a listing of those items.

MEL ITEM	TAB LOCATION	PLACARD TEXT
36-11-03	Near Associated Engine Bleed Switch	____ Intermediate Pressure Check Valve INOP

(O) PROCEDURES

1. At low engine power settings with the HPSOV closed, reduced pneumatic duct pressure and insufficient air supply may cause the associated air conditioning pack to shut down.
2. Maintain a minimum of 70% N1 above 10,000 feet MSL or 60% N1 below 10,000 feet MSL on the affected engine in induction icing conditions.

(M) PROCEDURES

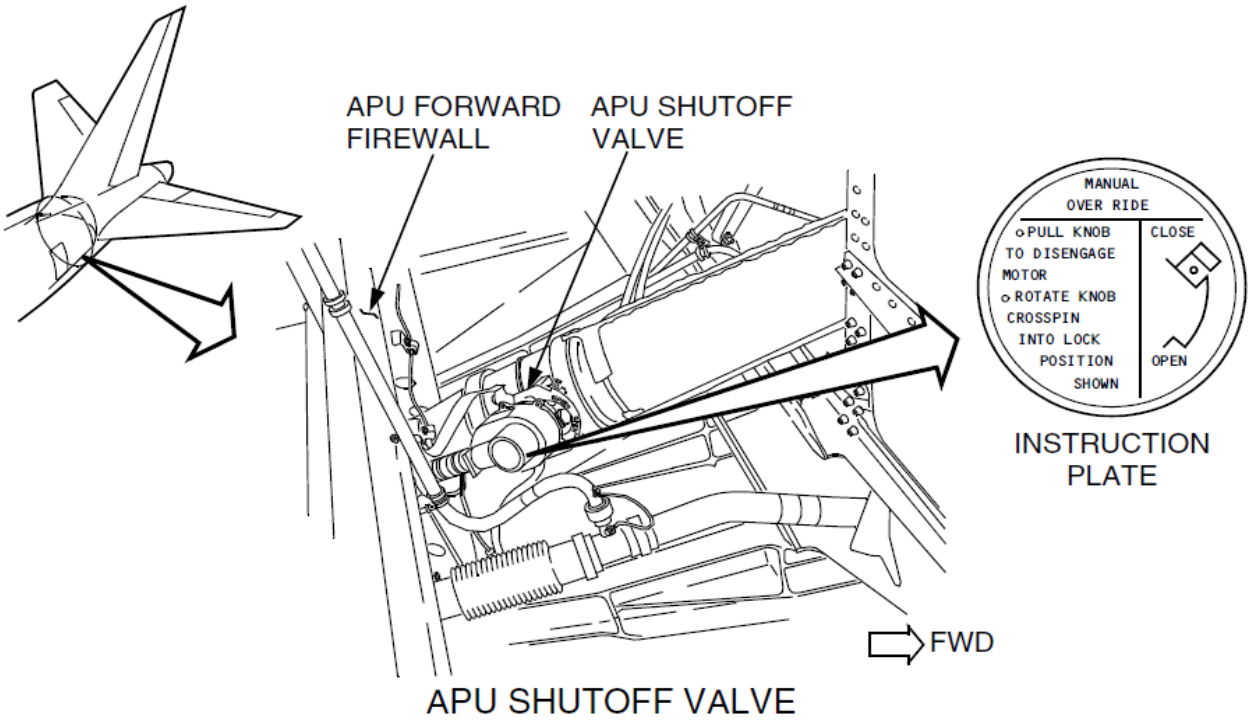
1. Defer applicable high stage bleed valve (high pressure shutoff valve) in the closed position per MEL Item 36-11-02.
2. Press ISOLATION switchlight to closed position. Verify that bar light is off and VALVE light comes on and then goes off.

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
36-11-04	APU Shutoff Valve **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	**(M)** May be inoperative provided: a) Valve is closed, and b) APU bleed switch remains OFF. NOTE: APU may be used for electrical power. Theatre Restrictions May Apply

MEL ITEM	TAB LOCATION	PLACARD TEXT
36-11-04	Near APU BLEED Switch	1. APU Bleed Valve INOP 2. Do NOT Use APU Bleed Air

(M) PROCEDURES

1. Set the APU bleed air switchlight on P5 panel to OFF position. Verify the VALVE light on the switchlight is not illuminated.
2. If VALVE light does not go out, manually close APU valve as follows: (*Maintenance Will be Required and Flight Crew May NOT Placard*)
   a) Pull and secure AIR SUPPLY APU BLEED POWER circuit breaker 11Q22 on overhead circuit breaker panel (P11).
   b) Open controls access door (313BL).
   c) Manually position the position indicator on APU valve to CLOSE.
   d) Close controls access door (313BL).



APU SHUTOFF VALVE

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
36-11-05	APU Check Valve	**Y**	1	0	**C**	May be inoperative provided APU shutoff valve remains closed, except for engine start.

MEL ITEM	TAB LOCATION	PLACARD TEXT
36-11-05	Near APU BLEED Switch	1. APU BLEED Check Valve INOP 2. Except for engine start, do NOT use APU Bleed Air

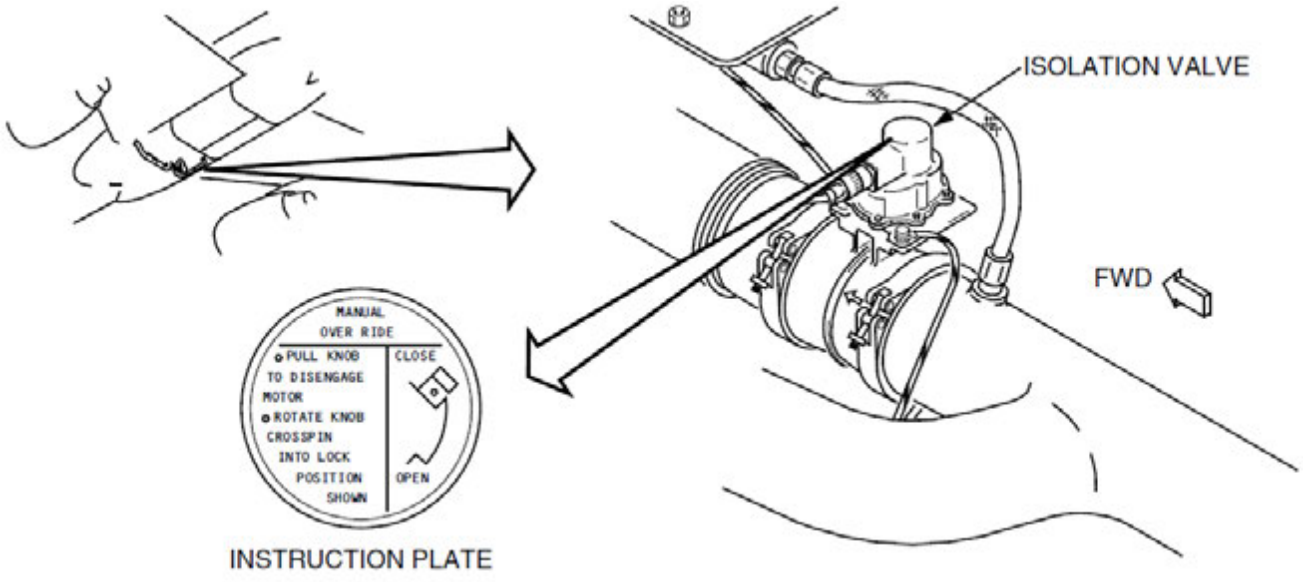
NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
36-11-06	Bleed Air ISLN Valve **"DISP.APPR.REQ'D"**	**N**	1	0	**C**	**(M)** Except for ER operations (ETOPS) beyond 120 minutes, may be inoperative provided: a) Valve is closed except for engine start, b) Valve must be manually positioned for engine start, c) Airplane is not operated in known or forecast induction icing conditions, and d) Both engine PRSOVs operate normally. Theatre Restrictions May Apply

MEL ITEM	TAB LOCATION	PLACARD TEXT
36-11-06	Near 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 open for engine start and then manually closed prior to departure.

1. Pull and secure AIR SUPPLY ISOLATION VALVE POWER circuit breaker B3 on overhead circuit breaker panel (P11).
2. Open right ECS access door.
3. Manually position manual override lever to OPEN for engine start.
4. Following start of engine, manually position manual override lever to CLOSE.
5. Close ECS access door.



NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
36-12-01	Precoolers **"DISP.APPR.REQ'D"**	**Y**	2	1	**C**	**(O)(M)** Except for ER operations (ETOPS) beyond 120 minutes, one may be inoperative provided: a) Associated engine PRSOV is closed, and b) Airplane is not operated in known or forecast induction icing conditions. Theatre Restrictions May Apply

MEL ITEM	TAB LOCATION	PLACARD TEXT
36-12-01	Near Associated Engine Bleed Switch	____ Engine Precooler INOP

(O) PROCEDURES

Airplane must not be operated in known or forecast induction icing conditions.

(M) PROCEDURES

1. Deactivate system using Deactivation Procedure One or Deactivation Procedure Two.

   a) Deactivation Procedure One

      1) Press applicable L ENG, or R ENG switch light on P5 panel to OFF. Verify that bar light extinguishes and OFF light illuminates.

         A. If the bar light extinguishes and OFF light illuminates, pull and secure applicable circuit breaker on overhead circuit breaker panel (P11).

            - L ENG BLEED CONT
            - R ENG BLEED CONT

         B. The APU bleed valve cycles to closed, effectively shutting off the alternate bleed source for the affected air conditioning pack. Defer the affected pack inoperative per MEL 21-51-01.

      2) If bar light fails to extinguish and/or OFF light fails to illuminate, then (*Maintenance Will be Required and Flight Crew May NOT Placard*). Lock valve in CLOSED position using Deactivation Procedure Two below.

   b) Deactivation Procedure Two. (*Maintenance Will be Required and Flight Crew May NOT Placard*)

WARNING: FAILURE TO FOLLOW PROCEDURES TO OPEN AND CLOSE FAN COWL, CORE COWL, FAN DUCT COWL AND THRUST REVERSER COULD RESULT IN INJURY TO PERSONNEL AND/OR DAMAGE TO FAN COWL, CORE COWL, FAN DUCT COWL AND THRUST REVERSER.

      1) Open the following, as applicable, core cowls (418AR Left, 428AR Right), right engine fan duct cowl, and thrust reverser.

      2) Rotate manual override hex nut on the pressure regulating and shutoff valve until the position indicator is in close.

      3) Rotate the manual override hex nut on the HPSOV until position indicator is in CLOSE.

      4) Close thrust reverser, fan duct cowl, core cowl, and strut pressure relief door as applicable.

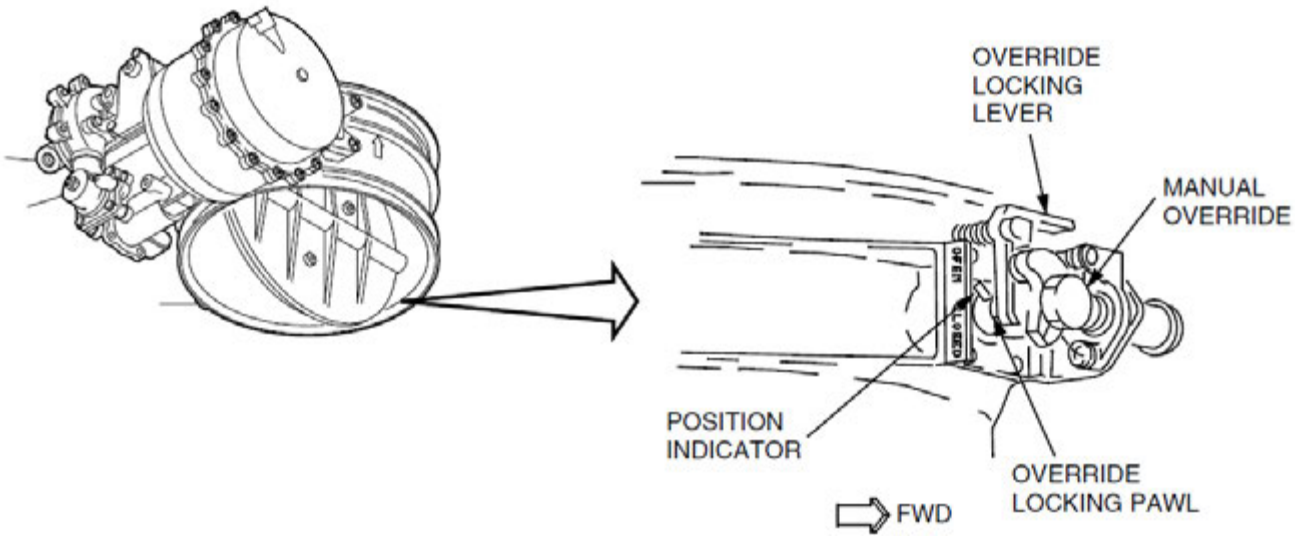
ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD			
36-12-02	Fan Air (Precooler) Control Systems **"DISP.APPR.REQ'D"**	**N** 2	0	**C**	**(M)** Except for ER operations (ETOPS) beyond 120 minutes, may be inoperative provided: a) Associated fan air modulation valve is secured full open, and b) Airplane is not operated in known or forecast induction icing conditions.

MEL ITEM	TAB LOCATION	PLACARD TEXT
36-12-02	Near Associated Engine Bleed Switch	____ Fan Air Control System INOP

(M) PROCEDURES

WARNING: FAILURE TO FOLLOW PROCEDURES TO OPEN AND CLOSE FAN COWL, CORE COWL, FAN DUCT COWL AND THRUST REVERSER COULD RESULT IN INJURY TO PERSONNEL AND/OR DAMAGE TO FAN COWL, CORE COWL, FAN DUCT COWL AND THRUST REVERSER.

1. Open applicable engine fan duct (Right cowl) and thrust reverser cowl.
2. On the Fan Air Modulating Valve, depress the lock lever ensuring the pawl is disengaged. Rotate the manual override hex approximately 90 degrees clockwise (CW) until pawl is engaged in the open detent. Verify position indicator agrees with the selected detent.
3. Close and fan duct and thrust reverser cowl.



NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
	BLEED AIR DUCT PRESS INDICATING SYSTEM					
36-21-01	DUCT PRESS Indicators (P5 Panel)	**Y**	2	1	**C**	

MEL ITEM	TAB LOCATION	PLACARD TEXT
36-21-01	Near 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
36-21-02A	Pressure Regulating and Shutoff Valve Closed Position Indicating System (Engine Bleed Air OFF Lights)	**Y**	2	0	**C**	**(O)(M)** May be inoperative provided associated valve is verified to operate normally ONCE EACH FLIGHT DAY (Logbook Entry Required). **Repetitive Check Required (Yellow Placard)**
36-21-02B	Pressure Regulating and Shutoff Valve Closed Position Indicating System (Engine Bleed Air OFF Lights) **"DISP.APPR.REQ'D"**	**Y**	2	1	**C**	May be inoperative for associated inoperative Pressure Regulating and Shutoff Valve (PRSOV). Theatre Restrictions May Apply

MEL ITEM	TAB LOCATION	PLACARD TEXT
36-21-02A	Near Affected Engine Bleed Air OFF Light	____ Engine Bleed Air OFF Light INOP
36-21-02B	Near Affected Engine Bleed Air OFF Light	____ Engine Bleed Air OFF Light INOP

(O) PROCEDURES

36-21-02A

- If the left or right Pressure Regulating and Shutoff Valve (PRSOV) position switch is failed in the CLOSED position, inflight, the APU Shutoff Valve will not be commanded closed when engine bleed is turned ON. Select APU or APU bleed OFF before turning the affected engine bleed ON.
- If the left PRSOV position switch is failed OPEN, for inflight operations, the APU Shutoff Valve will be commanded closed and the APU will not be available as a pneumatic source. If the right PRSOV position switch is failed OPEN, for inflight operations, the APU Shutoff Valve will be commanded closed when the bleed air isolation valve is open.
- On the ground, the engine start switches override the PRSOV logic in the APU bleed air control logic and the APU can be used for engine start.

(M) PROCEDURES

36-21-02A

Verify that PRSOV operates normally:

1. Start engine on affected side.
2. Select APU or APU BLEED OFF.
3. Make sure the bleed air isolation valve is closed.
4. Select associated L/R BLEED AIR switch light to the ON position.
5. Observe BLEED AIR DUCT PRESS on affected side is normal (approximately 20 psi).
6. Select associated L/R BLEED AIR switch light to the OFF position.
7. Observe BLEED AIR DUCT PRESS on affected side is 0.

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
36-22-01A	BLEED Lights **"DISP.APPR.REQ'D"**	**N**	2	1	**C**	**(O)(M)** One may be inoperative provided: a) Associated HPSOV is secured closed, b) A minimum N1 is maintained on associated engine in induction icing conditions as follows: 70% N1 above 10,000 feet MSL, 60% N1 below 10,000 feet MSL, c) Descent, approach and landing are not made in induction icing conditions within 5,000 feet AGL, and d) Remaining (opposite) engine bleed system operates normally. NOTE: For an engine bleed system to be operating normally, certain items associated with that system must be operative. See Note for MEL Item 36-11-01 for a listing of those items.
36-22-01B	BLEED Lights **"DISP.APPR.REQ'D"**	**Y**	2	1	**C**	One may be inoperative for associated inoperative PRSOV. Theatre Restrictions May Apply

MEL ITEM	TAB LOCATION	PLACARD TEXT
36-22-01A	Near Affected BLEED Light	____ Bleed Light INOP
36-22-01B	Near Affected BLEED Light	____ Bleed Light INOP

(O) PROCEDURES

36-22-01A

1. At low engine power settings with the HPSOV closed, reduced pneumatic duct pressure and insufficient air supply may cause the associated air conditioning pack to shut down.
2. Maintain a minimum of 70% N1 above 10,000 feet MSL or 60% N1 below 10,000 feet MSL on the affected engine in induction icing conditions.

36-22-01B

Comply with MEL item 36-11-01 for Operations Procedures.

Continued Next Page

(M) PROCEDURES

36-22-01A

WARNING: FAILURE TO FOLLOW PROCEDURES TO OPEN AND CLOSE FAN COWL, CORE COWL, FAN DUCT COWL AND THRUST REVERSER COULD RESULT IN INJURY TO PERSONNEL AND/OR DAMAGE TO FAN COWL, CORE COWL, FAN DUCT COWL AND THRUST REVERSER.

1. Open applicable engine fan duct (Right cowl) and thrust reverser cowl.
2. Rotate the manual override hex nut on the high-pressure shutoff valve clockwise until the poppet valve lever falls into the lock arm assembly notch. The word “LOCKED” should be visible on the valve body beneath the cam. Make sure the poppet valve lever is not in the detent position.

   NOTE 1: This locks valve in closed position. Valve must be manually wrenched from CLOSE before valve will open.

   NOTE 2: A faulty, or out of calibration, over-pressure sensor could cause the HI STAGE light to illuminate and the advisory EICAS message to appear, regardless of valve position.
3. Disconnect High Stage Pilot electrical connector, cap and stow.
4. Close fan duct and thrust reverser cowl.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
36-22-02A	HI STAGE Lights **"DISP.APPR.REQ'D"**	**N**	2	1	**C**	**(O)(M)** One may be inoperative provided: a) Associated HPSOV is secured closed, b) A minimum N1 is maintained on associated engine in induction icing conditions as follows: 70% N1 above 10,000 feet MSL, 60% N1 below 10,000 feet MSL, c) Descent, approach and landing are not made in induction icing conditions within 5,000 feet AGL, and d) Remaining (opposite) engine bleed system operates normally. NOTE: For an engine bleed system to be operating normally, certain items associated with that system must be operative. See Note for MEL Item 36-11-01 for a listing of those items. Theatre Restrictions May Apply
36-22-02B	HI STAGE Lights **"DISP.APPR.REQ'D"**	**Y**	2	1	**C**	**(O)** One may be inoperative for associated inoperative PRSOV. Theatre Restrictions May Apply

MEL ITEM	TAB LOCATION	PLACARD TEXT
36-22-02A	Near Affected HI STAGE Light	____ HI STAGE Light INOP
36-22-02B	Near Affected HI STAGE Light	____ HI STAGE Light INOP

(O) PROCEDURES

36-22-02A

1. At low engine power settings with the HPSOV closed, reduced pneumatic duct pressure and insufficient air supply may cause the associated air conditioning pack to shut down.
2. Maintain a minimum of 70% N1 above 10,000 feet MSL or 60% N1 below 10,000 feet MSL on the affected engine in induction icing conditions.

36-22-02B

Comply with MEL item 36-11-01 for Operations Procedures.

(M) PROCEDURES

36-22-02A

Defer applicable high stage bleed valve (high pressure shutoff valve) in the closed position per MEL Item 36-11-02.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
36-22-04	Bleed ISLN Valve Light	**Y**	1	0	**C**	**(O)** May be inoperative provided both duct pressure indicators operate normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
36-22-04	Near Bleed ISLN Valve Light	Bleed ISLN Valve Light INOP

(O) PROCEDURES

Refer to Remarks or Exceptions Column.

Intentionally Left Blank

ATA 38 Contents

38-10-01A Potable Water Systems 38-2
38-30-01A Lavatory Waste Systems (Including Wheelchair Accessible Lavatories) 38-4
38-30-01C Vacuum Blowers (-300 series) 38-4

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 **"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.
38-10-01B Potable Water Systems **"DISP.APPR.REQ'D"**	**N**	-	-	**C**	**(O)(M)** May be inoperative provided: a) System is drained, b) Procedures are established to ensure that system is not serviced, and c) Appropriate performance corrections are applied.

MEL ITEM	TAB LOCATION	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 SYSTEMS**
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 and Balance Worksheet only)** Use applicable OEW correction for "Potable Water System Drained" in ALM – Weight and Balance Section.

Continued Next Page

(M) PROCEDURES

38-10-01A

1. Deactivate inoperative system component(s) and isolate as necessary.
2. Ensure system is properly serviced and under pressure.
3. Check deactivated component(s) for leakage. No leakage allowed.
   a) Leak must be isolated prior to dispatch.
   b) If unable to isolate leak, entire system must be drained. Use MEL 38-10-01B.

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 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 Waste Systems (Including Wheelchair Accessible Lavatories) **"DISP.APPR.REQ'D"**	**N**	-	-	**C**	**(M)** Associated lavatory system(s) may be inoperative provided: a) Associated components are deactivated or isolated to prevent leaks, and b) Associated lavatory door(s) is secured closed and placarded INOPERATIVE – DO NOT ENTER. NOTE 1: These provisions are not intended to prohibit use or inspections by crewmembers. NOTE 2: For A/C 5635-5649 only, on scheduled flights greater than 6 hours with more than 110 passengers, **all** lavatories **must** be operative.
38-30-01C	Vacuum Blowers (-300 series and A/C 6819-6823)	**Y**	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	TAB LOCATION	PLACARD TEXT
38-30-01A	Logbook	Lavatory System ____ INOP
38-30-01B	Logbook	____ Lavatory System 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 Flight Attendants 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 per AMM 38-32-00.
2. Ensure system is properly serviced.
3. Check deactivated component(s) for leakage. No leakage allowed.
   a) Leak must be isolated prior to dispatch.
   b) If unable to isolate leak, associated waste tank(s) must be drained. Use MEL 38-30-01B.

38-30-01B

(-200, excluding aircraft 6819-6823)

1. Deactivate inoperative system component(s) as necessary per AMM 38-32-00. No leakage is 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 closed and install an INOPERATIVE – DO NOT ENTER placard on the exterior of the associated lavatory door.
4. Install additional INOPERATIVE – DO NOT SERVICE placard on the interior of exterior service panel, as applicable.

(-300, and aircraft 6819-6823)

1. At the associated toilet, pull the manual shutoff handle for the discharge valve out to close the shutoff valve. (Located below the toilet shroud and above the kickstrip)
2. Close the manual shutoff valve for the rinse water. (Located below the sink in the cabinet)

38-30-01C

Open and secure the associated BLOWER CONTROL circuit breaker on the P6 panel.

NOTE 1: An inoperative aft blower will affect the left-mid lav and the left-aft lav.

NOTE 2: An inoperative forward blower will affect the forward lav, the right-mid lav, and the right-aft lav.

INTENTIONALLY LEFT BLANK

THERE ARE NO ATA 46 ITEMS IN THE B757 MINIMUM EQUIPMENT LIST

INTENTIONALLY LEFT BLANK

ATA 47 Contents

47-11-01A Nitrogen Generation System (NGS) 47-2
47-11-01B Nitrogen Generation Performance 47-2

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
47-11-01A	Nitrogen Generation System (NGS)	**N**	1	0	**A**	**(M)** May be inoperative provided: a) NGS shutoff valve is deactivated closed, and b) Repairs are made within ten flight days.
47-11-01B	Nitrogen Generation Performance	**Y**	1	0	**C**	May be inoperative.

MEL ITEM	TAB LOCATION	PLACARD TEXT
47-11-01A	Logbook	Nitrogen Generation System INOP
47-11-01B	Logbook	Nitrogen Generation Performance INOP

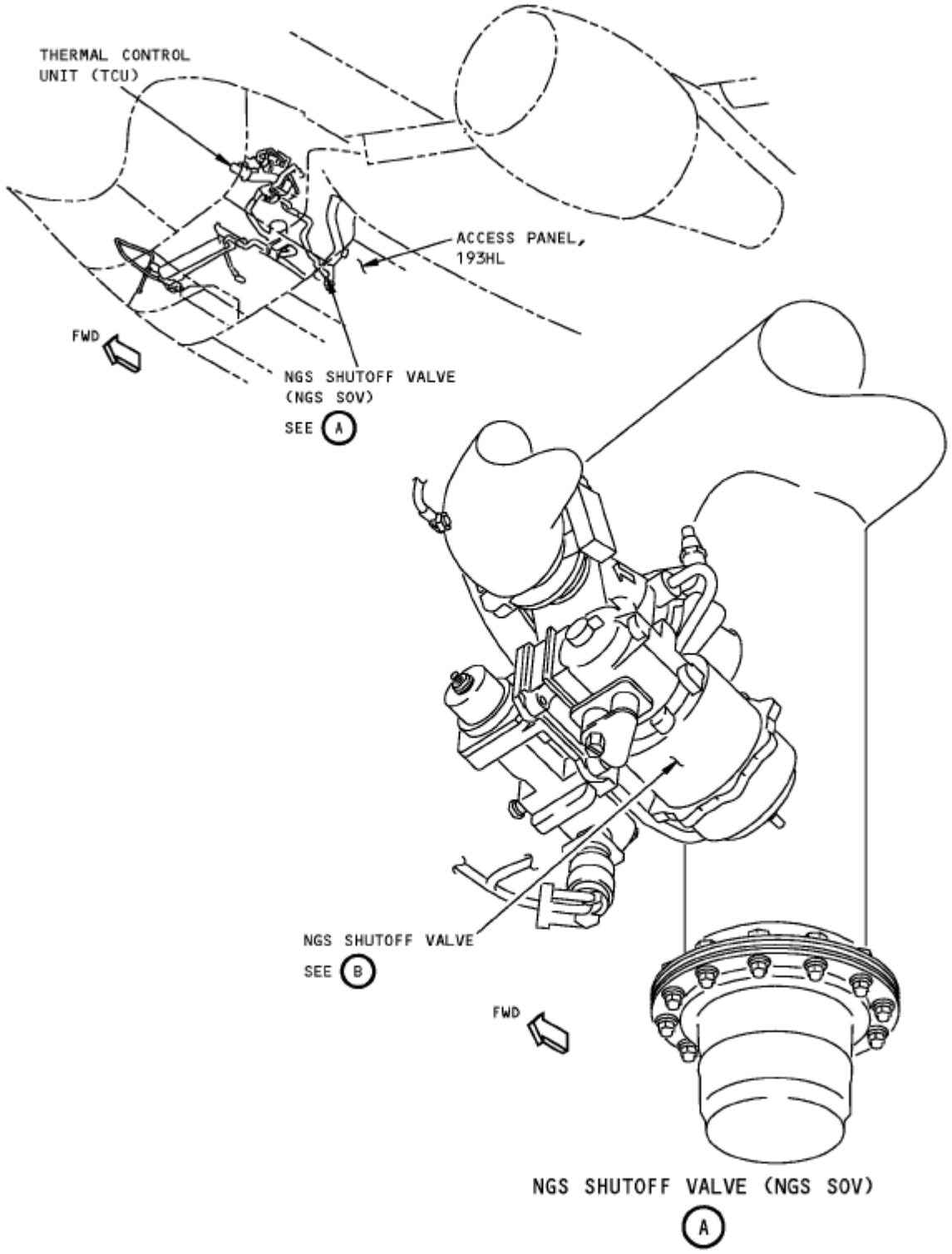
(M) PROCEDURES

47-11-01A

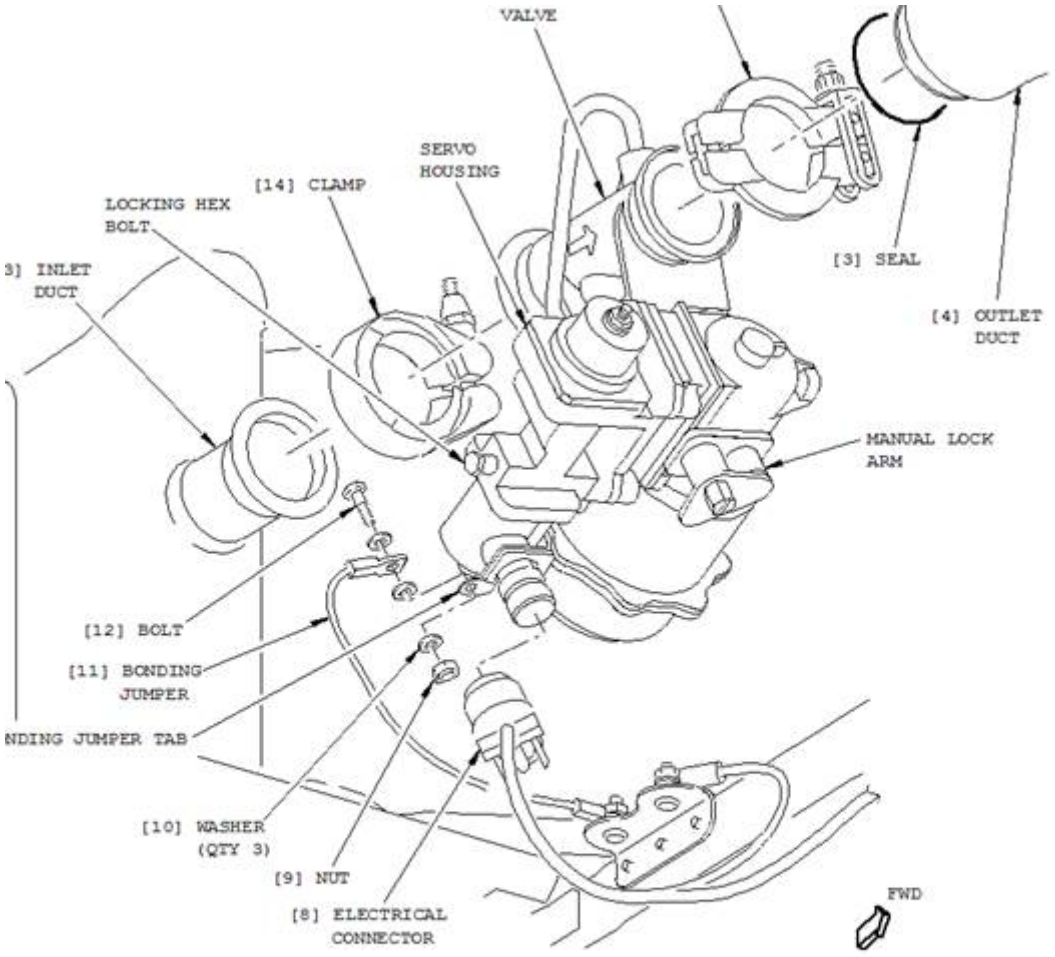
1. Gain access to the Nitrogen Generation System (NGS) shutoff valve (AMM 47-32-01/401)
2. Position the NGS shutoff valve's manual lock arm to the CLOSED position.
3. Align the hole in the manual lock arm with the threaded boss on the NGS shutoff valve.
4. Remove the manual bolt from the storage location.

