BOEING 737

M I N I M U M E Q U I P M E N T L I S T

Based on FAA MMEL Revision 55

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CDL	3-00-1

System/Sequence Number	Highlights of Change

EFFECTIVE ABOVE DATE, the Boeing 737 Master Minimum Equipment List has been revised. Please replace affected sections for a complete up-to-date MMEL. SEE NOTE BELOW FOR IMPORTANT INFORMATION ABOUT THIS REVISION. Retain this sheet with your MMEL until the next revision is issued.

NOTE 1: Pages ARE NOT itemized in a CONTROL PAGE for individual revisions. Rather, the ATA section will contain the applicable number of pages and revision number. Any changes to any item within an ATA section will result in the entire section receiving a revision number. To find any revised item within the section see the list below.

NOTE 2: Revision 55 contains numerous corrections to format and syntax. These are not marked with change bars or covered in the Highlights of Change section. Any amendment or addition that changes relief to a system or component is marked with a change bar and is briefed in this section.

System/Sequence Number	Remarks
21 AIR CONDITIONING	
1. Air Conditioning Packs	
2) Combi and All Cargo Configurations (737C, QC, and STC's ST01566LA, and ST01961SE)	Delete STC ST01827LA and ST00283AT.
5) All Cargo Configuration (STC ST01827LA and ST00283AT)	Added provision to reflect correct operation of the left pack with this modification allowing operation with the right or left pack inoperative due to the position of the shutoff valve location downstream of the mix manifold allowing either pack to supply air to the flight deck.
4. Pack Turbofan (-100/-200/-300/-400/ -500)	
2) Combi and All Cargo Configurations (737C, QC, STC's SA2969SO, ST01566LA, and ST01961SE)	Delete STC ST01827LA and ST00283AT.
3) All Cargo Configuration (STCs ST01827LA and ST00283AT)	Added provision to reflect correct operation of the left pack and its associated pack turbofan with this modification allowing operation with the right or left pack inoperative due to the position of the shutoff valve location downstream of the mix manifold allowing either pack to supply air to the flight deck.

System/Sequence Number		Remarks
21.	**AIR CONDITIONING (Cont'd)**	
	6. Pack Turbofan Valves (-100/-200/-300/-400/ -500)	
	2) Combi and All Cargo Configurations (737C, QC, STCs SA2969SO, ST01566LA, and ST01961SE)	Delete STC ST01827LA and ST00283AT.
	3) All Cargo Configuration (STCs ST01827LA and ST00283AT)	Added provision to reflect correct operation of the left pack and its associated pack turbofan valve with this modification allowing operation with the right or left pack inoperative due to the position of the shutoff valve location downstream of the mix manifold allowing either pack to supply air to the flight deck.
	51. Pack Supply air Cleaner System (-600/ -700).	New optional item added. The pack supply air cleaner removes unwanted materials from the pneumatic air supplied to the air conditioning packs which will then help prevent damage to the air cycle machine
	52. Integrated Display Unit (IDU) Cooling System Normal and Alternate Fans (-300)(Boeing Service Bulletin 737-31-1435)	New optional item added for Boeing Service Bulletin 737-31-1435 Large Area Display system on 737-300 airplanes.
	53. Integrated Display Unit (IDU) Cooling System IDU COOLING OFF Light (-300) (Boeing Service Bulletin 737-31-1435)	New optional item added for Boeing Service Bulletin 737-31-1435 Large Area display system on 737-300 airplanes.
23.	**COMMUNICATION**	
	9. ACARS System	Added note to reflect any portion that is operable may be used in two (2) places to remain consistent with other sub-items in this sequence.
	10. Cockpit Voice Recorder System (CVR)	
	2) Aircraft with Recorder Independent Power Supply (RIPS)(-600/ -700/-800/-900)	Added "-600/-700/-800/-900" to MMEL sub-item title.

System/Sequence Number		Remarks
25.	**EQUIPMENT AND FURNISHINGS**	
		Repaginated entire chapter to correct errors from Rev 54a.
	5. Cargo Compartment Restraint Components	Changed relief period from “C” to “A” per Policy Letter 100. Wording for acceptable sample documents.
	24. Overhead Storage Bin(s)/Cabin and Galley Storage	Changed two (2) Notes to be consistent with Policy Letter 104. Expanded provision for retractable doors.
26.	**FIRE PROTECTION**	
	14. Main Deck Cargo Compartment Fire Detection/ Suppression Systems (737C/QC/-700C/ -700 Combi, STCs ST01566LA, -400C ST00235BO, -400 Combi ST00248BO, SA2970SO, ST01827LA, ST00283AT, and ST01961SE)	Replaced “2” that was dropped in Rev 54a.
27.	**FLIGHT CONTROLS**	
	4. Leading Edge Flap/ Slat Position Light Systems	Separated Forward and Aft Overhead panels for clarification.
	1) Leading Edge Slat Indications (-100/-200)	Added “M”.
28.	**Fuel**	
	2. Fuel Boost Pumps (Center Tank)	
	1) Universal Fault Interrupter (UFI) (STC ST01844LA, -300, ST02076LA, -600/-700/-800/-900)	Added relief for STC ST02076LA
31.	**INDICATING / RECORDING SYSTEMS**	
	2. Flight Data Recorder System (FDR)	
	1) FDR Recording Parameters required by 14 CFR	Updated to be consistent with Policy Letter 87 rev 10.

System/Sequence Number	Remarks
32. LANDING GEAR	
22. Two-position Tail Skid	
1) (-800 with Short Field Performance (SPF Option)	Removed "***" as title of item designates what model has this option. This makes the SPF references consistent.
33. LIGHTS	
3. Passenger Lighted Information Signs and Notice System	Updated item to comply with FAA Policy Letter 123 revision 1. Revised item title and placed relief for lighted signs in a separate sub-item to clarify that this item is not only for lighted signs but other functions of the passenger notice system (i.e. aural alert and flight deck automatic function).
6. Anti-Collision Beacons (Without Blended Winglet, -800/-900/-900ER Blended Winglet, and –700 Blended Winglet With Dual Glass Lens) (Except STC's ST01821LA and ST01873LA)	
d) (-700 with single Plastic Lens and STC ST02015LA and 3rd anti-collision beacon)	Added relief for the -700 with STC ST02015LA and 3rd anti-collision beacon.
8. Landing Lights	
1) Retractable Light Extend/Retract Motors	Added "O" procedure to account for drag penalty when light extend motor is inoperative and light is in the extended position.
11. Wing Tip Position Lights	Removed relief due to strobe light not visible through all quadrants.
15. Interior Emergency Exit Lighting System	
4) Flight Deck Exit Light	Added three asterisks symbol (***) as item is optional for the -100/-200 models and was previously listed as "if installed" prior to rev 24.

System/Sequence Number		Remarks
34.	**NAVIGATION**	
		Repaginated entire chapter and reinserted provisos from sequence item 26 to 42 inadvertently deleted from Rev. 54a
	40. Traffic Collision and Avoidance System (TCAS) (Includes STC ST03355AT and ST03362AT)	Removed “O” as the system is inoperative and the provisos cover the required procedures and there are no other crew actions necessary.
	54. Integrated Standby Systems	Changed title to more generic to account for different instruments.
	1) Integrated Standby Flight Display (ISFD)	Item title change to be specific for the ISFD.
	2) Integrated Standby Instrument System (ISIS) (Boeing SB 737-31-1435)	Added new relief for the Integrated Standby Instrument System (ISIS).
	57. Enhanced Vision System (EVS)	Added new relief for Enhanced Vision System (EVS) STC ST00039MC.
47.	**Inert Gas System**	
	1. Nitrogen Generation System (NGS) (All Models)	
	2) All Models (upon incorporation of Boeing Service Bulletin 737-47-1002, 737-47-1003, 737-47-1004, 737-47-1005, 737-47-1006 737-47-1007, 737-47-1008, or production equivalent)	Added coverage for Boeing Service Bulletins 747-47-1007 and -1008 which provide NGS installation instructions for the 737-300/-400/-500.
78.	**ENGINE EXHAUST**	
	4. Thrust Reverser Armed Lights	Added -100 /-200 references that were inadvertently dropped after Rev.47.
80.	**STARTING**	
	2. Engine Starter Auto Cutout	
	3)(-600/-700/-800/-900)	Added reference for airplanes with the engine start switch AUTO position (optional automatic ignition installed). Automatic ignition is available as an option on 737-600/-700/-800/-900. With automatic ignition installed, the engine start switch will have an AUTO position, rather than an OFF position.

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79 - Engine Oil	79-1	52	04/29/2008
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List of Revisions

REV NO.	DATE	Reason of revision	INITIALS
0	May-11	First issue MMEL rev 55 22-04-11 DDG rev 50 06-05-11	UTair

List of Temporary Revisions

TR REVISION No.	ISSUE DATE	ISSUED BY	INSERT DATE	INSERTED BY

РАЗДЕЛ 1
ВВЕДЕНИЕ

1. ВВОДНАЯ ЧАСТЬ

Настоящий Минимальный перечень оборудования (здесь и далее «Перечень MEL») основан на следующей базовой технической документации:

1. Типовой минимальный перечень оборудования (здесь и далее «Перечень MMEL») Федерального авиационного управления (FAA), Издание 55 от 22 апреля 2011 года.
2. Руководство по вылету с допустимыми отклонениями Dispatch Deviations Guide (D6-32545), Издание 50 от 06 мая 2011 года.
3. Летное руководство воздушного судна (здесь и далее «Летное руководство AFM») D6-8735.524, D6-8735.5242, D6-8734.45S, D6-8734.46M, D631A001.8GU.

Оборудование, которое не требуется для выполняемого полета, и прочее оборудование включено в Перечень MEL с соответствующими условиями и ограничениями. Перечень MEL не должен отличаться от ограничений, содержащихся в Летном руководстве AFM, Порядка действия в аварийных ситуациях или Директив летной годности. Важно помнить, что все оборудование, имеющее отношение к летной годности и эксплуатационным нормам, которое не упоминается в Перечне MEL, должно находиться в исправном состоянии.

Соответствующие условия и ограничения в виде таблички с надписью, процедур технического обслуживания, порядка действий экипажа и прочих ограничений, в случае необходимости, оговариваются в Перечне MEL для обеспечения поддержания приемлемого уровня безопасности.

Целью Перечня MEL является разрешить выполнение полетов с неисправными единицами оборудования до тех пор, пока не появится возможность выполнить ремонт. Важно

SECTION 1
INTRODUCTION

1. PREAMBLE

This Minimum Equipment List ("the MEL") is based on the following basic technical documentation:

1. FAA Master Minimum Equipment List (MMEL) – Revision 55, dated Apr 22, 2011.
2. Dispatch Deviations Guide (D6-32545) – Revision 50, dated may 06, 2011.
3. Airplane Flight Manual AFM D6-8735.524, D6-8735.5242, D6-8734.45S, D6-8734.46M, D631A001.8GU.

Equipment which is not required for the operation being conducted as well as other equipment is included in the MEL with appropriate conditions and limitations. The MEL must not deviate from the Aircraft Flight Manual limitations, emergency procedures or airworthiness directives. It is important to remember that all equipment which is not listed in the MEL but related to aircraft airworthiness and operating regulations must be operative.

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

The MEL is intended to permit operations with inoperative items of equipment for a certain period of time until repairs can be accomplished. It is

выполнять ремонт при первой возникшей возможности. Для поддержания приемлемого уровня безопасности и надежности, Перечень MEL устанавливает ограничения в отношении длительности периода и условий выполнения полетов с неработающим оборудованием.	important to accomplish repairs at the earliest opportunity. In order to maintain an acceptable level of safety and reliability, the MEL establishes limitations with regard to duration and conditions of operations with inoperative equipment.
Перечень MEL предусматривает возможность допуска воздушного судна к полету с неработающим оборудованием. В случае выявления неисправности какой-либо единицы оборудования, об этом сообщается путем внесения записи в Бортовой журнал /Технический журнал воздушного судна. Затем перед выполнением следующего полета либо выполняется ремонт оборудования, либо ремонт оборудования откладывается в соответствии с положениями Перечня MEL или другого одобренного документа, приемлемого для Руководителя (Administrator). Условия и ограничения Перечня MEL не освобождают эксплуатанта от обязанности определять, находится ли воздушное судно в состоянии, обеспечивающем безопасную эксплуатацию, с учетом неисправного оборудования.	The MEL provides for a possibility to release an 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. Then, prior to further operations, the item is either repaired or deferred in accordance with the MEL or other approved document acceptable to the Administrator. The MEL conditions and limitations do not relieve the operator from his/her responsibility to determine whether the aircraft is in condition which ensures safe operations with inoperative equipment.
При условии соблюдения данных требований выдается Подтверждение летной годности (Airworthiness Release), вносится запись в Технический/ Бортовой журнал воздушного судна (Aircraft Maintenance Record/Logbook) или выдается другой одобренный документ согласно предписаниям Службы гражданской авиации CAA. Такая документация требуется до начала полетов с любой неработающей единицей оборудования.	When these requirements are met, an entry is made in Aircraft Maintenance Record/Logbook and an Airworthiness Release or other approved document is issued as prescribed by CAA. Such document is required prior to operations with any item of equipment being inoperative.
В СЛУЧАЕ ИСПОЛЬЗОВАНИЯ ПЕРЕЧНЯ MEL НЕОБХОДИМО ОБЕСПЕЧИТЬ СООТВЕТСТВИЕ ОГОВОРЕННОМУ ВО ВВОДНОЙ ЧАСТИ НАЗНАЧЕНИЮ ДОКУМЕНТА И ОПРЕДЕЛЕНИЯМ, А ТАКЖЕ ОБЕСПЕЧИТЬ СОБЛЮДЕНИЕ УСЛОВИЙ И ОГРАНИЧЕНИЙ, УСТАНАВЛИВАЕМЫХ ПЕРЕЧНЕМ MEL.	WHEN USING THE MEL, IT IS REQUIRED TO ENSURE COMPLIANCE WITH THE STATED INTENT OF THE PREAMBLE, DEFINITIONS AS WELL AS WITH CONDITIONS AND LIMITATIONS SET FORTH IN THE MEL.
2. ВВЕДЕНИЕ	**2. INTRODUCTION**
На основании одобрения Минимальным	If approved by the Minimum Equipment

перечнем оборудования (Перечнем MEL) выдается разрешение на вылет воздушного судна для выполнения коммерческих и тренировочных полетов с определенными неисправными единицами оборудования и компонентами, при условии, что приемлемый уровень безопасности полета поддерживается за счет надлежащей эксплуатации путем перенесения функций на другой рабочий компонент или путем использования других приборов или компонентов, которые предоставляют необходимую информацию.	List (the MEL), an airplane is permitted to dispatch to perform revenue and training flights with certain items or components being inoperative, provided that an acceptable level of safety is maintained by appropriate operation, transfer of functions to another operating component, or by utilization of other instruments or components which provide the required information.
ПРИМЕЧАНИЕ 1: Положения Перечня MEL могут применяться до момента начала полета воздушного судна. Отказы, возникающие в промежутке до взлета, должны тщательно оцениваться летным экипажем с учетом Перечня MEL и всех прочих существенных факторов, относящихся к планируемому полету.	NOTE 1: The provisions of the MEL are applicable until an airplane commences the flight. Failures occurring prior to dispatch shall be carefully assessed by the flight crew taking into account the MEL provisions and all other relevant factors related to the intended flight.
ПРИМЕЧАНИЕ 2: В случае вылета с отсутствующими второстепенными деталями планера или двигателя необходимо обратиться к Перечню отклонений от конфигурации (Перечень CDL), который является последним разделом Летного руководства воздушного судна (см. AFM CDL). Соответствующие условия и ограничения в виде таблички с надписью, процедур технического обслуживания, порядка действий экипажа и прочих ограничений, в случае необходимости, оговариваются в Перечне MEL для обеспечения поддержания приемлемого уровня безопасности.	NOTE 2: When dispatching with airframe or engine secondary parts missing, refer to the Configuration Deviation List (the CDL) which is the last section of the Airplane Flight Manual (see AFM CDL). Suitable conditions and limitations in form of placards, maintenance and crew operating procedures as well as other restrictions, if necessary, are specified in the MEL to ensure that an acceptable level of safety is maintained.
3. СОДЕРЖАНИЕ	**3. CONTENT**
В Перечень MEL включены только такие единицы оборудования, влияющие на летную годность, которые, при условии соблюдения ограничений и соответствующих процедур, могут находиться в неисправном состоянии перед вылетом.	The MEL contains only those items being relevant for airplane airworthiness which may be inoperative prior to dispatch, provided limitations and appropriate procedures are observed.
Оборудование, которое несомненно является неотъемлемым условием летной годности воздушного судна, например, крылья, рули направления, закрылки, двигатели, стойки шасси	Equipment which is obviously basic to airplane airworthiness such as wings, rudders, flaps, engines, landing gear, etc. is not listed in the MEL and must be

и прочее, не включено в Перечень и должно находиться в исправном состоянии для всех полетов. Важно учитывать, что:	operative for all flights. It is important to note that:
ВСЕ ЕДИНИЦЫ ОБОРУДОВАНИЯ, ВЛИЯЮЩИЕ НА ЛЕТНУЮ ГОДНОСТЬ ВОЗДУШНОГО СУДНА И НЕ ВКЛЮЧЕННЫЕ В ПЕРЕЧЕНЬ, АВТОМАТИЧЕСКИ ДОЛЖНЫ БЫТЬ В ИСПРАВНОМ СОСТОЯНИИ.	ALL ITEMS OF EQUIPMENT WHICH ARE NOT INCLUDED IN THE MEL BUT AFFECT AIRPLANE AIRWORTHINESS ARE AUTOMATICALLY REQUIRED TO BE OPERATIVE.
Оборудование, которое несомненно не требуется для обеспечения безопасной эксплуатации воздушного судна, например, кухонное оборудование, оборудование для обеспечения комфорта пассажиров и прочее, не включается в Перечень.	Equipment which is obviously not required for safe operation of the airplane such as galley equipment, passenger convenience items, etc. is not included in the MEL.
4. УСЛОВИЯ ВЫЛЕТА, РЕКОМЕНДАЦИИ ЭКИПАЖУ ВС И ТЕХНИЧЕСКОМУ СОСТАВУ	**4. DISPATCH PROVISIONS, RECOMMENDATIONS FOR FLIGHT CREW AND MAINTENANCE PERSONNEL**
4.1 Только командир воздушного судна (КВС) уполномочен решать, может ли рассматриваемый полет быть безопасно продолжен при наличии неисправного оборудования, и имеет право требовать, чтобы определенное оборудование, помимо и сверх указанного в Перечне, находилось в исправном состоянии, если по его мнению этого требуют условия, в которых будет продолжен полет; однако КВС не имеет права устанавливать менее строгие требования по сравнению с Перечнем.	4.1 The captain only is authorized to determine whether the flight in question can be continued safely with inoperative equipment and is entitled to require certain equipment beyond and in excess of the MEL provisions to be operative if in his judgment this is required by the conditions under which the flight is to be continued; however, the captain shall never establish requirements less strict than those of the MEL.
4.2 Перед вылетом воздушного судна с несколькими неисправными единицами оборудования по Перечню MEL, необходимо убедиться в том, что среда взаимодействия неисправных единиц оборудования не вызовет снижения уровня безопасности и/или чрезмерного увеличения рабочей нагрузки на экипаж. В частности, именно в таких случаях при наличии многочисленных несоответствий, и особенно несоответствий в смежных системах, необходима тщательная оценка обстоятельств сложившейся ситуации, в том числе климатических условий и условий на маршруте.	4.2 Before dispatching an airplane with multiple MEL items inoperative, it must be ensured that the interface of interrelationship among the inoperative items will not lead to diminution of safety and/or undue increase of the crew workload. In particular, it is in such cases of multiple discrepancies and especially in cases of multiple discrepancies in related systems, that a thorough evaluation of the circumstances of the current situation including climatic and en route conditions is required.
4.3 В том случае, если у летного экипажа или	4.3 Should the flight crew or the

соответствующего технического персонала возникают какие-либо сомнения в отношении применения Перечня MEL, необходимо связаться с Центром Управления Полетами (здесь и далее «FCPC»).	respective maintenance staff have any doubt with regard to application of the MEL, it is necessary to contact Flight Control and Planning Centre (FCPC).
Приняв во внимание все существенные факторы, ЦУП (FCPC), координируя действия с подразделением по контролю технического обслуживания, разрабатывает рекомендацию для летного экипажа.	Taking into account all relevant factors, FCPC will coordinate its actions with Maintenance Control Centre (MCC) and will develop recommendations for the flight crew.
4.4 В случае, если **Перечень MEL**, который должен находиться на борту воздушного судна, **отсутствует, поврежден или не может использоваться по другим причинам**, применяются следующие процедуры, в зависимости от местоположения и состояния воздушного судна:	4.4 If **the MEL** which is required to be onboard the aircraft **is missing, damaged, or otherwise unusable** the following procedures will apply depending on the location and condition of the aircraft.
<u>В аэропорту, где может быть выполнен ремонт</u> (как правило, это аэропорт где есть линейная станция технического обслуживания (ЛСТО)	<u>At an airport where repairs can be performed</u> (which is usually an airport with line maintenance station):
Свяжитесь с ЦУП и запросите доставку Перечня MEL на борт воздушного судна.	Contact FCPC and request the MEL to be delivered on board.
<u>В другом аэропорту</u>:	<u>At another airport</u>:
a) Если воздушное судно допускается к полету **<u>без</u>** каких-либо пунктов Перечня MEL / CDL, влияющих на полет: – Свяжитесь с ЦУП и сообщите об отсутствии Перечня MEL. – Воздушное судно может вылететь и продолжить полет до аэропорта, где есть ЛСТО и/или в котором можно получить Перечень MEL взамен утраченного.	a) If an aircraft is released for flight **<u>without</u>** any MEL / CDL items affecting the flight: – Contact FPCP and inform them about the missing MEL. – The aircraft may depart and continue its flight to an airport with line maintenance station and/or to an airport where a replacement for the missing MEL can be obtained.
b) Если воздушное судно допускается к полету **<u>с</u>** каким-либо пунктом Перечня MEL / CDL, влияющим на полет: – Свяжитесь с ЦУП и сообщите об отсутствии Перечня MEL. – На момент вылета у вас должна быть направленная по факсу или электронной почте копия, либо фотокопия	b) If an aircraft is released for flight **<u>with</u>** a MEL / CDL item affecting the flight: – Contact FPCP and inform them about the missing MEL. – At the moment of departure you must have a faxed or e-mailed copy or photocopy of the appropriate MEL / CDL

соответствующей информации/ процедуры из Перечня MEL/CDL.

information/ procedure.

4.5. В любом аэропорту в случае возникновения неисправности до взлета:

4.5 At any airport if an equipment malfunction occurs prior to takeoff:

- По согласованию с диспетчером прекратите руление, определите возможность продолжения полета по QRH и MEL. В случае возможности выполнения работ по «О» не покидая рабочих мест экипажа, разрешается продолжить выполнение задания на полет.
- При отсутствии возможности выполнения работ по «О» не покидая рабочего места или при наличии процедур по «М» вернитесь на стоянку и внесите соответствующую запись в Бортжурнал. Свяжитесь с ЦУП и Центром контроля технического обслуживания для проведения оценки несоответствия и согласования необходимых действий.

- As agreed with controller stop taxiing, determine the possibility to continue the flight in accordance with QRH and MEL. If there is a possibility to perform an «O» procedures without leaving duty stations of crew, continue to perform the flight.
- If there is no possibility to perform an «O» procedures without leaving duty stations of crew, or if there is a «M» procedures, return to the parking place and make an appropriate entry into the Logbook. Contact FCPC and MCC to evaluate the discrepancy and coordinate required actions.

4.6 Процедура открытия пункта MEL для станций без технического обслуживания

4.6 Procedure for opening a MEL entry at Non-Maintenance Stations

Станции без технического обслуживания – это станции, на которых отсутствует технический персонал компании

A Non-maintenance station is any station without maintenance personnel.

В случае посадки воздушного судна с сообщенным отказом (неисправностью) в аэропорту в котором нет технического персонала компании , действия должны предприниматься в соответствии с п.4.5

If an aircraft with a reported failure (malfunction) lands at an airport without maintenance personnel, it is necessary to act in compliance with clause 4.5.

Если было выявлено, что неисправность является пунктом Перечня MEL/CDL, и работы по техническому обслуживанию не требуются, либо не требуются никакие работы по техническому обслуживанию кроме выключения автоматов защиты сети или изменения положения переключателей, необходимо придерживаться следующей процедуры:

If it is determined that the malfunction is a MEL/CDL item and no maintenance action is required, or no maintenance action other then pulling circuit breakers or repositioning switches is required, it is necessary to adhere to the following procedure:

- Каждая без исключения единица оборудования, ремонт которой отложен

- All the items which were deferred under this procedure with no

на основании настоящей процедуры, должна пройти обслуживание в соответствии с принятыми процедурами технического обслуживания на следующей станции технического бслуживания компании .	exemptions must undergo maintenance at the next maintenance station in compliance with the established maintenance procedures of .
– Обязанности Центра контроля технического обслуживания после получения уведомления о технической проблеме описаны ниже:	– Having received notification on the maintenance problem, FCPC is responsible to:
a) Определить, какая именно проблема (проблемы) возникла, путем расспросов КВС или его/ее назначенного представителя, либо, если есть возможность, получив копию страниц бортжурнала, направленных на рассмотрение в Центр контроля ТО по факсу.	a) Determine what is (are) the exact problem(s) by debriefing the captain or his/her designated representative or, if possible, by receiving a copy of Logbook pages faxed to MCC for consideration.
b) Центр контроля ТО изучит Перечень MEL/CDL, чтобы гарантировать, что не требуется никаких других действий по техническому обслуживанию перед допуском воздушного судна к полету, помимо выключения автоматов защиты сети (circuit breaker) или изменения положения переключателей (в пределах РЛЭ).	b) MCC will study the MEL/CDL to ensure that no maintenance action other than pulling circuit breakers or repositioning switches is required prior to release the aircraft for flight (ensuring compliance with the Flight Manual limitations).
c) Центр контроля ТО выполняет процедуру в соответствии с ДП-Б1.010-02 (Допуск ВС к полету с применением Перечня MEL/CDL)	c) MCC will follow the procedure ДП-Б1.010-02 (Release for flight with application of the MEL/CDL)
5. РАБОТЫ ПО ТЕХНИЧЕСКОМУ ОБСЛУЖИВАНИЮ	**5. MAINTENANCE ACTIONS**
Технический персонал должен делать все возможное для устранения всех технических нарушений как можно скорее и для выпуска воздушного судна с базы технического обслуживания в полностью исправном состоянии.	Maintenance personnel shall make every effort to eliminate all technical irregularities as soon as possible and to release the airplane from maintenance base fully serviceable.
Решение КВС о соблюдении соответствующего требования Перечня MEL и об отсрочке работ по техническому обслуживанию имеет преимущественное значение относительно любых других намерений. Техническая служба должна при первой возможности проинформировать командира воздушного судна о невозможности выполнения ремонта	The captain’s decision to comply with the appropriate MEL requirement and to postpone maintenance activities will supersede any other intentions. Maintenance personnel shall inform the captain as soon as practicable should it be impossible to repair the inoperative item

неисправной единицы оборудования до вылета.	prior to dispatch.
В каждом случае, когда техническая служба разрешает вылет воздушного судна с неисправными единицами оборудования, требуется следующее:	Whenever maintenance personnel releases an airplane for flight with inoperative items, the following shall be ensured:
В Бортжурнале ВС (Aircraft Logbook), находящемся на борту воздушного судна, должно содержаться детальное описание неисправной единицы (единиц) оборудования, особые рекомендации летному экипажу, в случае необходимости, и информация о предпринятых корректирующих действиях.	The Aircraft Logbook carried onboard the airplane must contain a detailed description of inoperative item(s), specific recommendations for the flight crew, if necessary, and information about the corrective actions which have been taken.
Если экипаж имеет доступ к органу(ам) управления или индикатору(ам) неисправной единицы (единиц) оборудования или компонента (ов), они должны быть снабжены понятными табличками.	If the crew has access to any control(s) and/or indicator(s) of the inoperative unit(s) or component(s) in flight such controls and indicators must be clearly placarded.
ПРИМЕЧАНИЕ:	**NOTE:**
по возможности, таблички с надписью необходимо размещать вблизи органа управления или индикатора неисправной единицы оборудования. Если не указано иное, на табличке должна содержаться надпись «INOP» (т.е. неисправно).	**to the extent practical, placards should be located adjacent to the control or indicator of the inoperative item. Unless otherwise is stated, such placards should read: "INOP" (i.e. inoperative).**
Если случайное срабатывание может создать опасную ситуацию, такое оборудование должно быть приведено в нерабочее состояние (физически) согласно соответствующей Процедуре ТО.	If inadvertent operation may lead to a hazardous situation such equipment must be rendered inoperative (physically) in accordance with the appropriate maintenance procedure.
Всегда, когда применение пунктов Перечня MEL требует выполнения особой процедуры ТО, в столбце «Комментарии и/или исключения (Remarks or/and Exceptions)» приводится ссылка на «Процедуру ТО (MAINTENANCE PROCEDURE)».	“Remarks and/or Exceptions” column contains a reference to a Maintenance Procedure whenever a specific maintenance procedure is required due to application of a certain MEL item.
Процедура повторного включения автомата защиты сети:	**Circuit-Breaker Reset Procedure**
Выключенное положение АЗС может объясняться:	A circuit breaker found in the out position may be the result of:
– автоматическим выключением по причине проблемы в электрической	– automatic tripping due to an electrical circuit fault;