   NOTE: The manual lock bolt is attached with a lanyard.
5. Install the manual lock bolt through the hole in the manual lock arm.
6. Torque the bolt to 25-30 in-lb (2,8-3,4 Nm).

Continued Next Page



Continued Next Page

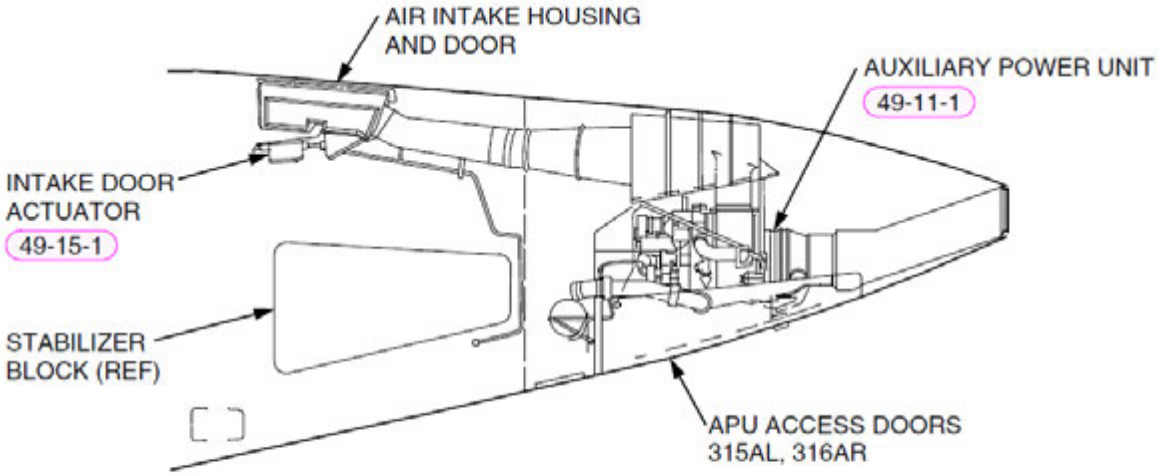


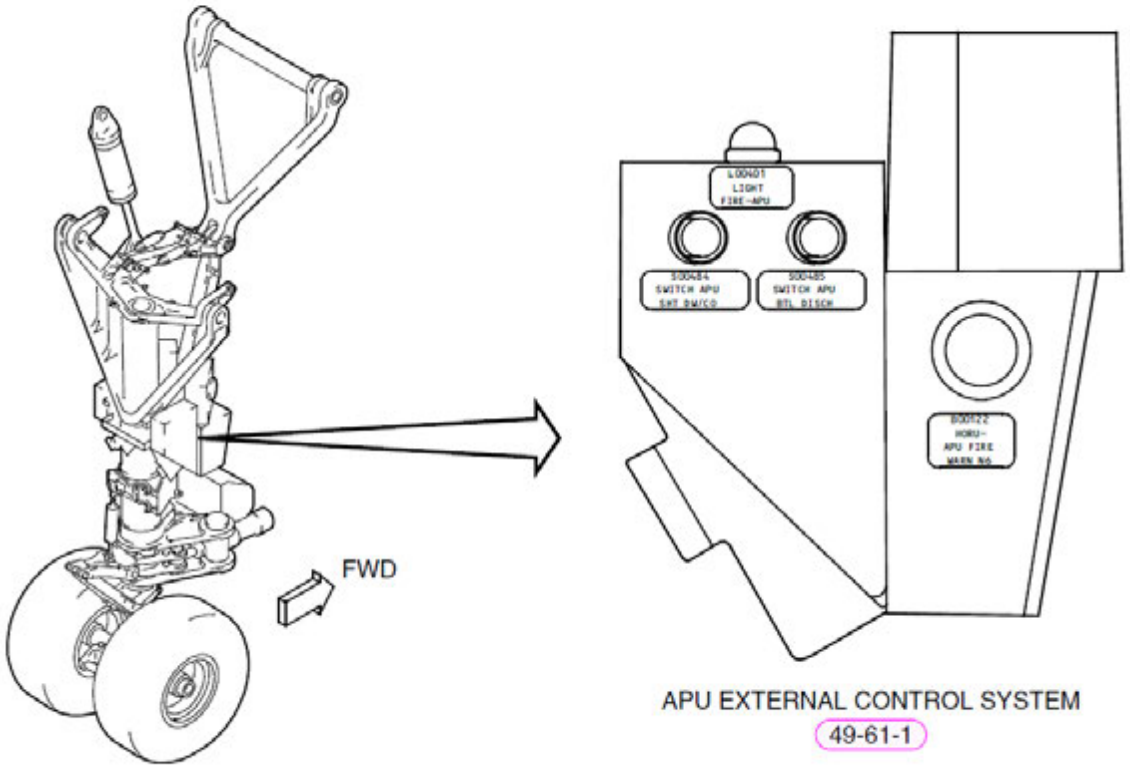
NITROGEN GENERATION SYSTEM SHUTOFF VALVE
(NGS SOV)

B

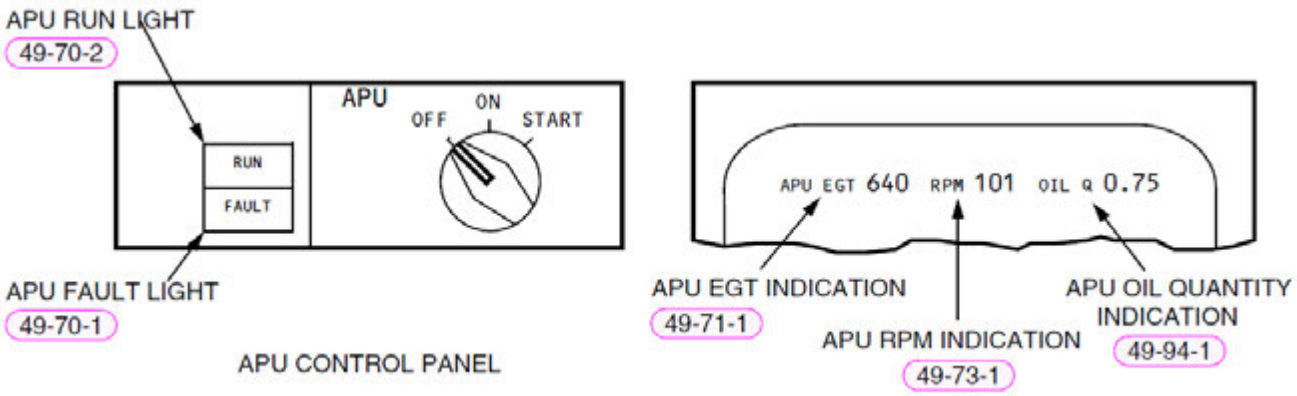
ATA 49 Contents

	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
49-11-01E	APU System - Cold Soak Not Verified	49-4
	APU AIR INTAKE DOOR ACTUATION SYSTEM	49-9
49-15-01A	Door Closed	49-9
49-15-01B	Door Open	49-9
49-61-01A	APU External Control System	49-12
49-70-01	APU FAULT Light	49-13
49-70-02	APU RUN Light	49-14
49-71-01	APU EGT Indication	49-15
49-72-01	APU Hourmeter System	49-16
49-72-02	APU Cyclemeter System	49-17
49-73-01	APU RPM Indication	49-18
49-94-01A	APU OIL QTY Indication	49-19





APU EXTERNAL CONTROL SYSTEM
49-61-1



APU CONTROL PANEL

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
	AUXILIARY POWER UNIT (APU)					
49-11-01A	Auxiliary Power Unit (APU) **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	**(O)** Except for ER operations (ETOPS), may be inoperative provided: a) Both engine generators operate normally, b) Both Engine Generator 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. Theatre Restrictions May Apply
49-11-01B	Auxiliary Power Unit (APU) **"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) Both Engine Generators operate normally, b) Both Engine Generator IDGs Log Book history for past 30 days is reviewed and approved by MCC prior to deferral, and c) Hydraulic Motor Generator (HMG) is verified to operate normally, and d) Procedures do not require its use. Theatre Restrictions May Apply
49-11-01C	Pneumatic Function **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Procedures do not require its use, and b) APU Bleed Valve is closed.

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	**A**	**(O)(M)** Inflight verification of cold soak start capability has not been accomplished. **1. ER (ETOPS) operations Not Authorized:** a) APU is shut down before takeoff and remains OFF until cold soak start is attempted, b) Cold soak inflight start of APU may be accomplished after at least two flight hours at or above FL270, and c) Verification is accomplished within 6 flight cycles. **OR** **2. 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, d) Cold soak inflight start of APU may be accomplished after at least two flight hours at or above FL270, and e) Verification is accomplished within 6 flight cycles. **Repetitive Check Required (Yellow Placard)**
49-11-01E 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	TAB LOCATION	PLACARD TEXT
49-11-01A	Near APU Start Switch	APU INOP
49-11-01B	Near APU Start Switch	APU INOP
49-11-01C	Near APU Start Switch	APU Bleed Air INOP
49-11-01D	Near APU Start Switch	APU Cold Soak Start.
49-11-01E	Near APU Start Switch	APU Cold - Soak Not Verified

NOTE 1: APU may be removed per AMM 49-11-02. When removing the APU for dispatch, ensure that (1) the equipment removed is weighed and (2) that the weight and balance is updated. With APU removed, the APU FAULT light may remain illuminated, and the EICAS messages APU BLD VAL, APU FUEL VAL, and APU GEN OFF may display after engine start.

NOTE 2: If External Power is not available, refer to 757/767 Operations Manual, Volume 1, Supplementary Procedures, Engines, APU for Engine Battery Start procedures.

NOTE 3: There is no MEL relief for an inoperative APU for 180 minute ETOPS operations; however, if only the pneumatic function of the APU is inoperative, then the APU will be capable of generating electrical power and 180 minute ETOPS operations are allowed.

(O) PROCEDURES

49-11-01A, 49-11-01B

Communication between the Captain and ground personnel is required prior to engine start. The communication should include: the location of the pneumatic start cart, the engine to be started, and the timing of removal of pre-conditioned air and external electrical power. Variations to start cart location and engine to be started may occur as operational requirements dictate, but the plan must be coordinated and clearly understood by both flight deck and ground personnel prior to start.

If APU is removed, apply the following performance correction:

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 applicable OEW correction for “APU” in ALM – Weight and Balance Section.

Continued Next Page

49-11-01C

Communication between the Captain and ground personnel is required prior to engine start. The communication should include: the location of the pneumatic start cart, the engine to be started, and the timing of removal of pre-conditioned air and external electrical power. Variations to start cart location and engine to be started may occur as operational requirements dictate, but the plan must be coordinated and clearly understood by both flight deck and ground personnel prior to start.

49-11-01D

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.

49-11-01E

1. Start APU prior to pushback.
2. The APU shall be shut down at least 2 hours, prior to top of descent, 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.

   NOTE: APU fuel consumption is approximately 280 lbs per hour while airborne.

49-11-01E	**AUXILIARY POWER UNIT (APU) – COLD SOAK NOT VERIFIED (ETOPS AUTHORIZED)**
EFFECTIVITY	**-200**
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 1,500 lbs. Increase BLOCK FUEL by 280 lbs. for each hour of APU usage.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** Reduce RATOW by 500 lbs. Reduce T/O CLIMB LIMIT by 500 lbs. **LANDING** Reduce LANDING CLIMB LIMIT WT by 700 lbs.

Continued Next Page

49-11-01E	**AUXILIARY POWER UNIT (APU) – COLD SOAK NOT VERIFIED (ETOPS AUTHORIZED)**
EFFECTIVITY	**-300**
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 1,500 lbs. Increase BLOCK FUEL by 280 lbs. for each hour of APU usage.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** Reduce RATOW by 1,000 lbs. Reduce T/O CLIMB LIMIT by 1,000 lbs. **LANDING** Reduce LANDING CLIMB LIMIT WT by 700 lbs.

(M) PROCEDURES

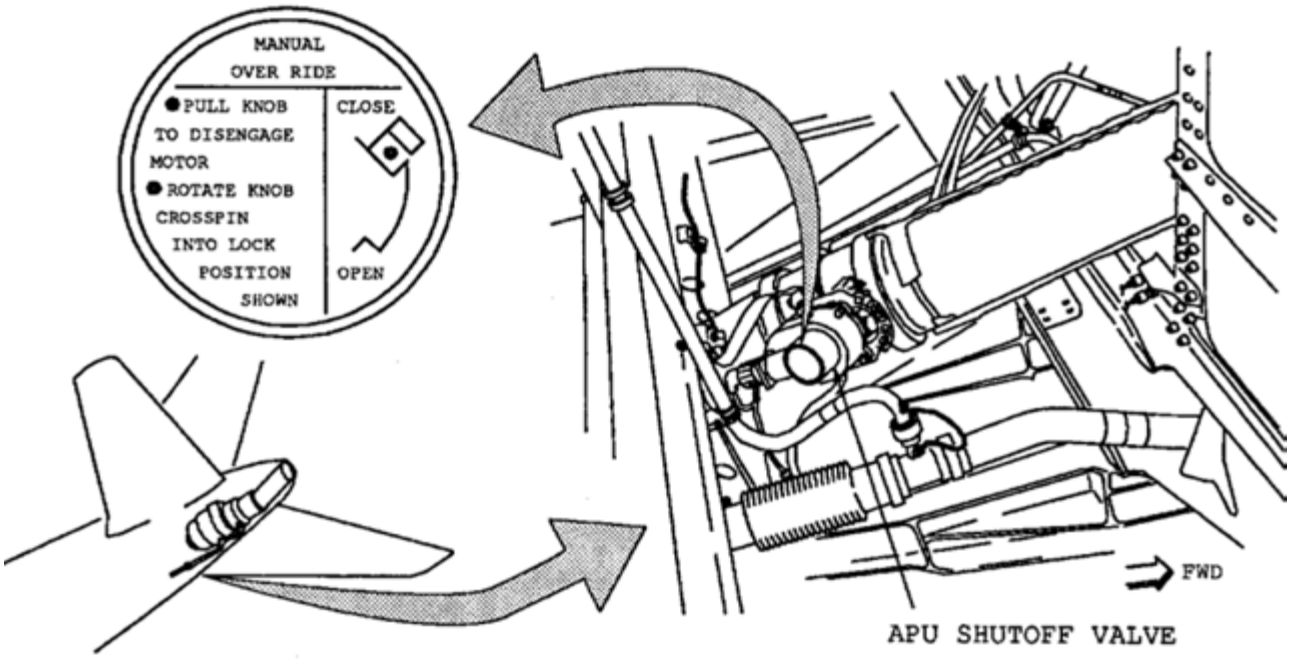
49-11-01B

Verify HMG operates normally. Refer to item 24-00-02B APU Driven Generator, (M) procedures.

49-11-01C

1. Press APU VALVE switchlight on P5 panel to OFF position. Verify that bar light and VALVE light goes out.
2. If VALVE Light does not go out, manually close APU valve as follows: (*Maintenance Will be Required and Flight Crew May NOT Placard*)
   a) Pull and secure AIR SUPPLY APU BLEED POWER circuit breaker 11Q22 on overhead circuit breaker panel (P11).
   b) Open controls access door (313BL).
   c) Manually position the position indicator on APU valve to CLOSE.
   d) Close controls access door (313BL).

Continued Next Page



APU BLEED (SHUTOFF) VALVE

49-11-01D

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.

49-11-01E

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
APU AIR INTAKE DOOR ACTUATION SYSTEM 49-15-01A Door Closed **"DISP.APPR.REQ'D"**	**N**	1	0	**C**	**(M)** May be inoperative secured closed provided APU is considered inoperative and deferred per MEL 49-11-01. Theatre Restrictions May Apply
49-15-01B Door Open **"DISP.APPR.REQ'D"**	**N**	1	0	**C**	**(O)(M)** May be inoperative secured open provided: a) APU is operated continuously during flight, and b) Performance corrections are applied.

MEL ITEM	TAB LOCATION	PLACARD TEXT
49-15-01A	Near APU Start Switch	APU Air Intake Door Actuation System INOP
49-15-01B	Near APU Start Switch	APU Air Intake Door Actuation System INOP

(O) PROCEDURES

49-15-01B

NOTE: APU fuel consumption is approximately 280 lbs per hour while airborne.

49-15-01B	APU AIR INTAKE DOOR ACTUATION SYSTEM
EFFECTIVITY	-200
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 1,500 lbs. Increase BLOCK FUEL by 280 lbs. for each hour of APU usage.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** Reduce RATOW by 500 lbs. Reduce T/O CLIMB LIMIT by 500 lbs. **LANDING** Reduce LANDING CLIMB LIMIT WT by 700 lbs.

Continued Next Page

49-15-01B	APU AIR INTAKE DOOR ACTUATION SYSTEM
EFFECTIVITY	-300
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 1,500 lbs. Increase BLOCK FUEL by 280 lbs. for each hour of APU usage.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** Reduce RATOW by 1,000 lbs. Reduce T/O CLIMB LIMIT by 1,000 lbs. **LANDING** Reduce LANDING CLIMB LIMIT WT by 700 lbs.

(M) PROCEDURES

1. If door positioning is required, manually position as follows:
   a) Remove hydraulic power to left, right, and center systems (AMM 29-11-00).
   b) Select (P5 panel) APU master control switch to OFF.
   c) Select (P61 panel) L, C, R FLT CONTROL SHUTOFF switches to OFF and attach DO-NOT OPERATE tags.
   d) Select (P10 control stand panel) C and R STAB TRIM shutoff switches to CUTOUT and attach DO-NOT-OPERATE tags.
   e) Open the following circuit breakers and attach DO-NOT-CLOSE tags:
      - P11 panel, FLT CONT SHUTOFF TAIL LEFT
      - P11 panel, FLT CONT SHUTOFF TAIL CTR
      - P11 panel, FLT CONT SHUTOFF TAIL RIGHT
      - P11 panel, STAB TRIM SHUTOFF LEFT
      - P11 panel, STAB TRIM SHUTOFF RIGHT
      - P11 panel, APU MN BAT CONT or APU ALTN CONT
      - P49 panel on E6 rack, APU CONT
      - P49 panel on E6 rack, APU INLET DR ACT
   f) Open lower service access door to gain access to actuator from inside airplane.
   g) Hand crank door actuator to position door.

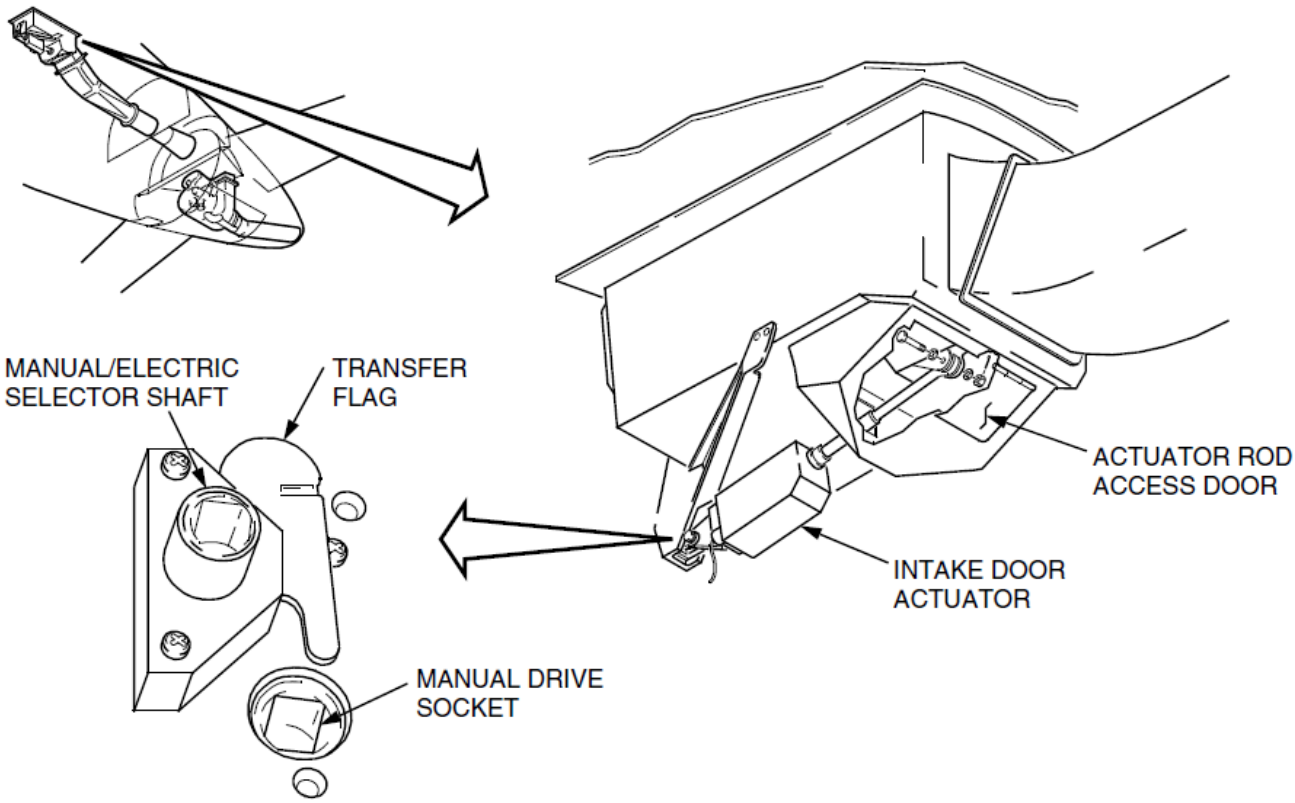
CAUTION: Do not over-torque manual electric selector shaft and manual drive. If resistance is felt, actuator damage may result.

   1) Insert ¼ inch square drive into manual/electrical selector shaft located on forward end of the actuator. Push inward and rotate counterclockwise (about 90°) until manual drive socket is exposed. Do not exceed 10 pound-inches torque.
   2) Insert square drive into revealed socket and turn counterclockwise to extend actuator and clockwise to retract. Do not exceed 65 pound-inches torque.
   3) Insert square drive into manual/electric selector shaft. Push inward and rotate clockwise until manual drive socket is covered.

Continued Next Page

2. Return airplane to normal as follows:
   a) Close lower access service door.
   b) Remove tags and close circuit breakers:
      - P11 panel, FLT CONT SHUTOFF TAIL LEFT
      - P11 panel, FLT CONT SHUTOFF TAIL CTR
      - P11 panel, FLT CONT SHUTOFF TAIL RIGHT
      - P11 panel, STAB TRIM SHUTOFF LEFT
      - P11 panel, STAB TRIM SHUTOFF RIGHT
      - P11 panel, APU MN BAT CONT or APU ALTN CONT
      - P49 panel on E6 rack, APU CONT
   c) Remove tags and place (P61 panel) L, C, and R FLT CONTROL SHUTOFF switches to ON.
   d) Remove tags and select (P10 control stand panel) C and R STAB TRIM shutoff switches to NORM.
3. Secure APU air intake door in position.

   NOTE: APU INLET DR ACT circuit breaker on E6 rack in aft equipment center remains pulled and secured, or is pulled and secured if Steps 1 and 2 were not accomplished.



APU AIR INTAKE DOOR ACTUATOR ROD INSTALLATION

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
49-61-01A	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.
49-61-01B	APU External Control System	**N**	1	0	**C**	**(M)** May be inoperative and APU used, provided an APU automatic fire extinguishing system is verified to operate normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
49-61-01A	Near APU Start Switch	APU External Control System INOP
49-61-01B	Near APU Start Switch	APU External Control System INOP

(M) PROCEDURES

49-61-01B

NOTE: The system operates when an APU fire is detected while the airplane is on the ground, and both engines are OFF.

Verify the APU fire extinguishing system operates normally as follows:

1. On the flight deck from the Aft Electronics panel (P8) perform a FIRE/OVHT TEST by pushing the ENG/APU/CARGO switch. The fire bell will ring intermittently. Observe the following lights illuminate:
   - Discrete FIRE warning light.
   - Fuel control switches
   - L and R ENG OVHT
   - LEFT, RIGHT, and APU fire switches
   - FWD and AFT cargo fire
2. On the flight deck from the Accessory Panel, push the SQUIB TEST switch. Observe the APU squib light illuminates green.

		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	TAB LOCATION	PLACARD TEXT
49-70-01	Near 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	TAB LOCATION	PLACARD TEXT
49-70-02	Near APU RUN Light	APU RUN Light INOP

(O) PROCEDURES

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.

APU Startup:

Monitor APU RPM and EGT on EICAS, load APU when APU RPM is 95% or greater.

		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	**Y**	1	0	**C**	

MEL ITEM	TAB LOCATION	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 Hourmeter System	**Y**	1	0	**C**	**(M)** May be inoperative provided alternate procedures are established and used.

MEL ITEM	TAB LOCATION	PLACARD TEXT
49-72-01	Near APU Hourmeter	APU Hourmeter INOP

(M) PROCEDURES

No maintenance action or alternate procedures are required. Delta's APU Maintenance Program allows for inoperative APU Hourmeter System 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
49-72-02	APU Cyclemeter System	**Y**	1	0	**D**	May be inoperative provided procedures do not require its use.

MEL ITEM	TAB LOCATION	PLACARD TEXT
49-72-02	Near APU Cyclemeter	APU Cyclemeter INOP

NOTE: No maintenance action or alternate procedures are required. Delta's APU Maintenance Program allows for inoperative APU Cyclemeter System 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	**D**	

MEL ITEM	TAB LOCATION	PLACARD TEXT
49-73-01	Near Lower EICAS Display	APU RPM Indication INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
49-94-01A	APU OIL QTY Indication **"DISP.APPR.REQ'D"**	**Y**	1	0	**C**	May be inoperative provided APU is considered inoperative and deferred per MEL 49-11-01. Theatre Restrictions May Apply
49-94-01B	APU OIL QTY Indication	**N**	1	0	**C**	**(M)** May be inoperative provided oil quantity is verified by alternate means.

MEL ITEM	TAB LOCATION	PLACARD TEXT
49-94-01A	1. Near Lower EICAS Display 2. Near APU Start Switch	APU OIL QTY Indication INOP Do Not Use APU
49-94-01B	Near Lower EICAS Display	APU OIL QTY Indication INOP

(M) PROCEDURES

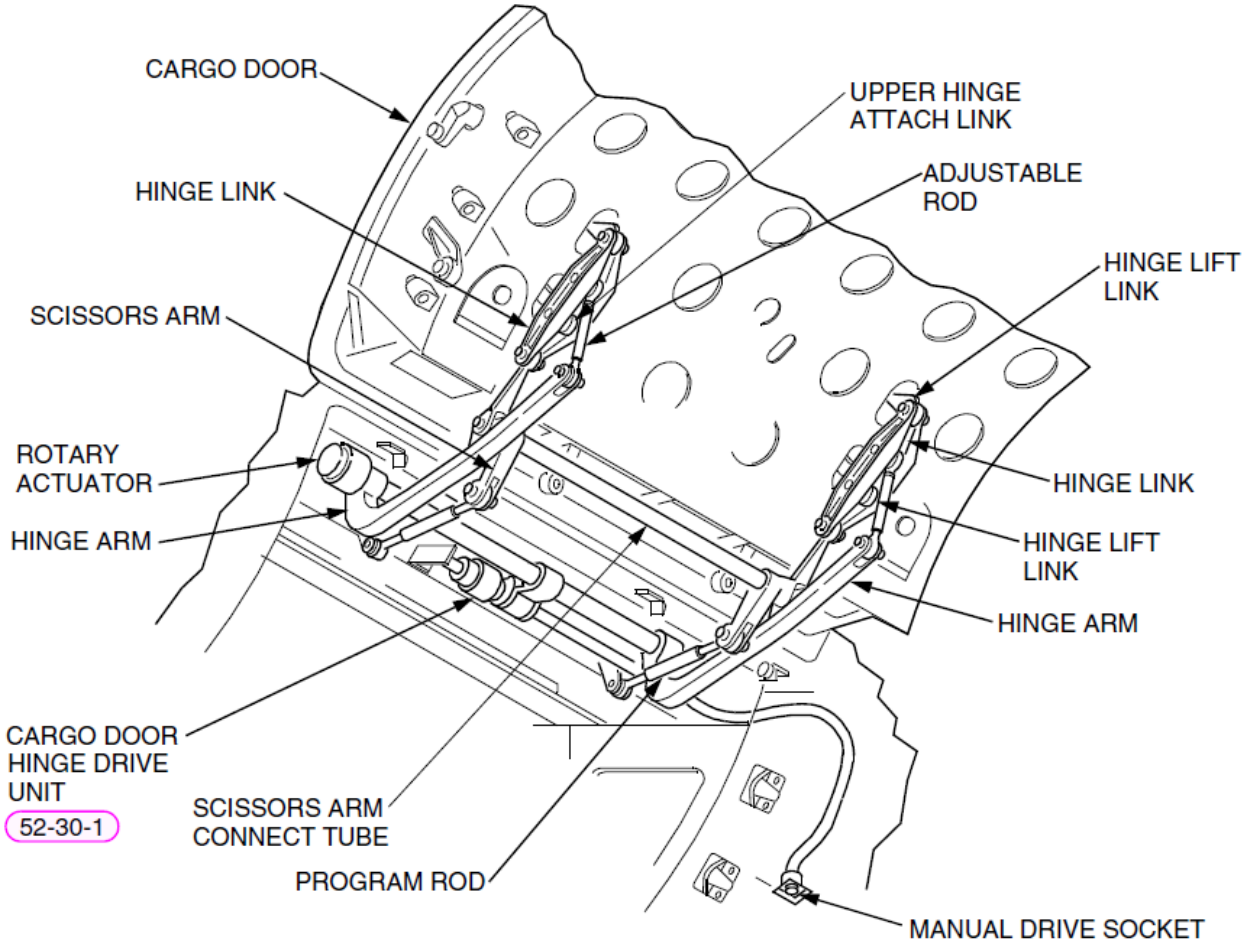
49-94-01B

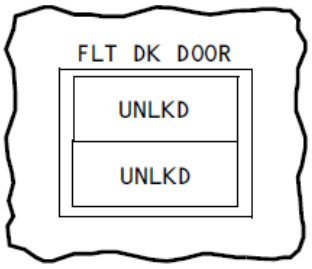
At time of deferral, visually check APU oil quantity at the APU oil tank and service to full.