сети; – случайным отключением в результате контакта с каким-либо предметом/зацепления за какой-либо предмет; – тем, что АЗС был намеренно отключен во время выполнения рабочих процедур и не был включен повторно по ошибке.	– inadvertent pulling out of the CB due to a contact/catching with the object; – Intentional pulling out during operational procedures and failure to reset.
Автоматически выключившийся (выскочивший) АЗС (circuit breaker) – это автомат защиты сети, который ранее был проверен и находился в нормальном включенном положении, но затем выключился по причине проблемы в электрической сети.	An automatically tripped circuit breaker is a circuit breaker that was previously verified to be in the normal closed position, and then subsequently poped out due to an electrical fault.
1. Принимая во внимание важность любого АЗС, который был обнаружен в выключенном положении, летный экипаж должен обратиться к руководящим указаниям, содержащимся в Летном руководстве AFM для того, чтобы правильно отреагировать на возникшую ситуацию.	1. Taking into account the significance of a circuit breaker being found tripped, the flight crew should refer to guidelines specified in AFM in order to address the situation properly.
2. Технический персонал не должен повторно включать автоматически выключившийся АЗС не выполнив нижеследующую применимую процедуру определения причины выключения АЗС. Рекомендуется выполнить следующие действия: – Проверить записи в бортжурнале ВС, чтобы выяснить не было ли случаев автоматического выключения данного АЗС ранее. – Выполнить процедуры производителя ВС по поиску и устранению неисправностей в соответствующей системе (например, процедуры Руководств AMM, SSM, WDM)	2. Maintenance personnel shall not reset a tripped circuit breaker unless having executed a proper procedure to determine the reason for such tripping. It is recommended to follow the below procedure: – Review aircraft logbook history to determine if the affected circuit breaker has ever tripped earlier. – Follow aircraft manufacturer procedures for troubleshooting of the affected system. (i.e. AMM, SSM, WDM procedures)
6. ПОЛЕТ ПО ПЕРЕГОНУ ВС	**6. FERRY FLIGHT**
Полеты по перегону воздушного судна могут быть разрешены с сокращенным составом оборудования по сравнению с указанным в Перечне MEL, при условии, что все оборудование, которое предполагается	Ferry flights may be dispatched with fewer items of equipment than set forth in the MEL provided all the equipment expected to be utilized in flight is operative. The permission for such flight,

использовать в полете, находится в исправном состоянии. Разрешение на такой полет, тем не менее, должно запрашиваться у МТУ ВТ ФАВТ.	however, must be requested from the Interregional Territorial Department of Air Transport of the Federal Air Transport Agency.
7. ОПРЕДЕЛЕНИЯ	**7. DEFINITIONS**
1. Определения систем.	1. System Definitions.
Номера систем основаны на спецификации Ассоциации воздушного транспорта (ассоциации АТА), и единицы оборудования нумеруются последовательно.	System numbers are based on the specification of the Air Transport Association (ATA) and the items are numbered sequentially.
a) «Единица оборудования/Item» (Столбец 1) означает оборудование, систему, компонент или функцию, которая перечислена в столбце «Item».	a) "Item" (Column 1) means the equipment, system, component, or function listed in the "Item" column.
b) «Установленное количество/ Number Installed» (Столбец 2) – это количество единиц оборудования, которое обычно устанавливается на воздушном судне. Это количество отображает конфигурацию воздушного судна, которая использовалась при разработке Перечня MEL. Если это количество – величина переменная (например, оборудование пассажирского салона), указание номера не требуется.	b) "Number Installed" (Column 2) is the number (quantity) of items normally installed on the aircraft. This number represents the aircraft configuration considered when this MEL was being developed. Should the number be a variable (e.g., passenger cabin items) a number is not required.
c) «Количество, необходимое для вылета/Number Required for Dispatch» (Столбец 3) – это минимальное количество единиц оборудования, которое требуется для выполнения полета при соблюдении условий, приведенных в Столбце 4.	c) "Number Required for Dispatch" (Column 3) is the minimum number (quantity) of items required for operation provided the conditions specified in Column 4 are met.
ПРИМЕЧАНИЕ:	NOTE:
Если в Перечне MMEL вместо количества, необходимого для вылета, указана переменная величина, в Перечне MEL необходимо указать фактическое количество, необходимое для вылета или альтернативные средства контроля конфигурации, одобренные Руководителем (Administrator).	Where the MMEL shows a variable number required for dispatch, the MEL must reflect the actual number required for dispatch or an alternate means of configuration control approved by the Administrator.
d) «Комментарии или исключения/Remarks or Exceptions» (Столбец 4) в данном столбце	d) "Remarks or Exceptions" (Column 4) – this column contains a

приводится положение, которое либо запрещает, либо разрешает полеты с определенным количеством неисправных единиц оборудования, а также оговорки (условия и ограничения) в отношении таких полетов и соответствующие комментарии.

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

e) Вертикальная черта (черта изменений) на полях отображает изменение, дополнение или удаление прилегающего текста, внесенное именно в текущем издании данной страницы. Черта изменений опускается в следующем издании данной страницы.

e) A vertical bar (change bar) in the margin indicates a change, addition or deletion of the adjacent text for the current revision of that page only. The change bar is dropped at the next revision of that page.

2. «Летное руководство самолета/вертолета (AFM/RFM)» - это документ, который необходим для сертификации типа и одобрен соответствующей Службой сертификации воздушных судов Федерального авиационного управления FAA. Летное руководство AFM/RFM, одобренное управлением FAA для конкретного воздушного судна, указывается в соответствующем Списке данных о сертификации типа (Type Certificate Data Sheet).

2. “Airplane/Rotorcraft Flight Manual” (AFM/RFM) is the document required for type certification and approved by the responsible FAA Aircraft Certification Office. The FAA approved AFM/RFM for the specific aircraft is given in the applicable Type Certificate Data Sheet.

3. «В соответствии с требованием постановления /As required by regulation» - указанный пункт должен соответствовать применимому эксплуатационному требованию. Эксплуатанты могут ссылаться на требования службы УВД и/или определенного местного органа (аэропорта).

3. “As required by regulation” - the listed item must comply with the applicable operational regulation. Operators may refer to the ATC regulations and/or certain local (airport) regulations.

4. Каждая неисправная единица оборудования должна быть снабжена надписью для информирования экипажа и технического персонала, а также для напоминания о состоянии оборудования.

4. Each inoperative item must be placarded to inform and remind the crewmembers and maintenance personnel of the condition of such equipment.

ПРИМЕЧАНИЕ:

по возможности, таблички с надписью необходимо размещать вблизи органа управления или индикатора неисправной единицы оборудования, однако, если не указано иное, надпись на табличке и ее расположение определяется эксплуатантом.

NOTE:

To the extent practical, placards should be located adjacent to the control or indicator for the item affected; however, unless otherwise stated, placard wording and location is determined by the Operator.

5. Символ «-» в Столбце 2 и/или Столбце 3 указывает на то, что количество установленных единиц оборудования является переменной величиной.

6. «Удалено/Deleted» в столбце с примечаниями после пункта указывает на то, что ранее единица оборудования была включена в Перечень, однако в настоящий момент должна находиться в исправном состоянии в случае установки на воздушном судне.

7. Термин «ETOPS» относится к эксплуатации в соответствии с требованием «Увеличенная дальность полетов на двухдвигательных самолетах/Extended Range operations of twin engine airplanes».

8. «Летный день/Flight Day» означает двадцатичетырехчасовой период (с полуночи до полуночи) по универсальному скоординированному времени (UCT) или по местному времени, по выбору эксплуатанта, на протяжении которого был начат как минимум один полет на воздушном судне.

9. «Условия обледенения/Icing Conditions» означает атмосферные условия, которые могут привести к образованию льда на воздушном судне (структурное) или на двигателе (двигателях) (индукционное).

10. Алфавитные знаки в Столбце 4 отображают оговорку (условие или ограничение), которая должна быть соблюдена при выполнении полетов с указанным элементом оборудования в неисправном состоянии.

11. «Неисправный/Inoperative» означает нарушение работы системы и /или компонента в такой степени, что они не выполняют свое предназначение и/или не обеспечивают постоянное нормальное функционирование в пределах одобренного рабочего ограничения (ограничений) или допуска (допусков).

5. "-" symbol in Column 2 and/or Column 3 indicates a variable number (quantity) of the items installed.

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

7. "ETOPS" refers to operation in compliance with the "Extended Range Operations of Twin Engine Airplanes" requirements.

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

9. "Icing Conditions" means atmospheric environment that may cause ice to build up on the aircraft (structural) or in the engine(s) (induction).

10. Alphabetical symbol in Column 4 indicates a proviso (condition or limitation) that must be complied with when operating with the listed item inoperative.

11. "Inoperative" means a malfunction of a system and/or a component to the extent that such system or component does not accomplish its intended purpose and/or does not ensure consistent normal functioning within its approved operating limit(s) or tolerance(s).

12. «Примечания/Notes» в Столбце 4 содержат дополнительную информацию для члена экипажа или для технического персонала. Примечания используются для указания применимого материала, который может помочь в соблюдении условий, однако не освобождают эксплуатанта от ответственности за соблюдение всех применимых требований. Комментарии не являются частью оговорок.

12. "Notes" in Column 4 provide additional information for a crewmember or maintenance personnel. Notes are used to identify applicable material which is intended to assist with compliance with the provisions, but do not relieve the operator from the responsibility to ensure compliance with all applicable requirements. Note is not a part of the provisos.

13. Неисправные компоненты неисправной системы /Inoperative components of an inoperative system: Неисправные элементы, являющиеся компонентами неисправной системы, обычно считаются компонентами, которые напрямую связаны с такой системой и не имеют никаких других функций, помимо поддержания системы. (Системы предупреждения/аварийной сигнализации, связанные с неисправной системой, должны находиться в рабочем состоянии, за исключением случаев, когда Перечень MEL предоставляет освобождение от данного требования).

13. Inoperative components of an inoperative system: Inoperative items being the components of an inoperative system are usually considered as 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 granted by the MEL).

14. Символ «(M)» обозначает необходимость выполнения особой процедуры технического обслуживания, которая должна быть выполнена до начала эксплуатации с указанной единицей оборудования в неисправном состоянии. Обычно такие процедуры выполняются техническим персоналом; тем не менее, другой персонал может иметь квалификацию и может быть уполномочен выполнять определенные функции. Процедуры, требующие особых знаний или умений или применения инструментов или контрольно-проверочной аппаратуры, должны выполняться техническим персоналом. Удовлетворительное выполнение всех технических процедур, независимо от того, кто их выполняет, является ответственностью эксплуатанта. Соответствующие процедуры должны быть опубликованы как часть руководства

14. "(M)" symbol indicates a requirement for a specific maintenance procedure which must be accomplished prior to operation with the listed item inoperative. Normally these procedures are accomplished by maintenance personnel; however, other personnel may be qualified and authorized to perform certain functions. Procedures requiring special knowledge, skills or the use of tooling and test equipment should be accomplished by maintenance personnel. Satisfactory accomplishment of all maintenance procedures, regardless of the person performing these procedures, is the responsibility of the operator. Appropriate procedures are required to be published in the operator's manual or the MEL. After the performance of "M" actions, personnel shall make a

эксплуатанта или Перечня MEL. После выполнения действий по «M» персоналом вносится запись о выполнении в карту наряд на ТО или в бортовой журнал.

corresponding entry in maintenance card or logbook.

15. Символ «(O)» обозначает необходимость выполнения особой эксплуатационной процедуры, которая должна быть выполнена при планировании и/или выполнении полетов с указанной единицей оборудования в неисправном состоянии. Обычно такие процедуры выполняются летным экипажем; тем не менее, другой персонал может иметь квалификацию и может быть уполномочен выполнять определенные функции. Удовлетворительное выполнение всех процедур, независимо от того, кто их выполняет, является ответственностью эксплуатанта. Соответствующие процедуры должны быть опубликованы как часть руководства эксплуатанта или Перечня MEL.

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

ПРИМЕЧАНИЕ:

Символы (M) и (O) должны содержаться в Перечне MEL эксплуатанта, если Властями эксплуатанта не разрешено иное.

NOTE:

The (M) and (O) symbols are required to be introduced in the operator's MEL unless otherwise authorized by the operator's Authorities.

16. «Отключен/Deactivated» и «Закреплен/Secured» означает, что указанный компонент должен быть приведен в приемлемое для безопасного полета состояние. Приемлемый метод закрепления или отключения устанавливается эксплуатантом.

16. "Deactivated" and "Secured" means that the specified component shall be put into an acceptable condition to ensure a safe flight. An acceptable method of securing or deactivating is established by the operator.

17. «Визуальные метеорологические условия/Visual Meteorological Conditions" (VMC) означает атмосферные условия, которые позволяют продолжить выполнение полета в соответствии с правилами визуальных полетов, применимых к данному полету. Эти условия не препятствуют выполнению полета в соответствии с правилами полетов по приборам.

17. "Visual Meteorological Conditions" (VMC) mean atmospheric environment which allow to continue flight in accordance with the visual flight rules applicable to the flight being conducted. These conditions do not preclude operating under Instrument Flight Rules.

18. «Видимая влажность/Visible Moisture»

18. "Visible Moisture" means

означает содержание в атмосферной среде воды в любой ее форме, различимой при естественном или искусственном освещении; например, облаков, тумана, дождя, дождя со снегом, града или снега.	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.
19. «Оборудование для обеспечения комфорта пассажира/Passenger Convenience Items» означает оборудование, связанное с удобством, комфортом или развлечением пассажира, включая, помимо прочего, кухонное оборудование, видеооборудование, пепельницы, стерео оборудование, потолочные лампы для чтения и прочее.	19. "Passenger Convenience Item" means equipment related to passenger convenience, comfort or entertainment including, but not limited to, galley equipment, movie equipment, ash trays, stereo equipment, overhead reading lamps, etc.
20. «Период ремонта/Repair Intervals»: все пользователи одобренного Перечня MEL должны выполнять работы по ремонту неисправных систем или компонентов, отложенные в соответствии с Перечнем MEL, в сроки ремонта, оговариваемые нижеперечисленными буквенными обозначениями, или ранее:	20. "Repair Intervals": All users of the approved MEL must effect repairs of inoperative systems or components deferred in accordance with the MEL within or prior to expiration of the repair intervals established by the following letter designators:
Категория А.	Category A.
Любое оборудование, относящееся к данной категории, должно быть отремонтировано в соответствии с установленными процедурами технического обслуживания компании на следующей станции технического обслуживания компании , где выполнит посадку воздушное судно (естественно ВС с данной категорией не должно вылетать из аэропорта, где есть станция по ТО Авиакомпании). После посадки воздушного судна с сообщенным несоответствием на станции технического обслуживания, не принадлежащей компании , должны применяться установленные процедуры для станций без технического обслуживания, в таком случае применяется информация в столбце «Комментарии или исключения/Remarks or Exceptions».	Any item included into this category shall be repaired per established maintenance procedures at the next maintenance station where the aircraft will land (It is quite clear that the aircraft with an item included into Category A shall not depart from the airport with maintenance station). If an aircraft with a reported discrepancy lands at a maintenance station, established procedures for Non-Maintenance Stations must be adhered to; in such case information set forth in column "Remarks or Exceptions" is applicable.
Категория В.	Category B.
Оборудование, относящееся к данной категории, должно быть отремонтировано в течение трех (3) следующих друг за другом календарных дней (72	Any item included into this category shall be repaired within three (3) consecutive calendar days (72 hours) excluding the

часов), исключая день внесения записи о неисправности в технический/бортовой журнал воздушного судна. Например, если запись о неисправности была сделана в 10 утра 26 января, трехдневный период начнется в полночь 26-го и закончится в полночь 29-го.

day when the malfunction was recorded in the Aircraft Maintenance Record/Logbook. For example, if an entry concerning the malfunction was made on January 26th at 10 a.m., the three-day interval will begin on January 26th at midnight and will end on January 29th at midnight.

Категория C.

Оборудование, относящееся к данной категории, должно быть отремонтировано в течение десяти (10) следующих друг за другом календарных дней (240 часов), исключая день внесения записи о неисправности в технический/бортовой журнал воздушного судна. Например, если запись о неисправности была сделана в 10 утра 26 января, десятидневный период начинается в полночь 26-го января и заканчивается в полночь, 5-го февраля.

Category C.

Any item included into this category shall be repaired within ten (10) consecutive calendar days (240 hours) excluding the day when the malfunction was recorded in the Aircraft Maintenance Record/Logbook. For example, if an entry concerning the malfunction was made on January 26th at 10 a.m., the ten-day interval will begin on January 26th at midnight and will end on February 5th at midnight.

Категория D.

Оборудование, относящееся к данной категории, должно быть отремонтировано в течение ста двадцати (120) следующих друг за другом календарных дней (2880 часов), исключая день внесения записи о неисправности в технический/бортовой журнал воздушного судна.

Category D.

Any item included into this category shall be repaired within one hundred and twenty (120) consecutive calendar days (2880 hours) excluding the day when the malfunction was recorded in the Aircraft Maintenance Record/Logbook.

Буквенные обозначения указываются рядом со Столбцом 2.

Letter indications of each category are specified next to Column 2.

21. «Грузовая конфигурация/Cargo configuration» относится к грузовым перевозкам, во время которых воздушное судно эксплуатируется с оборудованием для перевозки грузов (Boeing cargo installation).

21. “Cargo configuration” refers to cargo transportations for which an aircraft is operated with an installation for cargo transportations (Boeing cargo installation).

22. «День открытия/Day of Discovery» - календарный день, когда неисправность оборудования /прибора была записана в техническом или бортовом журнале воздушного судна. Этот день не включается в указанное количество календарных или летных дней, оговоренных Перечнем MEL для выполнения ремонта неисправной

22. “Day of Discovery” is the calendar day when an equipment/instrument malfunction was recorded in the Aircraft Maintenance Record/Logbook. This day is excluded from the number of calendar or flight days provided by the MEL for the repair of the inoperative item. This provision is applicable to all MEL

единицы оборудования. Данное положение применяется в отношении всех элементов Перечня MEL, т.е. в отношении категорий A, B, C и D.

items, i.e. categories “A, B, C, and D.”

23. «Считается неисправным/Considered Inoperative» при использовании в оговорках, означает, что данная единица оборудования в целях вылета, руления или выполнения полета должна восприниматься как находящаяся в неисправном состоянии. Данная единица оборудования не должна использоваться или эксплуатироваться до тех пор, пока исходная единица оборудования с отложенными работами по ремонту не будет отремонтирована. Дополнительные действия включают в себя: указание оборудования в разрешении на вылет (если применимо), размещение таблички с надписью и обеспечение соответствия всем примечаниям, исключениям и сопутствующим положениям Перечня MEL, включая любые процедуры (M) и (O) и соблюдение категории ремонта.

23. “Considered Inoperative” as used in the provisos means that this item of equipment must be treated for dispatch, taxiing and flight purposes as inoperative. The item shall not be used or operated until the original deferred item is repaired. Additional actions include: documenting the item in the dispatch release (if applicable), attaching placards and ensuring compliance with all remarks, exceptions and related MEL provisions including any (M) and (O) procedures, as well as observing the repair category.

24. «Не используется/ Is not used» при использовании в оговорках, комментариях или исключениях в отношении элемента Перечня MEL может указывать на то, что другая единица оборудования, которая не включена в Перечень MEL, «не используется.» В таких случаях, члены экипажа не должны включать, приводить в действие или иным образом использовать такой компонент или систему в стандартных условиях эксплуатации. Эксплуатанты не обязаны выполнять процедуры, отмеченные символом (M), связанные с такой единицей оборудования.

Тем не менее, эксплуатационные требования должны соблюдаться, и по возможности на органе управления или на индикаторе неиспользуемого элемента должна быть закреплена дополнительная табличка с надписью, для того, чтобы проинформировать членов экипажа о том, что компонент или система не должны использоваться в стандартных условиях

24. “Is not used” in the provisos, remarks or exceptions for a MEL item may indicate that another item relieved by the MEL “is not used.” In such cases, crewmembers should not activate, actuate or otherwise use that component or system under normal operations. It is not necessary for the operators to accomplish the (M) procedures associated with the item.

However, operational requirements must be complied with, and an additional placard must be attached, if possible, adjacent to the control or indicator of the item that is not used in order to inform crewmembers that a component or system is not to be used under normal operations.

эксплуатации..	
25. «Автоматический заход на посадку по Категории 2/CAT 2 Automatic approach»: необходимое оборудование перечислено в Летном руководстве AFM.	25. "CAT 2 Automatic approach": the equipment required is listed in the AFM.
Процедура выпуска Временной ревизии MEL	**Temporary Revisions Procedure**
1. Основная цель эксплуатанта при использовании временных редакций – объединить все изменения (связанные с MEL), которые возникают в процессе эксплуатации и внедрить их в следующей по очереди редакции всего Перечня MEL.	1. Major aim of the operator when using Temporary Revisions is to collect all necessary minor/major changes and implement them in the next foregoing revision of the MEL.
2. Если требуется временная редакция MEL, подразделение, которое несет ответственность за любые изменения, выпускает соответствующие страницы Перечня MEL с необходимыми изменениями.	2. When Temporary MEL Revision is required, the Department responsible for document revisions publishes corresponding MEL pages with necessary changes introduced.
3. Страница временной редакции должна быть напечатана на бумаге желтого цвета и должна быть направлена всем, у кого находится печатная копия Перечня MEL. Временные редакции в цифровом формате должны быть помечены надписью «ВРЕМЕННАЯ РЕДАКЦИЯ/ TEMPORARY» и, по необходимости, должны распечатываться на страницах желтого цвета и того же размера, как и страницы бортового руководства.	3. Pages of a Temporary Revision shall be printed on paper colored yellow and shall be distributed to all persons holding a hard copy of the MEL. Temporary Revisions in digital format shall be marked as "TEMPORARY" and, if necessary, shall be printed on yellow pages which are the size of the onboard manual.
4. Желтые страницы печатных копий временной редакции должны быть направлены всем, у кого находятся копии Перечня MEL, включая ФАВТ.	4. Yellow pages of the hard copies of Temporary Revision shall be distributed to all MEL holders including Federal Agency of Air Transport.
5. Для временных редакций не требуется отдельного одобрения со стороны ФАВТ, если такая редакция не противоречит положениям Перечня MMEL или нормативным документам по летной годности и обеспечивает соблюдение специальных правил.	5. No special approval of Federal Agency of Air Transport is required for Temporary Revision if it does not contradict with the MMEL or other airworthiness regulatory documents and ensures compliance with special rules.
Лицо, ответственное за выпуск временной редакции, одобряет его внутри компании	The person being responsible for the Temporary Revision ensures its internal

эксплуатанта у Руководителей по летной или технической деятельности.	approval by the Management of flight or technical operations.
6. Каждое лицо, у которого находится копия Перечня MEL, уведомляется Эксплуатантом о выпуске новой временной редакции. Сама временная редакция прилагается к Уведомлению и печатается на бумаге желтого цвета в соответствии с вышесказанным.	6. The Operator shall notify each MEL holder about any new Temporary Revision being issued. Temporary Revision itself is attached to the Notification Letter and is printed on yellow paper as per the above provisions.
7. Каждое лицо, у которого находится копия Перечня MEL, несет ответственность за включение всех необходимых временных ревизий непосредственно в документ MEL.	7. Each MEL holder is responsible for introduction of all necessary Temporary Revisions directly into the MEL document.
8. Каждое лицо, у которого находится копия Перечня MEL, должно знать, что желтые страницы временной редакции имеют приоритетный статус и их требования должны соблюдаться в первую очередь.	8. Each MEL holder must know that yellow pages of the Temporary Revisions have the priority status and shall be complied with in the first place.
9. В случае выпуска новой редакции Перечня MEL и включения всех временных ревизий в новую редакцию, все соответствующие желтые страницы должны быть удалены из наиболее позднего издания Перечня MEL.	9. When a new revision of the MEL is issued with Temporary Revisions introduced into it, all the corresponding yellow pages shall be removed from the latest revision of the MEL.

737 LOWER LANDING MINIMUM DISPATCH REQUIREMENTS
OPERATIONAL REQUIREMENTS

A. UTAIR Boeing 737 CL/NG aircrafts are certified to make Single-Channel Category II Autopilot and Dual Channel Category III Autoland approaches.
A status placard should be installed on the Captain's instrument panel (just above Navigation Display) in order to indicate if the aircraft has or has not met all dispatch requirements for making the CAT II/ CAT IIIa approach. The following nomenclatures will be used to indicate the CAT status of the aircraft:
(1) If all components which make up the various systems that are noted as being required for CAT IIIa by the 737 Minimum Equipment List are functioning normally, the status placard will be installed to indicate CAT IIIa.
(2) If any of the components required for CAT IIIa status but not required for CAT II are placarded inoperative, the status placard will be changed to indicate CAT II.
(3) If any of the above mentioned components required for CAT II status are not functioning normally and have been placarded inoperative as allowed by 737 Minimum Equipment List, the status placard will be changed to indicate NOT CAT II / IIIa.
B. The appearance of CAT notations next to items in the Minimum Equipment List denotes the need for Maintenance personnel to refer to the 737 Lower Landing Minimum Dispatch Requirements Table for specific guidance on disposition of the item in question and the correct setting for the status placard.
C. If MEL deferred item affecting Aircraft CAT II/IIIa status has been raised, related entry in Technical/Ground Log (and DIOL accordingly) should contain information about current CAT status of Aircraft (for example: “F/O WINDSHIELD WIPER IS INOP, A/C DISPATCH I.A.W. MEL 30-13. A/C NOT

CAT II / IIIA").

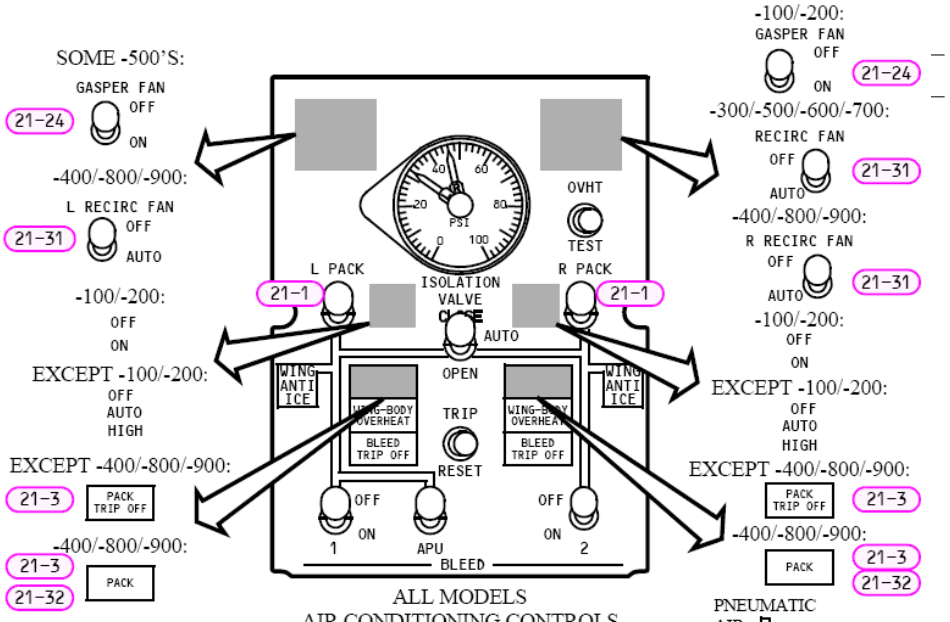
CATEGORY II DOWNGRADE REQUIREMENTS

A. The following table which is titled "737 LOWER LANDING MINIMUM DISPATCH REQUIREMENTS TABLE" identifies each system that is required for CAT II, IIIa operations.