INTENTIONALLY LEFT BLANK

ATA 52 Contents

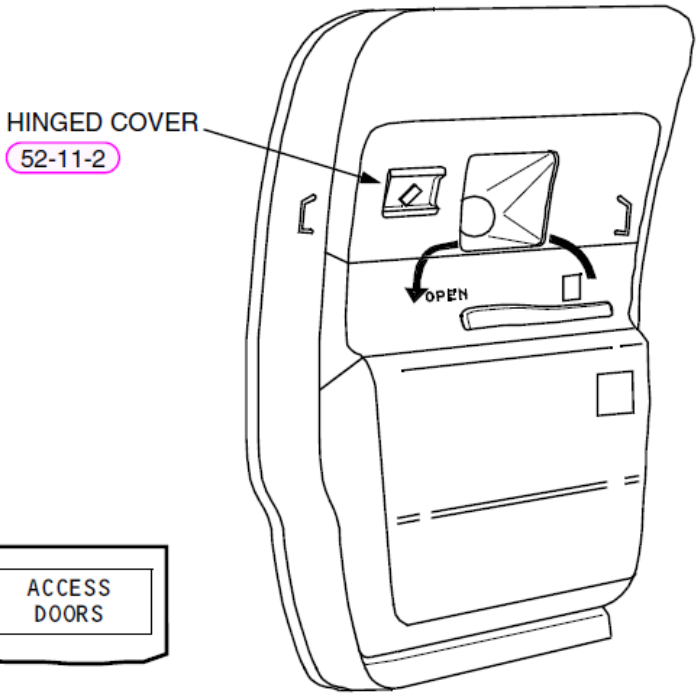
52-11-01 Main Cabin Exits/Slides....52-3
52-11-02 Main Entry / Service Door Arming Lever Hinged Covers....52-4
DOOR PRESSURE STOP FITTINGS....52-5
52-11-05A Number 2 and Number 4 (Left and Right) Passenger Doors/ Lower Cargo Doors....52-5
52-30-01A Cargo Door Hinge Drive Units (Electric Drive Function)....52-7
52-30-01B Cargo Door Hinge Drive Units (Manual Drive Function)....52-7
52-30-01C Cargo Door Hinge Drive Units....52-7
ENHANCED FLIGHT DECK SECURITY DOOR AUTOMATIC LOCKING SYSTEM....52-8
52-51-03A Enhanced Flight Deck Security Door Automatic Locking System....52-8
52-51-03B Flight Deck Access Panel System (Keypad, Door Chime)....52-8
52-51-03C Flight Deck Access Panel System (LEDs)....52-8
52-51-03D Flight Deck Access Panel System (Door Bell Mode)....52-8
52-51-03E Flight Deck Access Panel System (Switch Guard)....52-8
52-51-03F Flight Deck Door LOCK FAIL Light....52-8
52-51-03G Flight Deck Door AUTO UNLK Light....52-8
52-51-03H Flight Deck Door Lock Control Selector....52-8
52-51-04 Enhanced Flight Deck Security Door Dead Bolt....52-12
52-51-08 Enhanced Flight Deck Security Door Pressure Relief Panels....52-13
52-71-01 Door Indication Systems....52-14

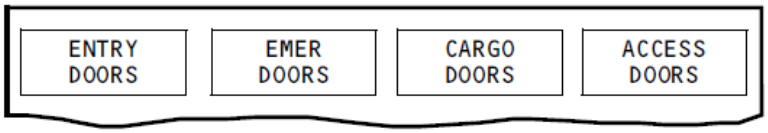




FLIGHT DECK DOOR LOCK SYSTEM

52-51-1





DOOR INDICATION SYSTEM

52-71-1

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD		REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
52-11-01	Main Cabin Exits/Slides **"DISP.APPR.REQ'D"**	**Y**	-	0	**B**	**(O)** May be inoperative or slide missing provided: a) No passengers are carried, b) A maximum of 19 persons are carried as authorized by 14 CFR 121.583 for non-passenger-carrying operations, c) Each person carried has unobstructed access from their seat to an operative door, d) A conspicuous barrier strap or rope and a placard stating door is inoperative is placed across each inoperative exit, e) Emergency exit sign and floor proximity lights associated with each inoperative exit are covered to obscure them, f) Inoperative doors are not used for loading, g) Safety briefing includes location of inoperative doors and instructions not to use them, and h) Alternate procedures are used.

MEL ITEM	TAB LOCATION	PLACARD TEXT
52-11-01	Main Cabin Door	Main Cabin Exit/Slide INOP / MISSING

(O) PROCEDURES

1. A maximum of 19 persons authorized by 14 CFR 121.583 may be carried. Persons being carried must be approved by the Flight Control Dispatcher.
2. Captain to brief persons authorized to be carried on safety/evacuation procedures.

		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**	6	0	**D**	May be damaged or missing.

MEL ITEM	TAB LOCATION	PLACARD TEXT
52-11-02	Near Overhead Annunciator Panel	Main Entry / Service Door Arming Lever Hinged Cover(s) INOP / MISSING

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
	DOOR PRESSURE STOP FITTINGS					
52-11-05A	Number 2 and Number 4 (Left and Right) Passenger Doors/ Lower Cargo Doors **"DISP.APPR.REQ'D"**	**N**	56 52	**C**		**(O)(M)** One per door may be broken or missing provided: a) Flight is conducted in an unpressurized configuration, b) Auto Cabin Pressure Control System is deferred per MEL 21-31-01B, and c) Lower cargo compartments remain empty or are verified to contain only empty cargo handling equipment, ballast, and/or Fly Away Kits (see MEL Instructions).
52-11-05B	Number 2 and Number 4 (Left and Right) Passenger Doors **"DISP.APPR.REQ'D"**	**N**	56 52	**C**		**(O)(M)** One per door may be broken or missing provided: a) There are no visible defects on other fittings for associated doors, b) Both auto cabin pressure control systems operate normally, c) CABIN ALT indicator operates normally, d) CABIN DIFF pressure indicator operates normally, and e) Airplane remains at or below FL 200.

MEL ITEM	TAB LOCATION	PLACARD TEXT
52-11-05A	Logbook	____ Door Number 2 and/or Number 4 (Left and Right) Passenger Door Stop(s) INOP / MISSING
52-11-05B	Logbook	____ Door Number 2 and/or Number 4 (Left and Right) Passenger Door Stop(s) INOP / MISSING

NOTE: A door pressure stop consists of two mating stop fittings, one attached to the door and the other attached to the fuselage. Either or both stop fittings may be broken or missing at a single door pressure stop location.

(O) PROCEDURES

52-11-05A

Comply with MEL Item 21-31-01B (O) procedure for unpressurized flight.

52-11-05B

1. Operate Cabin Altitude Controller in AUTO mode.
2. Limit airplane operating altitude to FL200 to ensure that CABIN DIFF pressure does not exceed 7.0 psi.
3. Set Landing Altitude to 2,500 feet, or actual landing altitude, whichever is higher.
4. If actual landing altitude is lower than 2,500 feet, after descending below 16,000 feet, reset Landing Altitude to actual landing altitude.

Continued Next Page

(M) PROCEDURES

52-11-05A

1. Visually inspect remaining fittings on affected door(s) for defects.
2. Defer Auto Cabin Pressure Control System inoperative per MEL 21-31-01B.

52-11-05B

Visually inspect remaining fittings on affected door(s) for defects.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
52-30-01A	Cargo Door Hinge Drive Units (Electric Drive Function)	**Y**	2	0	**C**	
52-30-01B	Cargo Door Hinge Drive Units (Manual Drive Function)	**Y**	2	0	**C**	
52-30-01C	Cargo Door Hinge Drive Units **"DISP.APPR.REQ'D"**	**Y**	2	0	**C**	Both electrical and manual drive functions may be inoperative provided associated cargo compartment remains empty.

MEL ITEM	TAB LOCATION	PLACARD TEXT
52-30-01A	Logbook	___ Cargo Door Hinge Drive Unit Electric Function INOP
52-30-01B	Logbook	___ Cargo Door Hinge Drive Unit Manual Function INOP
52-30-01C	Logbook	___ Cargo Door Hinge Drive Units INOP

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED: FLIGHT CREW MAY PLACARD	NUMBER INSTALLED	NUMBER REQUIRED FOR DISPATCH	REPAIR CATEGORY	REMARKS OR EXCEPTIONS
	ENHANCED FLIGHT DECK SECURITY DOOR AUTOMATIC LOCKING SYSTEM					
52-51-03A	Enhanced Flight Deck Security Door Automatic Locking System **"Contact MCC"**	**Y**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Automatic locking system is deactivated, b) Door dead bolt operates normally and is used to lock door, and c) Alternate procedures are used for locking and unlocking door using dead bolt.
52-51-03B	Flight Deck Access Panel System (Keypad, Door Chime)	**N**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Keypad is deactivated, and b) Alternate procedures are used.
52-51-03C	Flight Deck Access Panel System (LEDs)	**Y**	-	0	**C**	**(O)** May be inoperative provided alternate procedures are used.
52-51-03D	Flight Deck Access Panel System (Door Bell Mode)	**Y**	1	0	**C**	**(O)** May be inoperative provided alternate procedures are used.
52-51-03E	Flight Deck Access Panel System (Switch Guard)	**Y**	1	0	**C**	May be inoperative or missing provided flight deck door LOCK FAIL light operates normally.
52-51-03F	Flight Deck Door LOCK FAIL Light	**Y**	1	0	**C**	**(M)** May be inoperative provided automatic lock controls are verified to operate normally.
52-51-03G	Flight Deck Door AUTO UNLK Light	**Y**	1	0	**C**	**(M)** May be inoperative provided: a) Automatic lock controls are verified to operate normally, and b) Door chime operates normally.
52-51-03H	Flight Deck Door Lock Control Selector **"Contact MCC"**	**N**	1	0	**C**	**(O)(M)** May be inoperative provided: a) Keypad is deactivated, b) Automatic lock is verified to operate normally, and c) Alternate procedures are used.

Continued Next Page

MEL ITEM	TAB LOCATION	PLACARD TEXT
52-51-03A	Near Cockpit Door Control Panel	Cockpit Door Automatic Locking System INOP
52-51-03B	Near Cockpit Door Control Panel	Cockpit Door Access Panel Keypad & Door Chime INOP
52-51-03C	Near Cockpit Door Control Panel	Cockpit Door Access Panel LEDs INOP
52-51-03D	Near Cockpit Door Control Panel	Cockpit Door Access Panel Door Bell Mode INOP
52-51-03E	Near Cockpit Door Control Panel	Cockpit Door Access Switch Guard INOP / Missing
52-51-03F	Near Cockpit Door Control Panel	Cockpit Door LOCK FAIL Light INOP
52-51-03G	Near Cockpit Door Control Panel	Cockpit Door AUTO UNLK Light INOP
52-51-03H	Near Cockpit Door Control Panel	Cockpit Door Lock Control Selector INOP

(O) PROCEDURES

52-51-03A, 52-51-03B, 52-51-03H

Reference 757 QRH, Non Normal Checklist, Doors, LOCK FAIL for procedures to follow when flight deck security door automatic locking system or components are inoperative.

NOTE 1: The FAA has authorized the use of the deadbolt for MEL dispatch. Disregard “For Ground Use Only” placard when dispatched under this MEL and procedures require use of the deadbolt.

NOTE 2: If the keypad has been deactivated, make sure the Flight Deck Access System switch is in the OFF position (guard extended) when flight deck door is closed and the flight deck not occupied.

52-51-03C

During preflight briefing, advise the Lead Flight Attendant/Purser 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 – Sixty seconds after correct access code is entered on keypad, the yellow LED will extinguish and the door will unlock.
- Yellow LED Inoperative – Sixty seconds after correct access code is entered on keypad, the green LED will illuminate and the door will unlock.

NOTE 1: Door is set to open 60 seconds after correct access code is entered on keypad. Depending on keypad LED failure, a watch may be needed to time the unlock sequence

NOTE 2: Audible cues, such as cockpit door unlock tone and mechanical sounds of door lock solenoid releasing, may aid in determining when cockpit door is unlocked.

52-51-03D

Reference 757 QRH, Non Normal Checklist, Doors for procedures to follow when flight deck security door automatic locking system or components are inoperative.

Continued Next Page

(M) PROCEDURES

52-51-03A

To deactivate the automatic locking system, position the Flight Deck Access System switch OFF (guard extended).

NOTE: LOCK FAIL light may remain illuminated when the Flight Deck Access System switch is in the OFF position (guard extended).

52-51-03B

For deactivating the keypad:

1. Open the circuit breaker for the flight deck door lock.
2. Remove the keypad.
3. Disconnect the electrical connector from the keypad.
4. Install the keypad.
5. Close the circuit breaker for the flight deck door lock.

   NOTE: When flight deck door is closed with the flight deck not occupied, make sure the Flight Deck Access System switch is in the OFF position (guard extended).

52-51-03F, 52-51-03G

For verifying automatic lock controls are operating normally:

1. With the flight deck door open, supply electrical power on the airplane.
2. Position Flight Deck Access System switch NORM (guard closed).
3. Position the Flight Deck Door Lock selector AUTO.
4. Verify the electric strike is in the locked position (solenoid pin in the electric strike will be extended up such that you can not rotate the strike).
5. Enter keypad access code and verify the door chime sounds.
6. Position the Flight Deck Door Lock selector DENY.
7. Before the DENY time delay has expired, enter the keypad access code and verify the door chime does not sound.
8. Position and hold Flight Deck Door Lock selector UNLKD.
9. Verify the electric strike is in the unlocked position (solenoid pin in the electric strike will retract down such that you can rotate the strike).
10. Position the Flight Deck Door Lock selector AUTO.
11. Verify the electric strike is in the locked position (solenoid pin in the electric strike will be extended up such that you can not rotate the strike).

Continued Next Page

52-51-03H

For deactivating the keypad:

1. Open the circuit breaker for the flight deck door lock.
2. Remove the keypad.
3. Disconnect the electrical connector from the keypad.
4. Install the keypad.
5. Close the circuit breaker for the flight deck door lock.

   NOTE: When flight deck door is closed with the flight deck not occupied, make sure the Flight Deck Access System switch is in the OFF position (guard extended).

For verifying automatic lock is operating normally:

1. With the flight deck door open, supply electrical power on the airplane.
2. Position Flight Deck Access System switch NORM (guard closed).
3. Verify the electric strike is in the locked position (solenoid pin in the electric strike will be extended up such that you can not rotate the strike).
4. Position Flight Deck Access System switch OFF (guard extended).
5. Verify the electric strike is in the unlocked position (solenoid pin in the electric strike will retract down such that you can rotate the strike).
6. Position Flight Deck Access System switch NORM (guard closed).
7. Verify the electric strike is in the locked position (solenoid pin in the electric strike will be extended up such that you can not rotate the strike).

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
52-51-04	Enhanced Flight Deck Security Door Dead Bolt **"Contact MCC"**	**Y**	1	0	**C**	May be inoperative provided primary locking system operates normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
52-51-04	Cockpit Door Control Panel	Cockpit Door Dead Bolt INOP

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
52-51-08	Enhanced Flight Deck Security Door Pressure Relief Panels **"Contact MCC"**	**Y**	2	0	**A**	May be inoperative provided: a) Panels are in latched position, and b) Repairs are made within two flight days.

MEL ITEM	TAB LOCATION	PLACARD TEXT
52-51-08	Cockpit Door Control Panel	Cockpit Door Panel Pressure Relief Latches INOP

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
52-71-01	Door Indication Systems	**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	TAB LOCATION	PLACARD TEXT
52-71-01	Overhead Annunciator Panel	____ Door Warning Light INOP

(M) PROCEDURES

NOTE: The following EICAS messages correlate to the listed door:

- FWD CARGO DOOR - Cargo door #1
- AFT CARGO DOOR - Cargo door #2

Visually check that all associated doors are closed and locked.

Number 1, 2, or 4 (L or R) Passenger Doors:

1. Verify door is faired with the fuselage.
2. Verify that all exterior / interior door handles are in the proper closed / faired position.
3. Verify the girt bar mechanism is armed:
   a) Check that the mode selector lever is at ENGAGED.
   b) Check that the escape slide Armed Condition Indicator above the interior handle is extended.
   c) Check that the girt bar engaged warning light above the door is illuminated.
   d) If the girt bar engaged warning light is not illuminated or slide Armed Condition Indicator is not extended, verify girt bar engagement as follows (also see illustration):

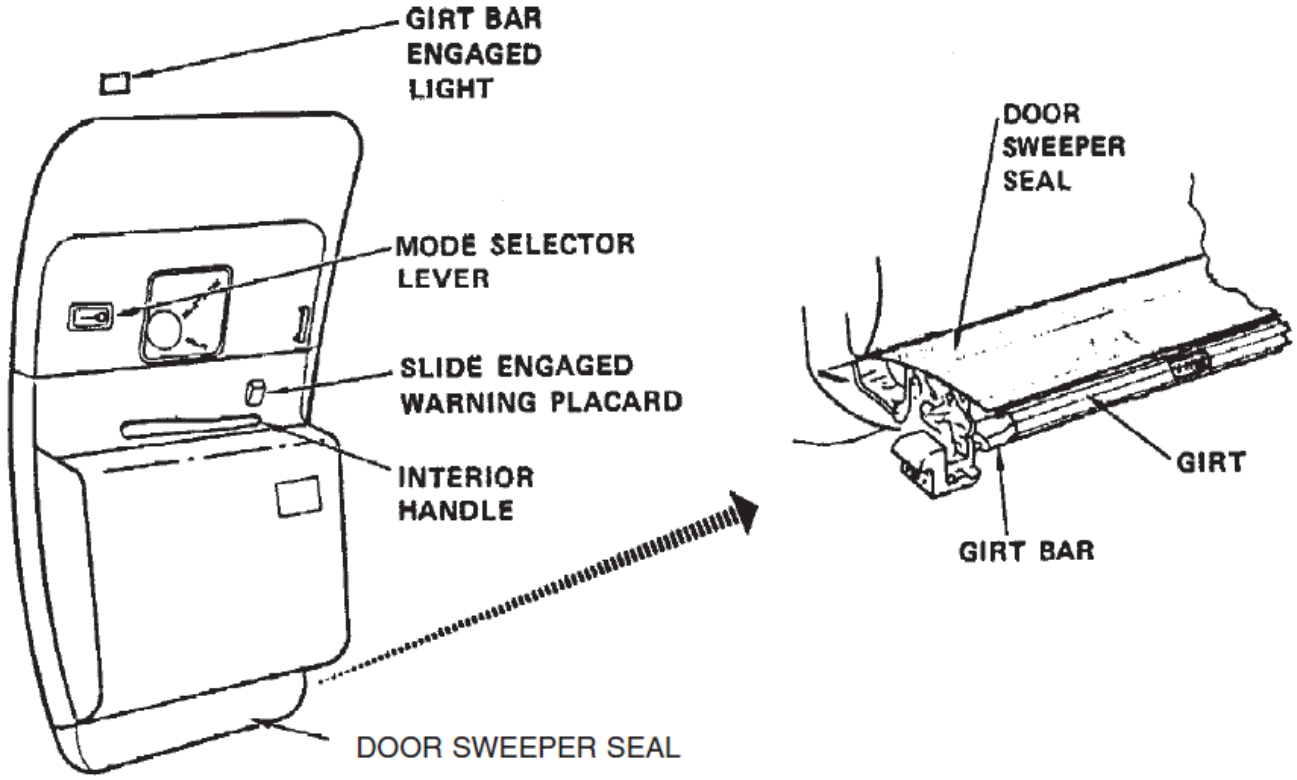
      On doors with bustles having flexible sweeper seals:

      1) Lift forward and aft corners of sweeper seal and verify that the forward and aft girt bar sliders travel a minimum of 1.00 inch between the disarmed and armed positions and that the sliders overlap the floor retainers.
      2) If the sliders do not travel the minimum distance, the girt bar is not properly engaged and must be corrected prior to departure.

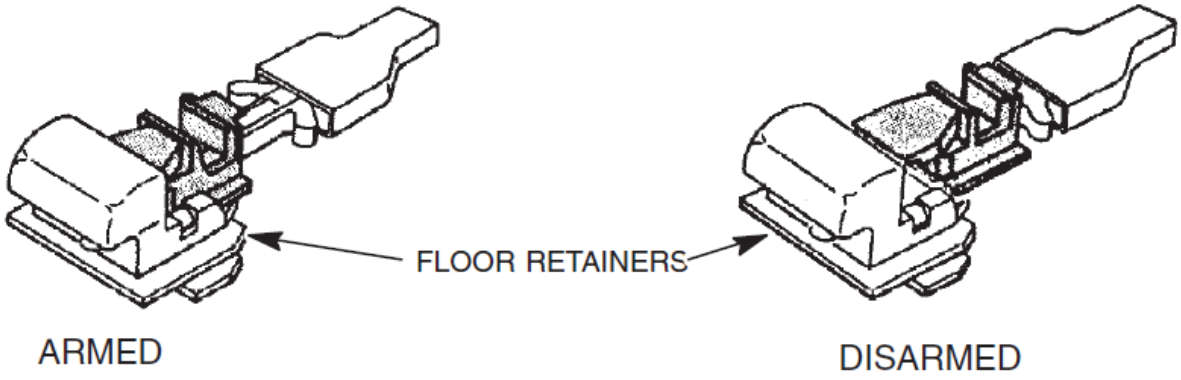
      On doors with solid bustles (without flexible sweeper seals):

      1) Remove escape slide bustle to gain access to girt bar floor fitting area.
      2) Move the mode select handle between the disarmed and armed mode.
      3) Verify that the forward and aft girt bar sliders travel a minimum of 1.00 inch between the disarmed and armed positions and that the sliders overlap the floor retainers.
      4) If the sliders do not travel the minimum distance, the girt bar is not properly engaged and must be corrected prior to departure.

Continued Next Page

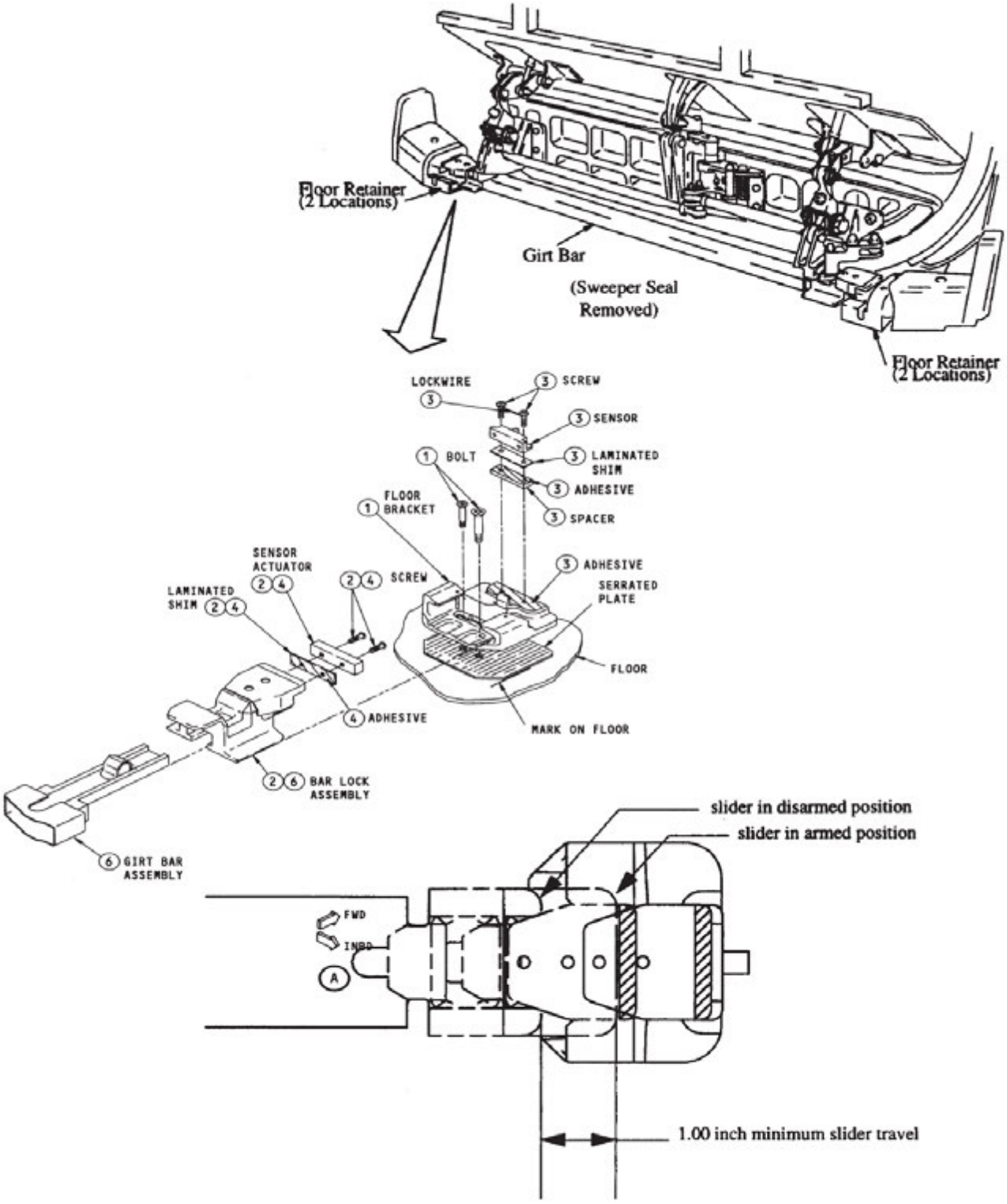


TYPICAL NO. 1, 2, OR 4
PASSENGER DOOR



DOORS WITH BUSTLES HAVING FLEXIBLE SWEEPER SEALS

Continued Next Page



DOORS WITH SOLID BUSTLES (WITHOUT FLEXIBLE SWEEPER SEAL)

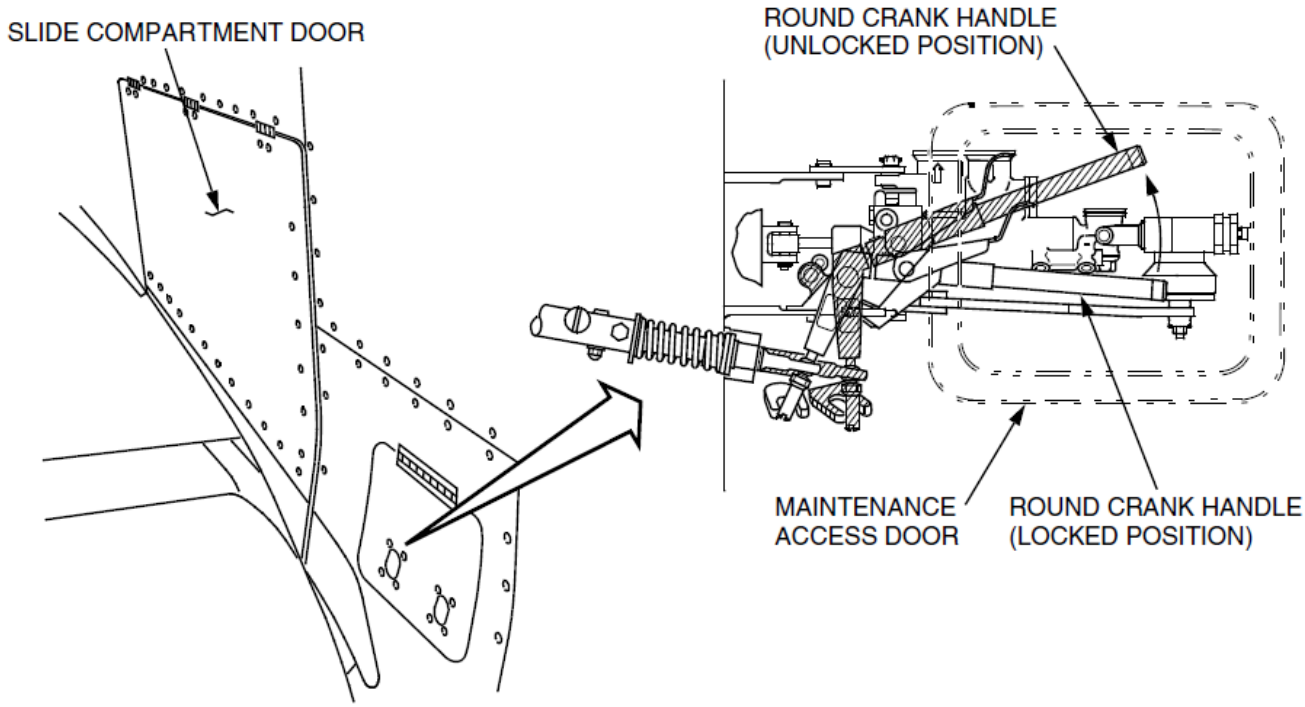
Continued Next Page

Overwing Emergency Exit Hatches:

1. Verify doors are faired with the fuselage.
2. Verify that all exterior / interior door handles are in the proper closed / faired position.
3. For No. 3 Emergency Exit Hatch, verify vent door is closed.

L or R Off-Wing Slide Compartment Door

1. Verify door is faired with the fuselage.
2. Open maintenance access door.
3. Verify that round crank handle is in the locked position.
4. Close maintenance access door.



VERIFICATION OF OFF-WING SLIDE COMPARTMENT DOOR

Continued Next Page

Number 1 and Number 2 Cargo Doors:

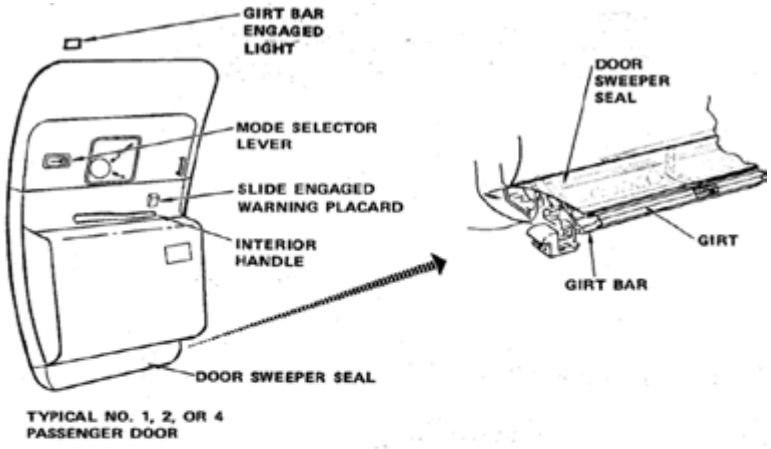
NOTE 1: Accomplish Steps 1 through 7 at time of deferral.

NOTE 2: Accomplish Step 7 PRIOR TO EACH DEPARTURE.

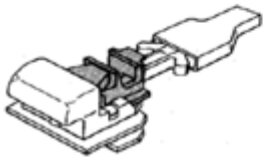
1. Unload cargo as necessary to place a mechanic with a flashlight in the cargo bay to observe the cargo door closing.
2. Place mechanic in cargo bay.
3. Close door normally.
4. The mechanic inside the bay will verify proper door closing.
   a) Latch cranks move to the latched position (see illustration).
   b) Movable upper stops move into position behind the upper door frame stops (see illustration).
   c) Vent Doors Close (see illustration).
   d) All door stops align with frame stops.
5. Open cargo door (allow mechanic to exit).
6. Reload cargo as necessary.
7. Close door normally.
   a) Verify door is faired with fuselage.
   b) Verify that door handles are in the proper faired / close position.
   c) Verify vent doors close.

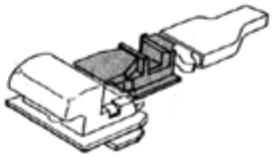
FORWARD ACCESS DOOR OR E/E ACCESS DOOR - Checking from outside the airplane, verify the following:

1. Door faired with fuselage.
2. Door latch handle faired with door.
3. Door does not open inward / upward when pushed upon by hand (confirms latch pin engagement).

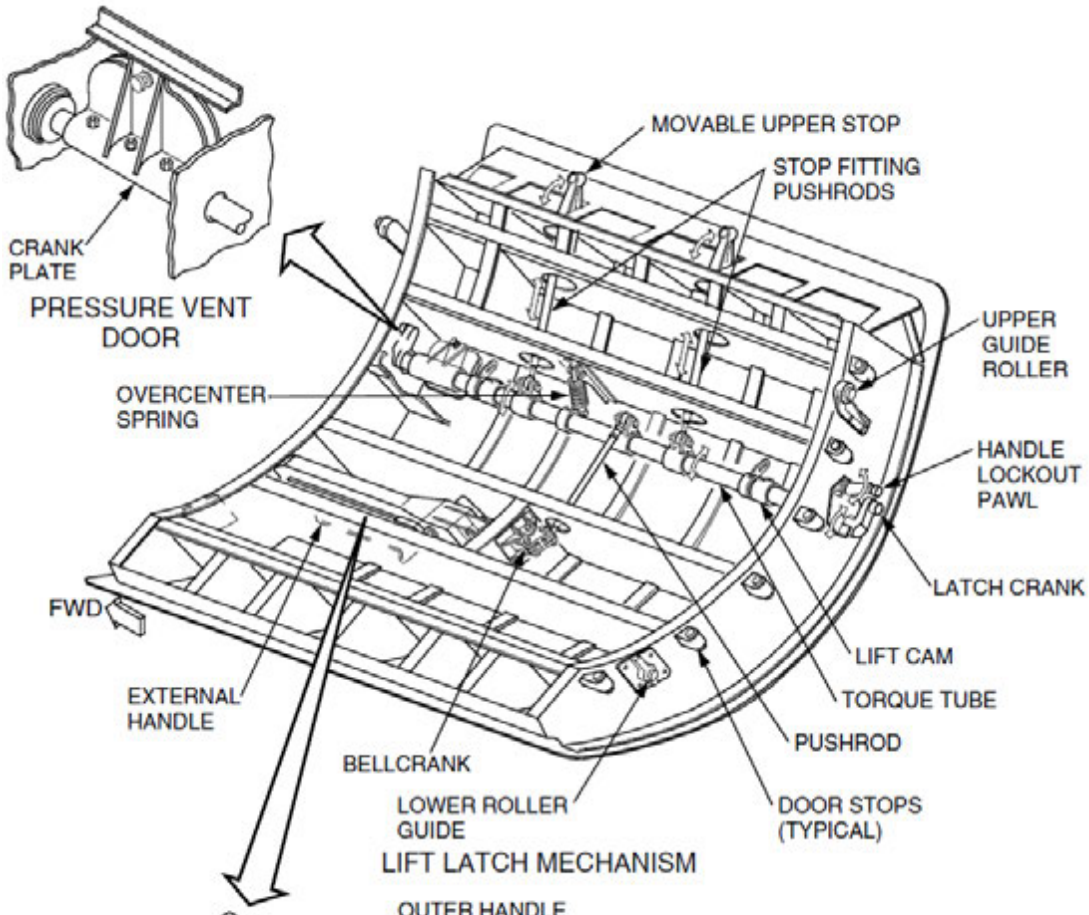


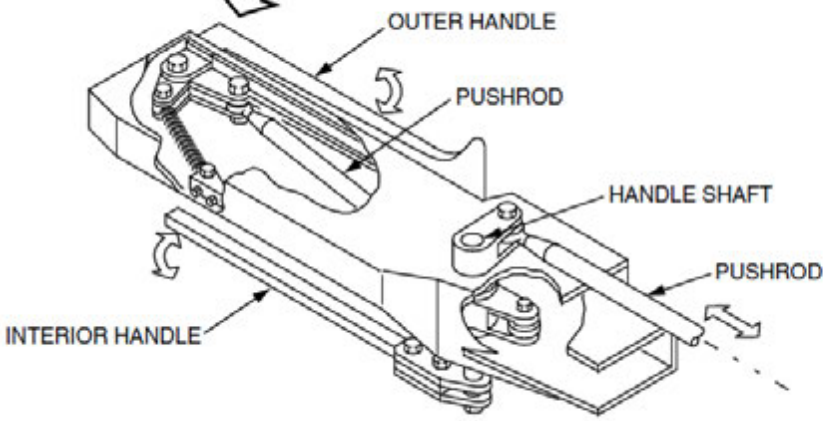
TYPICAL NO. 1, 2, OR 4 PASSENGER DOOR

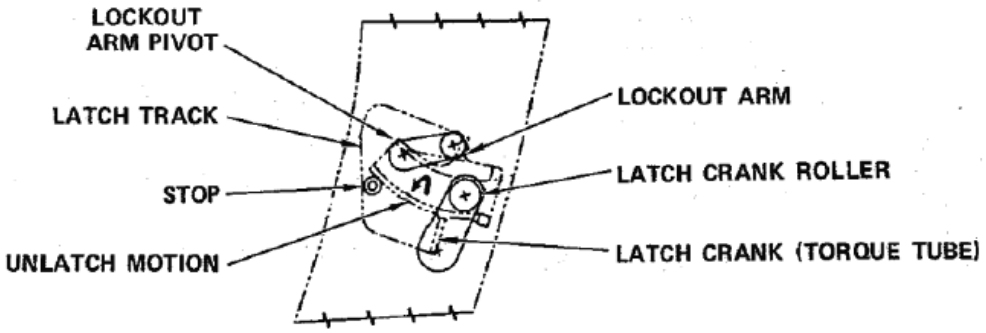




Continued Next Page







DOOR LATCHED

INTENTIONALLY LEFT BLANK

ATA 53 Contents

53-00-00V RVSM Status 53-2

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
53-00-00V RVSM Status **"DISP.APPR.REQ'D"** Administrative Control Item	**Y**	-	-		**(M)** Authorized by MCC when: a) RVSM operations cannot be used, b) No specific MEL item applies, and c) The aircraft must be dispatched to remain at or below FL280. NOTE: This SYS/SEQ number is to be used for deferring the RVSM Status of the aircraft. This number also requires Maintenance Control's authorization prior to its usage or removal. RVSM Operations Not Authorized

MEL ITEM	TAB LOCATION	PLACARD TEXT
53-00-00V	Adjacent To Each PFD	RVSM OPERATIONS NOT AUTHORIZED

(O) PROCEDURES

Refer to the Airway Manual, Airspace & Enroute Navigation, NAV, for RVSM procedures and contingencies.

(M) PROCEDURES

1. Create a new log page in the aircraft logbook using the appropriate MEL Item Number (contact MCC for instructions).
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.

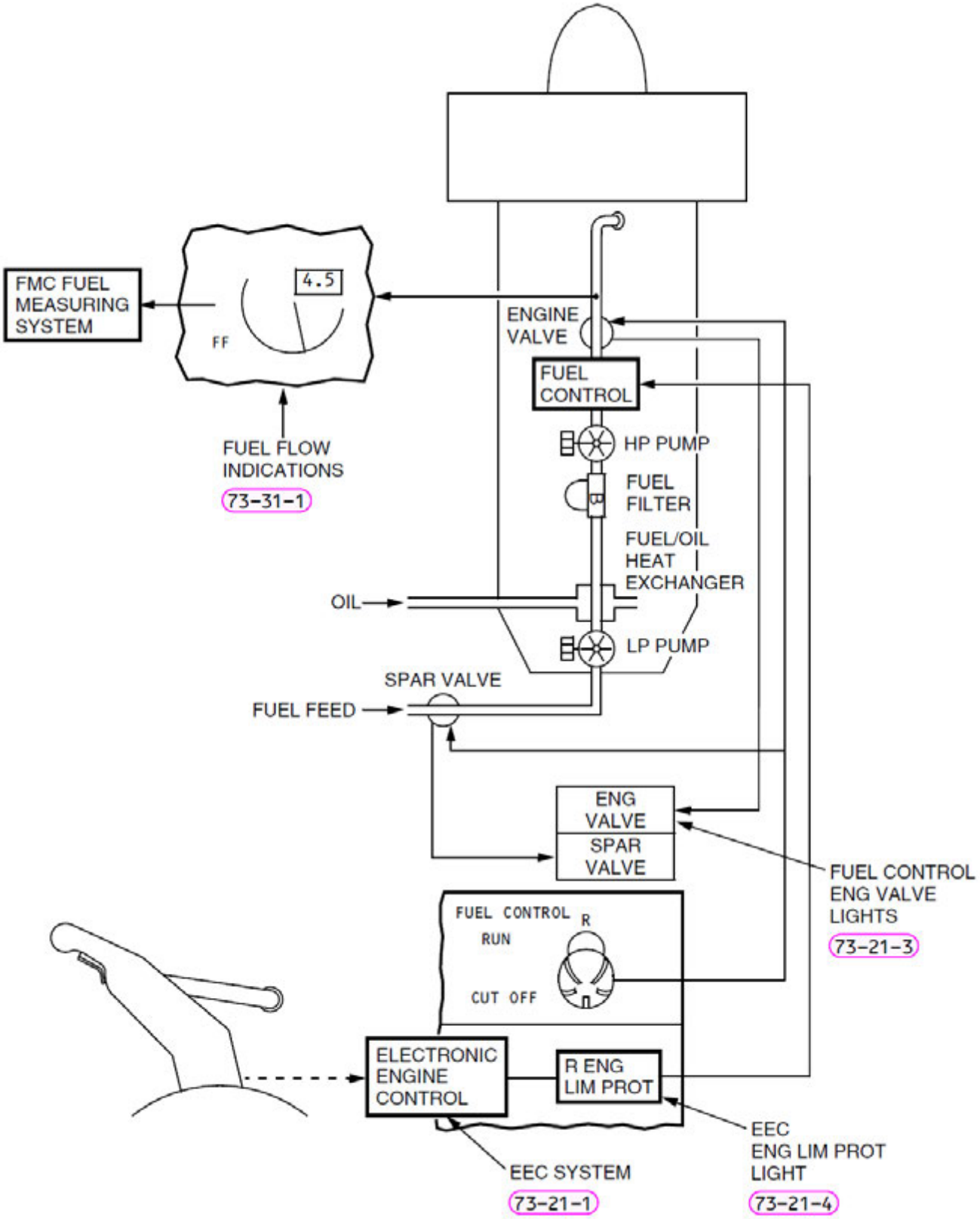
ATA 56 Contents

56-11-01 Flight Compartment Windows 56-2

NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH	
FLIGHT CREW MAY PLACARD		REPAIR CATEGORY	
ITEM NO.	**NAME / DESCRIPTION**	**REMARKS OR EXCEPTIONS**	
56-11-01	Flight Compartment Windows	Deleted per MMEL Revision 29. NOTE: Refer to Aircraft Maintenance Manual (AMM), Structural Repair Manual (SRM) or other approved documentation	

ATA 73 Contents

	ELECTRONIC ENGINE CONTROL (EEC) SYSTEMS	73-3
73-21-01A	Control Channels	73-3
73-21-01B	Control Channels EPCS Message P(S) 275-16 or 275-19 Displayed	73-3
73-21-01C	Control Channels	73-4
73-21-01D	Control Channels EPCS Message P(S) 275-16 or 275-19 Displayed	73-4
73-21-03	Fuel Control ENG VALVE Indication Systems	73-12
73-21-04	Electronic Engine Control "ENG LIM PROT" Lights	73-13
73-21-05	ENG LOW N1 Indication (EICAS)	73-14
73-21-08	Minimum Idle	73-15
73-31-01	Fuel Flow Indications	73-16


FMC FUEL MEASURING SYSTEM
4.5
FF
FUEL FLOW INDICATIONS
73-31-1
ENGINE VALVE
FUEL CONTROL
HP PUMP
FUEL FILTER
FUEL/OIL HEAT EXCHANGER
OIL
LP PUMP
SPAR VALVE
FUEL FEED
ENG VALVE
SPAR VALVE
FUEL CONTROL ENG VALVE LIGHTS
73-21-3
FUEL CONTROL
RUN
CUT OFF
R
ELECTRONIC ENGINE CONTROL
R ENG LIM PROT
EEC SYSTEM
73-21-1
EEC ENG LIM PROT LIGHT
73-21-4

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
ELECTRONIC ENGINE CONTROL (EEC) SYSTEMS					
73-21-01A Control Channels **"DISP.APPR.REQ'D"**	**Y**	4	3	**B**	**(O)(M)** Except for ER operations (ETOPS), one control channel may be inoperative provided: a) Associated thrust reverser is verified to operate normally or is deactivated, and b) EEC is verified to be in the EPR mode, and c) If L(R) ENG SEC CONT EICAS status message is displayed, the primary channel of the associated EEC is verified to be in control of the engine PRIOR TO EACH DEPARTURE. **Repetitive Check Required (Yellow Placard) only if L(R) ENG SEC CONT EICAS status message is displayed. If L(R) ENG PRI CONT displayed, use white placard.**
73-21-01B Control Channels EPCS Message P(S) 275-16 or 275-19 Displayed **"DISP.APPR.REQ'D"**	**Y**	4	3	**A**	**(O)(M)** Except for ER operations (ETOPS), one control channel may be inoperative provided: a) Associated thrust reverser is verified to operate normally or is deactivated, b) EEC is verified to be in the EPR mode, and c) Operation is limited to one flight to a Delta maintenance station with maintenance personnel on duty. NOTE: The aircraft may depart a non-maintenance station or a Delta maintenance station if no Delta maintenance personnel are on duty. Operation is limited to one flight to a Delta maintenance station with maintenance personnel on duty.

Continued Next Page

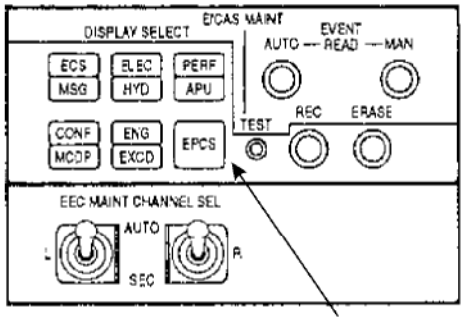
ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
	ELECTRONIC ENGINE CONTROL (EEC) SYSTEMS (CONTINUED)					
73-21-01C	Control Channels **"DISP.APPR.REQ'D"**	**Y**	4	3	**B**	**(O)(M)** Except for ER operations (ETOPS), one control channel may be inoperative provided: a) Associated thrust reverser is verified to operate normally or is deactivated, b) Performance corrections are applied, and c) Approach minimums do not require its use. CAT II/III Not Authorized
73-21-01D	Control Channels EPCS Message P(S) 275-16 or 275-19 Displayed **"DISP.APPR.REQ'D"**	**Y**	4	3	**A**	**(O)(M)** Except for ER operations (ETOPS), one control channel may be inoperative provided: a) Associated thrust reverser is verified to operate normally or is deactivated, b) Performance corrections are applied, c) Approach minimums do not require its use, and d) Operation is limited to one flight to a Delta maintenance station with maintenance personnel on duty, NOTE: The aircraft may depart a non-maintenance station or a Delta maintenance station if no Delta maintenance personnel are on duty. Operation is limited to one flight to a Delta maintenance station with maintenance personnel on duty. CAT II/III Not Authorized

MEL ITEM	TAB LOCATION	PLACARD TEXT
73-21-01A	Near Associated EEC Switch	____ EEC PRI / SEC Control INOP
73-21-01B	Near Associated EEC Switch	____ EEC PRI / SEC Control INOP
73-21-01C	Near Associated EEC Switch	____ EEC EPR / N1 Control Mode INOP
73-21-01D	Near Associated EEC Switch	____ EEC EPR / N1 Control Mode INOP

Continued Next Page

- **PRIOR TO DISPATCH UNDER ANY OF THE ABOVE MEL ITEMS, CONTROL MODE OF THE AFFECTED EEC MUST BE DETERMINED (EPR MODE OR N1 MODE).**
- **REFER TO GRAPHIC BELOW AND THE FLOW CHARTS ON THE FOLLOWING PAGE FOR GUIDANCE IN DETERMINING EEC CONTROL MODE.**
- **USE THE SPECIFIED MEL ITEM FOR DISPATCH AND ACCOMPLISH THE (M) AND (O) PROCEDURES.**

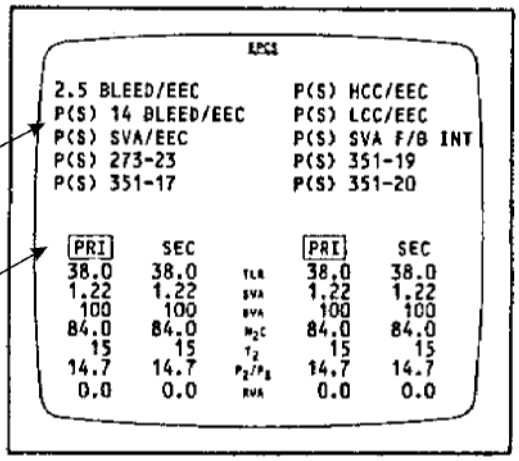
P61 MAINTENANCE PANEL

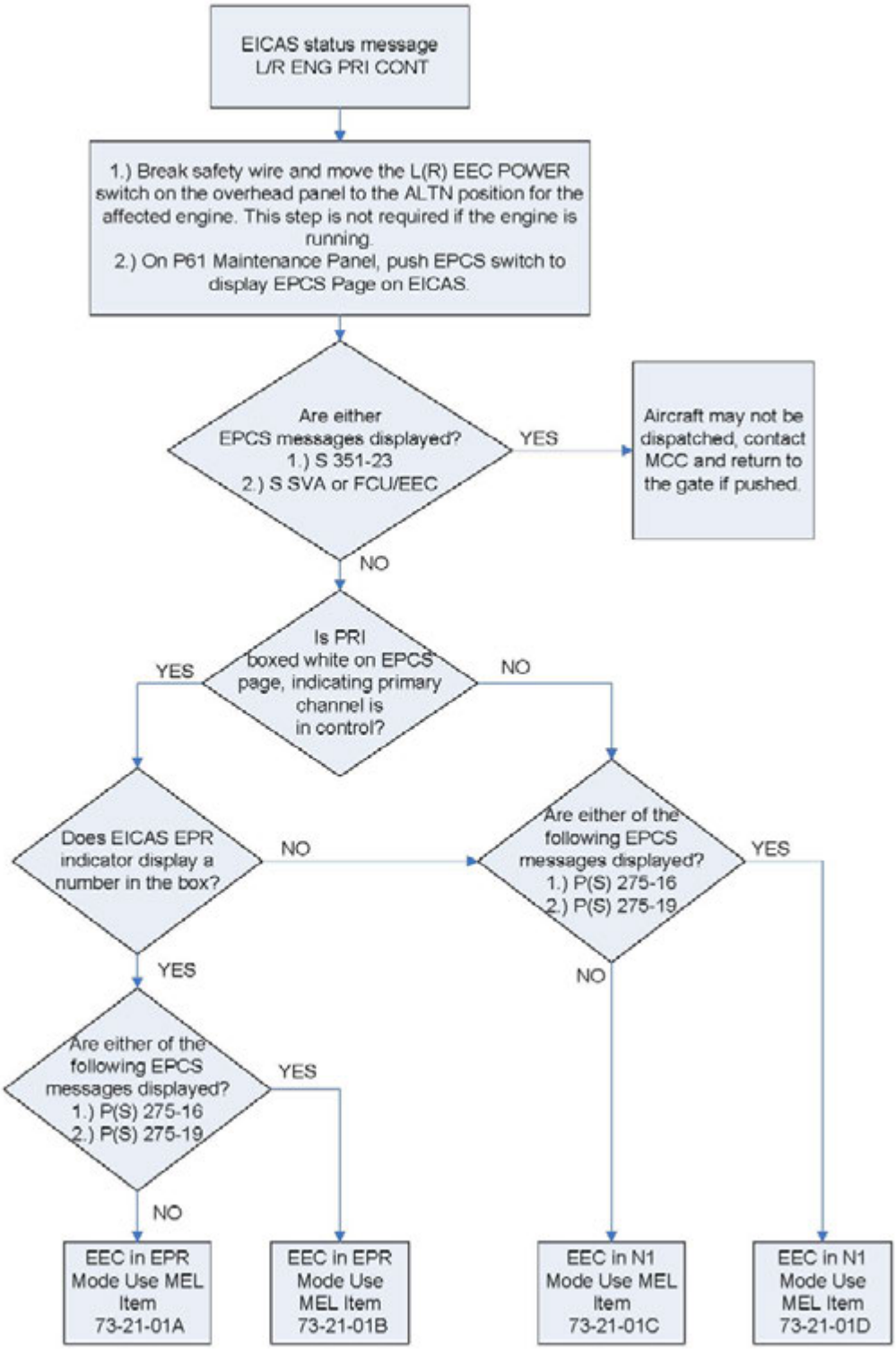


PUSH TO DISPLAY EPCS PAGE

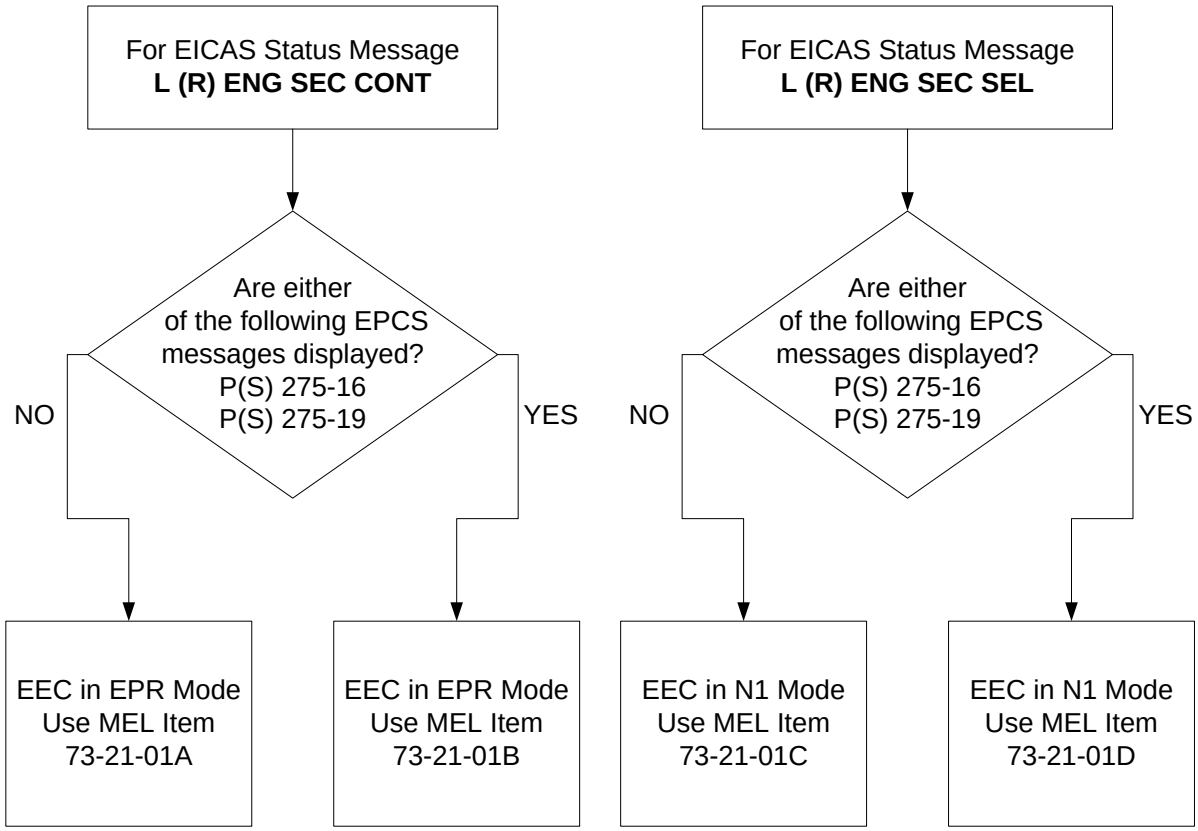
EPCS MESSAGES

EEC CHANNEL IN CONTROL





Continued Next Page



NOTE: Following the fault isolation and/or deactivation procedure, ensure that EEC POWER switch is returned to the NORM position.

Continued Next Page

(O) PROCEDURES

WARNING: ENSURE PROCEDURES ARE EXECUTED EXACTLY AS DIRECTED. IMPROPER EXECUTION OF THESE PROCEDURES CAN RESULT IN ENGINE INFLIGHT SHUTDOWN.

73-21-01A, 73-21-01B

1. If L(R) ENG SEC CONT is displayed, **PRIOR TO EACH DEPARTURE**, after engine start, verify that the primary channel of the EEC is in control of the engine.
2. On the Maintenance Panel (P61), push the EPCS switch to display EPCS page on EICAS. A white box displayed around PRI indicates the primary channel of the EEC is in control of the engine.

73-21-01C, 73-21-01D

1. The affected EEC will operate in the N1 control mode.
2. Autothrottle use is prohibited. Select the A/T Arm switch to OFF
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.

73-21-01C 73-21-01D	**ELECTRONIC ENGINE CONTROL (EEC) SYSTEMS**
EFFECTIVITY	**-200**
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 13,800 lbs.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance weight corrections have been applied. Refer to ODM – Abnormal section for N1 settings. Increase V_1 by 2 KIAS. Increase V_R by 1 KIAS.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** Reduce RATOW by 18,200 lbs. Reduce T/O CLIMB LIMIT by 17,500 lbs. **LANDING** Reduce LANDING CLIMB LIMIT WT by 19,100 lbs. **OTHER CORRECTIONS** Refer to ODM – Abnormal section for N1 settings. Increase V_1 by 2 KIAS. Increase V_R by 1 KIAS.

Continued Next Page

73-21-01C 73-21-01D	ELECTRONIC ENGINE CONTROL (EEC) SYSTEMS
EFFECTIVITY	-300
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 10,500 lbs.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance weight corrections have been applied. Refer to ODM – Abnormal section for N1 settings. Increase V_1 and V_R by 1 KIAS.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** Reduce RATOW by 13,000 lbs. Reduce T/O CLIMB LIMIT by 12,900 lbs. **LANDING** Reduce LANDING CLIMB LIMIT WT by 12,700 lbs. **OTHER CORRECTIONS** Refer to ODM – Abnormal section for N1 settings. Increase V_1 and V_R by 1 KIAS.

(M) PROCEDURES

WARNING: ENSURE PROCEDURES ARE EXECUTED EXACTLY AS DIRECTED. IMPROPER EXECUTION OF THESE PROCEDURES CAN RESULT IN ENGINE INFLIGHT SHUTDOWN.

73-21-01A, 73-21-01B, 73-21-01C, 73-21-01D

1. Reference flow cart on previous page. If EPCS messages P(S) 275-16 or 275-19 is displayed:
   a) The aircraft may not depart a Delta maintenance station with maintenance personnel on duty.
   b) The aircraft may depart a non-maintenance station or a Delta maintenance station if no Delta maintenance personnel are on duty. Operation is limited to one flight to a Delta maintenance station with maintenance personnel on duty.
2. One EEC channel is considered to be inoperative with any of the following STATUS messages displayed:
   - L ENG PRI CONT
   - R ENG PRI CONT
   - L ENG SEC CONT
   - R ENG SEC CONT
   - L ENG SEC SEL
   - R ENG SEC SEL
3. With two or more of these messages displayed, dispatch is not permitted (ENGINE CONTROLS advisory message is displayed if on the ground with both engines running).
4. Verify circuit breakers 11L7 and 11L34 are closed.

Continued Next Page

5. Accomplish the appropriate procedure for the status message displayed, then proceed to Steps 6, 7, & 8:

L (R) ENG SEC SEL

With this message displayed on the ground, position the EEC MAINT CHANNEL SEL switch on the EEC Maintenance Panel (P61) to the AUTO mode. This step may clear the message. If the message remains dispatch is allowed. The primary channel on the affected engine will not be available.

NOTE 1: The EEC MAINT CHANNEL SEL switch has THREE positions – AUTO (up), SEC (down) and an unlabeled center position. Ensure switch is moved fully to AUTO position.

NOTE 2: A loss of the EPR Actual digital value and dial pointer from the EICAS primary display is an indication that the EEC is no longer controlling using the EPR mode and therefore the applicable performance adjustments should be applied.

L (R) ENG SEC CONT

If **"L ENG SEC CONT"** is displayed:

1. Verify the EEC MAINT CHANNEL SEL switch on the EEC Maintenance Panel (P61) is in the AUTO mode.
   NOTE: The EEC MAINT CHANNEL SEL switch has THREE positions – AUTO (up), SEC (down) and an unlabeled center position. Ensure switch is moved fully to AUTO position.
2. Pull and secure LEFT ENGINE-EEC CHAN SEL circuit breaker L7 on the P11 panel.

If **"R ENG SEC CONT"** is displayed:

1. Verify the EEC MAINT CHANNEL SEL switch on the EEC Maintenance Panel (P61) is in the AUTO mode.
   NOTE: The EEC MAINT CHANNEL SEL switch has THREE positions – AUTO (up), SEC (down) and an unlabeled center position. Ensure switch is moved fully to AUTO position.
2. Pull and secure RIGHT ENGINE-EEC CHAN SEL circuit breaker L34 on the P11 panel.

L (R) ENG PRI CONT

1. Move the EEC POWER switch on the Overhead Panel (P61) to the ALTN position.
2. Select the EICAS EPCS switch on the EICAS MAINT panel (P61).
3. If either of the following EPCS messages are displayed for the affected engine, dispatch is not allowed:
   - S 351-23
   - S SVA or FCU/EEC
4. If neither of the messages in the above step 3. are displayed, dispatch is allowed.
5. Move the EEC POWER switch to the NORM position.

6. Check EICAS for thrust reverser ADVISORY or STATUS messages.
7. Verify the thrust reversers operate normally (or defer / deactivate per MEL 78-31-01):
   a) Make sure the thrust levers are in the idle position.
   b) Make sure the thrust reverser halves are closed.
   c) Make sure the core cowl panels are closed.
   d) Verify thrust reverser clear of ground personnel and equipment.