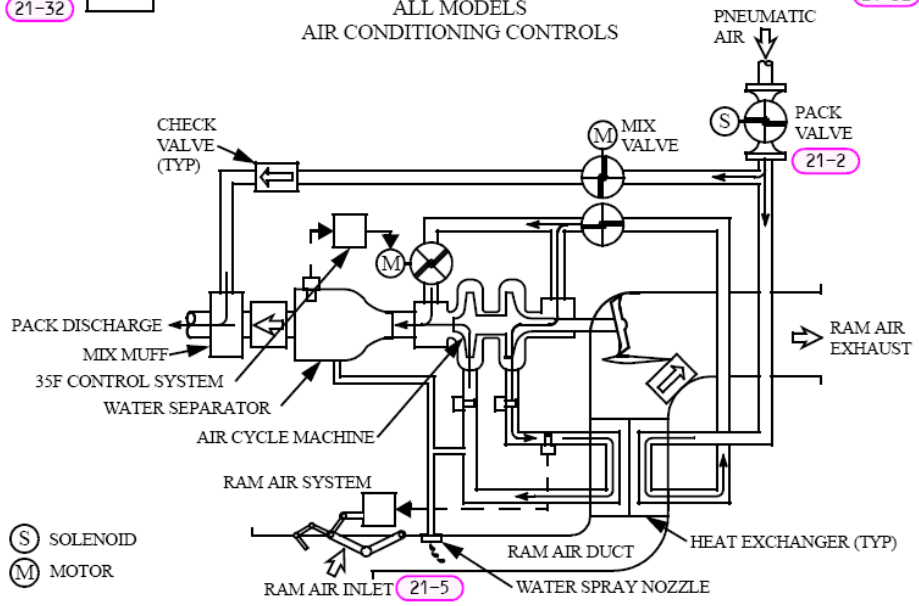
737 LOWER LANDING MINIMUM DISPATCH REQUIREMENTS TABLE

MEL REF	ITEM AND/OR FUNCTION	CAT IIA REQUIREMENTS
22-01	AUTOPILOT SYSTEMS	BOTH REQUIRED FOR CAT IIIa. IF ONE IS INOP, DOWNGRADE TO CAT II. IF BOTH ARE INOP, DOWNGRADE TO NOT CAT II / IIIa.
22-01	CONTROL WHEEL AUTOPILOT DISENGAGE SWITCHES	BOTH REQUIRED FOR CAT II, CAT IIIa. IF ONE IS INOP, DOWNGRADE TO NOT CAT II / IIIa.
22-02	A/P DISENGAGE LIGHTS	BOTH REQUIRED FOR CAT II, CAT IIIa. IF ONE IS INOP, DOWNGRADE TO NOT CAT II / IIIa
22-04	AUTOTHROTTLE SYSTEM	REQUIRED FOR CAT II, CAT IIIa. NOTE: must be operative for ALL operations
22-06	FLIGHT MODE ANNUNCIATORS	FLARE ANNUNCIATORS ON BOTH FMA'S REQUIRED FOR CAT IIIa. IF FLARE ANNUNCIATOR IS INOP, DOWNGRADE TO CAT II. VOR/LOC AND G/S ANNUNCIATORS ON BOTH FMA'S REQUIRED FOR CAT II. IF VOR/LOC OR G/S ANNUNCIATOR ON EITHER FMA IS INOP, DOWNGRADE TO NOT CAT II / IIIa.
22-07	DUAL ANGLE OF ATTACK SENSORS	BOTH REQUIRED FOR CAT IIIa. IF ONE IS INOP, DOWNGRADE TO CAT II.
22-08	A/T DISENGAGE LIGHTS	BOTH REQUIRED FOR CAT II, CAT IIIa. IF ONE IS INOP, DOWNGRADE TO NOT CAT II / IIIa.
22-11	STAB OUT OF TRIM LIGHT	REQUIRED FOR CAT II, CAT IIIa. IF INOP, DOWNGRADE TO NOT CAT II / IIIa.
22-15	MODE CONTROL PANEL SWITCHES/PADDLES	BOTH CMD ENGAGE SWITCHES ARE REQUIRED FOR CAT IIIa. IF ONE IS INOP, DOWNGRADE TO CAT II. A/T ARM SWITCH REQUIRED FOR CAT IIIa. IF INOP, DOWNGRADE TO CAT II. BOTH F/D SWITCHES REQUIRED FOR CAT II, CAT IIIa. IF ONE OR BOTH ARE INOP, DOWNGRADE TO NOT CAT II / IIIa. APP SWITCH REQUIRED FOR CAT II, CAT IIIa. IF INOP, DOWNGRADE TO NOT CAT II / IIIa.

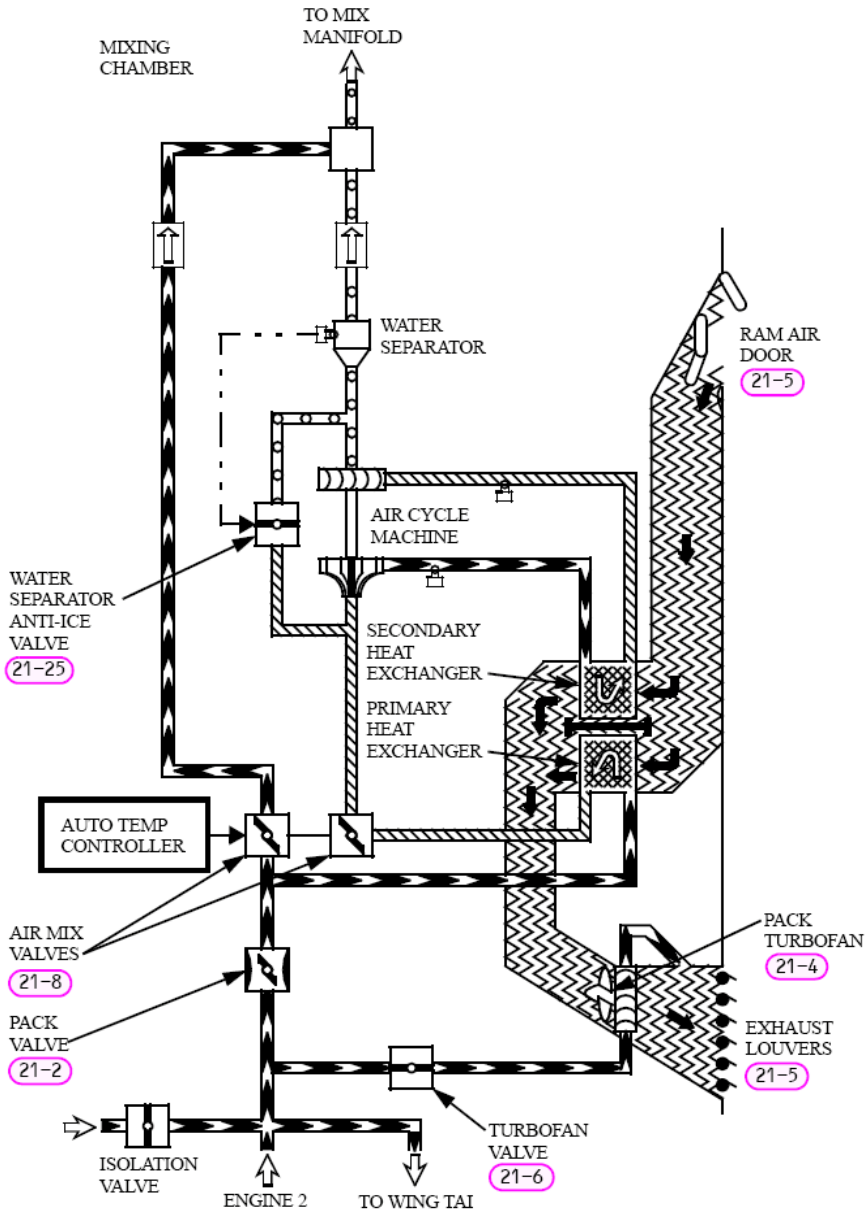
22-17	TAKEOFF/GO AROUND (TO/GA) SWITCHES	BOTH REQUIRED FOR CAT II, CAT IIIa. IF ONE OR BOTH ARE INOP, DOWNGRADE TO NOT CAT II / IIIa.
22-18	MCP A/P ENGAGE LIGHTS	BOTH REQUIRED FOR CAT IIIa. IF ONE IS INOP, DOWNGRADE TO CAT II.
27-09	CONTROL WHEEL TRIM SWITCHES	BOTH REQUIRED FOR CAT II, CAT IIIa. IF ONE IS INOP, DOWNGRADE TO NOT CAT II / IIIa.
30-11	ELECTRICALLY HEATED WINDSHIELD	#1 L/H AND #1 R/H REQUIRED FOR CAT II, CAT IIIa. IF ONE IS INOP, DOWNGRADE TO NOT CAT II / IIIa.
30-13	WINDSHIELD WIPERS	BOTH REQUIRED FOR CAT II, CAT IIIa. IF ONE IS INOP, DOWNGRADE TO NOT CAT II / IIIa. NOTE: HIGH or LOW speed may be INOP and still maintain CAT status.
32-10	ALTERNATE ANTISKID VALVES	BOTH REQUIRED FOR CAT IIIa. IF ONE OR BOTH ARE INOP, DOWNGRADE TO CAT II.
34-12	FLIGHT DIRECTOR SYSTEMS	BOTH REQUIRED FOR CAT II, CAT IIIa. IF ONE IS INOP, DOWNGRADE TO NOT CAT II / IIIa.
34-14	MARKER BEACON RECEIVER SYSTEM	REQUIRED FOR CAT II, CAT IIIa. IF INOP, DOWNGRADE TO NOT CAT II / IIIa.
34-17	VHF NAV SYSTEM	BOTH ILS RECEIVERS REQUIRED FOR CAT II, CAT IIIa. IF ONE IS INOP, DOWNGRADE TO NOT CAT II / IIIa GS/LOC DEVIATION INDICATION REQUIRED ON BOTH ADI' FOR CAT II, CAT IIIa. IF ONE IS INOP, DOWNGRADE TO NOT CAT II / IIIa. BOTH RISING RUNWAY SYMBOLS REQUIRED FOR CAT IIIa. IF ONE OR BOTH ARE INOP, DOWNGRADE TO CAT II.
34-20	RADIO ALTIMETER SYSTEM	ALL REQUIRED FOR CAT II, CAT IIIa. IF ONE RT/INDICATOR IS INOP, DOWNGRADE TO NOT CAT II / IIIa.
34-35	INERTIAL REFERENCE SYSTEMS	BOTH REQUIRED FOR CAT II, CAT IIIa. IF ONE IS INOP, DOWNGRADE TO NOT CAT II / IIIa.
34-49	RIGHT IRS DC FAIL LIGHT	REQUIRED FOR CAT IIIa. IF INOP, DOWNGRADE TO CAT II.



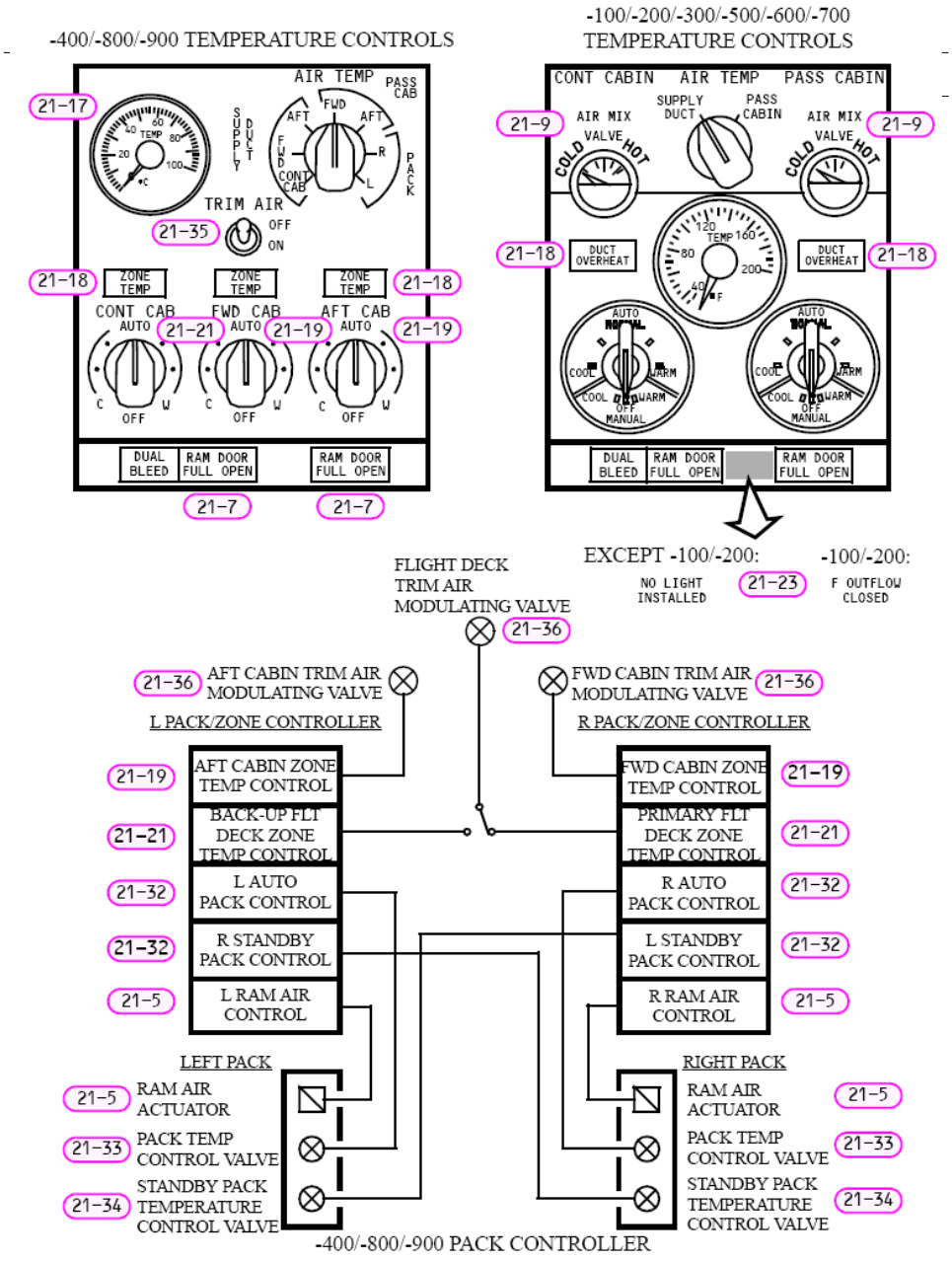
ALL MODELS
AIR CONDITIONING CONTROLS

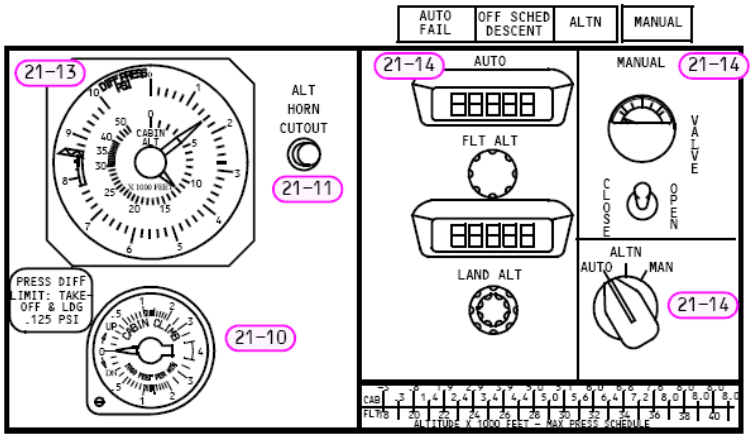


-600/-700:
AIR CONDITIONING

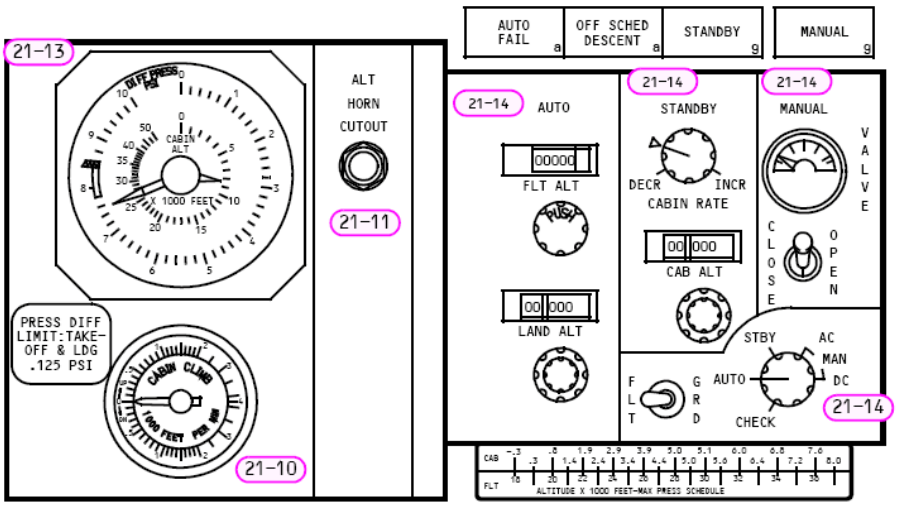


-100/-200/-300/-500:
AIR CONDITIONING

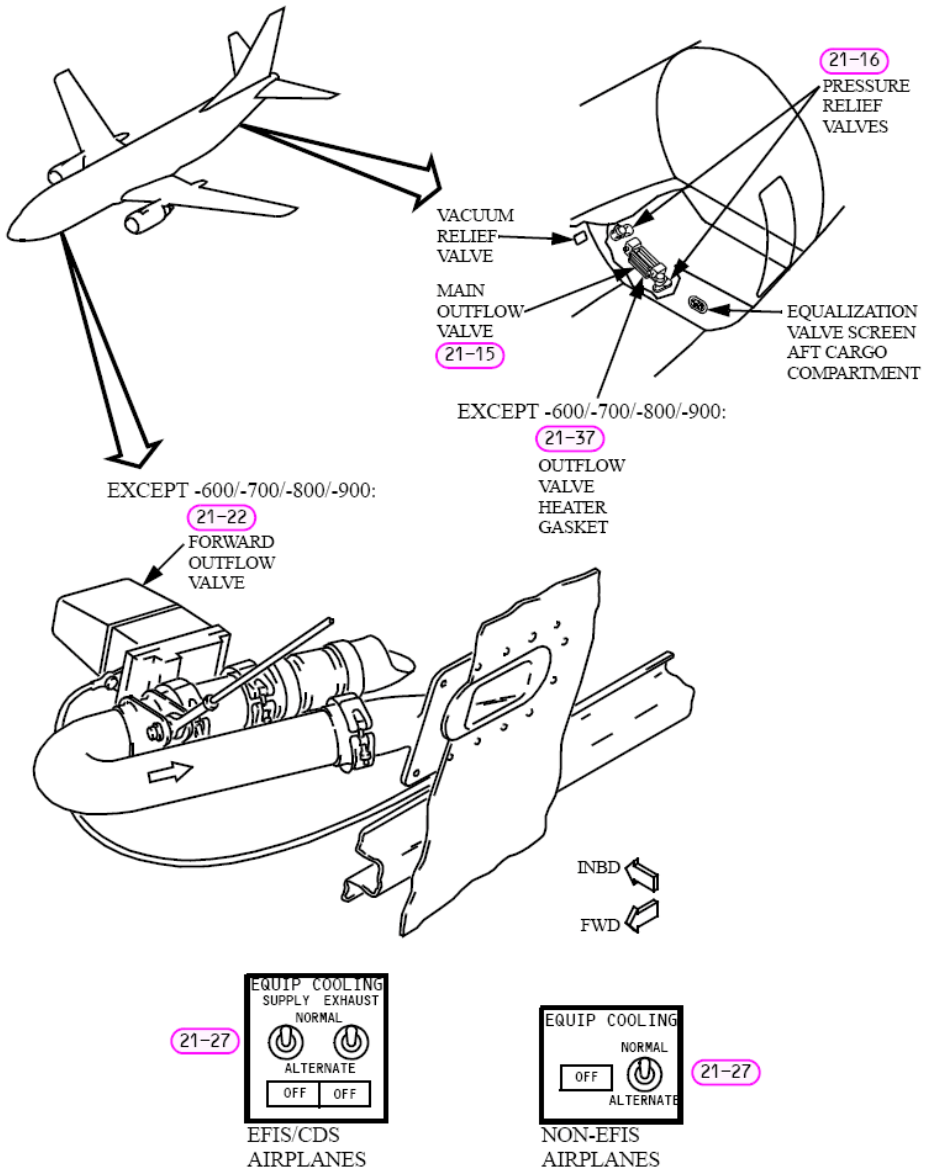

-400/-800/-900 TEMPERATURE CONTROLS
AIR TEMP
PASS CAB
21-17
TRIM AIR
21-35
OFF
ON
21-18
ZONE TEMP
CONT CAB
FWD CAB
AFT CAB
AUTO
21-21
21-19
OFF
DUAL BLEED
RAM DOOR FULL OPEN
21-7
-100/-200/-300/-500/-600/-700 TEMPERATURE CONTROLS
CONT CABIN AIR TEMP PASS CABIN
21-9
AIR MIX VALVE
SUPPLY DUCT
PASS CABIN
COLD HOT
DUCT OVERHEAT
21-18
AUTO NORMAL
COOL WARM
OFF MANUAL
EXCEPT -100/-200:
NO LIGHT INSTALLED
21-23
-100/-200:
F OUTFLOW CLOSED
FLIGHT DECK TRIM AIR MODULATING VALVE
21-36
AFT CABIN TRIM AIR MODULATING VALVE
FWD CABIN TRIM AIR MODULATING VALVE
L PACK/ZONE CONTROLLER
R PACK/ZONE CONTROLLER
AFT CABIN ZONE TEMP CONTROL
21-19
BACK-UP FLT DECK ZONE TEMP CONTROL
21-21
L AUTO PACK CONTROL
21-32
R STANDBY PACK CONTROL
L RAM AIR CONTROL
21-5
FWD CABIN ZONE TEMP CONTROL
PRIMARY FLT DECK ZONE TEMP CONTROL
R AUTO PACK CONTROL
L STANDBY PACK CONTROL
R RAM AIR CONTROL
LEFT PACK
RIGHT PACK
RAM AIR ACTUATOR
PACK TEMP CONTROL VALVE
21-33
STANDBY PACK TEMPERATURE CONTROL VALVE
21-34
-400/-800/-900 PACK CONTROLLER



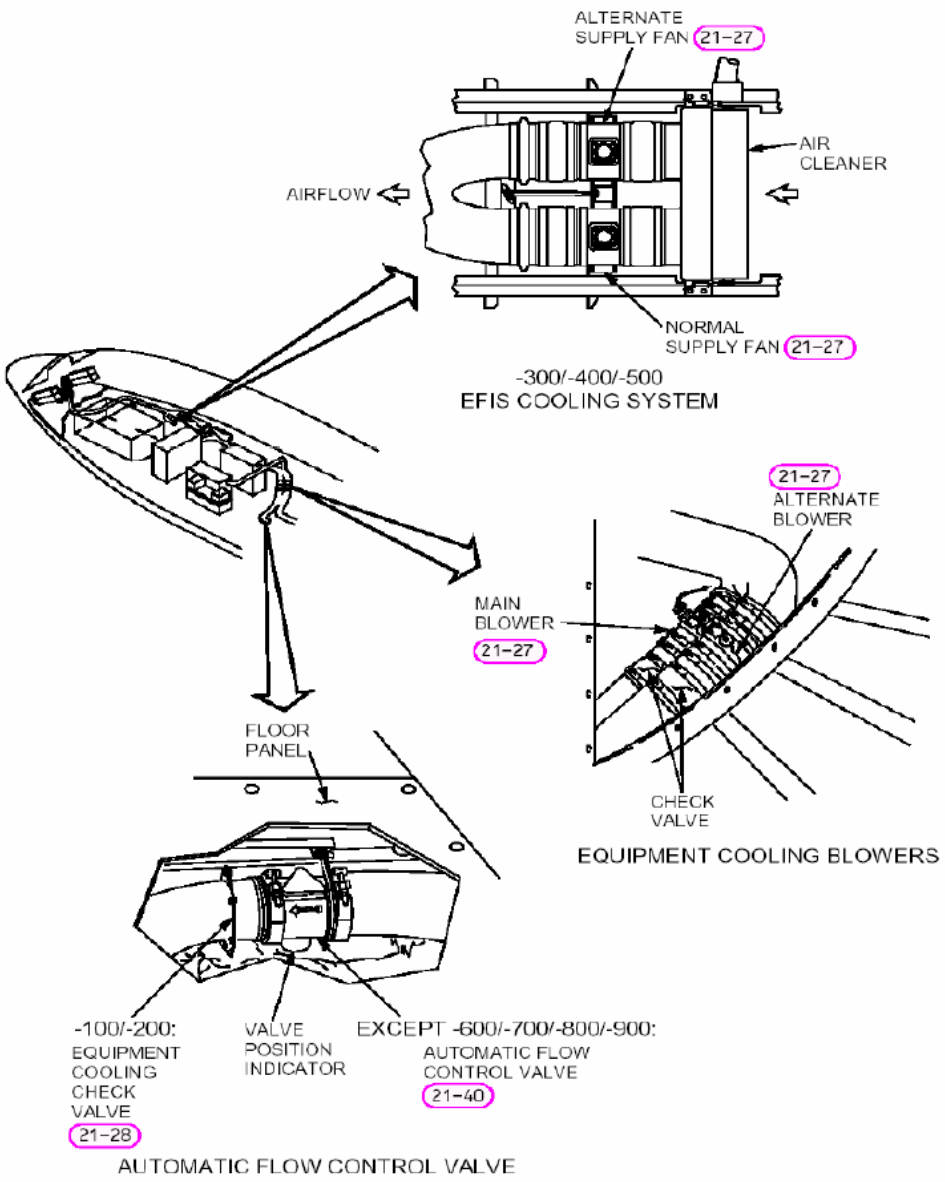
CABIN PRESSURE CONTROL PANEL (DIGITAL SYSTEM)

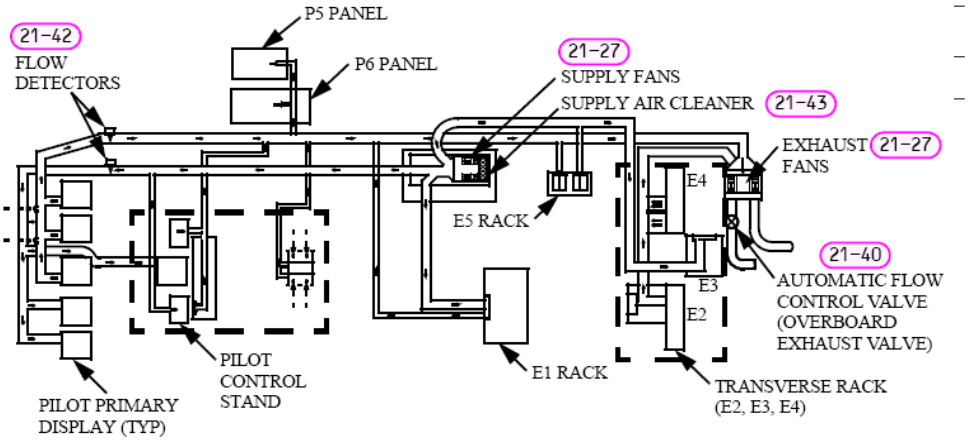


CABIN PRESSURE CONTROL PANEL (ANALOG SYSTEM)

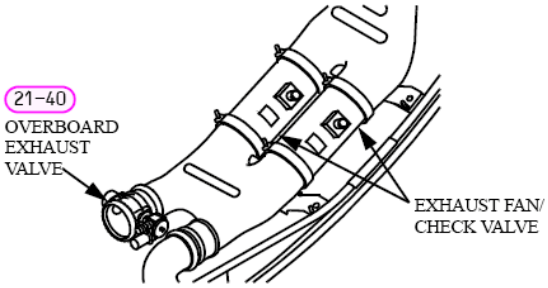


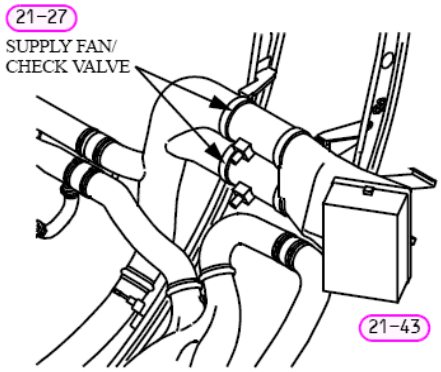
EQUIPMENT COOLING


ALTERNATE SUPPLY FAN 21-27
AIR CLEANER
AIRFLOW
NORMAL SUPPLY FAN 21-27
-300/-400/-500
EFIS COOLING SYSTEM
21-27
ALTERNATE BLOWER
MAIN BLOWER 21-27
CHECK VALVE
EQUIPMENT COOLING BLOWERS
FLOOR PANEL
-100/-200:
EQUIPMENT COOLING CHECK VALVE 21-28
VALVE POSITION INDICATOR
EXCEPT -600/-700/-800/-900:
AUTOMATIC FLOW CONTROL VALVE 21-40
AUTOMATIC FLOW CONTROL VALVE



-600/-700/-800/-900:
CDS EQUIPMENT COOLING SYSTEM





21-01 Air Conditioning Packs
21-01-01 All Passenger Configuration (All Models)
21-01-01-01 (-400/-500/-600 and -700/-800 Without PATS Auxiliary Fuel Tanks)

Interval	Installed	Required	Procedure
C	2	1	**(O)**

Except for ER operations, one may be inoperative provided flight altitude remains at or below FL 250.

OPERATIONS (O)

For -300/-400/-500/-600/-700/-800:

1. When dispatching with one operating pack supplied by engine bleed air on takeoff:
   A. Determine V1(MCG) based on engine bleed for packs OFF.
   B. Determine takeoff performance based on packs AUTO.
2. Limit altitude to FL 250.
3. For galley 4B food cart chiller installed, use only one chiller inflight.
4. Position the associated PACK switch to OFF.
5. Position the ISOLATION VALVE switch to CLOSE after starting engines.
6. If desired, for increased air flow when the flaps are extended (takeoff and landing), use the APU to supply bleed air to the operating pack.
   A. Right pack inoperative
      1) Do the Supplementary Procedure - Air Systems “No Engine Bleed Takeoff and Landing” (Refer to the Flight Crew Operations Manual).
         NOTE: Keep the PACK switch to OFF and the ISOLATION VALVE switch to CLOSE.

   B. Left pack inoperative - PRIOR to takeoff or landing

      1 Engine No. 1 BLEED air switch to OFF

2) R PACK switch to AUTO
3) L PACK switch to OFF
4) ISOLATION VALVE switch to OPEN
5) Engine No. 2 BLEED air switch to OFF
6) APU BLEED air switch to ON.

C. Left pack inoperative - AFTER takeoff or landing
1) APU BLEED air switch to OFF
2) Engine No. 2 BLEED air switch to ON
3) ISOLATION VALVE switch to CLOSE
4) Engine No. 1 BLEED air switch to ON.

21-01 Air Conditioning Packs

21-01-01 All Passenger Configuration (All Models)

21-01-01-03 -900

Interval	Installed	Required	Procedure
C	2	1	**(M) (O)**

Except for ER operations, one may be inoperative provided:

a. Flight altitude remains at or below FL 250.
b. Forward cargo heat duct is secured closed.
c. Airport ambient temperature does not exceed 103 degrees F (39 degrees C).

MAINTENANCE (M)

Secure the forward cargo heat duct closed (AMM 21-00-00/901):

NOTE: Temperature sensitive items should not be carried in the forward cargo compartment.

1. With shutoff valve 4063-20605-01 installed:
   A. Locate the manual lever on top of the forward cargo heat duct shutoff valve and move the lever from the fully open (O) position to the fully closed (C) position.
2. With shutoff valve 4063-20605-01 NOT installed:
   A. Remove the forward cargo heat duct check valve.
   B. Install cap BOE2221-0011 in the heat duct.
3. Deactivate (locked closed) the flow control and shutoff valve for the associated pack:

A. For the left flow control and shutoff valve, disconnect and stow the D488 electrical connector.
B. For the right flow control and shutoff valve, disconnect and stow the D492 electrical connector.

C. Lock the flow control and shutoff valve in the closed position:
   1) Pull out the manual control shaft.
   2) Push in the manual control shaft.

4. Use an operative pack or ground cart to provide cooling when the airplane is electrically powered on the ground and airport temperatures are at or above 73 degrees F / 23 degrees C.

OPERATIONS (O)

1. When dispatching with one operating pack supplied by engine bleed air on takeoff:
   A. Determine V1(MCG) based on engine bleed for packs OFF.
   B. Determine takeoff performance based on packs AUTO.
2. Limit altitude to FL 250.
3. For galley 4B food cart chiller installed, use only one chiller inflight.
4. Set R RECIRC FAN switch to OFF.
5. Set the PACK switch for the inoperative pack to HIGH.
6. Position the ISOLATION VALVE switch to CLOSE after starting engines.
7. If desired, for increased air flow when the flaps are extended (takeoff and landing), use the APU to supply bleed air to the operating pack.
   A. Right pack inoperative
      1) Do the Supplementary Procedure - Air Systems “No Engine Bleed Takeoff and Landing” (Refer to the Flight Crew Operations Manual).
         NOTE: Keep the pack switch for the right (inoperative) pack in the HIGH position and the ISOLATION VALVE switch in the CLOSE position.
      2) L PACK switch remains in HIGH
      3) R PACK switch to AUTO
      4) ISOLATION VALVE switch to OPEN
      5) Engine No. 2 BLEED air switch to OFF
      6) APU BLEED air switch to ON.
   C. Left pack inoperative - AFTER takeoff or landing
      1) APU BLEED air switch to OFF
      2) Engine No. 2 BLEED air switch to ON
      3) ISOLATION VALVE switch to CLOSE
      4) Engine No. 1 BLEED air switch to ON.

21-01 Air Conditioning Packs

21-01-01 All Passenger Configuration (All Models)

21-01-01-05 --400/-500

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

Except for ER operations, both may be inoperative provided:

a. Flight is conducted in an unpressurized configuration.

b. Procedures are established and used to ensure lower cargo compartments remain empty, or are verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits.

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

MAINTENANCE (M)

Manually position the outflow valve in the full open position.

1. Position the Pressurization Mode selector to AC MAN or DC MAN (analog system) or MAN (digital system).
2. Hold the VALVE toggle switch in the OPEN position until valve position indicator indicates full open.

OPERATIONS (O)

1. Limit altitude to 10,000 ft. for passenger flights.
2. Non-passenger flights above 10,000 ft. require flight crew to be on oxygen.
3. Except for ditching, keep the outflow valve in the full open position.
4. Limit climb and descent rates to 500 FPM. to avoid passenger discomfort.
5. Position the ISOLATION VALVE switch to CLOSE after starting engines.
6. To improve passenger cabin and crew compartment temperatures:
   A. If possible, pre-condition the cabin to a low temperature prior to dispatch. A low initial cabin temperature will result in a lower peak temperature.

B. Maintain the highest allowable flight altitude.

C. Minimize cabin heat by pulling the shades down and turning off unnecessary lights.

D. Position RECIRC FAN switch(es) to AUTO.

E. Estimated stabilized temperatures at the end of 30 minutes of flight are shown in this table:

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

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

TAT Degrees C	No. of Passenger	Passenger Cabin Temperature		Crew Cabin Temperature	
		Degrees F	Degrees C	Degrees F	Degrees C
-1	0	45	7	70	21
-1	100	75	24	75	24
10	0	65	18	85	29
10	100	85	29	95	35
21	0	85	29	100	38
21	100	95	35	105	40
32	0	105	40	120	49
32	100	105	40	120	49

7. Operators must establish and use procedures to verify the lower cargo compartments remain empty or contain only ballast, empty cargo handling equipment (ballast may be loaded in ULDs) or fly away kits.

NOTE: The operator's MEL must define which items are approved for inclusion in the fly away kits and which can be used as ballast.

21-01 Air Conditioning Packs

21-01-01 All Passenger Configuration (All Models)

21-01-01-06 -600/-700/-800

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

Except for ER operations, both may be inoperative provided:

a. Flight is conducted in an unpressurized configuration.

b. Recirculation fan(s) operates normally.

c. Both E/E equipment cooling exhaust fans operate normally.

d. Procedures are established and used to ensure lower cargo compartments remain empty or are verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits.

e. Auxiliary tanks, if installed, remain empty or auxiliary fuel is included as part of zero fuel weight.

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

MAINTENANCE (M)

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

1. Manually position the outflow valve in the full open position.
   A. Position the Pressurization Mode selector to MAN.
   B. Hold the VALVE toggle switch in the OPEN position until valve position indicator indicates full open.
2. Deactivate (locked closed) the flow control and shutoff valve for the associated pack:
   A. For the left flow control and shutoff valve, disconnect and stow the D488 electrical connector.
   B. For the right flow control and shutoff valve, disconnect and stow the D492 electrical connector.
   C. Do these steps to lock the flow control and shutoff valve in the closed position:
      1) Pull out the manual control shaft.
      2) Push in the manual control shaft.
3. Open and collar the P6-4 Panel circuit breaker A/C OVERBOARD EXH VALVE RECONFIG CONT.
4. Position one of the PACK switches in HIGH and placard.
5. For passenger cabin telecommunications system installed, open and collar P6-1 Panel circuit breaker ENTERTAINMENT PASS TEL CTU.

OPERATIONS (O)

1. Limit altitude to 10,000 ft. for passenger flights.
2. Non-passenger flights above 10,000 ft. require flight crew to be on oxygen.
3. Except for ditching, keep the outflow valve in the full open position.
4. Limit climb and descent rates to 500 FPM. to avoid passenger discomfort.
5. Position the ISOLATION VALVE switch to CLOSE after starting engines.
6. To improve passenger cabin and crew compartment temperatures:
   A. If possible, pre-condition the cabin to a low temperature prior to dispatch. A low initial cabin temperature will result in a lower peak temperature.
   B. Maintain the highest allowable flight altitude.
   C. Minimize cabin heat by pulling the shades down and turning off unnecessary lights.

D. Position RECIRC FAN switch(es) to AUTO.

E. Estimated stabilized temperatures at the end of 30 minutes of flight are shown in this table:

NOTE 1: Limit number of passengers to 45.

NOTE 2: Prolonged operation at TAT below 10 degrees C / 50 degrees F can cause freezing of unheated water systems located in the aft lower lobe.

NOTE 3: Operation at TAT above 32 degrees C / 90 degrees F is not recommended due to the resulting high temperatures in the passenger and crew cabins.

TAT Degrees C	No. of Passenger	Passenger Cabin Temperature		Crew Cabin Temperature	
		Degrees F	Degrees C	Degrees F	Degrees C
-1	0	50	10	70	21
-1	45	70	21	75	24
10	0	70	21	90	32
10	45	80	27	95	35
21	0	90	32	110	43
21	45	95	35	110	43
32	0				
32	45				

7. Operators must establish and use procedures to verify the lower cargo compartments remain empty or contain only ballast, empty cargo handling equipment (ballast may be loaded in ULDs) or fly away kits.

NOTE: The operator's MEL must define which items are approved for inclusion in the fly away kits and which can be used as ballast.

21-01 Air Conditioning Packs

21-01-01 All Passenger Configuration (All Models)

21-01-01-07 -900

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

Except for ER operations, both may be inoperative provided:

a. Flight is conducted in an unpressurized configuration.

b. Recirculation fans operate normally.

c. Both E/E equipment cooling exhaust fans operate normally.

d. Procedures are established and used to ensure lower cargo compartments remain empty or are verified to contain only empty cargo handling equipment,

ballast (ballast may be loaded in ULDs), and/or Fly Away Kits.

e. Forward cargo heat duct is secured closed.

f. Airport ambient temperature does not exceed 103 degrees F (39 degrees C).

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

MAINTENANCE (M)

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

1. Manually position the outflow valve in the full open position.
   A. Position the Pressurization Mode selector to MAN.
   B. Hold the VALVE toggle switch in the OPEN position until valve position indicator indicates full open.
2. Deactivate (locked closed) the flow control and shutoff valve for the associated pack:
   A. For the left flow control and shutoff valve, disconnect and stow the D488 electrical connector.
   B. For the right flow control and shutoff valve, disconnect and stow the D492 electrical connector.
   C. Do these steps to lock the flow control and shutoff valve in the closed position:
      1) Pull out the manual control shaft.
      2) Push in the manual control shaft.
3. For passenger cabin telecommunications system installed, open and collar P6-1 Panel circuit breaker ENTERTAINMENT PASS TEL CTU.
4. Secure the forward cargo heat duct closed:

   NOTE: With the forward cargo heat duct closed, temperature sensitive items should not be carried in the forward cargo compartment.

   A. With shutoff valve 4063-20605-01 installed:
      1) Locate the manual lever on top of the forward cargo heat duct shutoff valve and move the lever from the fully open (O) position to the fully closed (C) position.
   B. With shutoff valve 4063-20605-01 NOT installed:
      1) Remove the forward cargo heat duct check valve.
      2) Install cap BOE2221-0011 in the heat duct.
   C. Use an operative pack or ground cart to provide cooling when the airplane is electrically powered on the ground and airport temperatures are at or above 73 degrees F / 23 degrees C

OPERATIONS (O)

1. Limit altitude to 10,000 ft. for passenger flights.
2. Non-passenger flights above 10,000 ft. require flight crew to be on oxygen.
3. Except for ditching, keep the outflow valve in the full open position.
4. Limit climb and descent rates to 500 FPM. to avoid passenger discomfort.

5. Set R RECIRC FAN switch to OFF.
6. Set one of the PACK switches in HIGH.
7. Position the ISOLATION VALVE switch to CLOSE after starting engines.
8. To improve passenger cabin and crew compartment temperatures:
   A. If possible, pre-condition the cabin to a low temperature prior to dispatch. A low initial cabin temperature will result in a lower peak temperature.
   B. Maintain the highest allowable flight altitude.
   C. Minimize cabin heat by pulling the shades down and turning off unnecessary lights.
   D. Position L RECIRC FAN switch to AUTO.
   E. Estimated stabilized temperatures at the end of 30 minutes of flight are shown in this table:

      NOTE 1: Limit number of passengers to 45.

      NOTE 2: Prolonged operation at TAT below 10 degrees C / 50 degrees F can cause freezing of unheated water systems located in the aft lower lobe.

      NOTE 3: Operation at TAT above 32 degrees C / 90 degrees F is not recommended due to the resulting high temperatures in the passenger and crew cabins.

TAT Degrees C	No. of Passenger	Passenger Cabin Temperature		Crew Cabin Temperature	
		Degrees F	Degrees C	Degrees F	Degrees C
-1	0	50	10	70	21
-1	45	70	21	75	24
10	0	70	21	90	32
10	45	80	27	95	35
21	0	90	32	110	43
21	45	95	35	110	43
32	0				
32	45				

9. Operators must establish and use procedures to verify the lower cargo compartments remain empty or contain only ballast, empty cargo handling equipment (ballast may be loaded in ULDs) or fly away kits.

   NOTE: The operator's MEL must define which items are approved for inclusion in the fly away kits and which can be used as ballast.

21-02 Pack Airflow / Shutoff Valves (includes STC SA2969SO)

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative deactivated closed.

NOTE 1: STC SA2969SO is not a Boeing configuration. Therefore, procedures applicable to this installation are not provided.

MAINTENANCE (M)

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

For -100/-200/-300/-400/-500:

Deactivate and close the associated pack airflow shutoff valve(s):

1. Remove pressure from the pneumatic system.
2. Gain access to the inoperative pack airflow shutoff valve located in the air conditioning bay.
3. For the left pack airflow shutoff valve, disconnect, cap and stow the D488 electrical connector.
4. For the right pack airflow shutoff valve, disconnect, cap and stow the D492 electrical connector.
5. If the left pack airflow shutoff valve limit switch has failed in the OPEN position:
   A. Disconnect the electrical connector D486.
   B. Insert a jumper between pins 1 and 3.
   C. Make sure there is continuity to airplane ground at pin 3.
   D. Cap and stow connector D486.
6. If the right pack airflow shutoff valve limit switch has failed in the OPEN position:
   A. Disconnect the electrical connector D490.
   B. Insert a jumper between pins 1 and 3.
   C. Make sure there is continuity to airplane ground at pin 3.
   D. Cap and stow connector D490.
7. Push in the manual control shaft. If already in, pull out and push back in to verify that the plunger is in.

For -100/-200/-300/-400/-500:

10. If both pack airflow shutoff valves are inoperative, manually position the main outflow valve in the full open position:
    A. Position the Pressurization Mode selector to AC MAN or DC MAN (analog system) or MAN (digital system).
    B. Hold the VALVE toggle switch in the OPEN position until valve position indicator indicates full open.

For -600/-700/-800/-900:

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

1. Remove pressure from the pneumatic system.
2. Gain access to the inoperative flow control and shutoff valve located in the air conditioning bay.
3. For the left flow control and shutoff valve, disconnect, cap and stow the D488 electrical connector.
4. For the right flow control and shutoff valve, disconnect, cap and stow the D492 electrical connector.
5. If the left flow control and shutoff valve limit switch has failed in the OPEN position:
    A. Disconnect the electrical connector D486.
    B. Insert a jumper between pins 1 and 3.
    C. Make sure there is continuity to airplane ground at pin 3.
    D. Cap and stow connector D486.
6. If the right flow control and shutoff valve limit switch has failed in the OPEN position:
    A. Disconnect the electrical connector D490.
    B. Insert a jumper between pins 1 and 3.
    C. Make sure there is continuity to airplane ground at pin 3.
    D. Cap and stow connector D490.
7. Push in the manual control shaft. If already in, pull out and push back in to verify that the plunger is in.

For -600/-700/-800:

8. If both pack airflow shutoff valves are inoperative:
    A. Manually position the outflow valve in the full open position:
        1) Position the Pressurization Mode selector to MAN.
        2) Hold the VALVE toggle switch in the OPEN position until valve position indicator indicates full open.
    B. Open and collar the P6-4 Panel circuit breaker A/C OVERBOARD EXH VALVE RECONFIG CONT.
    C. Position one of the PACK switches in HIGH.
    D. For passenger cabin telecommunications system installed, open and collar P6-1 Panel circuit breaker ENTERTAINMENT PASS TEL CTU.

For -900:

9. Dispatch with one flow control and shutoff valve inoperative: A. Secure the forward cargo heat duct closed:

   NOTE: Temperature sensitive items should not be carried in the forward cargo compartment.

   1) With shutoff valve 4063-20605-01 installed:
      a. Locate the manual lever on top of the forward cargo heat duct shutoff valve and move the lever from the fully open (O) position to the fully closed (C) position.
   2) With shutoff valve 4063-20605-01 NOT installed:
      a. Remove the forward cargo heat duct check valve.
      b. Install cap BOE2221-0011 in the heat duct.

   B. Use an operative pack or ground cart to provide cooling when the airplane is electrically powered on the ground and airport temperatures are at or above 73 degrees F / 23 degrees C.

10. Dispatch with two flow control and shutoff valves inoperative:

   A. Manually position the outflow valve in the full open position:
      1) Position the Pressurization Mode selector to MAN.
      2) Hold the VALVE toggle switch in the OPEN position until valve position indicator indicates full open.

   B. For passenger cabin telecommunications system installed, open and collar P6-1 Panel circuit breaker ENTERTAINMENT PASS TEL CTU.

   C. Secure the forward cargo heat duct closed:

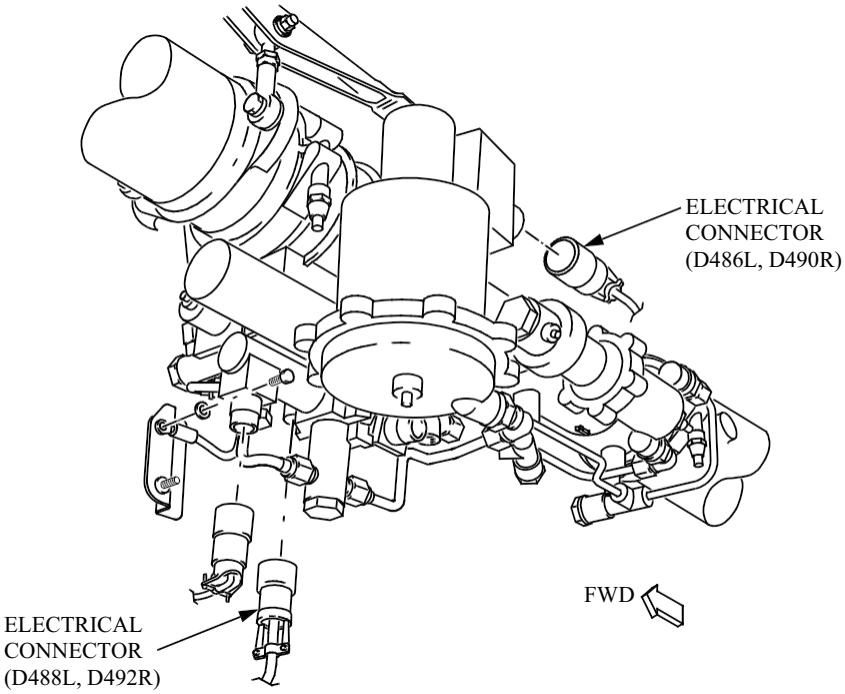
      NOTE: Temperature sensitive items should not be carried in the forward cargo compartment.

      1) With shutoff valve 4063-20605-01 installed:
         a. Locate the manual lever on top of the forward cargo heat duct shutoff valve and move the lever from the fully open (O) position to the fully closed (C) position.
      2) With shutoff valve 4063-20605-01 NOT installed:
         a. Remove the forward cargo heat duct check valve.
         b. Install cap BOE2221-0011 in the heat duct.

   D. Use an operative pack or ground cart to provide cooling when the airplane is electrically powered on the ground and airport temperatures are at or above 73 degrees F / 23 degrees C.

OPERATIONS (O)

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



PACK AIRFLOW/SHUT-OFF VALVE (TYPICAL)

21-02 Pack Airflow / Shutoff Valves (includes STC SA2969SO)

21-02-01 High Flow Mode (-400/-500/-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	2	0	

21-02 Pack Airflow / Shutoff Valves (includes STC SA2969SO)

21-02-02 APU High Flow Mode

Interval	Installed	Required	Procedure
C	2	0	

21-03 Pack Trip Warning Systems

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative provided associated pack is not used.

NOTE 1: MMEL Item 21-1 restrictions for inoperative pack(s) must be observed.

MAINTENANCE (M)

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

OPERATIONS (O)

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

21-04 Pack Turbofans (--400/-500)

21-04-01 All Passenger Configuration (All Models)

Interval	Installed	Required	Procedure
C	2	0	**(O)**

May be inoperative provided associated pack(s) is operated only in flight with flaps retracted.

OPERATIONS (O)

1. Do these steps when the flaps are extended:
   A. Position associated PACK switch(es) to OFF
   B. Position the ISOLATION VALVE switch to CLOSE.

For -100/-200:

2. When dispatching with one operating pack supplied by engine bleed air on takeoff, determine takeoff performance based on packs ON.

For -300/-400/-500:

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

21-05 Pack Ram Air Systems

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative in FLIGHT OPEN position provided:

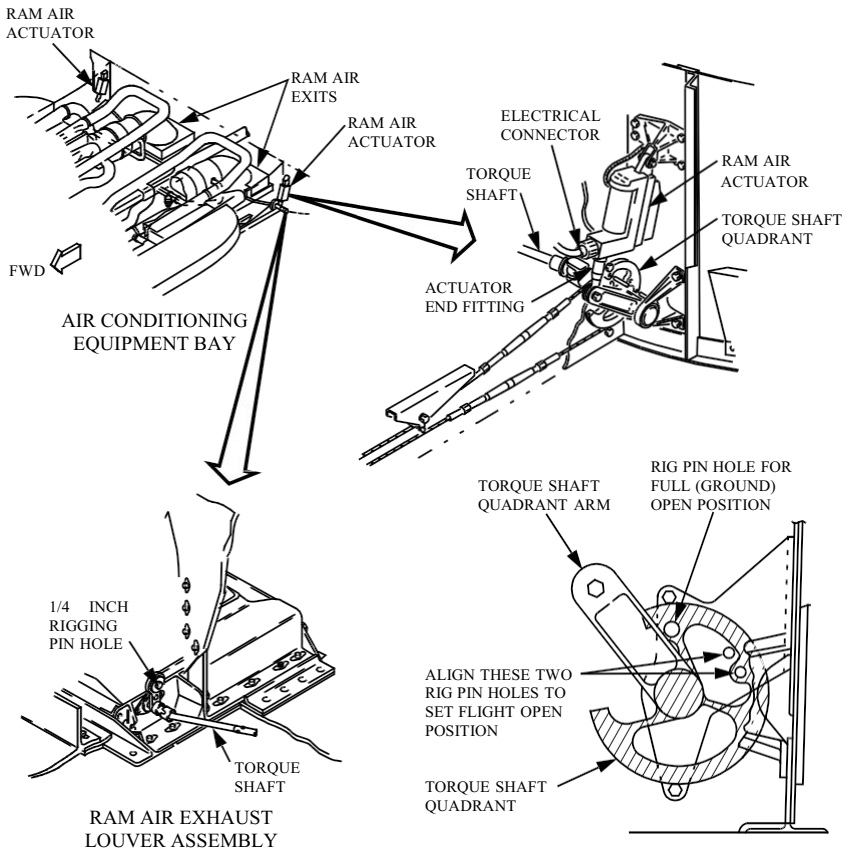
a. Operations are not conducted on runways covered with slush, or on gravel runways.

b. Associated pack is not operated during takeoff or landing on wet runways or runways with standing water.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

1. Gain access to the ram air actuator located adjacent to the ram air exit.
2. Disconnect, cap and stow the electrical connector to the ram air actuator.
3. Remove attaching bolt and separate actuator shaft rod end bearing from torque shaft quadrant arm.
4. Re-install and secure bolt in torque shaft quadrant arm.
5. Rotate torque shaft quadrant and cable system to align rig pin holes (1/4 inch diameter) for the FLIGHT OPEN position.
6. Insert a bolt (NAS6704U10 or equivalent) through the rig pin hole in the pulley and thread it into the nut plate (NAS1068A4) on the support assembly.
7. Use safety wire to secure the actuator shaft rod end bearing to the attach bolt at the end of the torque shaft quadrant arm.
8. Close and secure access panels.



RAM AIR MODULATION SYSTEM

For -600/-700/-800/-900:

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

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

7. Install a nut (BACN10JD3 or equivalent) and cotter pin (MS24665-105 or equivalent) on the bolt.
8. Safety wire the actuator rod end to the bellcrank.
9. Close the ram air actuator panel.
10. Close the associated circuit breakers.

OPERATIONS (O)

For -100/-200/-300/-400/-500:

NOTE 1: Dispatching with one pack inoperative (MMEL Item 21-1) and the other pack's ram air system inoperative (ram air inlet door in the FLIGHT OPEN position) may lead to icing in the operating pack's water separator, affecting pack performance.

For -800/-900:

NOTE 2: With the ram air modulating system deactivated, the AIR COND light and the associated PACK light may or may not illuminate during Master Caution recall in the air. If illuminated, the AIR COND and associated PACK light will extinguish when reset.

For All Models:

1. During takeoff and landing when operating on wet runways or on runways with standing water:
   A. Position associated PACK switch(es) to OFF.
   B. Position the ISOLATION VALVE switch to CLOSE.

For -300/-400/-500/-600/-700/-800/-900:

3. When dispatching with one operating pack supplied by engine bleed air on takeoff:
   A. Determine V1(MCG) based on engine bleed for packs OFF.
   B. Determine takeoff performance based on packs AUTO.
4. For each inoperative Pack Ram Air System, use these performance penalties to account for the increased drag with the ram air inlet door inoperative in the FLIGHT OPEN position:

MODEL	ENROUTE CLIMB	FUEL MILEAGE
-100/-200/-300/-400/-500	480 lb (218 kg)	1.2%
-600/-700/-800	140 lb (64 kg)	0.4%
-900	160 lb (73 kg)	0.4%

21-05 Pack Ram Air Systems

21-05-01 Exhaust Louver Assemblies (-400/ -500)

***

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

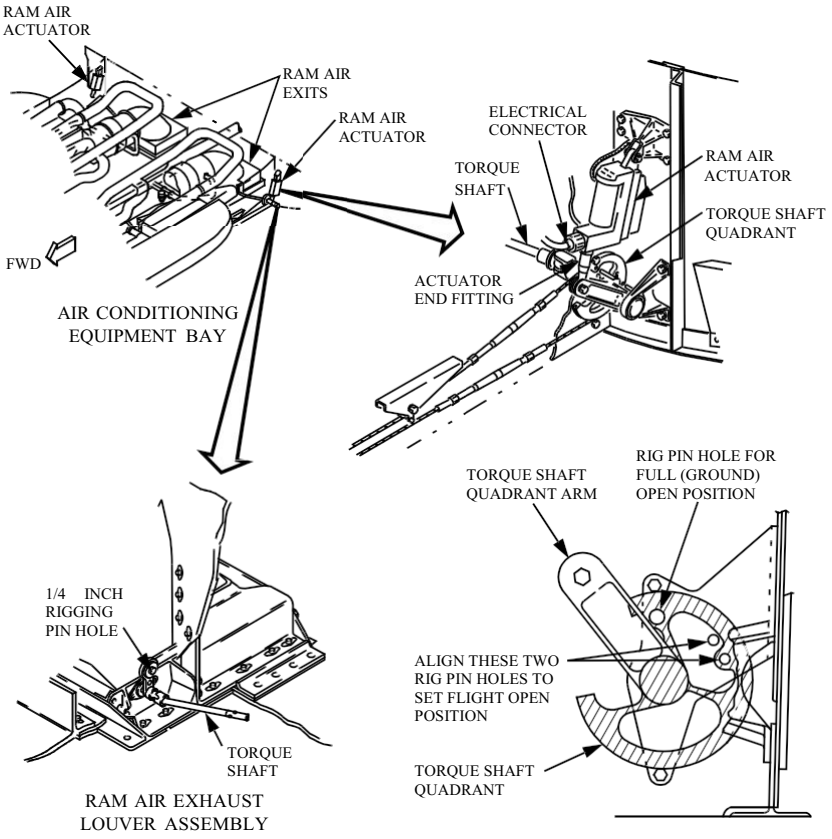
May be inoperative provided:

a. Actuator(s) is disconnected.

b. Louver(s) is secured in full open position.