Continued Next Page

WARNING: THE THRUST REVERSER WILL AUTOMATICALLY RETRACT IF THE ELECTRICAL POWER TO THE EEC/THRUST REVERSER CONTROL SYSTEM IS TURNED OFF OR IF THE EEC MAINT POWER SWITCH IS MOVED TO NORM POSITION. ACCIDENTAL OPERATION OF THE THRUST REVERSER CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

e) Supply hydraulic pressure to the engine thrust reverser system.

f) Move the EEC POWER switch on the Overhead Panel to the ALTN position.

g) Make sure that the REV indication, and the L(R) REV ISLN VAL advisory message do not show on the EICAS.

WARNING: MAKE SURE THE AREA AROUND THE THRUST REVERSERS ARE CLEAR OF PERSONS AND EQUIPMENT. VERIFY SPEEDBRAKE HANDLE IS STOWED. IF YOU DO NOT OBEY THE INSTRUCTIONS, INJURY TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR.

h) Move the reverse thrust lever to the interlock position.

i) Make sure that the L(R) REV ISLN VAL advisory message does not show on the EICAS.

j) Make sure that the green REV indication is displayed on EICAS.

k) Return reverse thrust lever to the forward idle position.

l) Make sure that the L(R) REV ISLN VAL advisory message and the L(R) REV STOW SIG status message are not shown on the EICAS.

8. Move the EEC POWER switch to the NORM position and safety using copper break-away safety wire.

NOTE: If flight crewmember accomplishes the above procedures, notify maintenance at next DL maintenance station where personnel are on duty, that EEC POWER switch must be safety-wired.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
73-21-03	Fuel Control ENG VALVE Indication Systems	**Y**	2	0	**C**	**(M)** May be inoperative provided associated engine fuel valve is verified to operate normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
73-21-03	Affected ENG VALVE Light	____ Fuel Control ENG VALVE Light INOP

(M) PROCEDURES

Verify associated engine fuel valve operates normally.

1. With the affected engine running, pull the L(R) SPAR FUEL VALVE circuit breaker P6-E1 (L), P6-E2 (R).
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.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
73-21-04	Electronic Engine Control "ENG LIM PROT" Lights	**N**	2	1	**C**	**(M)** May be inoperative provided both EECs operate normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
73-21-04	Associated EEC Switch	____ EEC ENG LIM PROT Light INOP

(M) PROCEDURES

Check EICAS Caution, Advisory, Status and EPCS maintenance page for EEC messages. If there are no EEC messages displayed, the EEC's are operating normally.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
73-21-05	ENG LOW N1 Indication (EICAS)	**Y**	2	1	**C**	

MEL ITEM	TAB LOCATION	PLACARD TEXT
73-21-05	Near Lower EICAS Display	___ EICAS ENG LOW N1 Indication INOP

NOTE: This item provides relief for the L(R) ENG LOW N1 status message generated for an engine with a minimum idle below normal limits.

	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
	FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
73-21-08 Minimum Idle **"DISP.APPR.REQ'D"**	**Y**	2	0	**C**	**(O)** May be inoperative provided: a) Approach idle operates normally, and b) Performance corrections are applied.

MEL ITEM	TAB LOCATION	PLACARD TEXT
73-21-08	Near Associated EEC Switch	____ Minimum Ground Idle INOP

(O) PROCEDURES

Decent profile should be based on approach idle.

73-21-08	**MINIMUM IDLE**
EFFECTIVITY	**All**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance corrections have been applied.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** Reduce RATOW by 10,100 lbs. Reduce T/O CLIMB LIMIT by 10,100 lbs. **LANDING** Reduce RWY ALLOWABLE LANDING WT by 10,100 lbs.

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
73-31-01	Fuel Flow Indications	**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	TAB LOCATION	PLACARD TEXT
73-31-01	Near Lower EICAS Display	____ Fuel Flow Indication INOP

NOTE: After landing following a flight that was dispatched with one EICAS computer inoperative or one fuel flow indication inoperative, the FMC may determine Flight Completion during high speed taxi. When this occurs, the IRU residual ground speed may be set at a level above the 21 knots the Maintenance Manual establishes as the threshold to require replacement of the IRU. Under these circumstances, it is not required that the IRU be replaced.

(O) PROCEDURES

Calculated fuel figures plus gross weight may not be available on the Approach Ref page of the FMC.

(M) PROCEDURES

The Fuel Flow Transmitter can be disconnected and stowed and dispatch permitted when the FUEL DISAGREE message appears on the FMC in conjunction with EICAS DISAGREE status message on EICAS. The fault is caused by an intermittent transmitter.

1. Disconnect the Fuel Flow Transmitter. Refer to AMM 73-31-01/401 Fuel Flow Transmitter Removal/Installation.
   a) Supply electrical power (Ref AMM 24-22-00/201).
   b) Make sure that the applicable engine and spar valves are closed as follows:
      1) Close the following circuit breakers on the P6 main power distribution panel.
         - FUEL COND CONT L (left engine); FUEL COND CONT R (right engine).
         - FUEL VALVES L SPAR (left engine); FUEL VALVES R SPAR (right engine).
      2) Put the applicable panel FUEL CONTROL switch in the CUTOFF position.
      3) Make sure the applicable panel lights for the ENG VALVE and SPAR VALVE on the control stand are off.
      4) Open the following circuit breakers on the P6 main power distribution panel:
         - FUEL COND CONT L (left engine); FUEL COND CONT R (right engine).
         - FUEL VALVES L SPAR (left engine); FUEL VALVES R SPAR (right engine).

Continued Next Page

5) Open the left(right) fan cowl panel (AMM 71-11-04).

WARNING: DO THE THRUST REVERSER DEACTIVATION PROCEDURE TO PREVENT THE OPERATION OF THE THRUST REVERSER. THE ACCIDENTAL OPERATION OF THE THRUST REVERSER CAN CAUSE INJUURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

6) Deactivate the thrust reverser for ground maintenance as described in AMM 78-31-00.

7) Open the left(right) core cowl panel (AMM 71-11-06).

8) Open the left(right) thrust reverser (AMM 71-31-00).

9) Disconnect the electrical connector from the fuel flow transmitter. Cap and stow all affected wires.

10) Install a protection cap over the transmitter connector.

11) Close the open circuit breakers.

12) Return the airplane to normal.

INTENTIONALLY LEFT BLANK

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)** One may be inoperative provided: a) Ignition selector remains in BOTH position, b) Engine anti-ice system operates normally on associated engine, and c) Repair is made within one flight day.
74-00-01B	Ignition Systems **"DISP.APPR.REQ'D"**	**Y**	4	3	**C**	**(O)** Except for ER operations (ETOPS), one may be inoperative provided: a) Ignition selector remains in BOTH position, and b) Engine anti-ice system operates normally on associated engine.
74-00-01C	Ignition Systems **"DISP.APPR.REQ'D"**	**Y**	4	2	**B**	**(O)** Except for ER operations (ETOPS), one per engine may be inoperative provided: a) Ignition selector remains in BOTH position, b) Engine anti-ice system operates normally on both engines, and c) Aircraft is not dispatched in IFR or night VFR conditions when current weather reports indicate that thunderstorms, or other potentially hazardous weather conditions exist.

MEL ITEM	TAB LOCATION	PLACARD TEXT
74-00-01A	Near Associated Ignition Switch	____ Ignition System INOP
74-00-01B	Near Associated Ignition Switch	____ Ignition System INOP
74-00-01C	Near Associated Ignition Switch	____ Ignition System INOP

(O) PROCEDURES

74-00-01A, 74-00-01B, 74-00-01C

Maintain Ignition Selector in the BOTH position.

ATA 75 Contents

ACTIVE CLEARANCE CONTROL (ACC) COOLING SYSTEM VALVES 75-2
75-24-01A Low Pressure Turbine ACC Valves 75-2
75-24-01B High Pressure Turbine ACC Valves 75-2
75-24-02 Turbine Cooling Air Systems 75-4

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		REMARKS OR EXCEPTIONS
		FLIGHT CREW MAY PLACARD		REPAIR CATEGORY		
	ACTIVE CLEARANCE CONTROL (ACC) COOLING SYSTEM VALVES					
75-24-01A	Low Pressure Turbine ACC Valves	**N**	2	1	**C**	**(M)** One may be inoperative provided valve is verified open.
75-24-01B	High Pressure Turbine ACC Valves	**N**	2	1	**C**	**(M)** One may be inoperative closed provided valve is verified closed or blanked with a blanking plate.

MEL ITEM	TAB LOCATION	PLACARD TEXT
75-24-01A	Near Lower EICAS Display	____ ACC Low Press Turb Valve INOP OPEN
75-24-01B	Near Lower EICAS Display	____ ACC High Press Turb Valve INOP CLOSED

(M) PROCEDURES

75-24-01A, 75-24-01B

NOTE: If either valve fails to move to the commanded position the EICAS status MSG “L(R) ENG CASE COOL” will be displayed. The specific valve affected will be identified by the EPCS display. Messages displaying “HCC/EEC” will indicate a problem with the HPT and HPC case cooling air valve (High spool control valve) and messages displaying “LCC/EEC” will indicate a problem with the LPT case cooling air valve (Low spool control valve).

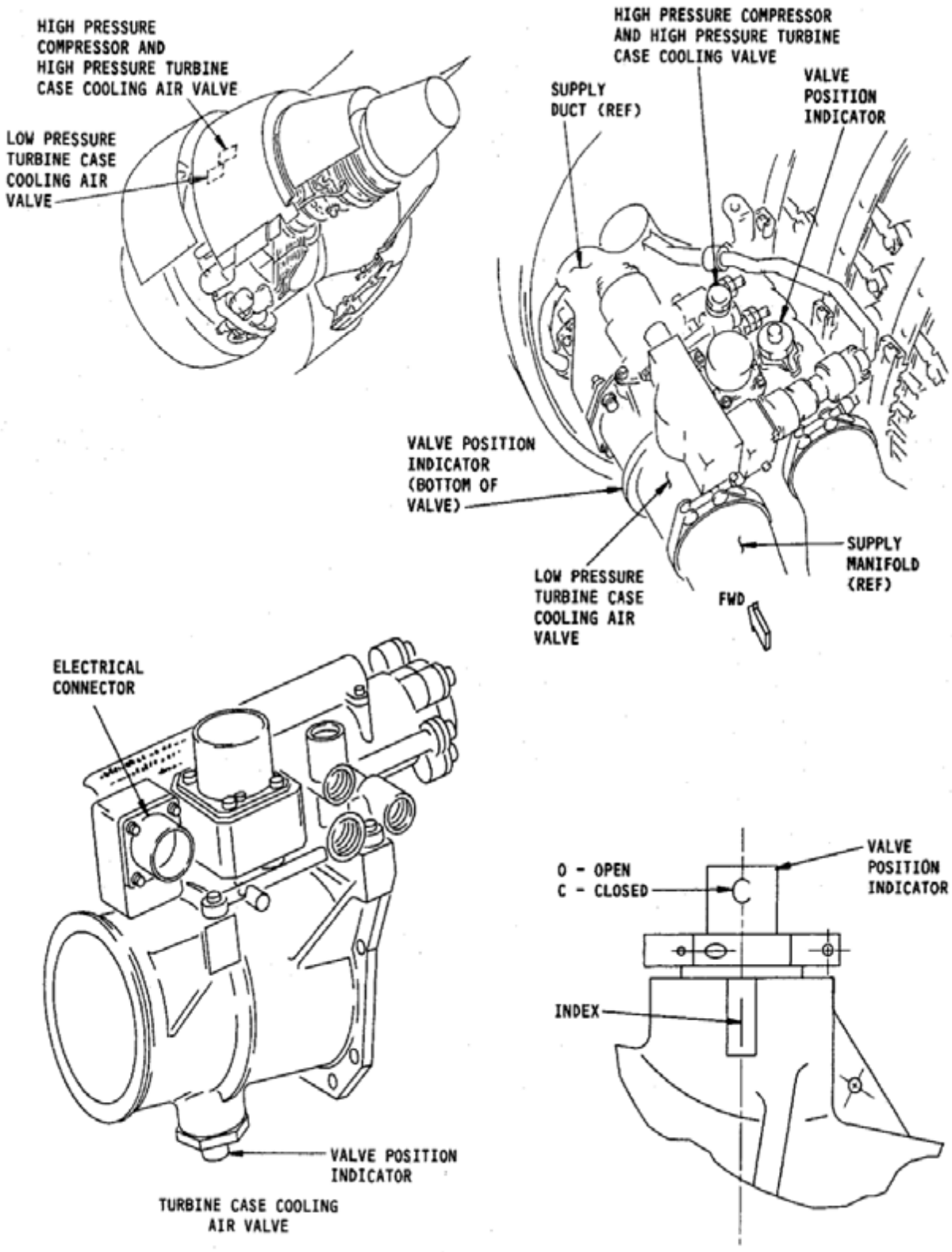
1. Open fan duct cowl and thrust reverser left half.
2. Check valve position indicators to verify valve position (see illustration).
   a) The airplane may be dispatched if the high-pressure compressor turbine case cooling air valve is in the closed position.
   b) The airplane may be dispatched with the low-pressure turbine case cooling air valve in the open position only.

      NOTE: At this time, there exists no recommended procedure for dispatch with the LP turbine case cooling air valve inoperative closed.

      1) If the LP turbine case cooling air valve fails in the closed or partially closed position, dispatch is not allowed in that configuration.

      2) If the LP turbine case cooling air valve fails in the open position, Pratt and Whitney recommends the valve be replaced when practical to reduce the loss of performance due to seal rubbing.
3. Disconnect, cap, and stow electrical connector of affected valve.
4. Close fan duct cowl and thrust reverser left half.

Continued Next Page



HP and LP Turbine Case Cooling Air Valve Installation

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
75-24-02	Turbine Cooling Air Systems	**N**	2	0	**D**	**(M)** May be inoperative provided associated turbine cooling valves are deactivated open.

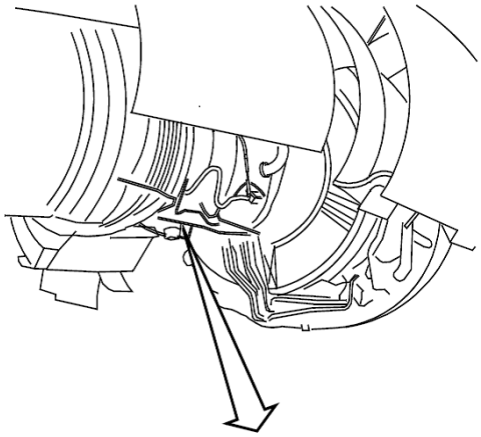
MEL ITEM	TAB LOCATION	PLACARD TEXT
75-24-02	Near Lower EICAS Display	____ Turbine Cooling Air System INOP

(M) PROCEDURES

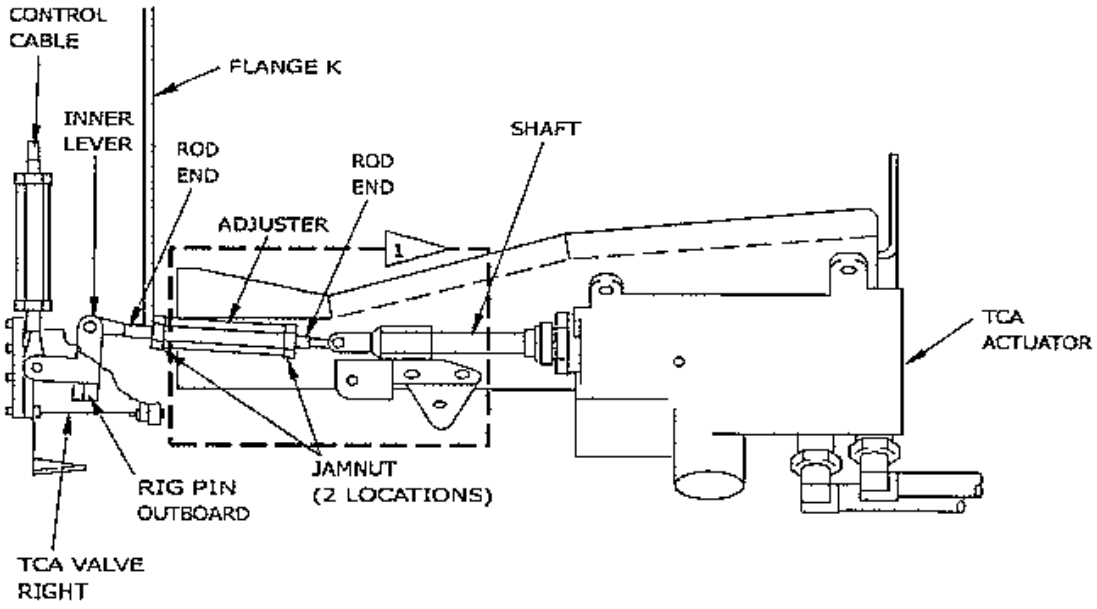
1. When EICAS status message L or R ENG TURB COOL is displayed, review the EPCS maintenance page. A lenticular air seal overheat event is indicated if the L or R ENG TURB COOL status message and P(S) 354-20 EPCS maintenance message are both displayed. Follow maintenance procedures required for the P(S) 354-20 EPCS maintenance message, if it is displayed.
2. To secure the associated valves open:
   a) Open the fan duct cowl and thrust reverser right half.
   b) Deactivate the turbine cooling air system by
      1) Removing bolt and nut from the threaded rod end and the actuator shaft clevis, and
      2) Moving the threaded rod end down to attach the connecting rod to the hole provided in the upper shelf of the bracket assembly, using the bolt and nut removed in step 2.b.1). Torque the nut to 36 to 40 in. lb.
   c) Close the fan duct cowl and thrust reverser right half.
   d) Erase the EICAS status message.

   NOTE: Status message L(R) ENG TURB COOL may be ignored after de-activation provided EPCS Maintenance message 354-20 does not appear. For all other EPCS messages, dispatch is allowed with L(R) ENG TURB COOL Status message displayed.

Continued Next Page



1 LINKAGE CONNECTED
2 LINKAGE DISCONNECTED



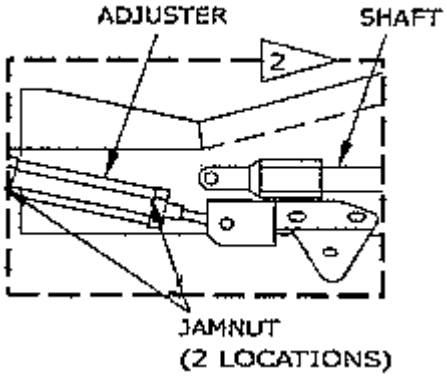


FIGURE 1
TURBINE COOLING AIR VALVE ACTUATOR INSTALLATION

Continued Next Page

3. For a leaking TCA actuator, in addition to steps 1 & 2 above, deactivate the TCA actuator per the following procedure:

   a) Remove pressure side flex hose (Fig. 2).

      1) Remove flex hose and adapter by loosening connections at actuator and hard line tube assembly.

      2) Remove and discard associated packings (two places).

   b) Remove return side flex hose (Fig. 2).

      1) Remove flex hose and adapter by loosening connections at actuator and hard line tube assembly.

      2) Remove and discard associated packings.

   c) Plug/cap vacated connections on pressure side (Fig. 3).

      1) Install plug and new packing into pressure port of actuator and torque to 150-170 lb-in.

      2) Install cap assembly and packing to tube assembly and torque to 434-484 lb-in.

   d) Plug/cap vacated connections on return side (Fig. 3).

      1) Install plug and new packing into return port of actuator and torque to 110-120 lb-in.

      2) Install cap assembly and packing to tube assembly and torque to 434-484 lb-in.

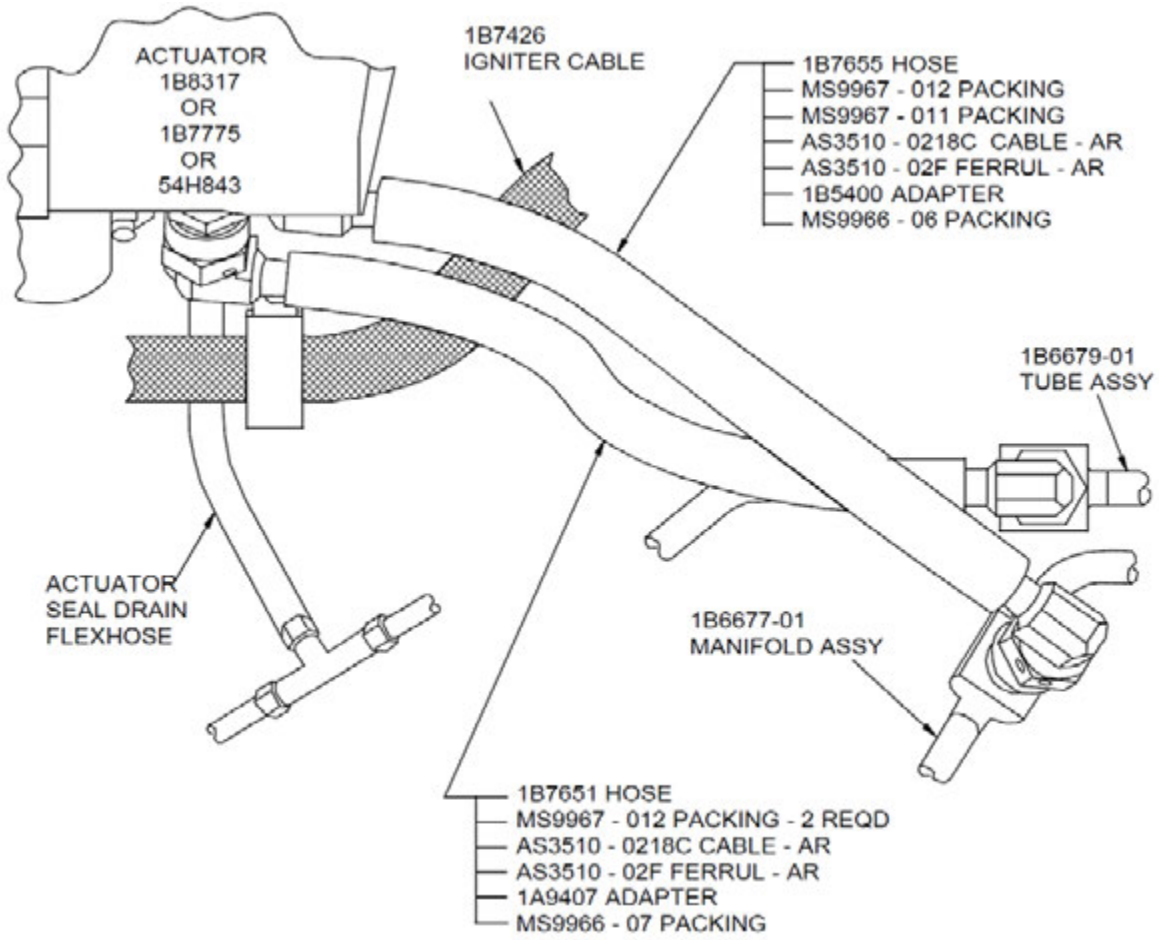


FIGURE 2

Continued Next Page

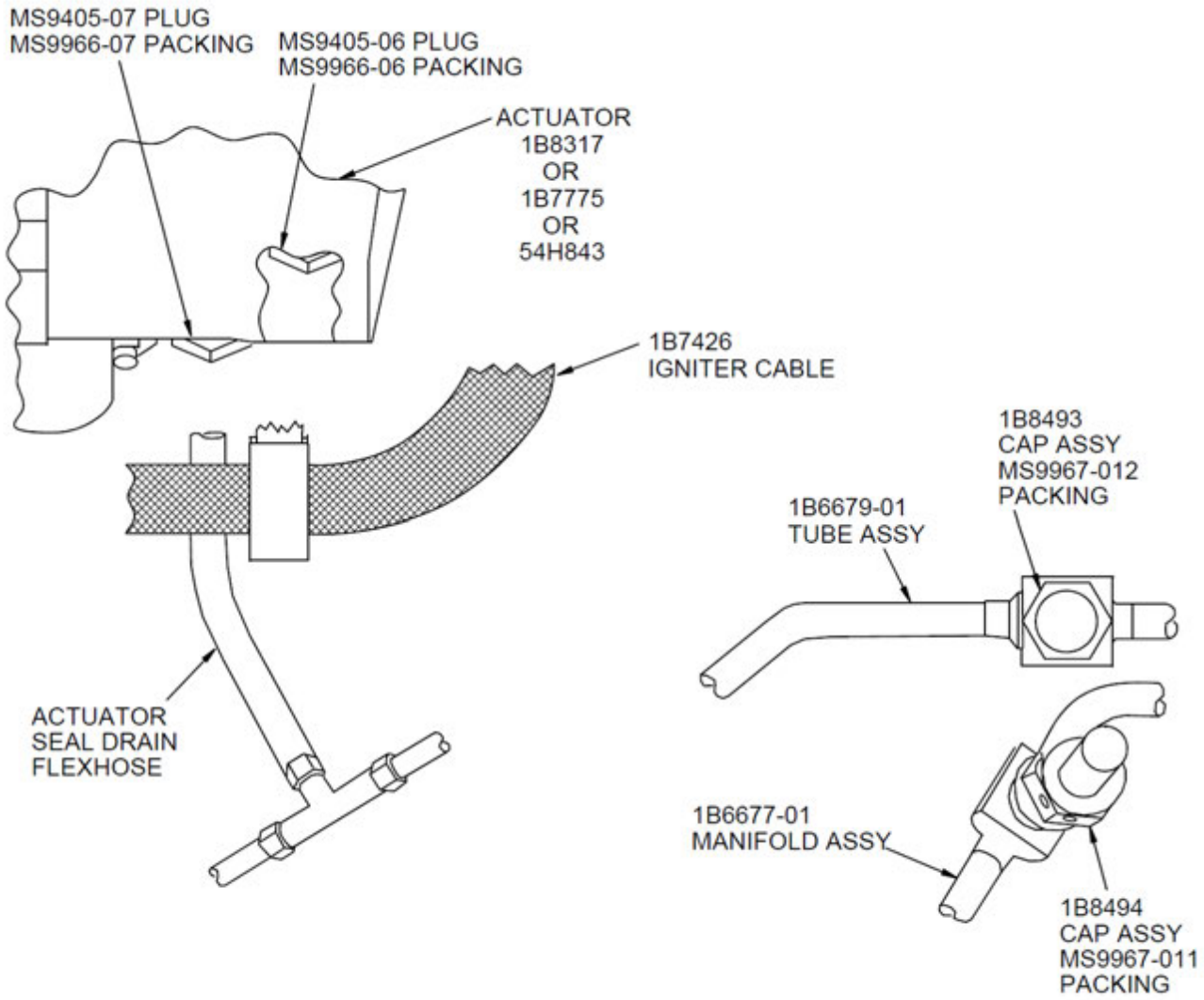
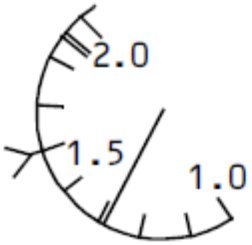

MS9405-07 PLUG
MS9966-07 PACKING
MS9405-06 PLUG
MS9966-06 PACKING
ACTUATOR
1B8317
OR
1B7775
OR
54H843
1B7426
IGNITER CABLE
1B8493
CAP ASSY
MS9967-012
PACKING
1B6679-01
TUBE ASSY
ACTUATOR
SEAL DRAIN
FLEXHOSE
1B6677-01
MANIFOLD ASSY
1B8494
CAP ASSY
MS9967-011
PACKING

FIGURE 3

INTENTIONALLY LEFT BLANK

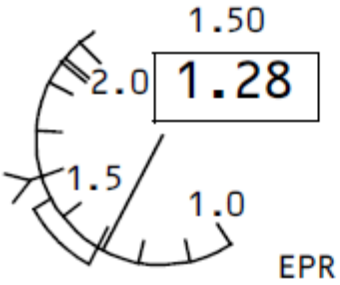
ATA 77 Contents

77-00-01 Target Parameter Indications 77-3
77-11-01 Engine Pressure Ratio (EPR) Systems 77-4
77-21-01 EGT Indications (Standby Engine Indicator) 77-6
77-31-01 Vibration Indicating Systems 77-7



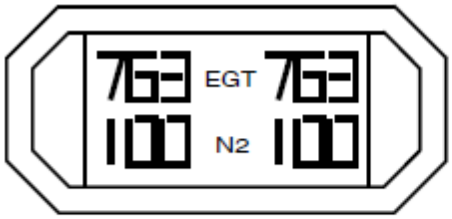
TARGET PARAMETER INDICATIONS

77-00-1



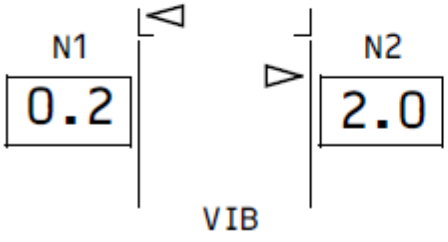
ENGINE PRESSURE RATIO (EPR) SYSTEMS

77-11-1



EGT INDICATIONS (STANDBY ENGINE INDICATOR)

77-21-1



VIBRATION INDICATION SYSTEMS

77-31-1

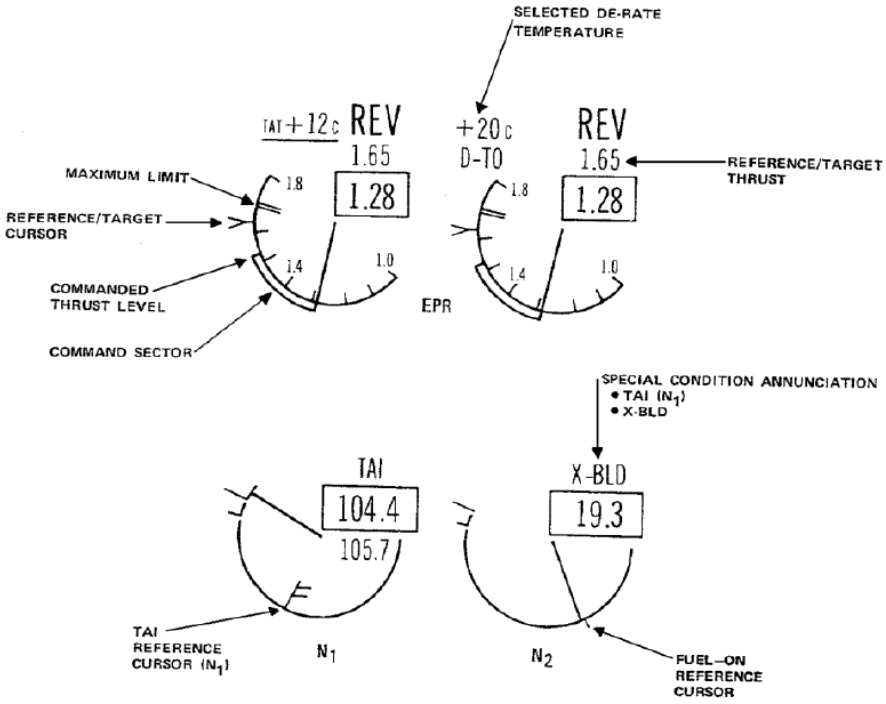
NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
77-00-01	Target Parameter Indications	Y	-	0	C	**(O)** May be inoperative provided an alternate means of achieving desired values is available and used.