MAINTENANCE (M)

1. Gain access to the ram air exhaust modulation louver assembly.
2. Remove exhaust louver actuating shaft from the torque shaft quadrant at the outboard universal joint. Tape shaft down to prevent vibration.
3. Align the rig pin hole and boss and install a bolt (AN4H7A or equivalent) through the arm rigging pin hole into the rigging pin boss.
4. Secure the bolt in place by running safety wire through the drilled head bolt and then around the actuating arm.
5. Close and secure access panels.



RAM AIR MODULATION SYSTEM

OPERATIONS (O)

For each inoperative Pack Ram Air System, use these performance penalties to account for the increased drag with the exhaust louvers inoperative in the full open position:

MODEL	ENROUTE CLIMB	FUEL MILEAGE
-100/-200/-300/-400/-500	140 lb (64 kg)	0.4%

21-06 Pack Turbofan Valves (--400/-500)
21-06-01 All Passenger Configuration (All Models)

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative closed provided associated pack(s) is operated only in flight with flaps retracted.

MAINTENANCE (M)

Do these steps:

1. Gain access to the turbofan valve.
2. Disconnect and stow the turbofan valve solenoid electrical connector.
3. Push in the solenoid manual override plunger. If already in, pull out and push back in to verify that the plunger is in the closed position.

OPERATIONS (O)

1. When the flaps are extended:
   A. Position associated PACK switch(es) to OFF
   B. Position the ISOLATION VALVE switch to CLOSE.

For -300/-400/-500:

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

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21-07 RAM DOOR FULL OPEN Indicating Lights

Interval	Installed	Required	Procedure
C	2	0	

21-08 Air Mix Valves (-500/-600/-700)

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative provided associated pack is not used.

MAINTENANCE (M)

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

OPERATIONS (O)

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

21-09 Air Mix Valve Position Indicators (-500/-600/-700)

Interval	Installed	Required	Procedure
C	2	0	

21-10 Cabin Rate of Climb Indicator
21-10-01 Analog Control System (-400/-500)
21-10-01A AUTO And STBY Modes Operate Normally

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided AUTO and STBY control modes operate normally.

21-10 Cabin Rate of Climb Indicator
21-10-01 Analog Control System (-400/-500)
21-10-01B Unpressurized Flight

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided flight is conducted in an unpressurized configuration.

MAINTENANCE (M)

Manually position the outflow valve in the full open position.

1. Position the Pressurization Mode selector to AC MAN or DC MAN.
2. Hold the VALVE toggle switch in the OPEN position until valve position indicator indicates full open.

OPERATIONS (O)

1. Limit altitude to 10,000 ft. for passenger flights.
2. Non-passenger flights above 10,000 ft. require flight crew to be on oxygen.
3. Except for ditching, keep the outflow valve in the full open position.
4. Limit climb and descent rates to 500 FPM to avoid passenger discomfort.
5. For galley 4B food cart chiller installed, use only one chiller inflight.

For -300/-400/-500:

6. Use only one pack inflight.
7. When dispatching with one operating pack supplied by engine bleed air on takeoff:
   A. Determine V1(MCG) based on engine bleed for packs OFF.
   B. Determine takeoff performance based on packs AUTO.

21-10 Cabin Rate of Climb Indicator

21-10-02 Digital Control System (-400/-500/-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided AUTO and ALTN control modes operate normally.

21-10 Cabin Rate of Climb Indicator

21-10-02 Digital Control System (-400/-500/-600/-700/-800/-900)

21-10-02-01 --400/-500

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Flight is conducted in an unpressurized configuration.

b. Outflow valve is positioned to 25% open position.

MAINTENANCE (M)

Manually position the outflow valve in the 25% open position:

1. Position the Pressurization Mode selector to MAN.
2. Hold the VALVE toggle switch in the OPEN position until valve position indicator indicates 25% open.

OPERATIONS (O)

1. Limit altitude to 10,000 ft. for passenger flights.
2. Non-passenger flights above 10,000 ft. require flight crew to be on oxygen.
3. Except for ditching, keep the outflow valve in the 25% open position.
4. Use only one pack inflight.
5. When dispatching with one operating pack supplied by engine bleed air on takeoff:
   A. Determine V1(MCG) based on engine bleed for packs OFF.
   B. Determine takeoff performance based on packs AUTO.
6. For galley 4B food cart chiller installed, use only one chiller inflight.
7. Limit climb and descent rates to 500 FPM to avoid passenger discomfort.

21-10 Cabin Rate of Climb Indicator

21-10-02 Digital Control System (-400/-500/-600/-700/-800/-900)

21-10-02-02 (-600/-700/-800 prior to incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or production equivalent)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Flight is conducted in unpressurized configuration.
b. Outflow valve is positioned to 25% open position.
c. Recirculation fan(s) operate normally.

MAINTENANCE (M)

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

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

OPERATIONS (O)

1. Limit altitude to 10,000 ft. for passenger flights.
2. Non-passenger flights above 10,000 ft. require flight crew to be on oxygen.
3. Except for ditching, keep the outflow valve in the 25% open position.
4. Use only one pack inflight.
5. When dispatching with one operating pack supplied by engine bleed air on takeoff:
   A. Determine V1(MCG) based on engine bleed for packs OFF.
   B. Determine takeoff performance based on packs AUTO.
6. For galley 4B food cart chiller installed, use only one chiller inflight.
7. Limit climb and descent rates to 500 FPM to avoid passenger discomfort.

21-10 Cabin Rate of Climb Indicator

21-10-02 Digital Control System (-400/-500/-600/-700/-800/-900)

21-10-02-03 (-600/-700/-800 upon incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or production equivalent)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Flight is conducted in an unpressurized configuration.

b. Procedures are established and used to ensure lower forward cargo compartment remains empty, or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away kits.

c. Outflow valve is positioned to 25% open position.

d. Recirculation fan(s) operate normally.

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

MAINTENANCE (M)

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

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

OPERATIONS (O)

1. Limit altitude to 10,000 ft. for passenger flights.
2. Non-passenger flights above 10,000 ft. require flight crew to be on oxygen.
3. Except for ditching, keep the outflow valve in the 25% open position.
4. Use only one pack inflight.
5. When dispatching with one operating pack supplied by engine bleed air on takeoff:
   A. Determine V1(MCG) based on engine bleed for packs OFF.
   B. Determine takeoff performance based on packs AUTO.
6. For galley 4B food cart chiller installed, use only one chiller inflight.
7. Limit climb and descent rates to 500 FPM to avoid passenger discomfort.

8. Operators must establish and use procedures to verify the lower forward cargo compartment remains empty or contains only ballast, empty cargo handling equipment (ballast may be loaded in ULDs) or fly away kits.

   NOTE: The operator's MEL must define which items are approved for inclusion in the fly away kits and which can be used as ballast.

21-10 Cabin Rate of Climb Indicator

21-10-02 Digital Control System (-400/-500/-600/-700/-800/-900)

21-10-02-04 -900

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Flight is conducted in unpressurized configuration.
b. Outflow valve is positioned to 25% open position.
c. Recirculation fans operate normally.
d. Forward cargo heat duct is secured closed.
e. Airport ambient temperature does not exceed 103 degrees F (39 degrees C).

MAINTENANCE (M)

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

1. Manually position the outflow valve in the 25% open position:
   A. Position the Pressurization Mode selector to MAN.
   B. Hold the VALVE toggle switch in the OPEN position until valve position indicator indicates 25% open.
2. Secure the forward cargo heat duct closed:

   NOTE: Temperature sensitive items should not be carried in the forward cargo compartment.

   A. With shutoff valve 4063-20605-01 installed:
      1) Locate the manual lever on top of the forward cargo heat duct shutoff valve and move the lever from the fully open (O) position to the fully closed (C) position.
   B. With shutoff valve 4063-20605-01 NOT installed:
      1) Remove the forward cargo heat duct check valve.
      2) Install cap BOE2221-0011 in the heat duct.
3. Use an operative pack or ground cart to provide cooling when the airplane is electrically powered on the ground and airport temperatures are at or above 73 degrees F / 23 degrees C.

OPERATIONS (O)

1. Limit altitude to 10,000 ft. for passenger flights.
2. Non-passenger flights above 10,000 ft. require flight crew to be on oxygen.
3. Except for ditching, keep the outflow valve in the 25% open position.
4. Use only one pack inflight.
5. Position R RECIRC FAN switch to OFF.
6. Position the PACK switch to HIGH after completing the AFTER TAKEOFF Normal Checklist.
7. When dispatching with one operating pack supplied by engine bleed air on takeoff:
   A. Determine V1(MCG) based on engine bleed for packs OFF.
   B. Determine takeoff performance based on packs AUTO.
8. For galley 4B food cart chiller installed, use only one chiller inflight.
9. Limit climb and descent rates to 500 FPM to avoid passenger discomfort.

21-11 Cabin Altitude Warning System

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided flight altitude remains at or below 10,000 feet MSL.

21-11 Cabin Altitude Warning System

21-11-01 High Altitude Warning System

***

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided procedures do not require its use.

21-11 Cabin Altitude Warning System

21-11-02 CABIN ALTITUDE Light

***

21-11-02-01 --400/-500 (upon incorporation of Boeing Service Bulletin 737-31A1325)

21-11-02-01A TAKEOFF CONFIG Light Operates Normally

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided TAKEOFF CONFIG warning light operates normally.

21-11 Cabin Altitude Warning System

21-11-02 CABIN ALTITUDE Light

***

21-11-02-01 --400/-500 (upon incorporation of Boeing Service Bulletin 737-31A1325)

21-11-02-01B Before-Takeoff Crew Briefing Required

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided flight crew performs a briefing on cabin altitude warning indications and procedures before engine start for the first flight of the day or following any change of either flight crew member.

OPERATIONS (O)

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

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

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

   Both pilots must verify on the overhead Cabin Altitude panel that the cabin altitude is stabilized below 10,000 feet before removing oxygen masks.

Whenever the intermittent warning horn sounds on the ground, confirm the airplane is properly configured for takeoff.

21-11 Cabin Altitude Warning System

21-11-02 * CABIN ALTITUDE Light**

21-11-02-02 -600/-700/-800/-900 (upon incorporation of Boeing Service Bulletin 737-31A1332, or production equivalent)

21-11-02-02A Associated TAKEOFF CONFIG Light Operates Normally

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided associated TAKEOFF CONFIG warning light operates normally.

21-11 Cabin Altitude Warning System

21-11-02 CABIN ALTITUDE Light
****

21-11-02-02 -600/-700/-800/-900 (upon incorporation of Boeing Service Bulletin 737-31A1332, or production equivalent)

21-11-02-02B Before-Takeoff Crew Briefing Required

Interval	Installed	Required	Procedure
C	2	0	**(O)**

May be inoperative provided flight crew performs a briefing on cabin altitude warning indications and procedures before engine start for the first flight of the day or following any change of either flight crew member.

OPERATIONS (O)

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

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

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

   Both pilots must verify on the overhead Cabin Altitude panel that the cabin altitude is stabilized below 10,000 feet before removing oxygen masks.

Whenever the intermittent warning horn sounds on the ground, confirm the airplane is properly configured for takeoff.

21-12 Cabin Altitude Indicator

21-12-01 Analog Control System (-400/-500)

21-12-01A Pressurized Flight

Interval	Installed	Required	Procedure
C	1	0	

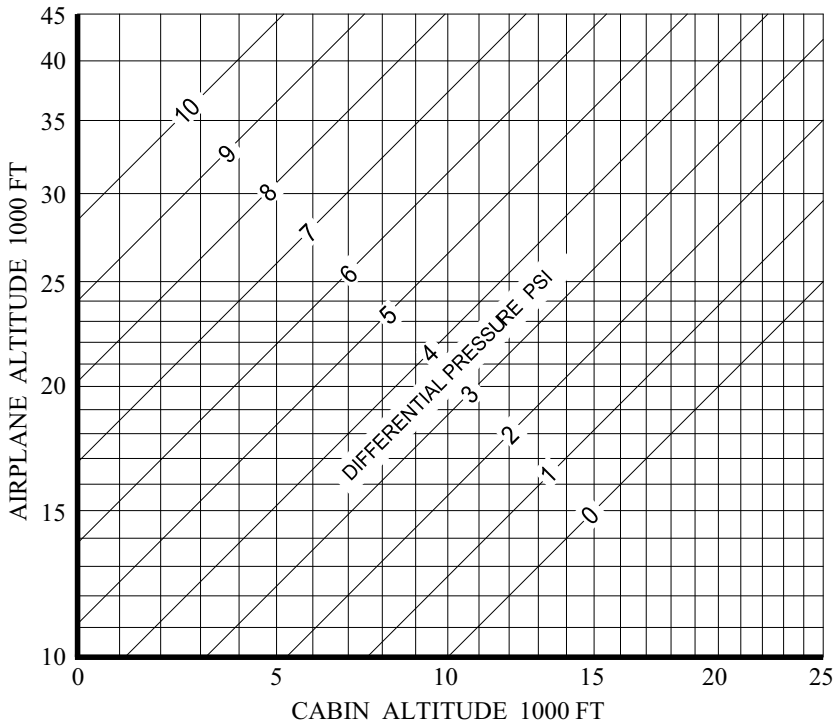
May be inoperative provided:

a. Cabin differential pressure indicator operates normally.

b. A chart is provided to crew to convert differential pressure to cabin altitude.

OPERATIONS NOTE

This chart can be used to convert differential pressure to cabin altitude:



21-12 Cabin Altitude Indicator

21-12-01 Analog Control System (-400/-500)

21-12-01B Unpressurized Flight

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided flight is conducted in an unpressurized configuration.

MAINTENANCE (M)

Use DDG item 21-10-01B (M) procedure.

OPERATIONS (O)

Use DDG item 21-10-01B (O) procedure.

21-12 Cabin Altitude Indicator

21-12-02 Digital Control System (-400/-500/-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	1	0	

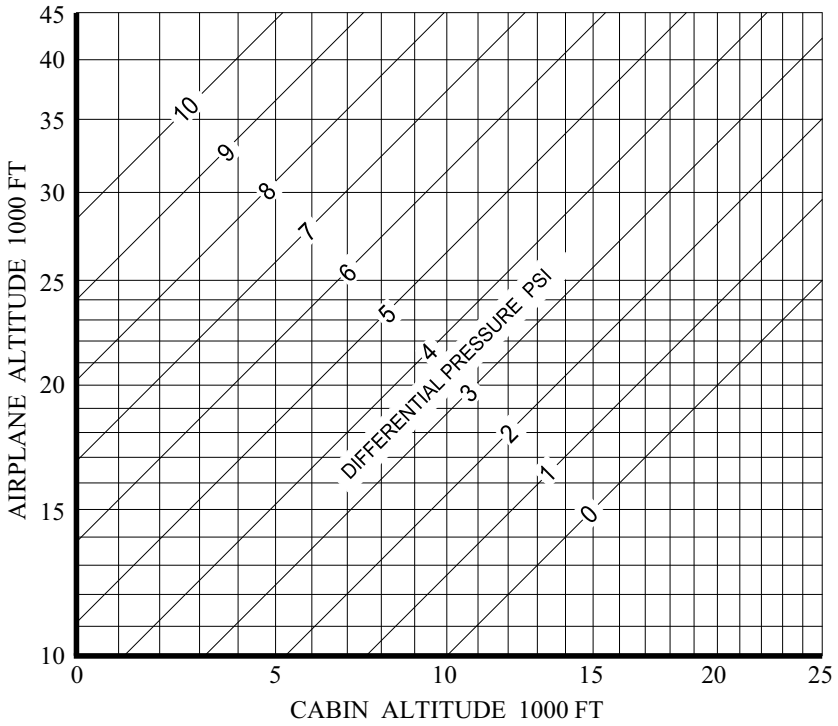
May be inoperative provided:

a. Cabin differential pressure indicator operates normally.

b. A chart is provided to crew to convert differential pressure to cabin altitude.

OPERATIONS NOTE

This chart can be used to convert differential pressure to cabin altitude:



21-12 Cabin Altitude Indicator

21-12-02 Digital Control System (--400/-500/-600/-700/-800/-900)

21-12-02-01 --400/-500

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Flight is conducted in an unpressurized configuration.

b. Outflow valve is positioned to 25% open position.

MAINTENANCE (M)

Use DDG item 21-10-02-01 (M) procedure.

OPERATIONS (O)

Use DDG item 21-10-02-01 (O) procedure.

21-12 Cabin Altitude Indicator

21-12-02 Digital Control System (-400/-500/-600/-700/-800/-900)

21-12-02-02 (-600/-700/-800 prior to incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or production equivalent)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Flight is conducted in unpressurized configuration.
b. Outflow valve is positioned to 25% open position.
c. Recirculation fan(s) operates normally.

MAINTENANCE (M)

Use DDG item 21-10-02-02 (M) procedure.

OPERATIONS (O)

Use DDG item 21-10-02-02 (O) procedure.

21-12 Cabin Altitude Indicator

21-12-02 Digital Control System (-400/-500/-600/-700/-800/-900)

21-12-02-03 (-600/-700/-800 upon incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or production equivalent)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Flight is conducted in an unpressurized configuration.
b. Procedures are established and used to ensure lower forward cargo compartment remains empty, or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away kits.
c. Outflow valve is positioned to 25% open position.
d. Recirculation fan(s) operate normally.

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

MAINTENANCE (M)

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

OPERATIONS (O)

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

21-12 Cabin Altitude Indicator

21-12-02 Digital Control System (-400/-500/-600/-700/-800/-900)

21-12-02-04 -900

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Flight is conducted in unpressurized configuration.
b. Outflow valve is positioned to 25% open position.
c. Recirculation fans operate normally.
d. Forward cargo heat duct is secured closed.
e. Airport ambient temperature does not exceed 103 degrees F (39 degrees C).

MAINTENANCE (M)

Use DDG item 21-10-02-04 (M) procedure.

OPERATIONS (O)

Use DDG item 21-10-02-04 (O) procedure.

21-13 Cabin Differential Pressure Indicator

21-13-01 Analog Control System (-400/-500)

21-13-01A Pressurized Flight

Interval	Installed	Required	Procedure
C	1	0	

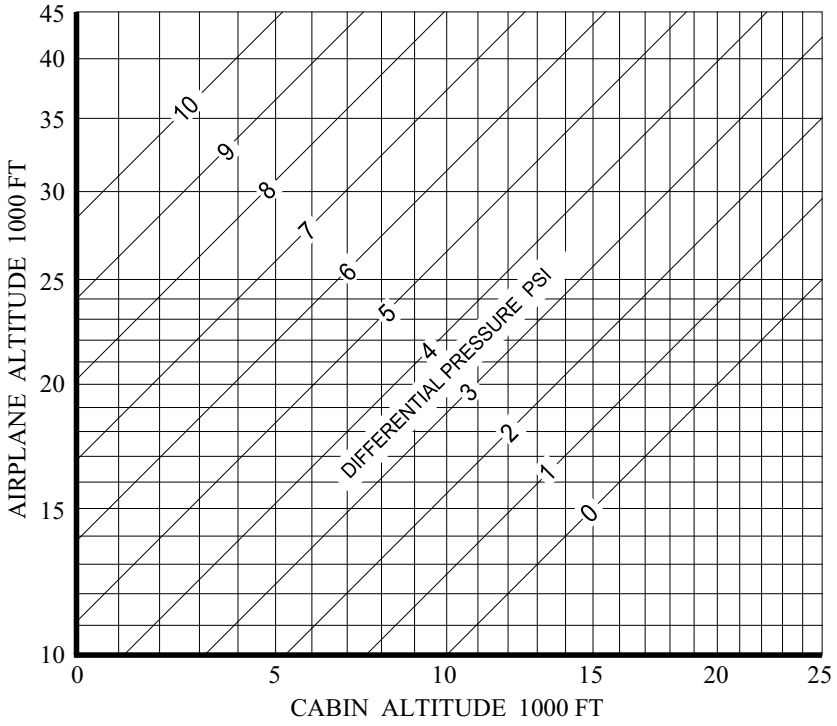
May be inoperative provided:

a. Cabin altitude indicator operates normally.

b. A chart is provided to crew to convert cabin altitude to differential pressure.

OPERATIONS NOTE

This chart can be used to convert cabin altitude to differential pressure.



21-13 Cabin Differential Pressure Indicator

21-13-01 Analog Control System (-400/-500)

21-13-01B Unpressurized Flight

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided flight is conducted in an unpressurized configuration.

MAINTENANCE (M)

Use DDG item 21-10-01B (M) procedure.

OPERATIONS (O)

Use DDG item 21-10-01B (O) procedure.

21-13 Cabin Differential Pressure Indicator

21-13-02 Digital Control System (-400/-500/-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	1	0	

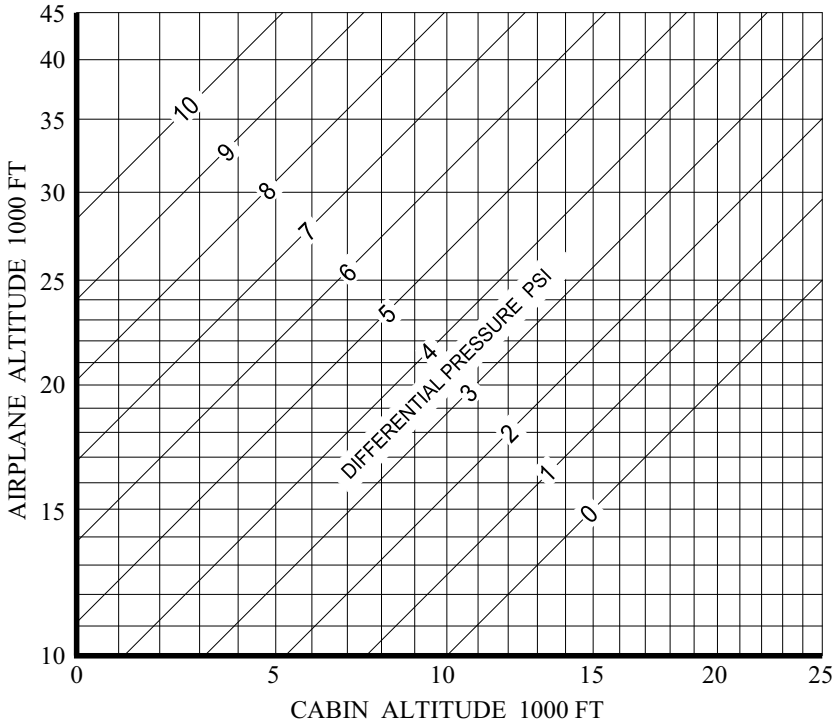
May be inoperative provided:

a. Cabin altitude indicator operates normally.

b. A chart is provided to crew to convert cabin altitude to differential pressure.

OPERATIONS NOTE

This chart can be used to convert cabin altitude to differential pressure.



21-13 Cabin Differential Pressure Indicator

21-13-02 Digital Control System (-400/-500/-600/-700/-800/-900)

21-13-02-01 -400/-500

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Flight is conducted in an unpressurized configuration.

b. Outflow valve is positioned to 25% open position.

MAINTENANCE (M)

Use DDG item 21-10-02-01 (M) procedure.

OPERATIONS (O)

Use DDG item 21-10-02-01 (O) procedure.

21-13 Cabin Differential Pressure Indicator

21-13-02 Digital Control System (-400/-500/-600/-700/-800/-900)

21-13-02-02 (-600/-700/-800 prior to incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or production equivalent)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Flight is conducted in an unpressurized configuration.
b. Outflow valve is positioned to 25% open position.
c. Recirculation fan(s) operates normally.

MAINTENANCE (M)

Use DDG item 21-10-02-02 (M) procedure.

OPERATIONS (O)

Use DDG item 21-10-02-02 (O) procedure.

21-13 Cabin Differential Pressure Indicator

21-13-02 Digital Control System (-400/-500/-600/-700/-800/-900)

21-13-02-03 (-600/-700/-800 upon incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or production equivalent)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Flight is conducted in an unpressurized configuration.
b. Procedures are established and used to ensure lower forward cargo compartment remains empty, or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away kits.
c. Outflow valve is positioned to 25% open position.
d. Recirculation fan(s) operate normally.

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

MAINTENANCE (M)

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

OPERATIONS (O)

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

21-13 Cabin Differential Pressure Indicator

21-13-02 Digital Control System (-400/-500/-600/-700/-800/-900)

21-13-02-04 -900

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Flight is conducted in unpressurized configuration.
b. Outflow valve is positioned to 25% open position.
c. Recirculation fans operate normally.
d. Forward cargo heat duct is secured closed.
e. Airport ambient temperature does not exceed 103 degrees F (39 degrees C).

MAINTENANCE (M)

Use DDG item 21-10-02-04 (M) procedure.

OPERATIONS (O)

Use DDG item 21-10-02-04 (O) procedure.

21-14 Cabin Pressure Control System

21-14-01 Analog Control System Automatic / Standby Modes (-400/-500)

Interval	Installed	Required	Procedure
C	2	1	**(O)**

One may be inoperative provided manual mode (AC and DC actuators) operates normally.

OPERATIONS (O)

1. Normal operation of manual modes may be confirmed as follows:
   A. Position the Pressurization Mode Selector to MAN AC.
      1) Use the VALVE toggle switch to observe that the outflow valve position indicator moves to full open, to full closed and then back to full open.
   B. Position the Pressurization Mode Selector to MAN DC.
      1) Use the VALVE toggle switch to observe that the outflow valve position indicator moves to full open, to full closed and then back to full open.
2. With STBY Mode inoperative, modify these Non-Normal Checklists:
   A. Section 1: Airplane General, Emergency Equipment, Doors, Windows - AIRSTAIR, - CARGO DOOR, - EQUIPMENT DOOR, - MAIN CARGO DOOR.
      1) If MAIN CARGO light illuminates or; if EQUIP, FWD/AFT CARGO or AIRSTAIR light is illuminated and pressurization is not normal:
         a. If minimum safe altitude is at or below 9000 feet, descend to 9000 feet. Set LAND ALT to 9000 feet. Maintain a cabin differential pressure of 0 psi by limiting flight altitude to 9000 feet.
         b. If minimum safe altitude is between 9000 feet and 13000 feet, descend to the minimum safe altitude. Set LAND ALT to a higher altitude (maximum 13000 feet) to maintain a cabin differential pressure of 0 psi.
         c. If minimum safe altitude is at or above 13000 feet, descend to the minimum safe altitude. Set Pressurization Mode selector to MAN DC. Adjust outflow valve to maintain a cabin differential pressure of 0 psi.

B. Section 1: Airplane General, Emergency Equipment, Doors, Windows - WINDOW DAMAGE, - WINDOW DAMAGE WINDOW 3 NOT HEATED, [for 737-100/-200 airplane, - WINDOW DAMAGE (WINDOW 3)]

1) If Window 3 is NOT affected, set LAND ALT to 9000 feet.

2) If Window 3 is affected:

a. If minimum safe altitude is at or below 9000 feet, descend to 9000 feet. Set LAND ALT to 9000 feet. Maintain a cabin differential pressure of 0 psi by limiting flight altitude to 9000 feet.

b. If minimum safe altitude is between 9000 feet and 13000 feet, descend to the minimum safe altitude, set LAND ALT to a higher altitude (maximum 13000 feet) to maintain a cabin differential pressure of 0 psi.

c. If minimum safe altitude is at or above 13000 feet, descend to the minimum safe altitude. Set Pressurization Mode selector to MAN DC. Adjust outflow valve to maintain a cabin differential pressure of 0 psi.

C. Section 8: Fire Protection - SMOKE/FUMES REMOVAL

1) If the PACK switches are ON, and smoke/fumes source is confirmed to be on the flight deck or main cabin:

a. Set LAND ALT to 10,000 feet to increase ventilation rate.

21-14 Cabin Pressure Control System

21-14-02 Analog Control System Automatic / Standby / Manual Modes (-400/-500)

Interval	Installed	Required	Procedure
C	3	0	**(M) (O)**

May be inoperative for unpressurized flight provided:

a. Outflow valve is deactivated open or removed.

b. Extended overwater flight is prohibited.

MAINTENANCE (M)

1. Manually position the outflow valve in the full open position:
   A. Position the Pressurization Mode selector to AC MAN or DC MAN.
   B. Hold the VALVE toggle switch in the OPEN position until valve position indicator indicates full open.
2. If the outflow valve cannot be positioned to the full open position, remove the outflow valve (AMM 21-31-11/401). Stow electrical connectors.
3. Open and collar these P-6 Panel circuit breakers:
   A. MANUAL AC
   B. MANUAL DC
   C. AUTO AC
   D. AUTO DC
   E. STBY AC
   F. STBY DC.

OPERATIONS (O)

1. Limit altitude to 10,000 ft. for passenger flights.
2. Non-passenger flights above 10,000 ft. require flight crew to be on oxygen.
3. Extended overwater flight is prohibited.
4. Limit climb and descent rates to 500 FPM to avoid passenger discomfort.
5. For galley 4B food cart chiller installed, use only one chiller inflight.

For -300/-400/-500:

7. Use only one pack inflight.

For -300/-400/-500:

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

21-14 Cabin Pressure Control System
21-14-03 Digital Control System Automatic Modes (-400/-500/-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	2	1	**(M) (O)**

One may be inoperative provided:

a. Manual mode operates normally.
b. Inoperative controller is deactivated.
c. Auxiliary fuel bleed air pressurization system (if installed) is verified to be operational before each departure.

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

MAINTENANCE (M)

Model 737-700IGW/-800 airplanes modified with the PATS BBJ auxiliary fuel tank installation are not a Boeing configuration. Therefore, procedures applicable to the auxiliary fuel bleed air pressurization system are not provided.

For -300/-400/-500:

Deactivate the inoperative cabin pressure controller:

1. Open and collar the associated P6-4 panel circuit breaker PRESSURIZATION CONTROL-AUTO 1 or AUTO 2.

For -600/-700/-800/-900:

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

1. Open and collar the associated P6-4 panel circuit breaker PRESSURIZATION CONTROL-AUTO 1 or AUTO 2.

OPERATIONS (O)

1. Normal operation of manual mode may be confirmed as follows:
   A. Position the Pressurization Mode Selector to MAN.
   B. Use the VALVE toggle switch to observe that the outflow valve position indicator moves to full open, to full closed and then back to full open.
2. Position the Pressurization Mode Selector to ALTN prior to dispatch.
   NOTE: Subsequent illumination of the AUTO FAIL light during flight requires positioning the Pressurization Mode Selector to MAN for manual mode operation.

21-14 Cabin Pressure Control System

21-14-03 Digital Control System Automatic Modes (-400/-500/-600/-700/-800/-900)

21-14-03-01 -400/-500

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative for unpressurized flight provided:

a. Outflow valve is deactivated in 25% open position or removed.

b. Extended overwater flight is prohibited.

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

MAINTENANCE (M)

1. Position the outflow valve in the 25% open position.
   A. Position the Pressurization Mode Selector to MAN.
   B. Hold the VALVE toggle switch in the OPEN position until valve position indicator indicates 25% open.
2. If the outflow valve cannot be positioned to the 25% open position, remove the outflow valve (AMM 21-31-11/401). Stow electrical connectors.
3. Open and collar these P-6 Panel circuit breakers:
   A. PRESSURIZATION CONTROL MANUAL
   B. PRESSURIZATION CONTROL AUTO 1
   C. PRESSURIZATION CONTROL AUTO 2
   D. PRESSURIZATION CONTROL IND
   E. PRESSURIZATION CONTROL LCD LTG.

OPERATIONS (O)

1. Limit altitude to 10,000 ft. for passenger flights.
2. Non-passenger flights above 10,000 ft. require flight crew to be on oxygen.
3. Extended overwater flight is prohibited.
4. Use only one pack inflight.
5. When dispatching with one operating pack supplied by engine bleed air on takeoff:
   A. Determine V1(MCG) based on engine bleed for packs OFF. B. Determine takeoff performance based on packs AUTO.
6. For galley 4B food cart chiller installed, use only one chiller inflight.
7. Limit climb and descent rates to 500 FPM to avoid passenger discomfort.

21-14 Cabin Pressure Control System

21-14-03 Digital Control System Automatic Modes (-400/-500/-600/-700/-800/-900)

21-14-03-02 (-600/-700/-800 prior to incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or production equivalent)

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative for unpressurized flight provided:

a. Outflow valve is deactivated in 25% open position or removed.
b. Recirculation fan(s) operates normally.
c. Extended overwater flight is prohibited.
d. Auxiliary tanks (if installed) remain empty or auxiliary fuel is included as part of zero fuel weight.

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

MAINTENANCE (M)

1. Configure airplane for unpressurized flight (AMM 21-00-00/901):
   A. Manually position the outflow valve in the 25% open position:
      1) Position the Pressurization Mode selector to MAN.
      2) Hold the VALVE toggle switch in the OPEN position until valve position indicator indicates 25% open.
   B. If the outflow valve cannot be positioned to the 25% open position, remove the outflow valve (AMM 21-31-03/401). Stow electrical connectors.
   C. Open and collar these P-6 Panel circuit breakers:
      1) PRESSURIZATION CONTROL MANUAL
      2) PRESSURIZATION CONTROL AUTO 1
      3) PRESSURIZATION CONTROL AUTO 2
      4) PRESSURIZATION CONTROL IND
      5) PRESSURIZATION CONTROL LCD LTG
      6) A/C OVERBOARD EXH VALVE RECONFIG CONT.

OPERATIONS (O)

1. Limit altitude to 10,000 ft. for passenger flights.
2. Non-passenger flights above 10,000 ft. require flight crew to be on oxygen.

3. Extended overwater flight is prohibited.
4. Use only one pack inflight.
5. When dispatching with one operating pack supplied by engine bleed air on takeoff:
   A. Determine V1(MCG) based on engine bleed for packs OFF.
   B. Determine takeoff performance based on packs AUTO.
6. For galley 4B food cart chiller installed, use only one chiller inflight.
7. Limit climb and descent rates to 500 FPM to avoid passenger discomfort.

21-14 Cabin Pressure Control System

21-14-03 Digital Control System Automatic Modes (-400/-500/-600/-700/-800/-900)

21-14-03-03 (-600/-700/-800 upon incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or production equivalent)

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative for unpressurized flight provided:

a. Procedures are established and used to ensure lower forward cargo compartment remains empty, or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away kits.
b. Outflow valve is deactivated in 25% open position or removed.
c. Recirculation fan(s) operate normally.
d. Extended overwater flight is prohibited.
e. Auxiliary tanks (if installed) remain empty or auxiliary fuel is included as part of zero fuel weight.

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

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

MAINTENANCE (M)

1. Configure airplane for unpressurized flight (AMM 21-00-00/901):
   A. Manually position the outflow valve in the 25% open position:
      1) Position the Pressurization Mode selector to MAN.
      2) Hold the VALVE toggle switch in the OPEN position until valve

position indicator indicates 25% open.

B. If the outflow valve cannot be positioned to the 25% open position, remove the outflow valve (AMM 21-31-03/401). Stow electrical connectors.

C. Open and collar these P-6 Panel circuit breakers:

1) PRESSURIZATION CONTROL MANUAL
2) PRESSURIZATION CONTROL AUTO 1
3) PRESSURIZATION CONTROL AUTO 2
4) PRESSURIZATION CONTROL IND
5) PRESSURIZATION CONTROL LCD LTG
6) A/C OVERBOARD EXH VALVE RECONFIG CONT.

OPERATIONS (O)

1. Limit altitude to 10,000 ft. for passenger flights.
2. Non-passenger flights above 10,000 ft. require flight crew to be on oxygen.
3. Extended overwater flight is prohibited.
4. Use only one pack inflight.
5. When dispatching with one operating pack supplied by engine bleed air on takeoff:
   A. Determine V1(MCG) based on engine bleed for packs OFF.
   B. Determine takeoff performance based on packs AUTO.
6. For galley 4B food cart chiller installed, use only one chiller inflight.
7. Limit climb and descent rates to 500 FPM to avoid passenger discomfort.
8. Operators must establish and use procedures to verify the lower forward cargo compartment remains empty or contains only ballast, empty cargo handling equipment (ballast may be loaded in ULDs) or fly away kits.

   NOTE: The operator's MEL must define which items are approved for inclusion in the fly away kits and which can be used as ballast.

21-14 Cabin Pressure Control System

21-14-03 Digital Control System Automatic Modes (-400/-500/-600/-700/-800/-900)

21-14-03-04 -900

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative for unpressurized flight provided:

a. Outflow valve is deactivated in 25% open position or removed.
b. Recirculation fans operate normally.
c. Extended overwater flight is prohibited.
d. Forward cargo heat duct is secured closed.
e. Airport ambient temperature does not exceed 103 degrees F (39 degrees C).

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

MAINTENANCE (M)

1. Configure airplane for unpressurized flight (AMM 21-00-00/901):
   A. Manually position the outflow valve in the 25% open position:
      1) Position the Pressurization Mode selector to MAN.
      2) Hold the VALVE toggle switch in the OPEN position until valve position indicator indicates 25% open.
   B. If the outflow valve cannot be positioned to the 25% open position, remove the outflow valve (AMM 21-31-03/401). Stow electrical connectors.
   C. Open and collar these P-6 Panel circuit breakers:
      1) PRESSURIZATION CONTROL MANUAL
      2) PRESSURIZATION CONTROL AUTO 1
      3) PRESSURIZATION CONTROL AUTO 2
      4) PRESSURIZATION CONTROL IND
      5) PRESSURIZATION CONTROL LCD LTG.
2. Secure the forward cargo heat duct closed:
   NOTE: With the forward cargo heat duct closed, temperature sensitive items should not be carried in the forward cargo compartment.
   A. With shutoff valve 4063-20605-01 installed:
      1) Locate the manual lever on top of the forward cargo heat duct shutoff valve and move the lever from the fully open (O) position to the fully closed (C) position.
   B. With shutoff valve 4063-20605-01 NOT installed:
      1) Remove the forward cargo heat duct check valve.
      2) Install cap BOE2221-0011 in the heat duct.
3. Use an operative pack or ground cart to provide cooling when the airplane is electrically powered on the ground and airport temperatures are at or above 73 degrees F / 23 degrees C,

OPERATIONS (O)

1. Limit altitude to 10,000 ft. for passenger flights.
2. Non-passenger flights above 10,000 ft. require flight crew to be on oxygen.
3. Extended overwater flight is prohibited.
4. Use only one pack inflight.
5. Position R RECIRC FAN switch to OFF.
6. Position the PACK switch to HIGH after completing the AFTER TAKEOFF Normal Checklist.

7. When dispatching with one operating pack supplied by engine bleed air on takeoff:
   A. Determine V1(MCG) based on engine bleed for packs OFF.
   B. Determine takeoff performance based on packs AUTO.
8. For galley 4B food cart chiller installed, use only one chiller inflight.
9. Limit climb and descent rates to 500 FPM to avoid passenger discomfort.

21-14 Cabin Pressure Control System

21-14-04 Digital Control System Manual Mode (-400/-500/-600/-700/-800/-900)

21-14-04-01 -400/-500

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative for unpressurized flight provided:

a. Outflow valve is deactivated in 25% open position or removed.
b. Extended overwater flight is prohibited.

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

MAINTENANCE (M)

1. Position the outflow valve in the 25% open position:
   A. Set parking brake.
   B. Start both engines.
   C. Run the engines for two minutes to allow them to stabilize.
   D. Advance thrust levers as necessary to make sure that N1 is greater than 60% and N2 is greater than 89%.
   E. Monitor the outflow valve position indicator as it goes to the closed position.
   F. When the outflow valve is in the 25% position, open and collar these P6-4 circuit breakers:
      1) PRESSURIZATION CONTROL AUTO 1
      2) PRESSURIZATION CONTROL AUTO 2.
   G. Retard thrust levers and shut down both engines.
2. If the outflow valve can not be positioned to the 25% open position, remove the outflow valve (AMM 21-31-11/401). Stow electrical connectors.
3. Open and collar these P6-4 Panel circuit breakers:
   A. PRESSURIZATION CONTROL MANUAL
   B. PRESSURIZATION CONTROL AUTO 1

C. PRESSURIZATION CONTROL AUTO 2
D. PRESSURIZATION CONTROL IND
E. PRESSURIZATION CONTROL LCD LTG.

OPERATIONS (O)

1. Limit altitude to 10,000 ft. for passenger flights.
2. Non-passenger flights above 10,000 ft. require flight crew to be on oxygen.
3. Extended overwater flight is prohibited.
4. Use only one pack inflight.
5. When dispatching with one operating pack supplied by engine bleed air on takeoff:
   A. Determine V1(MCG) based on engine bleed for packs OFF.
   B. Determine takeoff performance based on packs AUTO.
6. For galley 4B food cart chiller installed, use only one chiller inflight.
7. Limit climb and descent rates to 500 FPM to avoid passenger discomfort.

21-14 Cabin Pressure Control System

21-14-04 Digital Control System Manual Mode (-400/-500/-600/-700/-800/-900)

21-14-04-02 (-600/-700/-800 all passenger configuration prior to incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or production equivalent)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative for unpressurized flight provided:

a. Outflow valve is deactivated in 25% open position or removed.
b. Recirculation fan(s) operates normally.
c. Extended overwater flight is prohibited.

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

MAINTENANCE (M)

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

1. Position the outflow valve in the 25% open position:
   A. Set parking brake.
   B. Start both engines (AMM 71-00-00/201).
   C. Run the engines for two minutes to allow them to stabilize.

D. Advance thrust levers as necessary to make sure that N1 is greater than 60% and N2 is greater than 89%.

E. Monitor the outflow valve position indicator as it goes to the closed position.

F. When the outflow valve is in the 25% position, open and collar these P6-4 circuit breakers:

1) PRESSURIZATION CONTROL AUTO 1

2) PRESSURIZATION CONTROL AUTO 2.

G. Retard thrust levers and shut down both engines.

2. If the outflow valve can not be positioned to the 25% open position, remove the outflow valve (AMM 21-31-03/401). Stow electrical connectors.

3. Open and collar these P6-4 Panel circuit breakers:

A. PRESSURIZATION CONTROL MANUAL

B. PRESSURIZATION CONTROL AUTO 1

C. PRESSURIZATION CONTROL AUTO 2

D. PRESSURIZATION CONTROL IND

E. PRESSURIZATION CONTROL LCD LTG

F. A/C OVERBOARD EXH VALVE RECONFIG CONT.

OPERATIONS (O)

1. Limit altitude to 10,000 ft. for passenger flights.
2. Non-passenger flights above 10,000 ft. require flight crew to be on oxygen.
3. Extended overwater flight is prohibited.
4. Use only one pack inflight.
5. When dispatching with one operating pack supplied by engine bleed air on takeoff:

A. Determine V1(MCG) based on engine bleed for packs OFF.

B. Determine takeoff performance based on packs AUTO.

6. For galley 4B food cart chiller installed, use only one chiller inflight.
7. Limit climb and descent rates to 500 FPM to avoid passenger discomfort.

21-14 Cabin Pressure Control System

21-14-04 Digital Control System Manual Mode (-400/-500/-600/-700/-800/-900)

21-14-04-03 (-600/-700/-800 all passenger configuration upon incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or production equivalent)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative for unpressurized flight provided:

a. Procedures are established and used to ensure lower forward cargo compartment remains empty, or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away kits.
b. Outflow valve is deactivated in 25% open position or removed.
c. Recirculation fan(s) operate normally.
d. Extended overwater flight is prohibited.

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

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

MAINTENANCE (M)

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

1. Position the outflow valve in the 25% open position:
   A. Set parking brake.
   B. Start both engines (AMM 71-00-00/201).
   C. Run the engines for two minutes to allow them to stabilize.
   D. Advance thrust levers as necessary to make sure that N1 is greater than 60% and N2 is greater than 89%.
   E. Monitor the outflow valve position indicator as it goes to the closed position.
   F. When the outflow valve is in the 25% position, open and collar these P6-4 circuit breakers:
      1) PRESSURIZATION CONTROL AUTO 1
      2) PRESSURIZATION CONTROL AUTO 2.
   G. Retard thrust levers and shut down both engines.
2. If the outflow valve can not be positioned to the 25% open position, remove the outflow valve (AMM 21-31-03/401). Stow electrical connectors.
3. Open and collar these P6-4 Panel circuit breakers:
   A. PRESSURIZATION CONTROL MANUAL
   B. PRESSURIZATION CONTROL AUTO 1
   C. PRESSURIZATION CONTROL AUTO 2
   D. PRESSURIZATION CONTROL IND
   E. PRESSURIZATION CONTROL LCD LTG
   F. A/C OVERBOARD EXH VALVE RECONFIG CONT.

OPERATIONS (O)

1. Limit altitude to 10,000 ft. for passenger flights.
2. Non-passenger flights above 10,000 ft. require flight crew to be on oxygen.
3. Extended overwater flight is prohibited.
4. Use only one pack inflight.
5. When dispatching with one operating pack supplied by engine bleed air on takeoff:
   A. Determine V1(MCG) based on engine bleed for packs OFF.
   B. Determine takeoff performance based on packs AUTO.
6. For galley 4B food cart chiller installed, use only one chiller inflight.
7. Limit climb and descent rates to 500 FPM to avoid passenger discomfort.
8. Operators must establish and use procedures to verify the lower forward cargo compartment remains empty or contains only ballast, empty cargo handling equipment (ballast may be loaded in ULDs) or fly away kits.

   NOTE: The operator's MEL must define which items are approved for inclusion in the fly away kits and which can be used as ballast.

21-14 Cabin Pressure Control System

21-14-04 Digital Control System Manual Mode (-400/-500/-600/-700/-800/-900)

21-14-04-04 -900

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative for unpressurized flight provided:

a. Outflow valve is deactivated in 25% open position or removed.
b. Recirculation fans operate normally.
c. Extended overwater flight is prohibited.
d. Forward cargo heat duct is secured closed.
e. Airport ambient temperature does not exceed 103 degrees F (39 degrees C).

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

MAINTENANCE (M)

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

1. Position the outflow valve in the 25% open position:

A. Set parking brake.
B. Start both engines (AMM 71-00-00/201).
C. Run the engines for two minutes to allow them to stabilize.
D. Advance thrust levers as necessary to make sure that N1 is greater than 60% and N2 is greater than 89%.
E. Monitor the outflow valve position indicator as it goes to the closed position.
F. When the outflow valve is in the 25% position, open and collar these P6-4 circuit breakers:
1) PRESSURIZATION CONTROL AUTO 1
2) PRESSURIZATION CONTROL AUTO 2.
G. Retard thrust levers and shut down both engines.

2. If the outflow valve can not be positioned to the 25% open position, remove the outflow valve (AMM 21-31-03/401). Stow electrical connectors.
3. Open and collar these P6-4 Panel circuit breakers:
A. PRESSURIZATION CONTROL MANUAL
B. PRESSURIZATION CONTROL AUTO 1
C. PRESSURIZATION CONTROL AUTO 2
D. PRESSURIZATION CONTROL IND
E. PRESSURIZATION CONTROL LCD LTG.
4. Secure the forward cargo heat duct closed:
NOTE: With the forward cargo heat duct closed, temperature sensitive items should not be carried in the forward cargo compartment.
A. With shutoff valve 4063-20605-01 installed:
1) Locate the manual lever on top of the forward cargo heat duct shutoff valve and move the lever from the fully open (O) position to the fully closed (C) position.
B. With shutoff valve 4063-20605-01 NOT installed:
1) Remove the forward cargo heat duct check valve.
2) Install cap BOE2221-0011 in the heat duct.
5. Use an operative pack or ground cart to provide cooling when the airplane is electrically powered on the ground and airport temperatures are at or above 73 degrees F / 23 degrees C,

OPERATIONS (O)

1. Limit altitude to 10,000 ft. for passenger flights.
2. Non-passenger flights above 10,000 ft. require flight crew to be on oxygen.
3. Extended overwater flight is prohibited.
4. Use only one pack inflight.
5. Position R RECIRC FAN switch to OFF.
6. Position the PACK switch to HIGH after completing the AFTER TAKEOFF Normal Checklist.

7. When dispatching with one operating pack supplied by engine bleed air on takeoff:
   A. Determine V1(MCG) based on engine bleed for packs OFF.
   B. Determine takeoff performance based on packs AUTO.
8. For galley 4B food cart chiller installed, use only one chiller inflight.
9. Limit climb and descent rates to 500 FPM to avoid passenger discomfort.

21-15 Main Outflow Valve

21-15-01 Analog Control System Outflow Valve Actuators (AC and/or DC) -400/-500

21-15-01A One Actuator Inoperative

Interval	Installed	Required	Procedure
C	2	1	

One actuator may be inoperative for pressurized cargo-only flight, provided airplane is depressurized before landing.

21-15 Main Outflow Valve

21-15-01 Analog Control System Outflow Valve Actuators (AC and/or DC) -400/-500

21-15-01B Both Actuators Inoperative

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative for unpressurized flight provided:

a. Outflow valve is deactivated open or removed.

b. Extended overwater flight is prohibited.

MAINTENANCE (M)

Use DDG item 21-14-02 (M) procedure.

OPERATIONS (O)

Use DDG item 21-14-02 (O) procedure.

21-15 Main Outflow Valve

21-15-02 Digital Control System Outflow Valve Automatic Mode Actuators

21-15-02-01 --400/-500

21-15-02-01A One Actuator Inoperative

Interval	Installed	Required	Procedure
C	2	1	

One may be inoperative provided manual mode actuator operates normally.

21-15 Main Outflow Valve

21-15-02 Digital Control System Outflow Valve Automatic Mode Actuators

21-15-02-01 -400/-500

21-15-02-01B Both Actuators Inoperative

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative for unpressurized flight provided:

a. Outflow valve is deactivated in 25% open position or removed.

b. Extended overwater flight is prohibited.

MAINTENANCE (M)

Use DDG item 21-14-03-01 (M) procedure.

OPERATIONS (O)

Use DDG item 21-14-03-01 (O) procedure.

21-15 Main Outflow Valve

21-15-02 Digital Control System Outflow Valve Automatic Mode Actuators

21-15-02-02 -600/-700/-800/-900

Interval	Installed	Required	Procedure
C	2	1	

One may be inoperative provided manual mode actuator operates normally.

21-15 Main Outflow Valve

21-15-02 Digital Control System Outflow Valve Automatic Mode Actuators

21-15-02-03 (-600/-700/-800 prior to incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or production equivalent)

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative for unpressurized flight provided:

a. Outflow valve is deactivated in 25% open position or removed.

b. Recirculation fan(s) operate normally.
c. Extended overwater flight is prohibited.

MAINTENANCE (M)

Use DDG item 21-14-03-02 (M) procedure.

OPERATIONS (O)

Use DDG item 21-14-03-02 (O) procedure.

21-15 Main Outflow Valve

21-15-02 Digital Control System Outflow Valve Automatic Mode Actuators

21-15-02-04 (-600/-700/-800 upon incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or production equivalent)

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative for unpressurized flight provided:

a. Procedures are established and used to ensure lower forward cargo compartment remains empty, or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away kits.
b. Outflow valve is deactivated in 25% open position or removed.
c. Recirculation fan(s) operate normally.
d. Extended overwater flight is prohibited.

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

MAINTENANCE (M)

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

OPERATIONS (O)

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

21-15 Main Outflow Valve

21-15-02 Digital Control System Outflow Valve Automatic Mode Actuators

21-15-02-05 -900

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative for unpressurized flight provided:

a. Outflow valve is deactivated in 25% open position or removed.
b. Recirculation fans operate normally.
c. Extended overwater flight is prohibited.
d. Forward cargo heat duct is secured closed.
e. Airport ambient temperature does not exceed 103 degrees F (39 degrees C).

MAINTENANCE (M)

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

OPERATIONS (O)

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

21-15 Main Outflow Valve

21-15-03 Digital Control System Outflow Valve Manual Mode Actuator

21-15-03-01 --400/-500

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative for unpressurized flight provided:

a. Outflow valve is deactivated in 25% open position or removed.
b. Extended overwater flight is prohibited.

MAINTENANCE (M)

Use DDG item 21-14-04-01 (M) procedure.

OPERATIONS (O)

Use DDG item 21-14-04-01 (O) procedure.

21-15 Main Outflow Valve

21-15-03 Digital Control System Outflow Valve Manual Mode Actuator

21-15-03-02 (-600/-700/-800 prior to incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or production equivalent)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative for unpressurized flight provided:

a. Outflow valve is deactivated in 25% open position or removed.

b. Recirculation fan(s) operate normally.

c. Extended overwater flight is prohibited.

MAINTENANCE (M)

Use DDG item 21-14-04-02 (M) procedure.

OPERATIONS (O)

Use DDG item 21-14-04-02 (O) procedure.

21-15 Main Outflow Valve

21-15-03 Digital Control System Outflow Valve Manual Mode Actuator

21-15-03-03 (-600/-700/-800 upon incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or production equivalent)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative for unpressurized flight provided:

a. Procedures are established and used to ensure lower forward cargo compartment remains empty, or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away kits.

b. Outflow valve is deactivated in 25% open position or removed.

c. Recirculation fan(s) operate normally.

d. Extended overwater flight is prohibited.

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

MAINTENANCE (M)

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

OPERATIONS (O)

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

21-15 Main Outflow Valve

21-15-03 Digital Control System Outflow Valve Manual Mode Actuator

21-15-03-04 -900

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative for unpressurized flight provided:

a. Outflow valve is deactivated in 25% open position or removed.
b. Recirculation fans operate normally.
c. Extended overwater flight is prohibited.
d. Forward cargo heat duct is secured closed.
e. Airport ambient temperature does not exceed 103 degrees F (39 degrees C).

MAINTENANCE (M)

Use DDG item 21-14-04-04 (M) procedure.

OPERATIONS (O)

Use DDG item 21-14-04-04 (O) procedure.

21-16 Pressure Relief Valves

21-16-01 Analog Control System (-400/-500)

21-16-01A Pressurized Flight

Interval	Installed	Required	Procedure
C	2	1	**(M)**

One may be inoperative closed for pressurized flight.

MAINTENANCE (M)

Install a blanking plate in place of the inoperative pressure relief valve:

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

21-16 Pressure Relief Valves

21-16-01 Analog Control System (-400/-500)

21-16-01B Unpressurized Flight

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative provided flight is conducted in an unpressurized configuration.

MAINTENANCE (M)

Use DDG item 21-10-01B (M) procedure.

OPERATIONS (O)

Use DDG item 21-10-01B (O) procedure.

21-16 Pressure Relief Valves

21-16-02 Digital Control System (-400/-500/-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	2	1	**(M)**

One may be inoperative closed for pressurized flight.

MAINTENANCE (M)

For -300/-400/-500:

Install a blanking plate in place of the inoperative pressure relief valve:

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

For -600/-700/-800/-900:

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

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

21-16 Pressure Relief Valves

21-16-02 Digital Control System (--400/-500/-600/-700/-800/-900)

21-16-02-01 --400/-500

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative provided:

a. Flight is conducted in an unpressurized configuration.

b. Outflow valve is positioned to 25% open position.

MAINTENANCE (M)

Use DDG item 21-10-02-01 (M) procedure.

OPERATIONS (O)

Use DDG item 21-10-02-01 (O) procedure.

21-16 Pressure Relief Valves

21-16-02 Digital Control System (--400/-500/-600/-700/-800/-900)

21-16-02-02 (-600/-700/-800 prior to incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or production equivalent)

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative provided:

a. Flight is conducted in an unpressurized configuration.

b. Outflow valve is positioned to 25% open position.

c. Recirculation fan(s) operate normally.

MAINTENANCE (M)

Use DDG item 21-10-02-02 (M) procedure.

OPERATIONS (O)

Use DDG item 21-10-02-02 (O) procedure.