MEL ITEM	TAB LOCATION	PLACARD TEXT
77-00-01	Near Upper EICAS Display	____ Target Parameter Indication INOP

(O) PROCEDURES

Only items indicated by arrows (below) may be inoperative (may not appear on display):

- For EPR Maximum Limit, EEC will automatically provide engine limit protection.
- For Selected De-rate Temperature, refer to FMC Takeoff Reference Page.
- For Reference / Target Cursor or Target Thrust, use any operative indicator for L or R engine. If all inoperative, refer to ODM for target EPR. Refer to MEL 22-30-01A if TMC is inoperative.
- For Command Thrust Level or Sector, monitor thrust lever position.
- For Special Condition Annunciator, monitor engine anti-ice or engine bleed air system operation, as applicable.
- For TAI Reference Cursor, monitor engine speed with engine anti-ice on and only a single bleed source available.
- For Fuel On Reference Cursor, at engine start, place fuel control switch on at max. motoring speed or 25% N2, whichever comes first (minimum of 18% N2).



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 **"DISP.APPR.REQ'D"**	**Y**	2	1	**C**	**(O)** EICAS and/or STANDBY indications for one engine may be inoperative provided: a) Appropriate procedures, AFM limitations, and performance corrections are applied, b) Fuel flow indications for associated engine operate normally, and c) Approach minimums do not require its use. CAT II/III Not Authorized

MEL ITEM	TAB LOCATION	PLACARD TEXT
77-11-01	Near Upper EICAS Display	____ EPR Indication INOP

(O) PROCEDURES

1. Verify that N1, N2, and Fuel Flow systems on affected engine are operating normally.
2. Use of Improved Climb procedures is not permitted.
3. Reduced thrust operation using the assumed temperature method is not permitted.
4. Use of autothrottle is not permitted.
5. On PIP, Pegasus, and Plug & Play aircraft, Automatic Runway Update feature is inoperative. Where necessary, use FMS QA points to update position prior to departure.
6. For N1 Power Setting Charts, refer to ODM, Abnormals, MEL Related Items.

Continued Next Page

77-11-01	ENGINE PRESSURE RATIO (EPR) SYSTEMS
EFFECTIVITY	-200
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 13,800 lbs.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance weight corrections have been applied. Refer to ODM – Abnormal section for N1 settings. Increase V_1 by 2 KIAS. Increase V_R by 1 KIAS.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** Reduce RATOW by 18,200 lbs. Reduce T/O CLIMB LIMIT by 17,500 lbs. **LANDING** Reduce LANDING CLIMB LIMIT WT by 19,100 lbs. **OTHER CORRECTIONS** Refer to ODM – Abnormal section for N1 settings. Increase V_1 by 2 KIAS. Increase V_R by 1 KIAS.

77-11-01	ENGINE PRESSURE RATIO (EPR) SYSTEMS
EFFECTIVITY	-300
FLIGHT PLANNING REQUIREMENTS	Reduce ENROUTE LIMIT WT by 10,500 lbs.
NOTES	Make a notation on the Flight Plan when Enroute Climb is limiting.
AWABS	Performance weight corrections have been applied. Refer to ODM – Abnormal section for N1 settings. Increase V_1 and V_R by 1 KIAS.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF** Reduce RATOW by 13,000 lbs. Reduce T/O CLIMB LIMIT by 12,900 lbs. **LANDING** Reduce LANDING CLIMB LIMIT WT by 12,700 lbs. **OTHER CORRECTIONS** Refer to ODM – Abnormal section for N1 settings. Increase V_1 and V_R by 1 KIAS.

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
77-21-01	EGT Indications (Standby Engine Indicator)	**Y**	2	1	**C**	One may be inoperative provided EPR EICAS indications for both engines operate normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
77-21-01	Near Standby Engine Indicator	____ Standby Engine Indicator - EGT Indication INOP

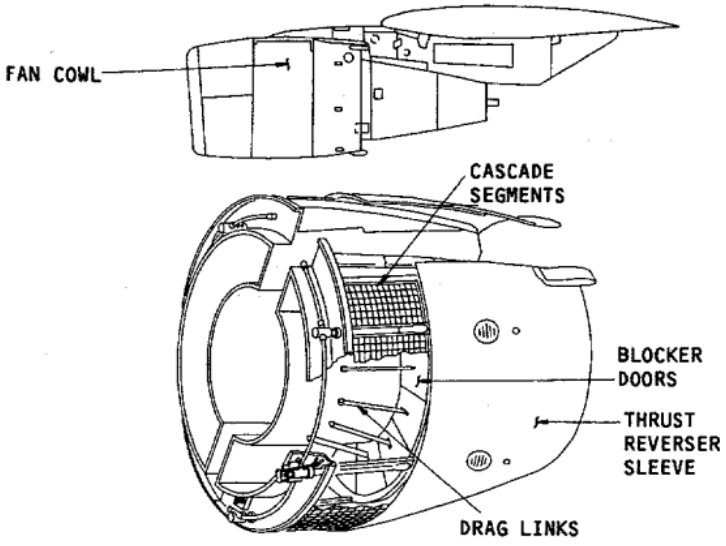
		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
77-31-01	Vibration Indicating Systems	**Y**	2	1	**C**	

MEL ITEM	TAB LOCATION	PLACARD TEXT
77-31-01	Near Lower EICAS Display	____ Vibration Indicating System INOP

INTENTIONALLY LEFT BLANK

ATA 78 Contents

78-31-01A Thrust Reversers (-200) 78-3
78-31-01B Thrust Reversers (-300) 78-3
78-34-02 Thrust Lever Interlock Actuator 78-9
78-36-01 REV Unlock Indications 78-11
78-36-02 Full REV Position Indications 78-13



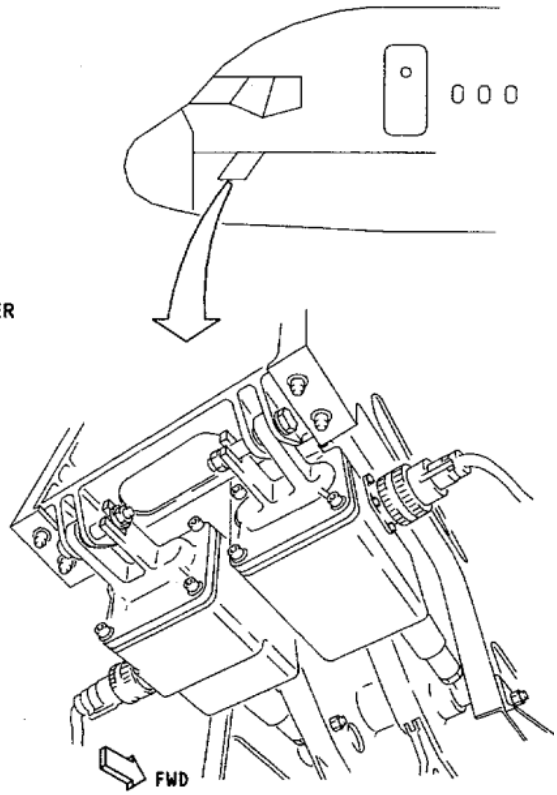
FAN DUCT COWL AND THRUST REVERSER (SLEEVE DEPLOYED)

THRUST REVERSERS

78-31-01

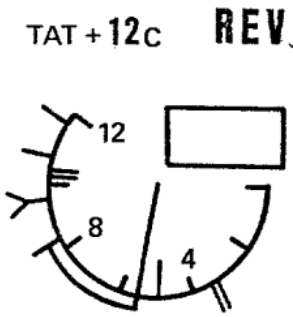
REVERSER ISOLATION VALVE LIGHT

78-34-01



THRUST LEVER INTERLOCK ACTUATOR

78-34-02



EPR

REVERSER UNLOCK INDICATIONS (AMBER)

78-36-01

FULL REVERSER POSITION INDICATION (GREEN)

78-36-02

		NUMBER INSTALLED		NUMBER REQUIRED FOR DISPATCH		
		FLIGHT CREW MAY PLACARD			REPAIR CATEGORY	
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
78-31-01A	Thrust Reversers (-200) **"DISP.APPR.REQ'D"**	**N**	2	1	**C**	**(M)** May be inoperative provided: a) Inoperative reverser is secured in forward thrust position, and b) Associated engine thrust control is verified to operate normally. NOTE: During landing roll-out, differential braking may be required to maintain directional control. CAT III Not Authorized when the RVR is less than 600 or the braking action is less than GOOD.
78-31-01B	Thrust Reversers (-300) **"DISP.APPR.REQ'D"**	**N**	2	1	**C**	**(O)(M)** May be inoperative provided: a) Inoperative reverser is secured in forward thrust position, b) Associated engine thrust control is verified to operate normally, and c) Performance corrections are applied. CAT III Not Authorized when the RVR is less than 600 or the braking action is less than GOOD.

MEL ITEM	TAB LOCATION	PLACARD TEXT
78-31-01A	Near Upper EICAS Display	____ Thrust Reverser INOP
78-31-01B	Near Upper EICAS Display	____ Thrust Reverser INOP

Continued Next Page

(O) PROCEDURES

78-31-01B

78-31-01B	**THRUST REVERSERS**
EFFECTIVITY	**-300**
FLIGHT PLANNING REQUIREMENTS	None
NOTES	None
AWABS	Performance weight corrections have been applied. For Wet and Contaminated runways, reduce the AWABS V_1 by 4 KIAS. If the resulting V_1 is less than minimum V_{mcg}, takeoff is permitted with V_1 set equal to V_{mcg}. See ODM – Abnormal Section for Minimum Control Speed – Ground (V_{mcg}). For Dry runways, no V_1 speed correction is necessary.
TAKEOFF PERFORMANCE WORKSHEET	**TAKEOFF - Wet and Contaminated Runways** Reduce RATOW by 5,600 lbs. **TAKEOFF - Dry Runways** None **LANDING** None **OTHER CORRECTIONS** For Wet and Contaminated runways, reduce the ODM – Takeoff section V_1 by 4 KIAS. If the resulting V_1 is less than minimum V_{mcg}, takeoff is permitted with V_1 set equal to V_{mcg}. See ODM – Abnormal Section for Minimum Control Speed – Ground (V_{mcg}). For Dry runways, no V_1 speed correction is necessary.

Continued Next Page

(M) PROCEDURES

78-31-01A, 78-31-01B

NOTE: Dispatch is permitted with one or both sync-locks inoperative provided sync-locks are verified inoperative in the “locked” position. The following verification of inoperative sync-locks does not need to be performed if it is known the sync-locks are operating normally.

Verification of sync-lock in locked position:

1. Open fan cowl panels per AMM 71-11-04/201.

CAUTION: DO NOT USE AN EXTENSION BAR OR OTHER TOOLS TO MOVE THE UNLOCK LEVER. IF YOU USE AN EXTENSION BAR OR OTHER TOOLS, DAMAGE TO THE UNLOCK LEVER OR ACTUATOR CAN OCCUR.

2. Operate the unlock handle on the thrust reverser locking actuator to the unlocked position, and then release.
3. Verify that both left and right translating sleeves do not move aft more than approximately one sixteenth of an inch.
4. Deactivate the thrust reverser per the normal procedure.

Normal Deactivation of Inoperative Thrust Reverser:

1. Open fan cowl panels per AMM 71-11-04/201.
2. Open aft fairing access door.
3. Obtain isolation valve deactivation pin B78001-3 (part of B78001-2 Dispatch Kit) from the nacelle stowage location or the fly-away equipment stowage container in the forward cargo compartment.
4. Install deactivation pin in the manual lockout hole on the thrust reverser isolation valve and install cotter pin or lockwire.
5. Depress the bypass valve handle on the thrust reverser isolation valve and install a streamered deactivation pin (0.125 inch diameter X 1.1 inch, part of B78001-1 lock assembly).

   NOTE: The streamer pins and the hitch pins are found in the deactivation pin container on the forward surface of the isolation valve (if installed).
6. If the sleeve is extended, turn manual drive with 3/8 inch square drive to retract per AMM 78-31-00/201. Manual cranking of the sleeve will return sleeve to within approximately 0.75 inch of the stowed position.

   NOTE: The manual drive has an override clutch which limits the amount of torque that can be applied. Due to seal forces, the clutch will ratchet before the sleeve is fully retracted and locking is complete.
7. Remove the two thrust reverser sleeve plugs. Loosen the primary deactivation eyebolt nut until the eyebolt can be aligned with the hole in the thrust reverser sleeve.
8. Remove the two deactivation pins from the stowage position below the center hydraulic actuator. Install the sleeve plugs in the deactivation pin stowage position.
9. Perform the following to unlock the sync-locks.

   a) Verify that the following circuit breakers are closed:

   - AIR/GND SYS 1
   - AIR/GND SYS 2
   - LANDING GEAR POS SYS 1
   - LANDING GEAR POS SYS 2
   - L T/R SYNC-LOCK or R T/R SYNC-LOCK

Continued Next Page

10. Raise the left (right) reverse thrust lever to the deploy position.
11. Install primary deactivation pin through the thrust reverser sleeve into the primary deactivation eyebolt.

CAUTION: MAKE SURE THAT THE MANUAL DRIVE IS FULLY ENGAGED WITH THE SYNCLOCK DRIVE SHAFT BEFORE ROTATION AND THAT IT STAYS FULLY ENGAGED DURING THE FULL ROTATION. IF THE MANUAL DRIVE IS NOT FULLY ENGAGED, DAMAGE TO THE SYNC-LOCK CAN OCCUR.

12. Tighten the primary deactivation eyebolt nut to retract the thrust reverser sleeve until the secondary deactivation pin can be installed through the thrust reverser sleeve into the torque box structure.

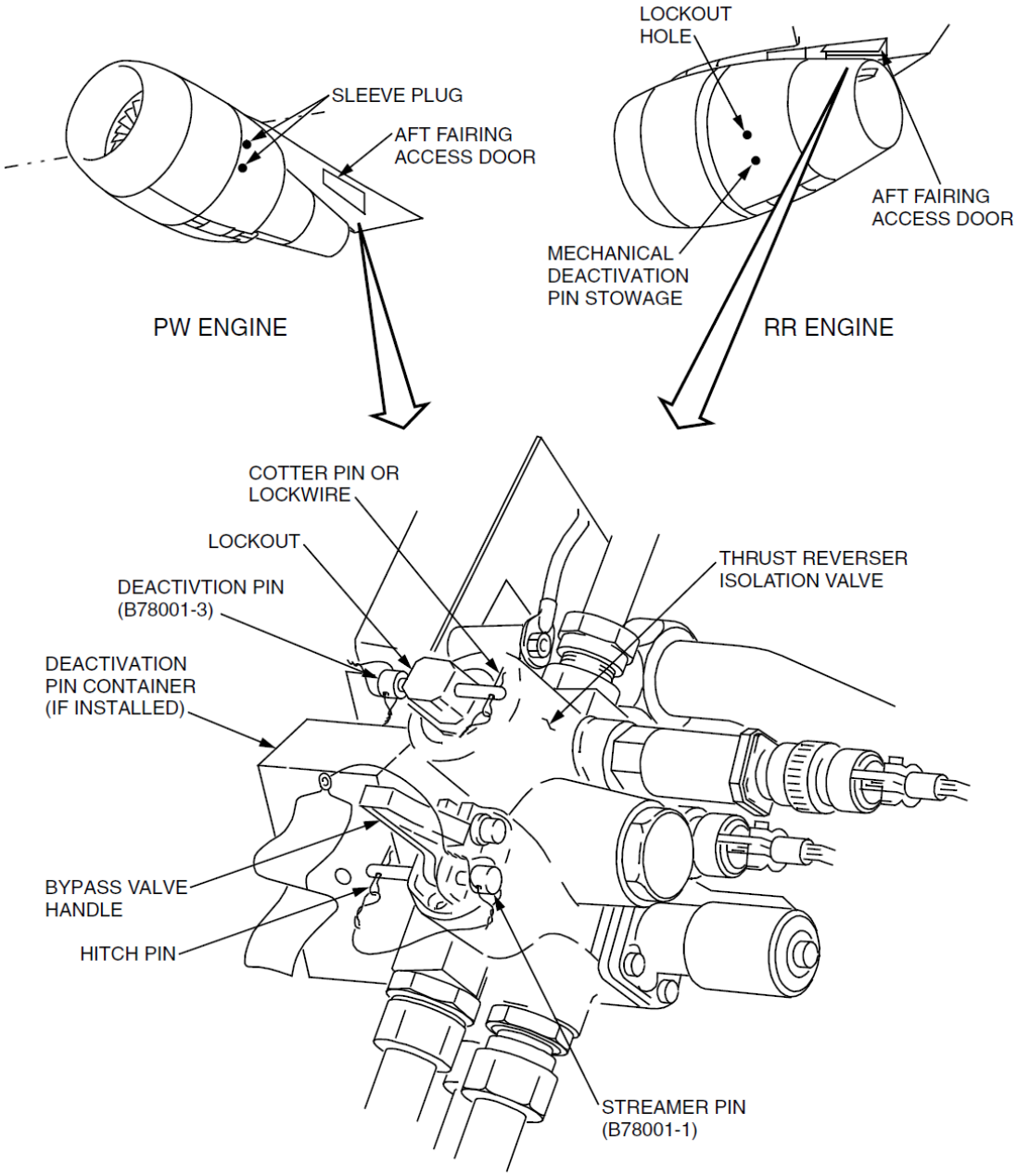
    NOTE: If the sync-locks cannot be electrically unlocked per step 9, it will be necessary to unlock the sync-lock manually by engaging the manual drive and rotating the manual drive in the stow direction while at the same time tightening the primary deactivation eyebolt nut.

13. Verify the locking feature on the deactivation pins and/or captive nuts as follows:
    a) Fully engage the deactivation pin in the thrust reverser captive nut.
    b) Measure the "breakaway" torque value as the deactivation pin is rotated in the remove direction until the locking feature on the pin and/or nut is disengaged.

       NOTE: There should be no axial load on the captive nut when the torque is measured.

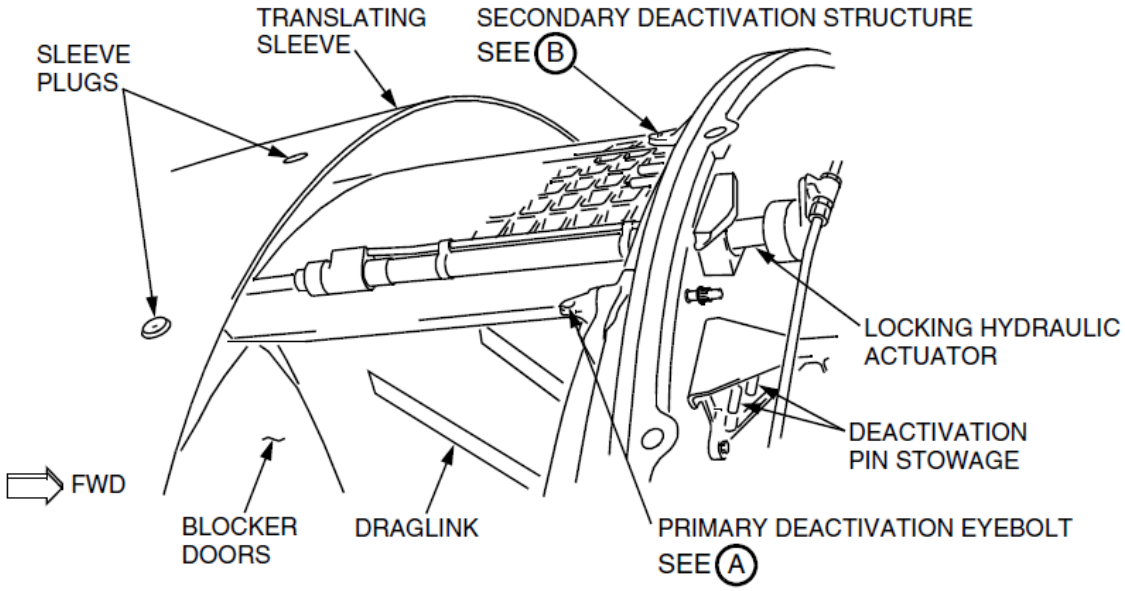
    c) Make sure the deactivation pin and/or captive nut have a minimum breakaway torque of 18 inch pounds.
    d) If the deactivation pin and captive nut combination include a breakaway torque of less than 18 inch pounds, replace the deactivation pin and/or captive nut as necessary.
14. Tighten both deactivation pins to 120 to 150 pound-inches.
15. Repeat steps 6-14 for the opposite reverser sleeve.
16. Move the left (right) reverse thrust lever to the stow position.
17. Remove the streamered pin from the bypass valve handle on the thrust reverser isolation valve allowing the valve to return to its normally closed position.
18. Close aft fairing access door.
19. Close fan cowl panels per AMM 71-11-04/201.
20. Pull and secure the appropriate SYNC-LOCK circuit breakers on P6 panel:
    - For the left engine, the L ENG SYNC-LOCK CONTROL [L T/R SYNC-LOCK] circuit breaker should be opened.
    - For the right engine, the R ENG SYNC-LOCK CONTROL [R T/R SYNC-LOCK] circuit breaker should be opened.
21. Verify thrust control operates normally:
    a) Prior to engine start, move the EEC POWER switch on the EEC Maintenance Panel (P61) to the ALTN position.
    b) Advance thrust levers to the full forward position.
    c) Verify that the Thrust Lever Resolver (TLR) measurements on the EICAS EPCS page read between 80.5 and 83 degrees.
    d) Move the thrust levers to the idle position.
    e) Verify that the TLR measurements on the EICAS EPCS page read 38+/- 0.2 degrees.
    f) Verify that the RVA measurement on the EICAS EPCS page reads 0 +/- 2.0 for the PRI and SEC channels of both EECs.
    g) Move the EEC POWER switch to the NORM position.

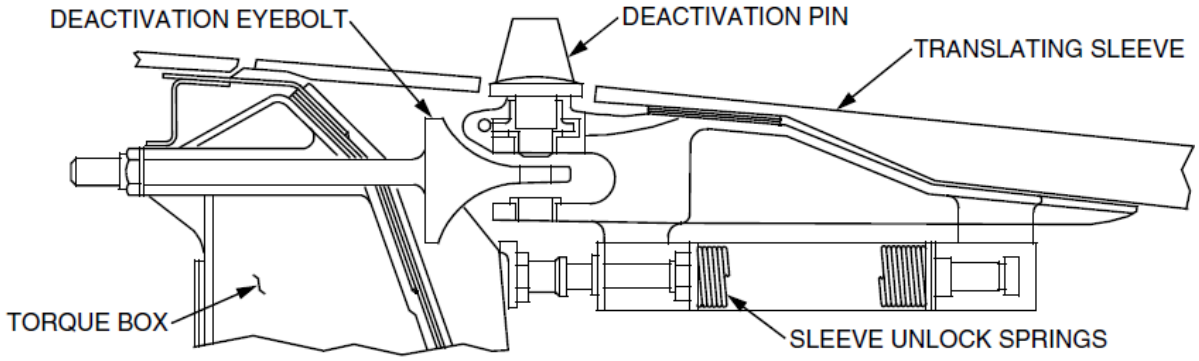
Continued Next Page



THRUST REVERSER ISOLATION VALVE DEACTIVATION

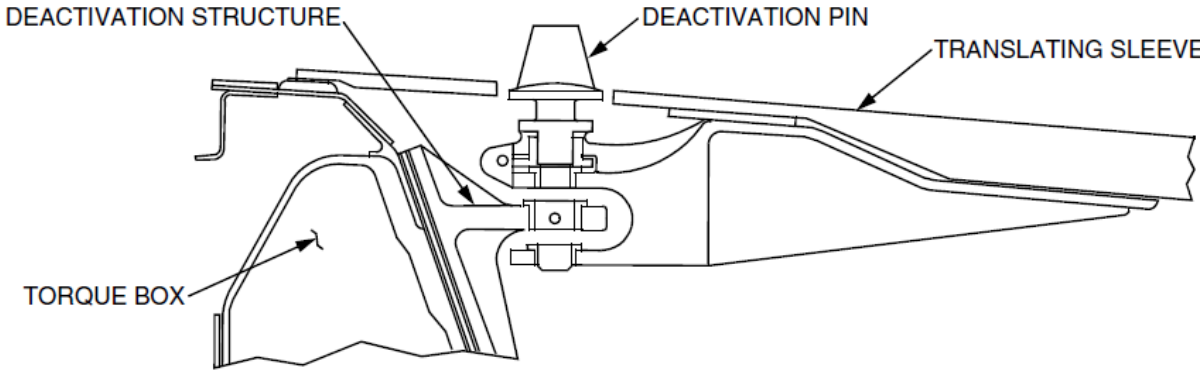
Continued Next Page





PRIMARY DEACTIVATION EYEBOLT WITH
THE PRIMARY DEACTIVATION PIN INSTALLED

(A)



SECONDARY DEACTIVATION STRUCTURE WITH
THE SECONDARY DEACTIVATION PIN INSTALLED

(B)

NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
78-34-02	Thrust Lever Interlock Actuator	**N**	2	1	**C**	**(O)(M)** May be inoperative provided actuator is disconnected.

MEL ITEM	TAB LOCATION	PLACARD TEXT
78-34-02	Near Upper EICAS Display	____ Engine Reverse Lever Interlock Actuator INOP

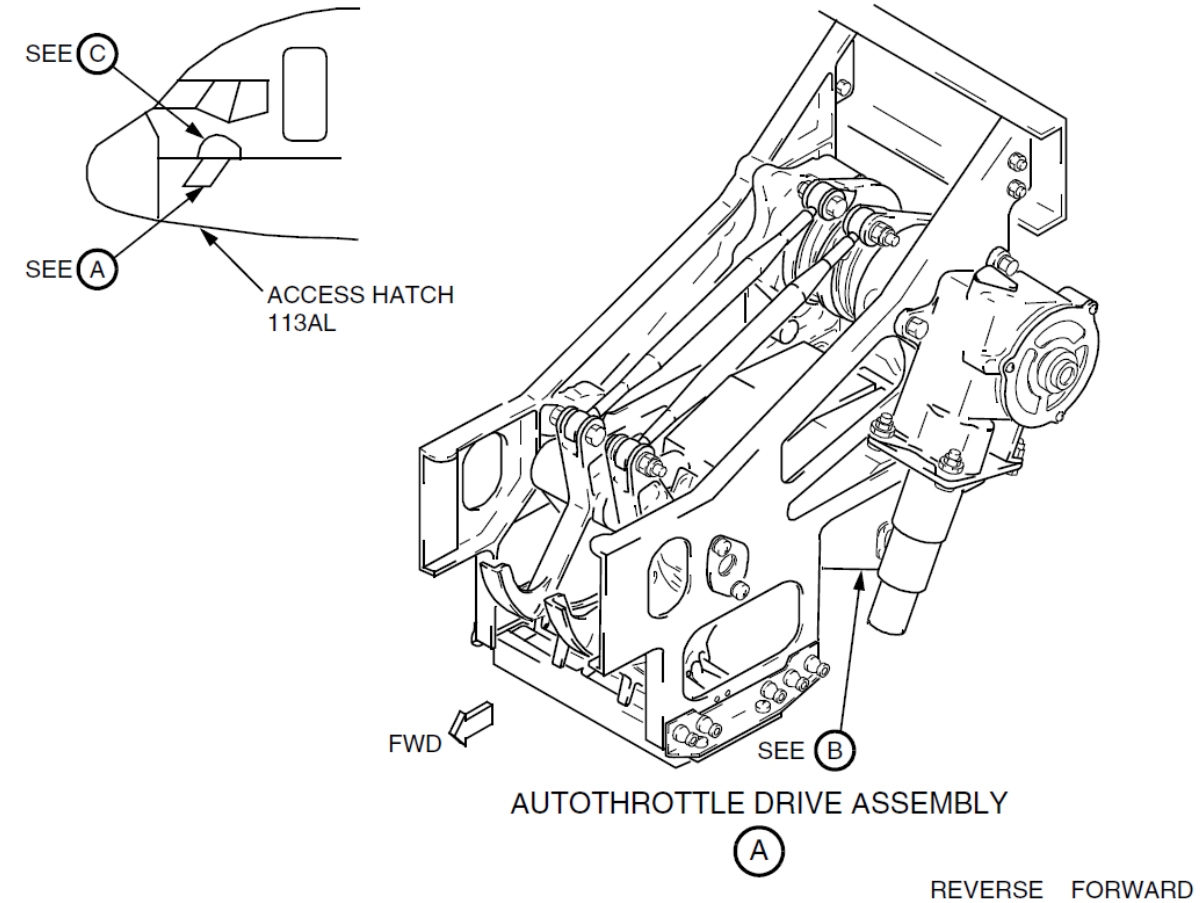
(O) PROCEDURES

Use normal reversing procedures and techniques. The Electronic Engine Control (EEC) will continue to limit thrust to idle whenever the associated thrust reverser is in transit, independent of thrust lever position.

(M) PROCEDURES

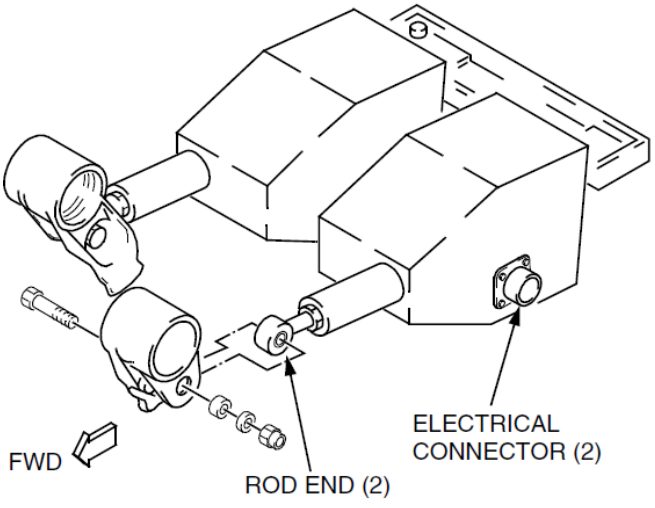
1. Check that forward thrust lever is in idle position and the reverse thrust lever is fully forward.
2. Pull and secure the associated P6 panel L INTERLOCK T/L or R INTERLOCK T/L circuit breaker.
3. Open applicable T/R CONT/SCAV PRESS – L or T/R CONT/SCAV PRESS – R circuit breaker on overhead circuit breaker panel P11.
4. Open forward equipment bay access door 113AL.
5. Disconnect electrical connector from the associated thrust lever interlock actuator and install protective cover.
6. Disconnect the actuator by removing bolts attaching actuator rod end to the autothrottle quadrant. Secure actuator rod to autothrottle drive assembly side frame.
7. Operate the associated forward and reverse thrust levers. Verify that adequate clearance exists between the disconnected actuator and the thrust lever linkage through the full range of motion.
8. Close applicable T/R CONT/SCAV PRESS – L or T/R CONT/SCAV PRESS – R circuit breaker.

Continued Next Page



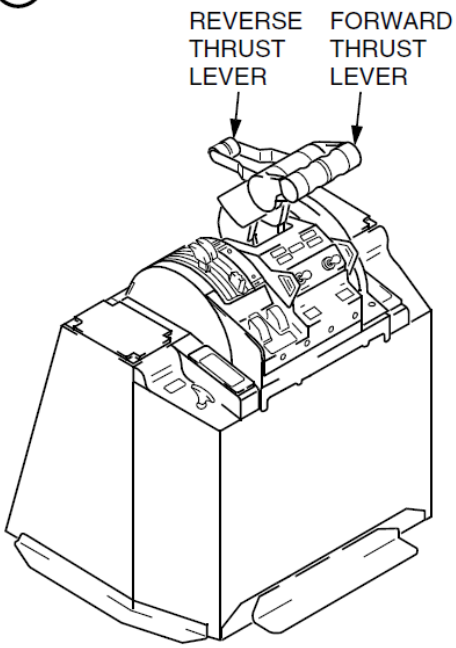
AUTOTHROTTLE DRIVE ASSEMBLY

A



THRUST LEVER INTERLOCK
ACTUATOR ASSEMBLY

B



CONTROL STAND

C

THRUST LEVER INTERLOCK ACTUATOR INSTALLATION

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)** One may be inoperative provided: a) No thrust reverser damage exists which would adversely affect airplane operation, b) Thrust reverser for associated engine is deactivated and locked in stowed (forward thrust) position, and c) Deferred per MEL 78-31-01. CAT III Not Authorized when the RVR is less than 600 or the braking action is less than GOOD.

MEL ITEM	TAB LOCATION	PLACARD TEXT
78-36-01	Near Upper EICAS Display	____ REV Unlock Indication INOP

(O) PROCEDURES

1. Prior to engine start, verify that the thrust lever on engine with deactivated thrust reverser has full travel, by advancing both thrust levers full forward.
2. Thrust levers shall align within one-half knob.
3. Retard thrust levers to idle.
4. Asymmetrical reverse thrust may be used.
5. Use normal reversing procedures and techniques.
6. If it appears that rudder authority is becoming limited during deceleration, return lever to reverse idle detent.

Continued Next Page

(M) PROCEDURES

1. Visually check that thrust reverser has no visible damage, and that thrust reverser sleeve is in alignment.
2. Defer the thrust reverser in the forward thrust position per MEL 78-31-01.

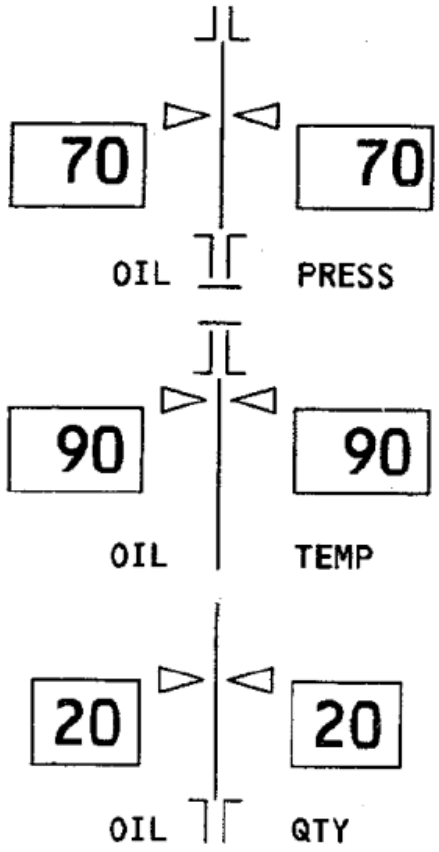
NUMBER INSTALLED				NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD				REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
78-36-02	Full REV Position Indications	**Y**	2	0	**C**	May be inoperative provided associated reverser unlock indication operates normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
78-36-02	Near Upper EICAS Display	____ Full REV Position Indication INOP

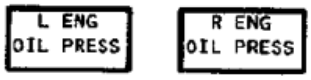
INTENTIONALLY LEFT BLANK

ATA 79 Contents

79-21-01 #4 Bearing Oil Seals 79-3
79-21-02 #4 Bearing Scavenge Valve 79-4
79-31-01 OIL QTY Indications 79-5
79-33-01 Low ENG OIL PRESS Indication System 79-6
79-34-02 ENG OIL TEMP Sensing Elements 79-7



OIL QUANTITY
INDICATIONS
79-31-01



LOW ENGINE OIL PRESSURE
LIGHT SYSTEMS
79-33-01

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO. NAME / DESCRIPTION					REMARKS OR EXCEPTIONS
79-21-01 #4 Bearing Oil Seals	**Y**	2	1	**C**	**(O)** One may be leaking provided associated bearing scavenge valve operates normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
79-21-01	Near Lower EICAS Display	____ #4 Bearing Oil Seal Leaking

(O) PROCEDURES

1. Confirm that the associated bearing scavenge valve operates normally:
   a) Check that the associated L(R) OIL SCAV OPEN Maintenance message does not appear on the ECS/MSG EICAS Maintenance page.
   b) Check that the associated L(R) OIL SCAV VAL Status message does not appear on the EICAS Status page.
2. If either of these messages does appear, dispatch is **not** permitted.

MAINTENANCE NOTE

If the ENG OIL SEAL message appears sporadically it may be treated as a nuisance message unless a malfunction is confirmed by some other parameter, such as a rise in temperature or high oil consumption, or unless it occurs on five consecutive flights. For nuisance messages, see item 31-61-04, “EICAS Status Messages.”

NUMBER INSTALLED			NUMBER REQUIRED FOR DISPATCH		
FLIGHT CREW MAY PLACARD			REPAIR CATEGORY		
ITEM NO.	NAME / DESCRIPTION				REMARKS OR EXCEPTIONS
79-21-02	#4 Bearing Scavenge Valve **"Contact MCC"**	**Y**	2	1	**A**	**(O)** One may be inoperative open provided: a) Associated oil seal is not leaking, and b) Repairs are made within three flight days.

MEL ITEM	TAB LOCATION	PLACARD TEXT
79-21-02	Near Lower EICAS Display	____ #4 Bearing Scavenge Valve INOP OPEN

(O) PROCEDURES

1. Confirm that the oil seal is not leaking by checking the EICAS status page.
   - If the associated L or R ENG OIL SEAL message is displayed, dispatch is not permitted.
   - If the associated L or R OIL SCAV VAL message is displayed, dispatch is not permitted.
2. Confirm that #4 Bearing Scavenge Valve is open by performing the following procedure:
   a) Run the affected engine at idle power setting.
   b) Check the “SCAV” pressure reading from the PERF/APU page on EICAS.
      1) If the “SCAV” pressure is less than 3 psi, dispatch is permitted.
      2) If the "SCAV" pressure is 3 psi or greater, dispatch is not permitted.

		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)** One may be inoperative provided: a) Oil tank is filled to recommended capacity PRIOR TO EACH DEPARTURE (Logbook 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	TAB LOCATION	PLACARD TEXT
79-31-01	Near Lower EICAS Display	____ OIL QTY Indication INOP

(M) PROCEDURES

1. Examine engine exterior, including fan stream area, for evidence of oil leakage.
2. Fill associated engine oil tank (ref. AMM 12-13-01 for servicing procedures and limitations).

WARNING: WAIT A MINIMUM OF FIVE MINUTES AFTER ENGINE SHUTDOWN BEFORE REMOVING THE OIL TANK FILLER CAP, TO ALLOW PRESSURE TO BLEED OFF. PRESSURE IN THE TANK CAN CAUSE A SPRAY OF HOT OIL WHICH CAN CAUSE SEVERE BURNS.

NOTE: The AMM specifies time limits for oil servicing after shutdown. If it is necessary to dry motor the engine prior to servicing, the flight crew may accomplish this task if qualified maintenance personnel are not available.

3. 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 Indication System	**Y**	2	1	**C**	One may be inoperative provided associated OIL PRESS, TEMP and QTY indications operate normally.

MEL ITEM	TAB LOCATION	PLACARD TEXT
79-33-01	Near Affected Low ENG OIL PRESS Indicating System	____ Low ENG OIL PRESS Indicating System INOP

ITEM NO.	NAME / DESCRIPTION	NUMBER INSTALLED FLIGHT CREW MAY PLACARD		NUMBER REQUIRED FOR DISPATCH REPAIR CATEGORY		REMARKS OR EXCEPTIONS
79-34-02	ENG OIL TEMP Sensing Elements	**Y**	4	2	**C**	**(O)** One sensing element on each engine may be inoperative provided both engine oil temperature indications are available from one EICAS computer.

MEL ITEM	TAB LOCATION	PLACARD TEXT
79-34-02	Near Lower EICAS Display	____ ENG OIL TEMP Sensing Element(s) INOP

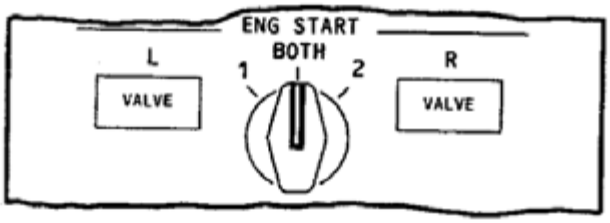
(O) PROCEDURES

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.

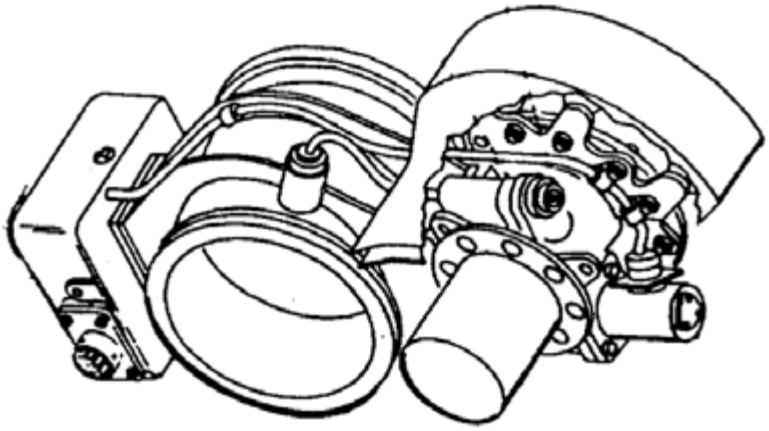
INTENTIONALLY LEFT BLANK

ATA 80 Contents

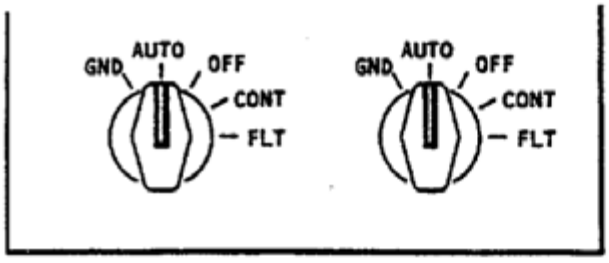
80-00-01 Engine Start VALVE Lights 80-3
80-00-02 Engine Start Valves 80-4
80-11-02 Starter Switch Holding / Cutout Systems 80-6



ENGINE START
VALVE LIGHTS
80-00-01



ENGINE START
VALVES
80-00-02



STARTER SWITCH
HOLDING/CUTOUT
SYSTEMS
80-11-02

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. **Repetitive Check Required (Yellow Placard)**

MEL ITEM	TAB LOCATION	PLACARD TEXT
80-00-01	Affected Engine Start VALVE Light	____ Engine Start VALVE Light INOP

(O) PROCEDURES

1. Start associated engine first, using pneumatic duct pressure indication to ensure that the start valve has closed. Use normal start procedures except:
   a) Place engine bleed air switch for associated engine in 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 53% N2:
      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.
   d) After start valve has been closed, restore bleed air system to required configuration.
2. If duct pressure does not return to original level (also indicated by an EICAS STARTER CUTOUT message):
   a) Accomplish STARTER CUTOUT procedure (see QRH Non-Normal Checklist). Assume VALVE light remains illuminated.

CAUTION: MANUAL OPERATION OF THE START VALVE WITHOUT AIR PRESSURE IN START DUCT MAY DAMAGE VALVE.

   b) Shut down associated engine. Dispatch is not allowed. See MEL item 80-00-02 Engine Start Valves.

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)** One may be inoperative provided: a) Associated start valve light operates normally, and b) Manual override start procedures are used.

MEL ITEM	TAB LOCATION	PLACARD TEXT
80-00-02	Near Associated Engine Start Switch	____ Engine Start Valve INOP

(O) PROCEDURES

MANUAL OVERRIDE START

Perform normal engine start procedure except:

Announce “OPEN START VALVE.” Position the engine start selector to GND.

At 51% N2 announce “CLOSE START VALVE.” Verify that the engine start selector returns to AUTO, and that the start VALVE light on the overhead panel momentarily illuminates, then extinguishes.

AIR START

If an inflight restart becomes necessary, ensure that airspeed is sufficient for a windmilling start (refer to QRH, Non-Normal Checklist, Section 7 (Engines, APU), ENGINE IN-FLIGHT START).

(M) PROCEDURES

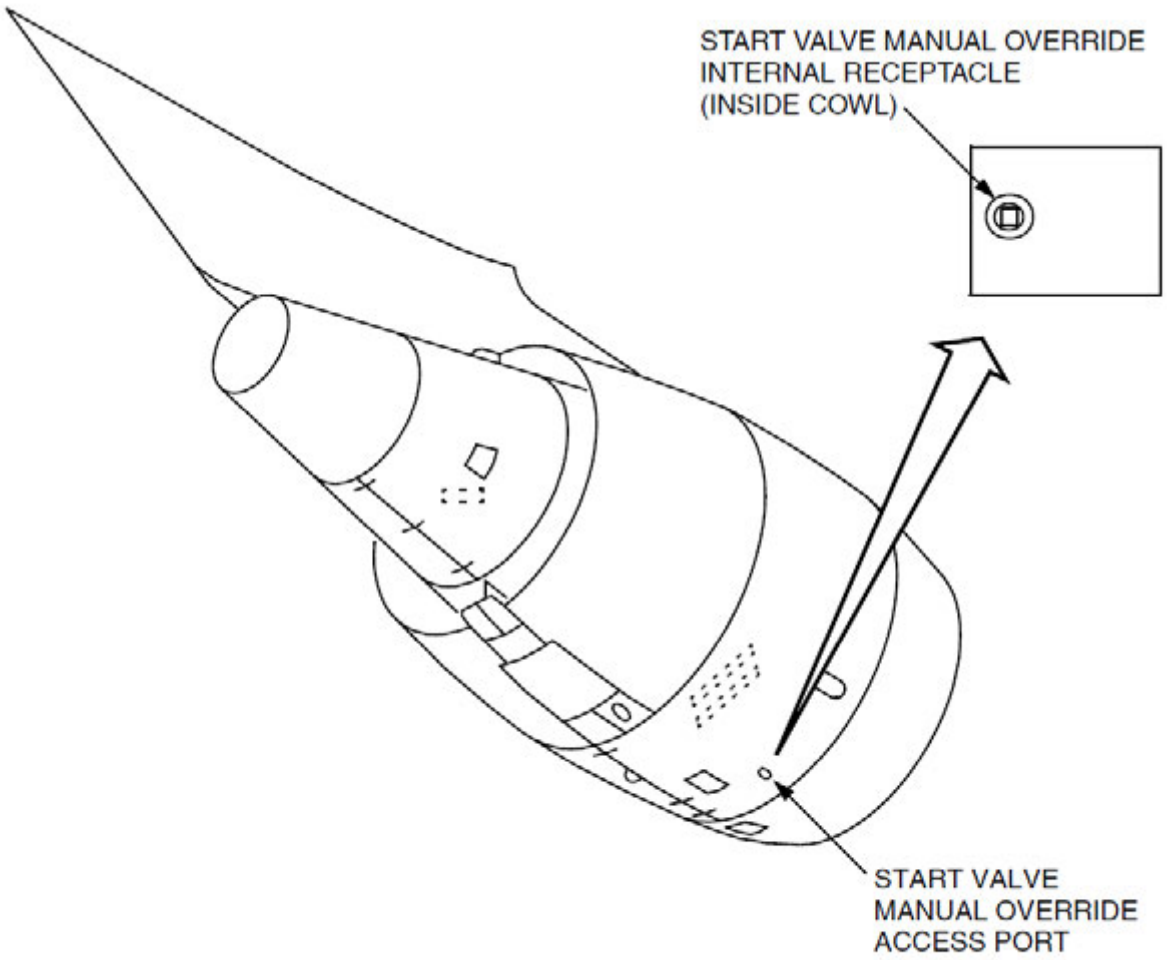
CAUTION: MANUAL OPERATION OF THE START VALVE WITHOUT AIR PRESSURE IN START DUCT MAY DAMAGE VALVE. CLOSE VALVE PROMPTLY UPON COMMAND TO AVOID STARTER DAMAGE.

1. Establish communication with flight deck.

CAUTION: DO NOT USE SHORTER EXTENSIONS TO MAKE UP THE 18-INCH EXTENSION. DAMAGE TO ENGINE COULD RESULT.

2. Insert a 3/8-inch square drive 18-inch extension through access port in right fan cowl and engage drive into valve override internal receptacle.
3. Upon command from flight deck, rotate the drive to open the valve.
4. Upon command from flight deck, promptly rotate the drive to close the valve.
5. Remove the drive from the access port.

Continued Next Page



PW ENGINE
START VALVE ACCESS

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 established and used.

MEL ITEM	TAB LOCATION	PLACARD TEXT
80-11-02	Near Associated Engine Start Switch	____ Starter Switch Holding / Cutout System INOP

(O) PROCEDURES

1. Manually hold the start selector in the GND position for engine start.
2. Rotate the start selector to the AUTO position at 51-52% N2.

CAUTION: DELAYING ROTATION OF THE START SELECTOR TO THE AUTO POSITION CAN CAUSE STARTER OVERSPEED AND DAMAGE.

3. Verify that the start VALVE light on the overhead panel momentarily illuminates, then extinguishes.

#

#4 Bearing Oil Seals **79-3**
#4 Bearing Scavenge Valve **79-4**

“

“Fasten Seat Belt While Seated” Signs or Placards **25-34, 25-35**

A

A/P CWS Engage Switches **22-15**
A/P DISC Light **22-12**
A/P Engage Switches / Paddles **22-15**
A/T ARM Switch **22-15**
A/T SPD Mode Engage Switch **22-15**
AC PWR CONNECTED Light (External Power Panel) **24-32**
ACARS Printer **23-10**
ACARS System **23-10**
ACTIVE CLEARANCE CONTROL (ACC) COOLING SYSTEM VALVES **75-2**
ADIRU Inertial Reference Function **34-19, 34-20**
ADS-B Extended Squitter Transmissions **34-46**
Advisory Callouts **34-43**
AED Bracket / Lock **25-40**
AED Electrode Sets **25-40**
Aft Cargo Heating System **21-30**
Aft Equipment / Lav / Galley Exhaust (Vent) Fans **21-49**
Aft Equipment Cooling Supply Fans **21-52**
Aileron Trim System **27-11**
Air Conditioning Pack OFF Lights **21-43**
Air Conditioning Packs **21-33**
Air Cycle Machine **21-40**
Air Data Systems **34-33**
Aircraft Condition Monitoring System (ACMS) **31-5**
Aircraft Placards/Markings 11-2
Airspeed **22-19**
ALERTING SYSTEM (AUDIO/VISUAL) **23-20**
Alternate Antiskid Valves **32-21**
Altitude Alerting System **34-17**
Angle of Attack (AOA) and Temperature (TAT) Probe Heat Lights **30-14**
Angle of Attack Sensor Heater Systems **30-16**
Anti-Collision Lights **33-21**
ANTISKID Light **32-25**
Antiskid System **32-18**
APP Switch **22-16**
Approach Mode **34-31**
APU (DC) Fuel Pump **28-14**

APU AIR INTAKE DOOR ACTUATION SYSTEM **49-9**
APU Battery **24-26**
APU Battery Charger **24-28**
APU BLEED Check Valve **36-10**
APU BLEED Valve **36-9**
APU Cyclemeter System **49-17**
APU EGT Indication **49-15**
APU External Control System **49-12**
APU FAULT Light **49-13**
APU Fire Detection System **26-7**
APU Fire Extinguisher System **26-20**
APU Fuel Shutoff Valve **28-15**
APU GEN OFF Light **24-21**
APU Generator **24-7**
APU Hourmeter System **49-16**
APU OIL QTY Indication **49-19**
APU RPM Indication **49-18**
APU RUN Light **49-14**
APU Squib Test Functions **26-16**
APU Start Transformer Rectifier Unit **24-31**
ATC Transponders and Automatic Altitude Reporting Systems **34-46**
Attitude Display **34-30**, **34-31**
Audio Functions **34-41**
Auto Cabin Pressure Control Systems **21-13**
AUTO INOP Light **21-27**
AUTO SPDBRK, SPOILERS, and STAB TRIM Lights **27-45**
Auto Speed Brake System **27-41**
Autobrake System **32-27**
Autoland Status Annunciators **22-21**
Automated External Defibrillators (AED) **25-40**
Automatic Flap Load Relief Retraction System (Trailing Edge) **27-30**
Automatic Function of Left FWD Pump **28-6**
Automatic Landing System **22-22**
Automatic Presentation System **35-6**
Automatic Shut Off System **28-11**
Autopilot Engage Switch Lights **22-20**
Autopilot Systems **22-6**, **22-7**
Autothrottle Disconnect (A/T DISC) Light **22-30**
Autothrottle Servo **22-25**
Auxiliary Power Unit (APU) **49-3**

B

B/CRS Switch **22-16**
BLEED AIR DUCT PRESS INDICATING SYSTEM **36-14**
Bleed Air ISLN Valve **36-11**
Bleed ISLN Valve Light **36-19**
BLEED Lights **36-16**
Boom Microphones **23-27**
Bottle Gage **35-3**

Brake Accumulator Pressure Gauge **32-35**
BRAKE PRESS Gauge (Flight Deck) **32-36**
BRAKE SOURCE Indication System **32-15**
Brake Temperature Monitoring System (BTMS) **32-39**
BUS OFF Lights **24-18**
BUS TIE ISLN Lights **24-22**

C

CABIN ALT Indicator **21-24**
Cabin Altitude Warning System **21-28**
Cabin COMPT TEMP Control Systems **21-56**
CABIN DIFF Pressure Indicator **21-22**
Cabin Interior Illumination System **33-7**
CABIN RATE of Climb Indicator **21-21**
Cabin Speakers **23-13**
CAPT PITOT and F/O PITOT Heat Indicating Systems **30-15**
Captain's and First Officer's Primary Probe Heaters **30-13**
Cargo Compartment Lights **33-15**
Cargo Door Hinge Drive Units **52-7**
Cargo Loading Systems **25-29**
Cargo Restraint Systems / Devices **25-30**
Cargo Squib Test Functions **26-16**
Center Air Data System **34-33**
Center and Right Pump Indication Systems **29-8**
Center Electric Pump Indication Systems **29-8, 29-12**
Center System (Electric) Hydraulic Pumps **29-5**
Center Tank Fuel Pumps **28-8**
Center Tank Indicator **28-21**
Center Tank Indicator (Airplanes with Automatic Shut Off System) **28-22**
Center Tank Indicator (Airplanes without Automatic Shut Off System) **28-22**
Clocks **31-3**
Cockpit Voice Recorder (CVR) System **23-4, 23-28**
Cold Soak Not Verified **49-4**
Combined Traffic Alert (TA) and Resolution Advisory (RA) Dual Display System(s) **34-41**
Command Airspeed Cursors **34-11**
COMMUNICATIONS SYSTEMS (VHF, HF) **23-6**
COMPT TEMP Indications **21-69**
COMPT TEMP INOP Lights **21-64**
Control Channels **73-3**
Control Surface Position Indicating System **27-8**
Control Wheel Damper **27-13**
Control Wheel Disengage Switches **22-11**
Control Wheel PTT Switches **23-24**
Control Wheel Trim Switch Systems **27-26**
CREW OXYGEN SYSTEM **35-3**
CREWMEMBER INTERPHONE SYSTEMS **23-18**
CROSSFEED VALVE LIGHT(S) **28-17**
Crushable Cartridge **32-47**

D

Decision Height Indication (DH REF) **34-26**
Dedicated Battery / Charger System **34-31**
Defuel Valves **28-16**
Depressurization Function **29-4**
DFDR Recording Parameters not required by FAR **31-4**
DFDR Recording Parameters required by FAR **31-4**
Display Unit (DU) **31-6**
Distance Measuring Equipment Systems **34-47**
Door Heater Systems **21-32**
Door Indication Systems **52-14**
DOOR PRESSURE STOP FITTINGS **52-5**
Drain Mast Heaters **30-24**
Dual Fuel Crossfeed Valves (If Installed) **28-10**
Dual VALVE Installation **28-17**
DUCT LEAK Detection Systems **26-13**

E

EEMK/XMK **25-39**
EFIS Controls **34-26**
EGT Indications **77-6**
EICAS Status Messages **31-9**
Electrical Equipment Center Lights **33-14**
Electronic Engine Control "ENG LIM PROT" Lights **73-13**
Electronic Flight Instrument (EFIS) Symbol Generators **34-25**
Elementary and Enhanced Downlink Aircraft Reportable Parameters not Required by FAR **34-46**
Elevator Feel Pressure Takeoff Limit Function (-300) **27-21**
Emergency Locator Transmitter (ELT) **25-37**
EMERGENCY MEDICAL EQUIPMENT **25-39, 25-40**
ENG BLEED Pressure Regulating and Shutoff Valves **36-3**
ENG LOW N1 Indication (EICAS) **73-14**
ENG OIL TEMP Sensing Elements **79-7**
Engine Anti-Ice VALVE Lights **30-12**
Engine Anti-Ice Valves **30-7**
ENGINE DRIVEN HYDRAULIC PUMPS **29-4**
Engine Fire Detection Systems **26-5**
Engine Fire Extinguisher Bottle Pressure Indicating System **26-14**
Engine Generator Systems **24-4**
ENGINE HIGH STAGE **36-6**
Engine Indication and Crew Alerting Systems (EICAS) **31-6**
Engine Nacelle Overheat Detection Systems **26-6**
Engine Pressure Ratio (EPR) Systems **77-4**
Engine Probe Heater Systems **30-18**
Engine Start VALVE Lights **47-2, 80-3**
Engine Start Valves **80-4**
ENHANCED FLIGHT DECK SECURITY DOOR AUTOMATIC LOCKING SYSTEM **52-8**
Enhanced Flight Deck Security Door Dead Bolt **52-12**
Enhanced Flight Deck Security Door Pressure Relief Panels **52-13**

EPR/THR Switch **22-16**
Equipment Cooling Airflow Detection System **21-53**
ER (ETOPS) Status **5-2**
Escape Slide Armed Condition Indicators **25-46**
Escape SLIDE Girt Bar Engagement Light(s) **25-49**
Excess Flight Attendant Seat **25-12**
EXT PWR AVAIL Light (Flight Deck) **24-32**
EXT PWR ON Light (Flight Deck) **24-32**
Exterior Cargo Loading Area Lights **33-12**
Exterior Emergency Lighting System **33-24**
Exterior Lavatory Door Ashtrays **25-25**
External Airspeed Markers (Bugs) **34-11**
External Power System **24-32**

F

F/D Switches **22-15**
Fan Air (Precooler) Control Systems **36-13**
Fire Extinguisher Bottle **26-22**
Fire Extinguisher Bottle (Two Bottle System) **26-20**
Fire Extinguisher Bottle Pressure Indicating System **26-20**, **26-22**
FIRE EXTINGUISHER SQUIB TEST SYSTEM **26-16**
First Aid Kit (FAK) and/or Associated Equipment **25-39**
First Aid Kit Seals **25-39**
Flap Isolation Valve **27-31**
Flap Position Indicator System **27-9**
Flight Attendant Audio Alerting System **23-20**
Flight Attendant Flashlight / Holder Assemblies **25-36**
FLIGHT ATTENDANT SEAT ASSEMBLY **25-8**, **25-9**
Flight Attendant Visual Alerting System **23-20**
Flight Compartment and Instrument Lighting System **33-5**
Flight Compartment Windows **56-2**
Flight Crew Auxiliary Heat Systems **21-31**
FLIGHT CREW COMMUNICATION EQUIPMENT **23-27**
FLIGHT CREW SEAT **25-5**
Flight Data Recorder (FDR) System (Includes Digital Flight Data Acquisition Unit (DFDAU)) **31-4**
Flight Deck Access Panel System **52-8**
Flight Deck Automatic Function **33-8**
Flight Deck Call Visual Alerting System **23-20**
Flight Deck Communications Systems (HF Datalink) **23-8**
Flight Deck COMPT TEMP Control System **21-58**
Flight Deck Door AUTO UNLK Light **52-8**
Flight Deck Door Lock Control Selector **52-8**
Flight Deck Door LOCK FAIL Light **52-8**
Flight Deck Speakers **23-23**
Flight Deck to Cabin, Cabin to Flight Deck Functions **23-15**, **23-18**
Flight Deck to Ground Function **23-18**
FLIGHT DECK WINDOW HEAT SYSTEMS **30-19**
Flight Director Systems **34-23**
Flight Management Computer Systems (FMCS) (Including CDU/HMCDU/ MCDU) **34-50**

Flight Spoilers **27-35**
Flightcrew Audio Selector Panel PTT Switches **23-24**
FLOTATION EQUIPMENT (CREW AND PASSENGERS) **25-32**
FLT CONTROL SHUTOFF OFF Lights **27-7**
FLT CONTROL SHUTOFF Valves **27-6**
FMC Annunciator Light **34-51**
Forward Equipment Cooling Air Filters **21-55**
Forward Equipment Cooling Auxiliary Supply Fan **21-54**
Forward Equipment Cooling Overboard Exhaust Valve **21-50**
Forward Equipment Cooling Supply Fans **21-48**
Fuel Control ENG VALVE Lights **73-12**
Fuel Flow Indications **73-16**
Fuel Pump Low PRESS Lights **28-31**
Fuel Quantity Densitometers **28-22**
Fuel Quantity Indications (Fueling Panel) **28-28**
FUEL QUANTITY PROCESSOR CHANNELS **28-25**
Fuel Shutoff Valves **28-4**
FUEL TANK QUANTITY INDICATION SYSTEMS **28-21**
FUEL TEMP Indicating System **28-33**
Full REV Position Indications **78-13**
Fwd Cargo Heating System **21-29**

G

Galley Waste Receptacle Access Doors / Covers **25-26**
Gear Door Close Switches **32-4**
GEAR DOOR GROUND CONTROL SWITCHES / LIGHTS (P72 PANEL) **32-4**
Gear Door Open / Door Arm Switches **32-4**
GEAR DOOR POSITION SENSORS **32-42**
Gear Door Unlock / Unsafe Lights **32-4**
Gear Retraction Braking System **32-17**
GEN CONT OFF Lights **24-19**
Generator DRIVE Lights **24-10**
Generator FIELD OFF Lights **24-24**
Glareshield PTT Switches **23-24**
Glideslope Deviation **34-43**
Global Positioning Systems (GPS) **34-49**
Go-Around Switches **22-28**
Ground Crew Call Horn **23-22**
Ground Crew Call System **23-22**
Ground Proximity Warning System (GPWS) **34-43**
Ground Spoilers **27-35**

H

Hand Microphones **23-27**
HANDSET SYSTEMS **23-21**
Heading (HDG) **22-19**
Heading Display **34-31**
Heading Reference (HDG REF) Switch TRUE Function **34-28**