21-16 Pressure Relief Valves

21-16-02 Digital Control System (-400/-500/-600/-700/-800/-900)

21-16-02-03 (-600/-700/-800 upon incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or production equivalent)

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative provided:

a. Flight is conducted in an unpressurized configuration.

b. Procedures are established and used to ensure lower forward cargo compartment remains empty, or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away kits.

c. Outflow valve is positioned to 25% open position.

d. Recirculation fan(s) operate normally.

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

MAINTENANCE (M)

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

OPERATIONS (O)

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

21-16 Pressure Relief Valves

21-16-02 Digital Control System (-400/-500/-600/-700/-800/-900)

21-16-02-04 -900

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative provided:

a. Flight is conducted in an unpressurized configuration.

b. Outflow valve is positioned to 25% open position.
c. Recirculation fans operate normally.
d. Forward cargo heat duct is secured closed.
e. Airport ambient temperature does not exceed 103 degrees F (39 degrees C).

MAINTENANCE CMl

Use DOG item 21-10-02-04 (M) procedure.

OPERATIONS COl

Use DOG item 21-10-02-04 (0) procedure.

21-17 Temperature Indicators

21-17-01 Supply Duct (-500/-600/-700)

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided both duct overheat warning systems operate normally.

21-17 Temperature Indicators

21-17-02 Supply Duct (-400/-800/-900)

Interval	Installed	Required	Procedure
C	3	0	

May be inoperative provided associated ZONE TEMP light operates normally.

21-17 Temperature Indicators

21-17-03 Pass Cabin

Interval	Installed	Required	Procedure
C	-	0	

21-17 Temperature Indicators

21-17-04 Pack (-400/-800/-900)

Interval	Installed	Required	Procedure
C	2	0	

21-18 Duct Overheat Warning Lights

21-18-01 DUCT OVERHEAT (-500/-600/-700)

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided supply duct temperature indicators operate normally.

21-18 Duct Overheat Warning Lights

21-18-02 ZONE TEMP (-400/-800/-900)

Interval	Installed	Required	Procedure
C	3	0	

May be inoperative provided associated supply duct temperature indicator operates normally.

21-19 Passenger Cabin Temperature Control Systems

21-19-01 Automatic / Manual Controls
--500/-600/-700

21-19-01A One System Inoperative

Interval	Installed	Required	Procedure
C	2	1	

21-19 Passenger Cabin Temperature Control Systems

21-19-01 Automatic / Manual Controls
--500/-600/-700

21-19-01B Both Systems Inoperative, Right Pack Is Not Used

Interval	Installed	Required	Procedure
C	2	0	**(O)**

May be inoperative provided right pack is not used.

OPERATIONS (O)

For -300/-500/-600/-700:

1. When dispatching with one operating pack supplied by engine bleed air on takeoff:
   A. Determine V1(MCG) based on engine bleed for packs OFF.
   B. Determine takeoff performance based on packs AUTO.
2. Limit altitude to FL250.
3. ER operations are not allowed.
4. For galley 4B food cart chiller installed, use only one chiller inflight.
5. Position the R PACK switch to OFF.
6. Position the ISOLATION VALVE switch to CLOSE.
7. For increased air flow when the flaps are extended (takeoff and landing), use the APU to supply bleed air to the operating pack.
   A. Do the Supplementary Procedure - Air Systems “No Engine Bleed Takeoff and Landing” (Refer to the Flight Crew Operations Manual).
   NOTE: Keep the R PACK switch to OFF and the ISOLATION VALVE switch to CLOSE

21-19 Passenger Cabin Temperature Control Systems

21-19-02 FWD / AFT

21-19-02-01 -400/-800/-900

Interval	Installed	Required	Procedure
C	2	0	**(O)**

May be dispatched with faults indicated by ZONE TEMP Light(s) during Master Caution recall provided associated temperature control system is checked to operate normally before each takeoff.

OPERATIONS (O)

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

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

21-19 Passenger Cabin Temperature Control Systems

21-19-02 FWD / AFT

21-19-02-02 -400/-800

21-19-02-02A Trim Air PRSOV Remains CLOSED

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative provided Trim Air Pressure Regulating and Shutoff Valve remains CLOSED.

MAINTENANCE (M)

Position the TRIM AIR switch to OFF.

OPERATIONS (O)

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

21-19 Passenger Cabin Temperature Control Systems

21-19-02 FWD / AFT

21-19-02-02 -400/-800

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

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative provided associated Trim Air Modulating Valve is deactivated CLOSED.

MAINTENANCE (M)

For -400:
Deactivate trim air modulating valve(s) (locked closed):
For -800:
Deactivate trim air modulating valve(s) (locked closed) (AMM 21-00-00/901):
For All Models:

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

OPERATIONS (O)

Use normal procedures to operate the temperature selectors.

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

21-19 Passenger Cabin Temperature Control Systems

21-19-02 FWD / AFT

21-19-02-03 -900

21-19-02-03A Trim Air PRSOV Remains CLOSED

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative provided:

a. Trim Air Pressure Regulating and Shutoff Valve remains Closed.

b. Forward cargo heat duct is secured closed.

c. Airport ambient temperature does not exceed 103 degrees F (39 degrees C).

MAINTENANCE (M)

1. Position the TRIM AIR switch to OFF.
2. Securing the forward cargo heat duct closed requires that one pack be deactivated. Use DDG item 21-01-01-03 (M) procedure.

OPERATIONS (O)

1. Use DDG item 21-01-01-03 (O) procedure.
2. Operate with TRIM AIR switch OFF.
3. Use normal procedures to operate the temperature selectors.

21-19 Passenger Cabin Temperature Control Systems

21-19-02 FWD / AFT

21-19-02-03 -900

21-19-02-03B Trim Air Modulating Valve Deactivated CLOSED

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative provided:

a. Associated Trim Air Modulating Valve is deactivated CLOSED.

b. Forward cargo heat duct is secured closed.

c. Airport ambient temperature does not exceed 103 degrees F (39 degrees C).

MAINTENANCE (M)

Deactivate trim air modulating valve(s) (locked closed) and secure the forward cargo heat duct closed (AMM 21-00-00/901):

1. Position the FWD CAB and/or AFT CAB Temperature Selector to OFF.
2. Locate the associated trim air modulating valve(s) in the right ECS bay.

3. Turn the manual override until the visual position indicator shows the full closed position.
4. Disconnect and stow the electrical connector from the valve(s).
5. Position the associated Temperature Selector(s) to the normal temperature range.
6. Securing the forward cargo heat duct closed requires that one pack be deactivated. Use DDG item 21-01-01-03 (M) procedure.

OPERATIONS (O)

1. Use DDG item 21-01-01-03 (O) procedure.
2. Use normal procedures to operate the temperature selectors.

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

21-21 Flight Deck Temperature Control Systems

21-21-01 Automatic / Manual Controls --500/-600/-700

21-21-01A One System Inoperative

Interval	Installed	Required	Procedure
C	2	1	

21-21 Flight Deck Temperature Control Systems

21-21-01 Automatic / Manual Controls -500/-600/-700

21-21-01B Both Systems Inoperative, Left Pack Is Not Used

Interval	Installed	Required	Procedure
C	2	0	**(O)**

May be inoperative provided left pack is not used.

OPERATIONS (O)

For -300/-500/-600/-700:

1. When dispatching with one operating pack supplied by engine bleed air on takeoff:
   A. Determine V1(MCG) based on engine bleed for packs OFF.
   B. Determine takeoff performance based on packs AUTO.
2. Limit altitude to FL 250.
3. ER operations are not allowed.
4. For galley 4B food cart chiller installed, use only one chiller inflight.
5. Position the L PACK switch to OFF.
6. Position the ISOLATION VALVE switch to CLOSE.
7. For increased air flow when the flaps are extended (takeoff and landing), use the APU to supply bleed air to the operating pack.
   A. Left pack inoperative - PRIOR to takeoff or landing
      1) Engine No. 1 BLEED air switch to OFF
      2) R PACK switch to AUTO
      3) L PACK switch to OFF
      4) ISOLATION VALVE switch to OPEN
      5) Engine No. 2 BLEED air switch to OFF
      6) APU BLEED air switch to ON.

B. Left pack inoperative - AFTER takeoff or landing
   1) APU BLEED air switch to OFF
   2) Engine No. 2 BLEED air switch to ON
   3) ISOLATION VALVE switch to CLOSE
   4) Engine No. 1 BLEED air switch to ON.

21-21 Flight Deck Temperature Control Systems

21-21-02 Primary / Back-up Modes

21-21-02-01 (-400/-800/-900)

Interval	Installed	Required	Procedure
C	2	1	**(O)**

One may be inoperative provided remaining temperature control is verified to operate normally.

OPERATIONS (O)

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

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

21-21 Flight Deck Temperature Control Systems

21-21-02 Primary / Back-up Modes

21-21-02-02 (-400/-800)

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

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative provided Trim Air Pressure Regulating and Shutoff Valve remains CLOSED.

MAINTENANCE (M)

Position the TRIM AIR switch to OFF.

OPERATIONS (O)

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

21-21 Flight Deck Temperature Control Systems

21-21-02 Primary / Back-up Modes

21-21-02-02 (-400/-800)

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

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative provided associated Trim Air Modulating Valve is deactivated CLOSED.

MAINTENANCE (M)

For -400:
Deactivate flight deck trim air modulating valve (locked closed):

For -800:
Deactivate flight deck trim air modulating valve (locked closed) (AMM 21-00-00/901):

For All Models:

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

OPERATIONS (O)

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

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

21-21 Flight Deck Temperature Control Systems

21-21-02 Primary / Back-up Modes

21-21-02-03 (-900)

21-21-02-03A Trim Air PRSOV Remains CLOSED

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative provided:

a. Trim Air Pressure Regulating and Shutoff Valve remains CLOSED.
b. Forward cargo heat duct is secured closed.
c. Airport ambient temperature does not exceed 103 degrees F (39 degrees C).

MAINTENANCE (M)

1. Position the TRIM AIR switch to OFF.
2. Securing the forward cargo heat duct closed requires that one pack be deactivated. Use DDG item 21-01-01-03 (M) procedure.

OPERATIONS (O)

1. Use DDG item 21-01-01-03 (O) procedure.
2. Operate with TRIM AIR switch OFF.
3. Use normal procedures to operate the temperature selectors.

21-21 Flight Deck Temperature Control Systems

21-21-02 Primary / Back-up Modes

21-21-02-03 (-900)

21-21-02-03B Trim Air Modulating Valve Deactivated CLOSED

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative provided:

a. Associated Trim Air Modulating Valve is deactivated CLOSED.

b. Forward cargo heat duct is secured closed.

c. Airport ambient temperature does not exceed 103 degrees F (39 degrees C).

MAINTENANCE (M)

Deactivate flight deck trim air modulating valve (locked closed) and secure the forward cargo heat duct closed (AMM 21-00-00/901):

1. Position the CONT CAB Temperature Selector to OFF.
2. Locate the flight deck trim air modulating valve in the left ECS bay.
3. Turn the manual override until the visual position indicator shows the full closed position.
4. Disconnect and stow the electrical connector from the valve.
5. Position the CONT CAB Temperature Selector to the normal temperature range.
6. Securing the forward cargo heat duct closed requires that one pack be deactivated. Use DDG item 21-01-01-03 (M) procedure.

OPERATIONS (O)

1. Use DDG item 21-01-01-03 (O) procedure.
2. Use normal procedures to operate the temperature selectors.

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

21-22 Forward Outflow Valve (--400/-500, Including STC's SA2969SO, ST01566LA, and ST01961SE)

21-22A Valve Inoperative Closed

Interval	Installed	Required	Procedure
C	1	0	

Except for 737C and STC ST01566LA and ST01961SE cargo or cargo/passenger operations, may be inoperative closed.

21-22 Forward Outflow Valve (--400/-500, Including STC's SA2969SO, ST01566LA, and ST01961SE)

21-22B Valve Inoperative Open, Both Packs Operate Normally

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative open provided both packs operate normally.

21-22 Forward Outflow Valve (-400/-500, Including STC's SA2969SO, ST01566LA, and ST01961SE)

21-22C Valve Inoperative Open, One Pack Operates Normally

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative open with one pack operating normally provided flight altitude remains at or below FL 200.

OPERATIONS (O)

STC SA2969SO, ST01566LA and ST01961SE are not Boeing configurations. Therefore, procedures applicable to these installations are not provided.

1. If both packs are operative, outflow valve may be open or closed with no altitude restriction.
2. If one pack is inoperative and the outflow valve is inoperative open, limit airplane altitude to FL200 or below.

For -300/-400/-500:

3. When increased air flow is necessary with the flaps extended (takeoff and landing), use the APU to supply bleed air to the operating pack.
   A. Right pack inoperative
      1) Do the Supplementary Procedure - Air Systems “No Engine Bleed Takeoff and Landing” (Refer to the Flight Crew Operations Manual).

         NOTE: Keep the PACK switch to OFF and the ISOLATION VALVE switch to CLOSE.
   B. Left pack inoperative - PRIOR to takeoff or landing
      1) Engine No. 1 BLEED air switch to OFF
      2) R PACK switch to AUTO
      3) L PACK switch to OFF
      4) ISOLATION VALVE switch to OPEN
      5) Engine No. 2 BLEED air switch to OFF
      6) APU BLEED air switch to ON.
   C. Left pack inoperative - AFTER takeoff or landing
      1) APU BLEED air switch to OFF
      2) Engine No. 2 BLEED air switch to ON
      3) ISOLATION VALVE switch to CLOSE
      4) Engine No. 1 BLEED air switch to ON.

21-24 Gasper Fan (-500/-600/-700)

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Interval	Installed	Required	Procedure
D	1	0	

21-25 Water Separator Anti-Icing Systems (-500/-600/-700)

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative provided associated pack is not used.

MAINTENANCE (M)

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

OPERATIONS (O)

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

21-26 Ground Preconditioned Air Connection Check Valve

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative closed.

21-26 Ground Preconditioned Air Connection Check Valve
21-26-01 Analog Control System (-400/ -500)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative open provided:

a. Flight is conducted in an unpressurized configuration.

b. Procedures are established and used to ensure main deck cargo compartment (as applicable) 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.

MAINTENANCE (M)

Use DDG item 21-10-01B (M) procedure.

OPERATIONS (O)

Use DDG item 21-10-01B (O) procedure.

Operators must establish and use procedures to verify the main deck cargo compartment (as applicable) remains empty or contains only ballast, empty cargo handling equipment (ballast may be loaded in ULDs) or fly away kits.

NOTE: The operator's MEL must define which items are approved for inclusion in the fly away kits and which can be used as ballast.

21-26 Ground Preconditioned Air Connection Check Valve

21-26-02 Digital Control System

21-26-02-01 --400/-500

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Flight is conducted in an unpressurized configuration
b. Outflow valve is positioned to 25% open position.

MAINTENANCE (M)

Use DDG item 21-10-02-01 (M) procedure.

OPERATIONS (O)

Use DDG item 21-10-02-01 (O) procedure.

21-26 Ground Preconditioned Air Connection Check Valve

21-26-02 Digital Control System

21-26-02-02 (-600/-700/-800 prior to incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or production equivalent)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Flight is conducted in an unpressurized configuration.
b. Outflow valve is positioned to 25% open position.
c. Recirculation fan(s) operates normally.

MAINTENANCE (M)

Use DDG item 21-10-02-02 (M) procedure.

OPERATIONS (O)

Use DDG item 21-10-02-02 (O) procedure.

21-26 Ground Preconditioned Air Connection Check Valve

21-26-02 Digital Control System

21-26-02-03 (-600/-700/-800 upon incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or production equivalent)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Flight is conducted in an unpressurized configuration.

b. Procedures are established and used to ensure lower forward cargo compartment remains empty, or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away kits.

c. Outflow valve is positioned to 25% open position.

d. Recirculation fan(s) operate normally.

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

MAINTENANCE (M)

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

OPERATIONS (O)

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

21-26 Ground Preconditioned Air Connection Check Valve

21-26-02 Digital Control System

21-26-02-04 -900

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Flight is conducted in an unpressurized configuration.

b. Outflow valve is positioned to 25% open position.

c. Recirculation fans operate normally.

d. Forward cargo heat duct is secured closed.

e. Airport ambient temperature does not exceed 103 degrees F (39 degrees C).

MAINTENANCE (M)

Use DDG item 21-10-02-04 (M) procedure.

OPERATIONS (O)

Use DDG item 21-10-02-04 (O) procedure.

21-27 Electrical/Electronic Equipment Cooling Blowers
21-27-02 EFIS (-400/-500)
21-27-02-01 Supply Fans

Interval	Installed	Required	Procedure
C	2	1	

Except for ER operations, one may be inoperative.

21-27 Electrical/Electronic Equipment Cooling Blowers
21-27-02 EFIS (-400/-500)
21-27-02-02 Exhaust Fans

Interval	Installed	Required	Procedure
C	2	1	

Except for ER operations, one may be inoperative.

21-27 Electrical/Electronic Equipment Cooling Blowers
21-27-03 CDS (-600/-700/-800/-900)

Interval	Installed	Required	Procedure
B	4	3	**(M)**

One fan may be inoperative provided:

a. All remaining fans are verified to operate normally.
b. Both low flow detectors are verified to operate normally.

MAINTENANCE (M)

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

1. Make sure the low-flow detector and the remaining fan operate normally for the supply system or exhaust system (with the inoperative fan):
   A. Position the associated EQUIP COOLING SUPPLY or EXHAUST switch to the operative fan position (NORM or ALTN).
   B. Make sure the associated equipment cooling supply or exhaust OFF light extinguishes.
2. Verify the fans and the low-flow detector of the supply or exhaust system with the two fans operative, operate normally:

A. Do these steps when the supply system has both fans operative:
   1) Position the EQUIP COOLING SUPPLY switch to NORM.
   2) Open P6-4 panel circuit breaker EQPT COOLING SUPPLY FAN CONT-NORMAL.
   3) Make sure the equipment cooling supply OFF light illuminates.
   4) Position the EQUIP COOLING SUPPLY switch to ALTN.
   5) Make sure the equipment cooling supply OFF light extinguishes.
   6) Open P6-4 panel circuit breaker EQPT COOLING SUPPLY FAN CONTROL-ALTN.
   7) Make sure the equipment cooling supply OFF light illuminates.
   8) Close the two P6-4 panel circuit breakers.
   9) Make sure that the equipment cooling supply OFF light extinguishes.
   10) Position the EQUIP COOLING SUPPLY switch to NORM.

B. Do these steps when the exhaust system has both fans operative:
   1) Position the EQUIP COOLING EXHAUST switch to NORM.
   2) Open P6-4 panel circuit breaker EQPT COOLING EXH FAN CONT-NORMAL.
   3) Make sure the equipment cooling exhaust OFF light illuminates.
   4) Position the EQUIP COOLING EXHAUST switch to ALTN.
   5) Make sure the equipment cooling exhaust OFF light extinguishes.
   6) Open P6-4 panel circuit breaker EQPT COOLING EXH FAN CONTROL-ALTN.
   7) Make sure the equipment cooling exhaust OFF light illuminates.
   8) Close the two P6-4 panel circuit breakers.
   9) Make sure that the equipment cooling exhaust OFF light extinguishes.
   10) Position the EQUIP COOLING EXHAUST switch to NORM.

OPERATIONS NOTE

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

21-31 Recirculation Fan(s)

21-31-01 --500

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided left pack is operating when OAT is above 100 degrees F (38 degrees C).

MAINTENANCE NOTE

Position the RECIRC FAN switch to OFF.

21-31 Recirculation Fan(s)

21-31-02 -400 and Pemco -400 COMBI

21-31-02A One Recirc Fan Inoperative

Interval	Installed	Required	Procedure
C	2	1	

One fan may be inoperative provided left pack is operating when OAT is above 100 degrees F (38 degrees C).

MAINTENANCE NOTE

Position associated RECIRC FAN switch to OFF.

21-31 Recirculation Fan(s)

21-31-02 -400 and Pemco -400 COMBI

21-31-02B Both Recirc Fans Inoperative

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided OAT remains below 100 degrees F (38 degrees C).

MAINTENANCE NOTE

Position associated RECIRC FAN switch(es) to OFF.

21-31 Recirculation Fan(s)

21-31-03 -600/-700

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided:

a. Left pack is operating when OAT is above 100 degrees F (38 degrees C).
b. Flight is conducted pressurized.
c. Both packs operate normally.

MAINTENANCE NOTE

Position the RECIRC FAN switch to OFF.

21-31 Recirculation Fan(s)

21-31-04 -800/-900

21-31-04A Left Recirc Fan Inoperative

Interval	Installed	Required	Procedure
C	2	1	

Left fan may be inoperative provided left pack is operating when OAT is above 100 degrees F (38 degrees C).

MAINTENANCE NOTE

Position the L RECIRC FAN switch to OFF.

21-31 Recirculation Fan(s)

21-31-04 -800/-900

21-31-04B Right Recirc Fan Inoperative

Interval	Installed	Required	Procedure
C	2	1	

Right fan may be inoperative provided:

a. Left pack is operating when OAT is above 100 degrees F (38 degrees C).
b. Flight is conducted pressurized.

MAINTENANCE NOTE

Position the R RECIRC FAN switch to OFF.

21-31 Recirculation Fan(s)

21-31-04 -800/-900

21-31-04C Both Fans Inoperative

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided:

a. OAT remains below 100 degrees F (38 degrees C).
b. Flight is conducted pressurized.

MAINTENANCE NOTE

Position associated RECIRC FAN switch(es) to OFF.

21-31 Recirculation Fan(s)

21-31-04 -800/-900

21-31-04-01 -800EF STC ST02000NY

Interval	Installed	Procedure	Required
C	1	0	

May be inoperative provided:

a. Left pack is operating when OAT is above 100 degrees F (38 degrees C).
b. Flight is conducted pressurized.
c. Both packs operate normally.

21-32 Pack Temperature Control System(s) (Electronic Pack/ Zone Controller) (-400/-800/-900)

Interval	Installed	Required	Procedure
C	4	2	**(O)**

One system (primary or standby) on each pack may be inoperative provided remaining system on associated pack is checked to operate normally.

OPERATIONS (O)

Do these steps to check normal operation of one of the temperature control systems (Primary or Standby):

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

21-33 Pack Temperature Control Valves (-400/-800/-900)

21-33A Standby Pack Temperature Control Valve(s) Operate Normally

Interval	Installed	Required	Procedure
C	2	0	**(O)**

May be inoperative provided associated Standby Pack Temperature Control Valve(s) is checked to operate normally.

OPERATIONS (O)

Check normal operation of the standby temperature control system for the associated pack.

1. To recall, push the left or right system annunciator panel on the glareshield and observe that these lights illuminate:
   A. AIR COND
   B. MASTER CAUTION
   C. Associated PACK and/or ZONE TEMP light(s).
2. To reset, push a MASTER CAUTION light on the glareshield and observe that these lights extinguish:
   A. AIR COND
   B. MASTER CAUTION
   C. Associated PACK and/or ZONE TEMP light(s).

21-33 Pack Temperature Control Valves (-400/-800/-900)

21-33B Associated Pack Not Used

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative provided associated pack is not used.

MAINTENANCE (M)

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

OPERATIONS (O)

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

21-34 Standby Pack Temperature Control Valves (-400/-800/-900)

21-34A Pack Temperature Control Valve(s) Operate Normally

Interval	Installed	Required	Procedure
C	2	0	**(O)**

May be inoperative provided associated Pack Temperature Control Valve(s) is checked to operate normally.

OPERATIONS (O)

Check normal operation of the primary temperature control system for the associated pack.

1. To recall, push the left or right system annunciator panel on the glareshield and observe that these lights illuminate:
   A. AIR COND
   B. MASTER CAUTION
   C. Associated PACK and/or ZONE TEMP light(s).
2. To reset, push a MASTER CAUTION light on the glareshield and observe that these lights extinguish:
   A. AIR COND
   B. MASTER CAUTION
   C. Associated PACK and/or ZONE TEMP light(s).

21-34 Standby Pack Temperature Control Valves (-400/-800/-900)

21-34B Associated Pack Not Used

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative provided associated pack is not used.

MAINTENANCE (M)

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

OPERATIONS (O)

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

21-35 Trim Air Pressure Regulating and Shutoff Valve

21-35-01 -400/-800

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative secured closed.

MAINTENANCE (M)

For -400:

Secure the trim air pressure regulating and shutoff valve closed.

For -800:

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

For All Models:

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

21-35 Trim Air Pressure Regulating and Shutoff Valve

21-35-02 -900

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative secured closed provided:

a. Forward cargo heat duct is secured closed.

b. Airport ambient temperature does not exceed 103 degrees F (39 degrees C).

MAINTENANCE (M)

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

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

4. Open and collar P6-4 panel circuit breaker AIR CONDITIONING TRIM AIR PRESS.
5. Securing the forward cargo heat duct closed requires that one pack be deactivated. Use DDG item 21-01-01-03 (M) procedure.

OPERATIONS (O)

Use DDG item 21-01-01-03 (O) procedure.

21-36 Trim Air Modulating Valves

21-36-01 -400/-800

21-36-01A Inoperative Closed

Interval	Installed	Required	Procedure
C	3	0	**(M)**

May be inoperative closed.

MAINTENANCE (M)

For -400:

Secure the trim air modulating valve(s) closed.

For -800:

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

For All Models:

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

   NOTE: The valve for the flight deck is in the left ECS bay. The valves for the forward and aft passenger cabin are in the right ECS bay.
3. Position the associated temperature selector back to the normal operating range.

21-36 Trim Air Modulating Valves

21-36-01 -400/-800

21-36-01B Inoperative In Any Position

Interval	Installed	Required	Procedure
C	3	0	**(O)**

May be inoperative in any position provided Trim Air Pressure Regulating and Shutoff Valve remains closed.

OPERATIONS (O)

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

21-36 Trim Air Modulating Valves

21-36-02 -900

21-36-02A Inoperative Closed

Interval	Installed	Required	Procedure
C	3	0	**(M) (O)**

May be inoperative closed provided:

a. Forward cargo heat duct is secured closed.

b. Airport ambient temperature does not exceed 103 degrees F (39 degrees C).

MAINTENANCE (M)

Secure the trim air modulating valve(s) and the forward cargo heat duct closed (AMM 21-00-00/901).

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

   NOTE: The valve for the flight deck is in the left ECS bay. The valves for the forward and aft passenger cabin are in the right ECS bay.
3. Position the associated temperature selector back to the normal operating range.
4. Securing the forward cargo heat duct closed requires that one pack be deactivated. Use DDG item 21-01-01-03 (M) procedure.

OPERATIONS (O)

Use DDG item 21-01-01-03 (O) procedure.

21-36 Trim Air Modulating Valves

21-36-02 -900

21-36-02B Inoperative In Any Position

Interval	Installed	Required	Procedure
C	3	0	**(M) (O)**

May be inoperative in any position provided:

a. Trim Air Pressure Regulating and Shutoff Valve remains closed.

b. Forward cargo heat duct is secured closed.

c. Airport ambient temperature does not exceed 103 degrees F (39 degrees C).

MAINTENANCE (M)

1. Position the TRIM AIR switch to OFF.
2. Securing the forward cargo heat duct closed requires that one pack be deactivated. Use DOG item 21-01-01-03 (M) procedure.

OPERATIONS COI

1. Operate with TRIM AIR switch OFF.
2. Use DOG item 21-01-01-03 (0) procedure

21-37 Outflow Valve Heater Gasket (-400/-500)

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Interval	Installed	Required	Procedure
C	1	0	

NOTE: The Outflow Valve Heater Gasket is not installed on airplanes equipped with the Digital Cabin Pressure Control System.

OPERATIONS NOTE

To prevent outflow valve restrictions (on flights longer than two hours) because of possible icing, this procedure can be used:

1. Prior to takeoff to reduce inflight workload:
   A. Set the Cabin Rate Selector to maximum INCR.
   B. Set the Cabin Altitude Selector 500 FEET HIGHER THAN ANTICIPATED OR INDICATED CABIN ALTITUDE.
2. After one hour of flight and at 20 to 30 minute intervals in level-flight cruise, check normal outflow valve operation:
   A. Position the Pressurization Mode Selector to STBY.
   B. Observe a normal response of the cabin rate of climb.
   C. After stabilization, position the Pressurization Mode Selector back to AUTO.
   D. Observe a normal response of the cabin rate of climb.