HF/SAT XFER Switches **23-11**
HI STAGE Lights **36-18**
Horizontal Stabilizer Primary Trim Channels **27-27**
HSI Mode Selector **34-26**
HSI Range Selector **34-26**
HYD PRESS Indications (EICAS) **29-11**
HYD QTY Indications **29-15**
Hydraulic Low SYS PRESS Lights **29-7**
Hydraulic Motor Generator (HMG) **24-11**
Hydraulic Motor Generator Valve **24-15**
Hydraulic System Low QTY or RSVR Lights **29-14**

I

IAS/MACH SEL Switch **22-15**
Ice Detection System (Advisory) **30-26**
Ignition Systems **74-2**
ILS System **34-35**
Inboard Slat Loss Sensing System **27-47**
Indicators / Displays **34-40**
INERTIAL REFERENCE SYSTEMS (IRS) **34-18**
Infant Life Vest **25-32**
Instrument Comparator Unit **34-32**
Instrument Source Select Switches **34-9**
INTEGRATED STANDBY FLIGHT DISPLAY (ISFD) SYSTEM **34-31**
Interior Emergency Lights (Battery Powered) **33-23**
Intermediate Pressure Check Valves **36-8**
IRS Mode Selector Panel (Display and Keyboard Functions) **34-20**
IRS With Hydraulic Motor (HMG) Installed **34-19**
IRS Without Hydraulic Motor (HMG) Installed **34-18**

L

L NAV, HDG HOLD Switches **22-16**
Landing Gear DOORS Light System **32-41**
Landing Gear Lever Lock Solenoid **32-7**
LANDING GEAR POSITION SENSORS **32-42**
Landing Lights **33-17**
Lavatory Fire Extinguisher Systems **26-26**
Lavatory Smoke Detection System **26-27**
Lavatory Speakers **23-13**
Lavatory Waste Container Flapper / Access Doors **25-27**
Lavatory Waste Systems (Including Wheelchair Accessible Lavatories) **38-4**
Left and Right Air Data System **34-33**
Left Pump Indication Systems **29-8**
Left, Center, and Right Pump OVHT Lights **29-12**
Life Rafts **25-32**
Life Vest **25-32**
LLM Category II/III Status **34-7**
LOC Switch **22-16**

Logo Lights **33-22**
Low ENG OIL PRESS Indication System **79-6**
LOWER CARGO COMPARTMENT FIRE DETECTION SYSTEMS **26-9**
LOWER CARGO COMPARTMENT FIRE EXTINGUISHER SYSTEM **26-22**
Lower Cargo Compartment Lining Panels and Floor Panels **25-28, 25-50**

M

MACH / AIRSPEED INDICATORS **34-11**
MACH / Airspeed Warning Systems **34-12**
Magnetic Compass (Standby) **34-29**
Main Entry / Service Door Arming Lever Hinged Covers **52-3, 52-4**
MAIN GEAR UP AND LOCKED SENSORS **32-42**
Main Landing Gear Uplock Springs **32-9**
Main Tank Fuel Pumps **28-6**
Main Tank Indicators **28-21**
Maintenance Control Display Panel (MCDP) **22-31**
Manual Adjustment System **25-5**
Manual Cabin Pressure Control System **21-17**
MAP Position **34-26**
Marker Beacon System **34-36**
MASTER CAUTION / WARNING SYSTEMS **31-8**
Master Caution Lights (Pilot's Glare Shield) **31-8**
MASTER DIM AND TEST SYSTEM **33-6**
Master Warning Lights (Pilot's Glare Shield) **31-8**
Measuring Sticks **28-35**
Minimum Idle **73-15**
Mode Control Panel Selectors **22-13**
MODE CONTROL PANEL SWITCH LIGHTS **22-20**
MODE CONTROL PANEL SWITCHES **22-15, 22-16**
MODE CONTROL PANEL WINDOWS **22-19**
Multi Latch/ Quarter Turn Lug Installations **25-22**

N

Navigation Databases **34-50**
Nonessential Equipment and Furnishings (NEF) **25-7**
Nose Gear Parking Brake Status Indicator Light (PARKING BRAKE ON) **32-32**
Nose Gear Up Sensors **32-42**
Nose Wheel Spin Brakes (Snubbers) **32-38**

O

OIL QTY Indications **79-5**
Outflow Valve **21-18**
Outflow VALVE Position Indicator **21-26**
Overhead Storage Bin(s) / Cabin and Galley Storage Compartment / Closets **25-22**
OVERWING ESCAPE SQUIB TEST SYSTEM **25-42**
Oxygen Thermal Relief Indicator **35-3**

P

Pack Altitude Switches **21-39**
Pack Flow Control/Shutoff Valves **21-34**
Pack INOP Lights **21-42**
Pack RESET Switches **21-41**
Pack Temperature Control Systems **21-36**
Pack Temperature Control Valves **21-37**
PARKING BRAKE LIGHTS **32-32**
Parking Brake Valve **32-30**
PASSENGER ADDRESS SYSTEM (PA) **23-13**
Passenger Lighted Information Signs **33-8**
Passenger Oxygen System **35-6**
Passenger Seats **25-13**, **25-14**, **25-15**
Passenger Service Units (PSUs) **35-6**
PBE Smoke Hoods **35-5**
Pitch Limit Indicators **34-27**
Pitot Probe Heat Lights **30-14**
Pitot Probe Heater Systems **30-13**
PLAN Position **34-26**
Pneumatic Function **49-3**
Portable Fire Extinguishers **26-25**
Portable Oxygen Dispensing Units **35-8**
Position Lights (Bulbs) **33-20**
Positive Pressure Relief Valves **21-19**
Potable Water Systems **38-2**
Power Adjustment System **25-5**
Power Control Unit Monitor System **27-18**
Precoolers **36-12**
Pre-recorded Passenger Announcement System **23-14**
Pressure Fueling System **28-4**
Pressure Indication System (EICAS) **35-3**
Pressure Regulating and Shutoff Valve Closed Position Indicating System **36-15**
Primary Observer Seat (Including Associated Equipment) **25-6**
Probe Heat Lights (Except CAPT and F/O PITOT) **30-14**
Proximity Switch System **32-50**
Pump Low PRESS Indication Systems **29-8**
PUMP OVHT INDICATION SYSTEMS **29-12**
PUSH-TO-TALK (PTT) SWITCHES **23-24**
PWR NOT IN USE Light (External Power Panel) **24-32**

Q

Quick Access Recorder (QAR) **31-4**

R

RADIO ALTIMETER (RA) SYSTEMS (EADI) **34-37**
Radio Altimeter System **34-37**

Radio Compass (ADF) Systems **34-48**
Radio Distance Magnetic Indicators (RDMI) **34-22**
Radio Tuning Panels (Digital RTP) **23-5**
Ram Air Inlet / Exhaust Door Systems **21-44**
Recirculation Fan INOP Lights **21-12**
Recirculation Fans **21-8**
Red Pouch (Medical Accessory Pouch) **25-39**, **25-41**
Remote MCDP **22-31**
Remote Quantity Indicator **29-6**
Resolution Advisory (RA) Display System(s) **34-41**
Retraction Mechanism **32-47**
Return Air Grille **21-7**
REV Unlock Indications **78-11**
RNP–10 Status **34-8**
RNP–5 Status (BRNAV) **34-8**
Rudder Pedal Nose Wheel Steering **32-40**
Rudder Ratio Light **27-17**
Rudder Trim Indication System **27-20**
Runway Turnoff Lights **33-19**
RVSM Status **53-2**

S

SAT Communication Systems **23-11**
SATCOM Lights **23-11**
SATCOM Voice **23-11**
Selective Call System (SELCAL) **23-9**
Service Lights **33-13**
Single VALVE Installation **28-17**
SPAR VALVE Lights **28-19**
Spare Life Vest **25-32**
Speed Command **34-16**
Speedbrake Caution Indication System **27-44**
STAB TRIM Indicators **27-29**
Stall Warning / Autoslat System **27-24**
Stall Warning Test Systems **27-22**
Standby Altimeter Vibrator **34-13**
STANDBY ATTITUDE / ILS INDICATOR **34-30**
Standby Power Bus OFF Light **24-25**
Standby Power Main/APU Battery Tie System **24-30**
Starter Switch Holding / Cutout Systems **80-6**
Static Air Temperature (SAT) Indicator **34-14**
Sterile Flight Compartment Light System **33-10**
Storage Compartment Key Locks **25-22**
Sump Drain Valves **28-3**
Survival Kits **25-32**
Switches (NAV AID/ARPT/ RTE DATA/ WPT/WXR/ TERR) **34-26**

T

Tail Skid **32-47**
Tail Skid Indication System **32-50**
TAIL SKID Light **32-50**
Tail Strike Detector Channels **32-52**
Target Parameter Indications **77-3**
Taxi Lights **33-18**
Temperature (TAT) Probe Heater Systems **30-17**
Terrain Awareness Function **34-43**
Thrust Lever Interlock Actuator **78-9**
Thrust Management System **22-25**
Thrust Mode Select Panel **22-25**
Thrust Reversers **78-3**
Total Fuel Quantity Indication **28-29**
Traffic Alert (TA) Display System(s) **34-41**
Traffic Alert Collision Avoidance System **34-41**
Trailing Edge Flap Skew Sensors **27-33**
Trim Air Check Valves **21-66**
Trim Air OFF Light **21-63**
Trim Air Regulating / Shutoff Valve System **21-60**
Triple Channel Autoland **22-22**
True Airspeed (TAS) Indicator (Center Panel) **34-15**
TSO Headset Earphones/ Headphones **23-27**
Turbine Cooling Air Systems **75-4**

U

Universal Fault Interrupter (Automatic Shutoff System) **28-13**
UTILITY BUS OFF Lights **24-23**
Utility Bus Systems **24-33**

V

V NAV, FL CH, V/S, ALT HOLD Switches **22-16**
Vertical Speed **22-19**
VOR Navigation Systems **34-45**

W

Weather Radar Systems **34-39**
Wheel Brakes **32-10**
Wheel Well Fire Detection System **26-11**
Wheel Well Lights **33-11**
Window / Probe Heat Ground Test System **30-22**
Window Heat INOP Lights **30-21**
Windshear Alert Mode (Predictive) **34-40**
Windshear Alert Mode (Reactive) **34-43**
Windshield Wipers **30-23**

Wing Anti-Ice Ground Test **30-6**
Wing Anti-Ice VALVE Lights **30-5**
Wing Anti-Ice Valves **30-4**
Wing Illumination Lights **33-16**
WXR ON Light **34-40**

X

XMK Saddle Bag **25-39**

Y

Yaw Damper Stabilizer Trim Module (YSM) (-300) **27-10**
Yaw Dampers **22-23**

Z

Zone Trim Air Modulating Valves **21-61**

Revision 11 complies with FAA B757 MMEL REV 31A

FAA-APPROVED
BY: FAA DELTA CMO-27
EFFECTIVE DATE: 07/26/2016
John R. Brooke
Principal Operations Inspector

PAGE	DATE
Front Matter	
FM-1	07/26/16
FM-2	07/26/16
FM-3	11/04/14
FM-4	11/04/14
FM-5	07/26/16
FM-6	07/26/16
FM-7	07/26/16
FM-8	07/16/15
FM-9	07/16/15
FM-10	11/04/14
FM-11	11/04/14
FM-12	07/26/16
FM-13	07/16/15
FM-14	11/04/14
FM-15	11/04/14
FM-16	07/16/15
FM-17	11/04/14
FM-18	07/26/16
FM-19	07/16/15
FM-20	07/26/16
FM-21	11/04/14
FM-22	07/16/15
FM-23	07/16/15
FM-24	11/04/14

EICAS Message List	
EM-1	12/03/12
EM-2	12/03/12
EM-3	12/03/12
EM-4	12/03/12
EM-5	12/03/12
EM-6	12/03/12
EM-7	12/03/12
EM-8	12/03/12
EM-9	12/03/12
EM-10	12/03/12
EM-11	12/03/12
EM-12	12/03/12
EM-13	11/04/14
EM-14	12/03/12
EM-15	12/03/12

PAGE	DATE
EM-16	12/03/12
EM-17	12/03/12
EM-18	12/03/12
EM-19	12/03/12
EM-20	12/03/12

ATA 05 ER (ETOPS)	
5-1	04/11/10
5-2	07/16/15
5-3	07/16/15
5-4	04/11/10

ATA 11 Placards	
11-1	03/25/14
11-2	11/04/14

ATA 21 Air Conditioning	
21-1	10/13/11
21-2	10/13/11
21-3	10/13/11
21-4	10/13/11
21-5	10/13/11
21-6	10/13/11
21-7	11/04/14
21-8	07/16/15
21-9	07/16/15
21-10	03/25/14
21-11	12/03/12
21-12	11/04/14
21-13	07/16/15
21-14	10/13/11
21-15	10/13/11
21-16	10/13/11
21-17	07/16/15
21-18	07/16/15
21-19	07/16/15
21-20	10/13/11
21-21	07/16/15
21-22	07/16/15

PAGE	DATE
21-23	11/04/14
21-24	07/16/15
21-25	10/13/11
21-26	11/04/14
21-27	11/04/14
21-28	11/04/14
21-29	07/16/15
21-30	07/16/15
21-31	11/04/14
21-32	07/26/16
21-33	11/04/14
21-34	07/16/15
21-35	10/13/11
21-36	11/04/14
21-37	11/04/14
21-38	10/13/11
21-39	11/04/14
21-40	07/16/15
21-41	07/16/15
21-42	11/04/14
21-43	07/16/15
21-44	07/16/15
21-45	07/16/15
21-46	03/25/14
21-47	10/13/11
21-48	11/04/14
21-49	11/04/14
21-50	07/16/15
21-51	01/15/16
21-52	11/04/14
21-53	11/04/14
21-54	11/04/14
21-55	11/04/14
21-56	11/04/14
21-57	10/13/11
21-58	11/04/14
21-59	10/13/11
21-60	11/04/14
21-61	07/16/15
21-62	10/13/11
21-63	11/04/14
21-64	07/16/15
21-65	10/13/11
21-66	11/04/14
21-67	10/13/11
21-68	10/13/11

PAGE	DATE
21-69	11/04/14
21-70	10/13/11

ATA 22 Auto Flight	
22-1	12/03/12
22-2	10/13/11
22-3	10/13/11
22-4	10/13/11
22-5	11/04/14
22-6	07/16/15
22-7	07/26/16
22-8	07/26/16
22-9	07/16/15
22-10	07/16/15
22-11	07/16/15
22-12	11/04/14
22-13	11/04/14
22-14	12/03/12
22-15	07/26/16
22-16	12/03/12
22-17	07/26/16
22-18	12/03/12
22-19	11/04/14
22-20	11/04/14
22-21	11/04/14
22-22	11/04/14
22-23	07/16/15
22-24	12/03/12
22-25	07/16/15
22-26	12/03/12
22-27	12/03/12
22-28	07/16/15
22-29	12/03/12
22-30	11/04/14
22-31	11/04/14
22-32	12/03/12

ATA 23 Communications	
23-1	07/16/15
23-2	10/13/11
23-3	10/13/11
23-4	07/16/15

Revision 11 complies with FAA B757 MMEL REV 31A

FAA-APPROVED
BY: FAA DELTA CMO-27
EFFECTIVE DATE: 07/26/2016
John R. Brooke
Principal Operations Inspector

PAGE	DATE
23-5	01/15/16
23-6	07/26/16
23-7	07/16/15
23-8	07/26/16
23-9	07/16/15
23-10	07/26/16
23-11	07/26/16
23-12	07/16/15
23-13	07/16/15
23-14	07/16/15
23-15	07/16/15
23-16	07/16/15
23-17	07/16/15
23-18	07/16/15
23-19	07/16/15
23-20	07/16/15
23-21	07/16/15
23-22	07/16/15
23-23	07/16/15
23-24	07/16/15
23-25	07/16/15
23-26	07/16/15
23-27	07/16/15
23-28	07/16/15

ATA 24 Electrical Power	
24-1	06/23/11
24-2	06/23/11
24-3	06/23/11
24-4	07/26/16
24-5	06/23/11
24-6	06/23/11
24-7	07/26/16
24-8	06/23/11
24-9	06/23/11
24-10	11/04/14
24-11	07/16/15
24-12	07/16/15
24-13	06/23/11
24-14	06/23/11
24-15	07/16/15
24-16	07/16/15
24-17	06/23/11
24-18	11/04/14

PAGE	DATE
24-19	07/16/15
24-20	06/23/11
24-21	11/04/14
24-22	11/04/14
24-23	11/04/14
24-24	11/04/14
24-25	07/16/15
24-26	07/16/15
24-27	06/23/11
24-28	11/04/14
24-29	03/25/14
24-30	01/15/16
24-31	11/04/14
24-32	11/04/14
24-33	07/16/15
24-34	06/23/11

ATA 25 Equipment/ Furnishings	
25-1	01/15/16
25-2	01/15/16
25-3	07/16/15
25-4	07/16/15
25-5	07/16/15
25-6	07/16/15
25-7	07/16/15
25-8	07/26/16
25-9	01/15/16
25-10	07/26/16
25-11	01/15/16
25-12	01/15/16
25-13	01/15/16
25-14	01/15/16
25-15	01/15/16
25-16	01/15/16
25-17	01/15/16
25-18	01/15/16
25-19	01/15/16
25-20	01/15/16
25-21	01/15/16
25-22	01/15/16
25-23	01/15/16
25-24	01/15/16
25-25	01/15/16

PAGE	DATE
25-26	01/15/16
25-27	01/15/16
25-28	01/15/16
25-29	01/15/16
25-30	01/15/16
25-31	01/15/16
25-32	01/15/16
25-33	01/15/16
25-34	01/15/16
25-35	01/15/16
25-36	01/15/16
25-37	01/15/16
25-38	01/15/16
25-39	01/15/16
25-40	01/15/16
25-41	01/15/16
25-42	01/15/16
25-43	01/15/16
25-44	01/15/16
25-45	01/15/16
25-46	01/15/16
25-47	01/15/16
25-48	01/15/16
25-49	01/15/16
25-50	01/15/16
25-51	01/15/16
25-52	01/15/16

ATA 26 Fire Protection	
26-1	12/03/12
26-2	10/13/11
26-3	10/13/11
26-4	10/13/11
26-5	11/04/14
26-6	11/04/14
26-7	07/16/15
26-8	10/13/11
26-9	11/04/14
26-10	10/13/11
26-11	07/16/15
26-12	10/13/11
26-13	07/16/15
26-14	11/04/14
26-15	10/13/11

PAGE	DATE
26-16	11/04/14
26-17	10/13/11
26-18	10/13/11
26-19	10/13/11
26-20	11/04/14
26-21	10/13/11
26-22	11/04/14
26-23	10/13/11
26-24	10/13/11
26-25	11/04/14
26-26	07/16/15
26-27	07/16/15
26-28	10/13/11

ATA 27 Flight Controls	
27-1	10/13/11
27-2	10/13/11
27-3	10/13/11
27-4	10/13/11
27-5	10/13/11
27-6	11/04/14
27-7	11/04/14
27-8	11/04/14
27-9	11/04/14
27-10	01/15/16
27-11	11/04/14
27-12	10/13/11
27-13	07/16/15
27-14	10/13/11
27-15	10/13/11
27-16	10/13/11
27-17	11/04/14
27-18	07/16/15
27-19	10/13/11
27-20	11/04/14
27-21	11/04/14
27-22	07/16/15
27-23	10/13/11
27-24	07/16/15
27-25	10/13/11
27-26	11/04/14
27-27	07/16/15
27-28	07/16/15
27-29	11/04/14

Revision 11 complies with FAA B757 MMEL REV 31A

FAA-APPROVED
BY: FAA DELTA CMO-27
EFFECTIVE DATE: 07/26/2016
John R. Brooke
Principal Operations Inspector

PAGE	DATE
27-30	11/04/14
27-31	01/15/16
27-32	10/13/11
27-33	01/15/16
27-34	10/13/11
27-35	07/16/15
27-36	11/04/14
27-37	12/03/12
27-38	12/03/12
27-39	12/03/12
27-40	10/13/11
27-41	07/16/15
27-42	07/26/16
27-43	10/13/11
27-44	11/04/14
27-45	11/04/14
27-46	10/13/11
27-47	07/16/15
27-48	10/13/11

ATA 28 Fuel	
28-1	11/04/14
28-2	10/13/11
28-3	11/04/14
28-4	11/04/14
28-5	11/04/14
28-6	07/16/15
28-7	11/04/14
28-8	07/16/15
28-9	11/04/14
28-10	01/15/16
28-11	01/15/16
28-12	11/04/14
28-13	11/04/14
28-14	11/04/14
28-15	11/04/14
28-16	11/04/14
28-17	01/15/16
28-18	11/04/14
28-19	11/04/14
28-20	11/04/14
28-21	07/16/15
28-22	01/15/16
28-23	11/04/14
28-24	11/04/14

PAGE	DATE
28-25	01/15/16
28-26	11/04/14
28-27	11/04/14
28-28	11/04/14
28-29	07/26/16
28-30	11/04/14
28-31	11/04/14
28-32	11/04/14
28-33	11/04/14
28-34	11/04/14
28-35	11/04/14
28-36	11/04/14

ATA 29 Hydraulic Power	
29-1	04/11/10
29-2	04/11/10
29-3	04/11/10
29-4	11/04/14
29-5	07/16/15
29-6	11/04/14
29-7	11/04/14
29-8	07/16/15
29-9	07/16/15
29-10	04/11/10
29-11	11/04/14
29-12	11/04/14
29-13	04/11/10
29-14	11/04/14
29-15	07/16/15
29-16	04/11/10

ATA 30 Ice & Rain Protection	
30-1	06/23/11
30-2	06/23/11
30-3	06/23/11
30-4	11/04/14
30-5	11/04/14
30-6	11/04/14
30-7	07/26/16
30-8	06/23/11
30-9	06/23/11

PAGE	DATE
30-10	06/23/11
30-11	06/23/11
30-12	11/04/14
30-13	01/15/16
30-14	01/15/16
30-15	01/15/16
30-16	11/04/14
30-17	07/16/15
30-18	11/04/14
30-19	07/16/15
30-20	06/23/11
30-21	11/04/14
30-22	11/04/14
30-23	11/04/14
30-24	11/04/14
30-25	06/23/11
30-26	11/04/14

ATA 31 Indicating/ Recording Systems	
31-1	07/16/15
31-2	06/23/11
31-3	11/04/14
31-4	07/16/15
31-5	07/16/15
31-6	07/16/15
31-7	06/23/11
31-8	11/04/14
31-9	07/16/15
31-10	06/23/11

ATA 32 Landing Gear	
32-1	04/11/10
32-2	04/11/10
32-3	04/11/10
32-4	11/04/14
32-5	04/11/10
32-6	04/11/10
32-7	07/16/15
32-8	04/11/10
32-9	11/04/14

PAGE	DATE
32-10	07/16/15
32-11	04/11/10
32-12	04/11/10
32-13	04/11/10
32-14	04/11/10
32-15	07/16/15
32-16	12/03/12
32-17	07/16/15
32-18	07/16/15
32-19	07/26/16
32-20	07/26/16
32-21	07/16/15
32-22	04/11/10
32-23	04/11/10
32-24	04/11/10
32-25	11/04/14
32-26	04/11/10
32-27	11/04/14
32-28	04/11/10
32-29	04/11/10
32-30	07/16/15
32-31	04/11/10
32-32	07/16/15
32-33	07/16/15
32-34	04/11/10
32-35	11/04/14
32-36	11/04/14
32-37	04/11/10
32-38	07/16/15
32-39	11/04/14
32-40	07/16/15
32-41	11/04/14
32-42	11/04/14
32-43	04/11/10
32-44	04/11/10
32-45	04/11/10
32-46	04/11/10
32-47	07/16/15
32-48	04/11/10
32-49	04/11/10
32-50	07/16/15
32-51	04/11/10
32-52	11/04/14

Revision 11 complies with FAA B757 MMEL REV 31A

FAA-APPROVED
BY: FAA DELTA CMO-27
EFFECTIVE DATE: 07/26/2016
John R. Brooke
Principal Operations Inspector

PAGE	DATE
ATA 33 Lights	
33-1	10/13/11
33-2	10/13/11
33-3	10/13/11
33-4	10/13/11
33-5	11/04/14
33-6	11/04/14
33-7	07/16/15
33-8	07/26/16
33-9	07/16/15
33-10	11/04/14
33-11	11/04/14
33-12	11/04/14
33-13	11/04/14
33-14	11/04/14
33-15	11/04/14
33-16	11/04/14
33-17	11/04/14
33-18	11/04/14
33-19	11/04/14
33-20	11/04/14
33-21	11/04/14
33-22	11/04/14
33-23	11/04/14
33-24	11/04/14
33-25	11/04/14
33-26	10/13/11

PAGE	DATE
ATA 34 Navigation	
34-1	07/16/15
34-2	07/16/15
34-3	10/13/11
34-4	10/13/11
34-5	10/13/11
34-6	10/13/11
34-7	11/04/14
34-8	11/04/14
34-9	11/04/14
34-10	07/16/15
34-11	11/04/14
34-12	11/04/14
34-13	11/04/14
34-14	07/16/15
34-15	07/16/15
34-16	07/16/15
34-17	07/26/16
34-18	07/26/16
34-19	07/26/16
34-20	07/26/16
34-21	07/26/16
34-22	07/16/15
34-23	07/16/15
34-24	07/16/15
34-25	07/16/15
34-26	07/16/15
34-27	07/16/15
34-28	07/26/16
34-29	07/16/15
34-30	07/16/15
34-31	07/16/15
34-32	07/16/15
34-33	01/15/16
34-34	07/16/15
34-35	07/26/16
34-36	07/16/15
34-37	07/16/15
34-38	07/26/16
34-39	07/16/15
34-40	07/16/15
34-41	07/16/15
34-42	07/16/15
34-43	07/16/15
34-44	07/16/15
34-45	07/16/15
34-46	07/26/16
34-47	07/16/15
34-48	07/16/15
34-49	07/16/15
34-50	07/16/15
34-51	07/16/15
34-52	07/16/15
34-53	07/16/15
34-54	07/16/15

PAGE	DATE
ATA 35 Oxygen	
35-1	10/13/11
35-2	10/13/11
35-3	11/04/14
35-4	10/13/11
35-5	11/04/14
35-6	07/16/15
35-7	07/16/15
35-8	07/16/15
35-9	07/26/16
35-10	07/26/16
35-11	07/26/16
35-12	11/04/14

PAGE	DATE
ATA 36 Pneumatic	
36-1	12/03/12
36-2	10/13/11
36-3	07/16/15
36-4	12/03/12
36-5	10/13/11
36-6	07/16/15
36-7	10/13/11
36-8	07/16/15
36-9	11/04/14
36-10	11/04/14
36-11	11/04/14
36-12	07/16/15
36-13	11/04/14
36-14	11/04/14
36-15	07/16/15
36-16	07/16/15
36-17	10/13/11
36-18	07/16/15
36-19	11/04/14
36-20	10/13/11

PAGE	DATE
ATA 38 Water/Waste	
38-1	12/03/12
38-2	07/16/15
38-3	06/23/11
38-4	07/26/16
38-5	07/26/16
38-6	06/23/11

PAGE	DATE
ATA 46 Information Systems	
46-1	12/03/12
46-2	12/03/12

PAGE	DATE
ATA 47 Inert Gas System	
47-1	12/03/12
47-2	07/16/15
47-3	12/03/12
47-4	07/16/15

PAGE	DATE
ATA 49 Auxiliary Power Unit (APU)	
49-1	06/23/11
49-2	06/23/11
49-3	07/26/16
49-4	03/25/14
49-5	11/04/14
49-6	12/03/12
49-7	12/03/12
49-8	12/03/12
49-9	07/16/15
49-10	06/23/11
49-11	06/23/11
49-12	11/04/14
49-13	11/04/14
49-14	11/04/14
49-15	11/04/14
49-16	11/04/14
49-17	11/04/14
49-18	11/04/14
49-19	11/04/14
49-20	06/23/11

Revision 11 complies with FAA B757 MMEL REV 31A

FAA-APPROVED
BY: FAA DELTA CMO-27
EFFECTIVE DATE: 07/26/2016
John R. Brooke
Principal Operations Inspector

PAGE	DATE
ATA 52 Doors	
52-1	07/16/15
52-2	10/13/11
52-3	07/26/16
52-4	07/16/15
52-5	07/16/15
52-6	07/16/15
52-7	07/26/16
52-8	07/16/15
52-9	07/16/15
52-10	07/16/15
52-11	07/16/15
52-12	07/16/15
52-13	07/16/15
52-14	07/16/15
52-15	07/16/15
52-16	07/16/15
52-17	07/16/15
52-18	07/16/15
52-19	07/16/15
52-20	07/16/15

ATA 53 Fuselage	
53-1	04/11/10
53-2	07/26/16

ATA 56 Windows	
56-1	04/11/10
56-2	04/11/10

ATA 73 Engine Fuel & Control	
73-1	07/16/15
73-2	06/23/11
73-3	07/16/15
73-4	07/16/15
73-5	06/23/11
73-6	07/16/15
73-7	11/04/14
73-8	11/04/14
73-9	11/04/14
73-10	11/04/14
73-11	11/04/14
73-12	07/16/15
73-13	11/04/14
73-14	11/04/14
73-15	11/04/14
73-16	07/16/15
73-17	11/04/14
73-18	11/04/14

ATA 74 Engine Ignition	
74-1	04/11/10
74-2	01/15/16

ATA 75 Engine Bleed Air	
75-1	04/11/10
75-2	11/04/14
75-3	04/11/10
75-4	11/04/14
75-5	01/15/16
75-6	04/11/10
75-7	04/11/10
75-8	04/11/10

ATA 77 Engine Indicating	
77-1	12/03/12
77-2	04/11/10
77-3	11/04/14
77-4	11/04/14
77-5	04/11/10
77-6	11/04/14
77-7	11/04/14
77-8	04/11/10

ATA 78 Engine Exhaust	
78-1	07/26/16
78-2	06/23/11
78-3	07/16/15
78-4	06/23/11
78-5	06/23/11
78-6	06/23/11
78-7	06/23/11
78-8	06/23/11
78-9	07/16/15
78-10	06/23/11
78-11	07/26/16
78-12	07/26/16
78-13	11/04/14
78-14	06/23/11

ATA 79 Engine Oil	
79-1	10/13/11
79-2	10/13/11
79-3	11/04/14
79-4	11/04/14
79-5	11/04/14
79-6	11/04/14
79-7	11/04/14
79-8	10/13/11

ATA 80 Engine Starting	
80-1	04/11/10
80-2	04/11/10
80-3	11/04/14
80-4	07/16/15
80-5	04/11/10
80-6	11/04/14

PAGE	DATE
List of Effective Pages	
LP-1	07/26/16
LP-2	07/26/16
LP-3	07/26/16
LP-4	07/26/16
LP-5	07/26/16
LP-6	07/26/16

Revision 11 complies with FAA B757 MMEL REV 31A	FAA-APPROVED BY: FAA DELTA CMO-27 EFFECTIVE DATE: 07/26/2016 John R. Brooke Principal Operations Inspector

Intentionally Left Blank