21-38 Outflow Valve Position Indicator

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided valve is verified to be operating normally.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

Check normal operation of the outflow valve actuators:

ANALOG CABIN PRESSURE CONTROL SYSTEM

1. Provide electrical power (AMM 24-22-00).
2. Make sure that these P6 panel circuit breakers are closed:
   A. AUTOMATIC AC
   B. AUTOMATIC DC
   C. MAN AC
   D. MAN DC
   E. STANDBY AC
   F. STANDBY DC.
3. Position the Pressurization Mode selector to AUTO
4. Verify visually that the outflow valve is in the fully opened position.
5. Position the FLT-GRD switch on the pressurization control panel to FLT.
6. Operate Outflow Valve from DC Power:
   A. Position the Pressurization Mode selector to DC MAN.
   B. Make sure that the MANUAL light illuminates.
   C. Hold the Outflow Valve switch in the CLOSE position for approximately 10 seconds.
   D. Visually verify the outflow valve moves to the fully closed position.
   E. Hold the Outflow Valve switch in the OPEN position for approximately 10 seconds.
   F. Visually verify the outflow valve moves to the fully open position.
7. Operate Outflow Valve from AC Power:
   A. Position the Pressurization Mode selector to AC MAN.
   B. Make sure that the MANUAL light illuminates.
   C. Hold the Outflow Valve switch in the CLOSE position for approximately 10 seconds.
   D. Visually verify the outflow valve moves to the fully closed position.
   E. Hold the Outflow Valve switch in the OPEN position for approximately 10 seconds.
   F. Visually verify the outflow valve moves to the fully open position.

8. Position the FLT-GRD switch to GRD.
9. If no longer required, remove electrical power (AMM 24-22-00).

DIGITAL CABIN PRESSURE CONTROL SYSTEM

1. Provide electrical power (AMM 24-22-00).
2. Make sure that these P6-4 panel circuit breakers are closed:
   A. PRESSURIZATION CONTROL LCD LTG
   B. PRESSURIZATION CONTROL AUTO 1
   C. PRESSURIZATION CONTROL AUTO 2
   D. PRESSURIZATION CONTROL MANUAL
   E. PRESSURIZATION CONTROL IND
3. Verify visually that the outflow valve is in the fully opened position.
4. Operate Outflow Valve in Manual Mode:
   A. Position the Pressurization Mode selector to MAN.
   B. Make sure that the MANUAL light illuminates.
   C. Hold the Outflow Valve switch in the CLOSE position for approximately 30 seconds.
   D. Visually verify the outflow valve moves to the fully closed position.
5. Operate Outflow Valve in Automatic Mode:
   A. Position the Pressurization Mode selector to AUTO.
   B. Make sure that the MANUAL light extinguishes.
   C. Visually verify the outflow valve moves to the fully open position.
6. If no longer required, remove electrical power (AMM 24-22-00).

For -600/-700/-800/-900:

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

1. Supply electrical power (AMM 24-22-00)
2. Make sure that these P6-4 panel circuit breakers are closed:
   A. PRESSURIZATION CONTROL LCD LTG
   B. PRESSURIZATION CONTROL AUTO 1
   C. PRESSURIZATION CONTROL AUTO 2
   D. PRESSURIZATION CONTROL MANUAL
   E. PRESSURIZATION CONTROL IND
3. Verify visually that the outflow valve is in the fully opened position.
4. Operate Outflow Valve in Manual Mode:
   A. Position the Pressurization Mode selector to MAN.
   B. Make sure that the MANUAL light illuminates.
   C. Hold the Outflow Valve switch in the CLOSE position for approximately 30 seconds.
   D. Visually verify the outflow valve moves to the fully closed position.
   E. Position the Pressurization Mode selector to AUTO.
   F. Make sure that the MANUAL light extinguishes.

G. Visually verify that the outflow moved to the fully opened position.

OPERATIONS COI

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

21-39 Trim Air Check Valves
21-39-01 (-400/-800/-900)

Interval	Installed	Required	Procedure
C	2	1	**(M)**

One may be inoperative provided associated valve is deactivated closed.

MAINTENANCE (M)

For -400:
Configure inoperative valve in the closed position:
For -800/-900:
Configure inoperative valve in the closed position (AMM 21-00-00/901):
For All Models:

1. Do one of the following:
   A. Obtain Blank-Off Plate, Trim Air Check Valve (part number A21015-1).
   B. Fabricate a blanking plate with the following specifications:
      1) Materials:
         a. Titanium 6AL-4V per MIL-T-9046 Type 3 Comp C
         b. Inconel 718 per AMS 5596
         c. 301 CRES per MIL-S-5059 1/2, 3/4, or Fullhard
      2) Dimensions:
         a. Diameter - 3.10 (+0.10 or -0.00) inches
         b. Thickness - 0.040 inch
2. Supply electrical power to the airplane (AMM 24-22-00/201).

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

3. Remove the pressure from the pneumatic system (AMM 36-05-00/201).
4. Position these switches on the P5-10 Air Conditioning panel to OFF and attach DO-NO-OPERATE tags:
   A. BLEED 1
   B. BLEED 2
   C. BLEED APU.
5. Gain access to the inoperative trim air check valve.
6. Modify the Ducting
   A. Loosen clamp on forward side of the inoperative trim air check valve.
   B. Move clamp forward on to duct.

C. Install the blanking plate between the duct assembly and the inoperative trim air check valve.

NOTE: Install on the downstream side of the inoperative trim air check valve.

D. Move clamp backward on to check valve.

E. Tighten the nut on the clamp to 55 pound-inches (6.2 newton-meters).

NOTE: The clamp must be evenly located on the valve and duct flanges.

7. Perform a Leakage Test:
   A. Remove the DO-NO-OPERATE tags from the BLEED 1, BLEED 2 and BLEED APU switches. Put the switches in their usual positions.
   B. Supply pneumatic power (AMM 36-05-00/201).
   C. Position the associated PACK switch to AUTO.
   D. Position the TRIM AIR switch to OFF.
   E. Check valve flange for leakage.
      1) Diffused leakage is acceptable.
      2) Jet blast leakage must be repaired by joint or clamp realignment.
8. Put the airplane back to its usual condition:
   A. Close the access panel(s).
   B. Remove pneumatic power (AMM 36-05-00/201).
   C. Remove electrical power (AMM 24-22-00/201).

OPERATIONS NOTE

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

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

21-40-01 Analog Control System (-400/-500)

21-40-01A Inoperative Open

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative in open position provided flight is conducted in an unpressurized configuration.

MAINTENANCE (M)

Use DDG item 21-10-01B (M) procedure.

OPERATIONS (O)

Use DDG item 21-10-01B (O) procedure.

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

21-40-01 Analog Control System (-400/-500)

21-40-01B Inoperative Closed

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative in closed position provided both packs and recirculation fan(s) (if installed) are operated during ground taxi operations.

NOTE 1: To make sure there is sufficient equipment cooling while on the ground (1) use APU bleed air to operate one pack when at the gate, (2) use engine bleed to operate both packs during ground taxi operations.

For -300/-400/-500:

NOTE 2: Turn recirculation fan(s) on during all ground operations.

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

21-40-02 Digital Control System

21-40-02-01 -400/-500

21-40-02-01A Inoperative Open

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative in open position provided:

a. Flight is conducted in an unpressurized configuration.

b. Outflow valve is positioned to 25% open position.

MAINTENANCE (M)

Use DDG item 21-10-02-01 (M) procedure.

OPERATIONS (O)

Use DDG item 21-10-02-01 (O) procedure.

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

21-40-02 Digital Control System

21-40-02-01 --400/-500

21-40-02-01B Inoperative Closed

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative in closed position provided both packs and recirculation fan(s) (if installed) are operated during ground taxi operations.

NOTE 1: To make sure there is sufficient equipment cooling while on the ground (1) use APU bleed air to operate one pack when at the gate, (2) use engine bleed to operate both packs during ground taxi operations.

NOTE 2: Turn recirculation fan(s) on during all ground operations.

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

21-40-02 Digital Control System

21-40-02-02 -600/-700/-800 (prior to incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or production equivalent)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative in open position provided:

a. Flight is conducted in an unpressurized configuration.
b. Outflow valve is positioned to 25% open position.
c. Recirculation fan(s) operate normally.

MAINTENANCE (M)

Use DDG item 21-10-02-02 (M) procedure.

OPERATIONS (O)

Use DDG item 21-10-02-02 (O) procedure.

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

21-40-02 Digital Control System

21-40-02-03 -600/-700/-800 (upon incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or production equivalent)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative in open position provided:

a. Flight is conducted in an unpressurized configuration.
b. Procedures are established and used to ensure lower forward cargo compartment remains empty, or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away kits.
c. Outflow valve is positioned to 25% open position.
d. Recirculation fan(s) operate normally.

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

MAINTENANCE (M)

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

OPERATIONS (O)

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

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

21-40-02 Digital Control System

21-40-02-04 -900

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative in open position provided:

a. Flight is conducted in an unpressurized configuration.
b. Outflow valve is positioned to 25% open position.
c. Recirculation fans operate normally.
d. Forward cargo heat duct is secured closed.
e. Airport ambient temperature does not exceed 103 degrees F (39 degrees C).

MAINTENANCE (M)

Use DDG item 21-10-02-04 (M) procedure.

OPERATIONS (O)

Use DDG item 21-10-02-04 (O) procedure.

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

21-40-02 Digital Control System

21-40-02-05 -600/-700/-800/-900

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

Except for ER operations, may be inoperative provided:

a. Actuator is verified to be in smoke position.
b. Both packs operate normally.

MAINTENANCE (M)

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

1. Put the airplane in the air mode with the BITE in the Proximity Switch Electronics Unit (PSEU) (AMM 32-09-00).
2. Position one of the PACK switches to HIGH.

For -600/-700:

3. Position the RECIRC FAN switch to OFF.

For -800/-900:

4. Position the R RECIRC FAN to OFF.
5. After 10 seconds, open and collar P6-4 Panel circuit breaker A/C OVERBOARD EXH VALVE RECONFIG CONT.
6. Disconnect, cap and stow electrical connector D11880 on the Overboard Exhaust valve.
7. Verify that the valve is in the SMOKE position.
8. Close P6-4 Panel circuit breaker A/C OVERBOARD EXH VALVE RECONFIG CONT.

OPERATIONS (O)

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

21-41 Door Area Heater Systems

21-41-02 Entry Door Area and Overwing Emergency Exit Hatch Area Heater Systems (-600/-700/-800/-900)

Interval	Installed	Required	Procedure
D	-	0	**(M)**

May be inoperative deactivated.

MAINTENANCE (M)

Deactivate the entry door area and overwing emergency exit hatch area heater systems (AMM 21-00-00/901):

1. To deactivate the inoperative forward entry door and overwing emergency exit hatch area heater systems, open and collar the FWD DOOR AREA HEATER (C1280) circuit breaker on the P91 Power Distribution Panel.

   NOTE: Opening circuit breaker C1280 deactivates both the forward entry door area heater and all overwing exit hatch heaters.

2. To deactivate the inoperative aft entry door area heater system, open and collar the AFT DOOR AREA HEATER (C1279) circuit breaker on the P91 Power Distribution Panel.

21-41 Door Area Heater Systems

21-41-04 Mid-Exit Door Area Heater System (-900ER)

***

Interval	Installed	Required	Procedure
D	1	0	**(M)**

May be inoperative deactivated.

MAINTENANCE (M)

Deactivate inoperative heater system (AMM 21-00-00/901):

Open and collar the MID EXIT DOOR AREA HEATER (C1675) circuit breaker on the P6-12 Panel.

21-42 Equipment Cooling Low Flow Detector Systems (-600/-700/-800/-900)

Interval	Installed	Required	Procedure
B	2	1	**(M) (O)**

One may be inoperative provided associated fans (supply or exhaust) are verified to operate normally.

MAINTENANCE (M)

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

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

3) Position the EQUIP COOLING EXHAUST switch to ALTN.
4) Make sure the equipment cooling exhaust OFF light extinguishes.
5) Open P6-4 panel circuit breaker EQUIPMENT COOLING - EXHAUST FAN - CONTROL - ALTN.
6) Make sure the equipment cooling exhaust OFF light illuminates.
7) Close the two P6-4 panel circuit breakers.
8) Make sure the equipment cooling exhaust OFF light extinguishes.
9) Position the EQUIP COOLING EXHAUST switch to NORM.

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

OPERATIONS (O)

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

21-43 Equipment Cooling Air Filter (-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	1	0	**(M)**

Equipment cooling system may be operated with filter removed.

MAINTENANCE (M)

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

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

21-44 Fan Bypass Check Valves (-600/-700/-800/-900)

21-44A Airport OAT Below 80 Deg F (27 Deg C)

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative open/missing provided airport ambient temperature remains below 80 degrees F (27 degrees C).

21-44 Fan Bypass Check Valves (-600/-700/-800/-900)

21-44B Associated Pack Inoperative

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative open/missing for an associated inoperative pack.

21-44 Fan Bypass Check Valves (-600/-700/-800/-900)

21-44C One Inoperative, Opposite Pack Operates Normally

Interval	Installed	Required	Procedure
D	2	1	

One may be inoperative open/missing provided pack associated with remaining fan bypass check valve operates normally.

21-47 Humidification System (-800EF STC ST02000NY)
****

Interval	Installed	Required	Procedure
C	3	0	

May be inoperative provided:

a. Manual shutoff valve is closed.

b. All humidifier switches are in OFF.

NOTE: This STC is not a Boeing system. The STC holder should be contacted for information and procedures pertaining to this item.

21-48 Zonal Drying System (-800EF STC ST02000NY)
****

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided:

a. Manual shutoff valve is closed.

b. Dryer/Humidifier power is removed.

NOTE: This STC is not a Boeing system. The STC holder should be contacted for information and procedures pertaining to this item.

21-49 Return Air Grille (-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	-	-	**(M)**

One may be broken or missing provided:

a. Broken or missing grille is located within a designated area as defined by Boeing.

b. Grille is removed and replaced with a blanking plate.

MAINTENANCE (M)

Operators must establish and use procedures for determining to what extent minor damage, cracks and cosmetic conditions affect return air grilles in performing their intended function.

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

The following are designated locations within which a return air grille may be broken or missing:

For -700/-800/-900:

Station 887-907

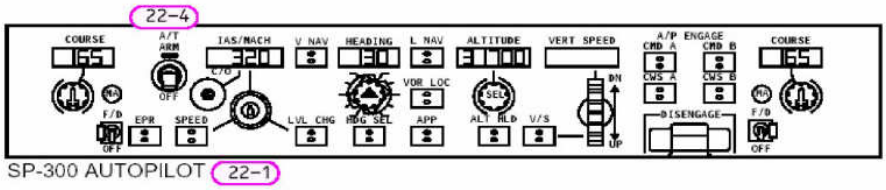
For -900ER

Station 727G-727K and station 887-907

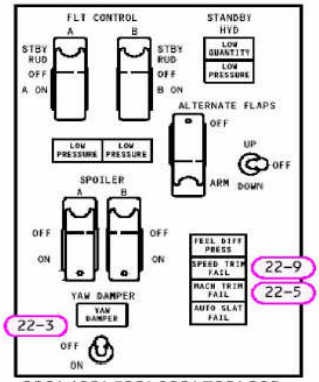
21-50 Flight Deck Foot and Shoulder Heater Systems

Interval	Installed	Required	Procedure
C	4	0	

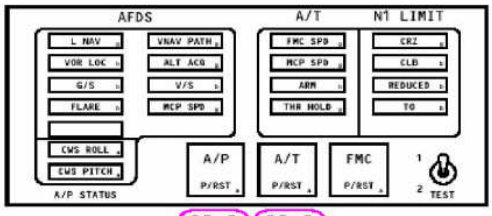
May be inoperative provided flight deck temperature is acceptable to flight crew.



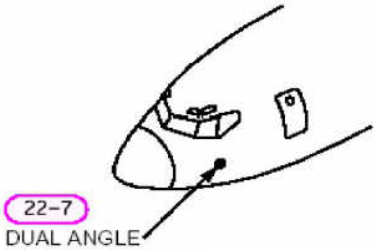
SP-300 AUTOPILOT (22-1)



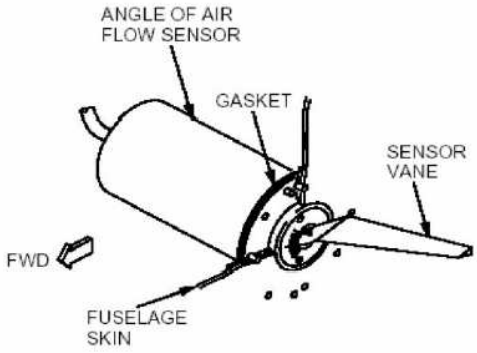
-300/-400/-500/-600/-700/-800
FLIGHT CONTROL PANEL



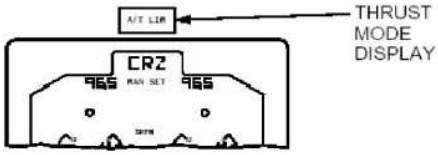
SP-300 FLIGHT MODE ANNUNCIATOR (22-6)



DUAL ANGLE
ATTACK SENSORS
(LEFT AND RIGHT SIDES)



22-19



THRUST MODE ANNUNCIATOR

22-01 Autopilot Systems

22-01A One Autopilot System Required

Interval	Installed	Required	Procedure
C	-	1	

NOTE 1: Failures in one or both FCC's could affect these systems: Mach Trim (see DDG Item 22-05), Speed Trim (see DDG item 22-10), Flight Director (see DDG Item 34-12), and Altitude Alerting (see DDG item 34-25).

NOTE 2: One FCC must operate normally for the Speed Trim system to function.

NOTE 3: Failure in FCC A may affect the autothrottles (DDG item 22-4) on airplanes without an autothrottle computer.

22-01 Autopilot Systems

22-01B All Inoperative

Interval	Installed	Required	Procedure
B	-	0	

Except for ER operations, may be inoperative provided:

a. Approach minimums do not require their use.

b. Enroute operations do not require autopilot use. RVSM is PROHIBITED

c. Number and weather of flight segments and segment duration is acceptable to flight crew.

d.1 Except for operations beyond 180 minutes for Flight Crew.: captain+pilot

d.2 Except for operations beyond 360 minutes for Flight Crew : 2 captains+pilot

NOTE 1: Operators should make every effort to repair autopilot early in repair interval, as provided by this relief statement, in consideration of such factors as weather, traffic density, and effect of other inoperative systems.

NOTE 2: Any mode which functions normally may be used. If CWS is inoperative, do not use other modes (pitch or roll).

NOTE 1: Failures in one or both FCC's could affect these systems: Mach Trim (see DDG Item 22-05), Speed Trim (see DDG Item 22-10), Flight Director (see DDG Item 34-12) and Altitude Alerting (see DDG item34-25).

NOTE 2: One FCC must operate normally for the Speed Trim system to function.

NOTE 3: Failure in FCC A may affect the autothrottles (DDG item 22-4) on airplanes without an autothrottle computer.

22-01 Autopilot Systems
22-01-01 Control Wheel Autopilot Disconnect Switches
22-01-01A One Inoperative

Interval	Installed	Required	Procedure
C	2	1	

One may be inoperative provided:

a. Autopilot is not used below 1500 feet AGL.
b. Approach minimums do not require use of autopilot.

22-01 Autopilot Systems
22-01-01 Control Wheel Autopilot Disconnect Switches
22-01-01B Both Inoperative

Interval	Installed	Required	Procedure
B	2	0	

May be inoperative provided autopilot is not used.

22-01 Autopilot Systems
22-01-02 Autopilot Disengage Bar
***

Interval	Installed	Required	Procedure
C	1	0	

22-02 Autopilot Disengaged Warning System
22-02-01 Lights
22-02-01A One Inoperative

Interval	Installed	Required	Procedure
C	2	1	

One may be inoperative when autopilot is used in any axis.

22-02 Autopilot Disengaged Warning System
22-02-01 Lights
22-02-01B Both Inoperative

Interval	Installed	Required	Procedure
B	2	0	**(O)**

Except for ER operations, may be inoperative provided autopilots are not used.

OPERATIONS (O)

When operating with two Autopilot Disengage Lights inoperative, refer to DDG Item 22-01 Remarks or Exceptions for inoperative autopilot systems.

22-02 Autopilot Disengaged Warning System
22-02-02 Aural Warning
****

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided approach minimums do not require its use.

22-03 Yaw Damper
22-03-01 --400/-500
22-03-01-01 Without Rudder Pressure Reducer System installed

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided yaw damper switch remains OFF.

NOTE: Refer to AFM Limitations for SP-77 autopilot.

OPERATIONS (O)

1. Do not exceed flaps 30 during landing if crosswinds exceed 30 knots.

22-03 Yaw Damper
22-03-01 --400/-500
22-03-01-02 With Rudder Pressure Reducer System installed
22-03-01-02A Verify RPR System

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Yaw damper switch remains OFF.
b. Rudder Pressure Reducer System is verified to operate normally.

NOTE: Refer to AFM Limitations for SP-77 autopilot.

MAINTENANCE (M)

1. Position the YAW DAMPER switch to OFF.
2. To verify normal operation of the RPR system, do the Rudder Pressure Reducer test with YDC BITE (AMM 22-12-01).

OPERATIONS (O)

1. Do not exceed flaps 30 during landing if crosswinds exceed 30 knots.

22-03 Yaw Damper

22-03-01 -400/-500

22-03-01-02 With Rudder Pressure Reducer System installed

22-03-01-02B Yaw Damper Deactivated

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided yaw damper is deactivated.

NOTE: Refer to AFM Limitations for SP-77 autopilot.

MAINTENANCE (M)

Dispatch with yaw damper deactivated:

1. Position the YAW DAMPER switch to OFF
2. Open the yaw damper circuit breakers on the P6-2 or P18-1 Panel.

OPERATIONS (O)

1. Do not exceed flaps 30 during landing if crosswinds exceed 30 knots.

22-03 Yaw Damper

22-03-02 -600/-700/-800/-900

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided yaw damper switch remains OFF.

OPERATIONS (O)

1. Avoid areas of predicted moderate or severe turbulence.
2. Reduce airspeed and/or descend to a lower altitude If turbulence is encountered and passenger comfort is affected.
3. Do not exceed flaps 30 if crosswind exceeds 30 knots.
4. For passenger comfort considerations only, if field length permits, it is recommended not to use flaps 40 for landing.

22-03 Yaw Damper

22-03-03 Yaw Damper Indicator

Interval	Installed	Required	Procedure
C	1	0	

22-04 Autothrottle System

Interval	Installed	Required	Procedure
B	1	0	

May be inoperative provided approach minimums do not require its use.

MAINTENANCE NOTE

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

For -200/-300/-400/-500:

Open and collar P18-1 Panel circuit breakers AUTOTHROTTLE DC and AUTOTHROTTLE AC. If installed, open and collar P6-1 Panel circuit breakers AUTOTHROTTLE DC and AUTOTHROTTLE AC.

For -600/-700/-700C/-800/-900:

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

A. No winglets are installed:

SWITCH NO.	DIP SWITCH POSITION				
	737-600	737-700	737-700C	737-800	737-900
2	OFF (0)	OFF (0)	OFF (0)	OFF (0)	OFF (0)
3	OFF (0)	OFF (0)	OFF (0)	OFF (0)	OFF (0)
12	OFF (0)	OFF (0)	ON (1)	ON (1)	ON (1)

B. Winglets are installed:

SWITCH NO.	DIP SWITCH POSITION		
	737-700	737-800	737-900
2	OFF (0)	OFF (0)	OFF (0)
3	OFF (0)	OFF (0)	OFF (0)
12	ON* (1)	OFF (0)	OFF (0)

OPERATIONS (O)

Operations may be inoperative provided:

a. Approach minimums do not require their use.

b. Enroute operations do not require autopilot use.

c. Number and weather of flight segments and segment duration is acceptable to light crew.

d.1 Except for operations beyond 180 minutes for Flight Crew.: captain+pilot

d. 2 Except for operations beyond 360 minutes for Flight Crew : 2 captains+pilot

22-05 Mach Trim Systems

Interval	Installed	Required	Procedure
C	-	0	**(M) (O)**

May be inoperative provided:

a. AFM limitations are observed.

b. Mach trim actuator is verified to be in null/uncommanded elevator position.

MAINTENANCE (M)

For -300/-400/-500:

1. Verify that the elevator trailing edge is in the correct position.

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

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

   A. Supply electrical power

   B. Supply hydraulic power.

   C. Put the stabilizer to 3 units of trim.

   D. Move the control column to put the elevators in the detent position.

   E. Visually check that the elevator trailing edge is aligned within 0.06 inches (1.5 mm) of the index mark on the fuselage.

   F. Open and collar the MACH TRIM AC and DC circuit breakers (P6-2 / P18-1 Panels).

For -600/-700/-800/-900:

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

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

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

   A. Supply electrical power

   B. Supply hydraulic power.

   C. Position the flaps to UP.

   D. Put the stabilizer to 4 units of trim.

   E. Move the control column to put the elevators in the detent position.

F. Visually check that the elevator trailing edge is aligned within 0.06 inches (1.5 mm) of the index mark on the fuselage.

G. Open and collar the MACH TRIM AC and DC circuit breakers (P6-2 / P18-1 Panels).

OPERATIONS (O)

For -100/-200/-300/-400/-500:
Do not exceed .74M.

For -600/-700/-800/-900:
Do not exceed 280 KIAS/ .82M.

22-05 Mach Trim Systems

22-05-01 -400/-500/-600/-700/-800/-900

Interval	Installed	Required	Procedure
C	2	1	**(M)**

One may be inoperative deactivated provided:

a. Remaining Mach trim system is verified to operate normally.

b. Mach trim fail light operates normally.

MAINTENANCE (M)

For -300/-400/-500:
Deactivate the inoperative mach trim system and verify the remaining mach trim system is operating normally.

For -600/-700/-800/-900:
Deactivate the inoperative mach trim system and verify the remaining mach trim system is operating normally (AMM 22-00-00/901).

For All Models:

1. Open and collar the associated MACH TRIM AC and MACH TRIM DC circuit breakers on the P18-1 panel (channel A) or P6-2 panel (channel B), as appropriate.
2. Perform the DFCS BITE library test No. 33, Mach Trim, for the remaining system (channel A or channel B), and verify that the test passes.

22-06 SP-77/SP-177/SP-300/Collins Flight and Approach Mode Annunciations

Interval	Installed	Required	Procedure
C	-	0	

Individual mode annunciations may be inoperative provided associated system modes are not used.

22-06 SP-77/SP-177/SP-300/Collins Flight and Approach Mode Annunciations

22-06-01 SP-177/SP-300 Annunciator Panels (-400/-500)

22-06-01A One Inoperative

Interval	Installed	Required	Procedure
C	2	1	

One may be inoperative provided:

a. Engaged system (AP, FD, AT, PDCS or FMCS) is at pilot position with operative mode annunciator.

b. Approach minimums do not require their use.

OPERATIONS NOTE

With EFIS/CDS installed:

Individual systems (Autopilot, Flight Director, Autothrottle, Performance Data Computer or Flight Management Computer System) can not be used when the associated annunciator is inoperative.

22-06 SP-77/SP-177/SP-300/Collins Flight and Approach Mode Annunciations

22-06-01 SP-177/SP-300 Annunciator Panels (-400/-500)

22-06-01B Both Inoperative

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided associated systems are not used.

NOTE: PDCS or FMCS data on CDU may be valid when PDC or FMC annunciator is inoperative.

OPERATIONS NOTE

With EFIS/CDS installed:

Individual systems (Autopilot, Flight Director, Autothrottle, Performance Data Computer or Flight Management Computer System) can not be used when the associated annunciator is inoperative.

22-07 Dual Angle of Attack Sensors/Stall Warning System Sensors/Alpha Vanes (-400/-500)

22-07-01 SP-177

Interval	Installed	Required	Procedure
C	2	1	**(M)**

Right sensor/vane may be inoperative provided:

a. Autopilot B is restricted to CWS.

b. Systems affected by inoperative sensor/vane are deactivated or turned off, and their MEL provisions observed.

MAINTENANCE (M)

Deactivate Stall Warning System No. 2. (if installed). Use DDG item 27-13-01 (M) procedure.

OPERATIONS NOTE

Operate autopilot channel B only in the Control Wheel Steering mode.

22-07 Dual Angle of Attack Sensors/Stall Warning System Sensors/Alpha Vanes (-400/-500)

***

22-07-02 SP-300

Interval	Installed	Required	Procedure
C	2	1	**(M)**

Left or right sensor/vane may be inoperative provided:

a. Associated autopilot channel is restricted to CWS.

b. Systems affected by inoperative sensor/vane are deactivated or turned off, and their MEL provisions observed.

MAINTENANCE (M)

Deactivate and consider these associated systems inoperative for dispatch:

1. Autothrottle System (Left Sensor). Use DDG item 22-04 (M) procedure.

For -200/-300/-400/-500:

2. Auto Slat Systems. Use DDG item 27-12 Maintenance Note.

For -300/-400/-500:

3. Stall Warning Systems. Use DDG item 27-13-01 (M) procedure.

OPERATIONS NOTE

Operate the associated autopilot only in the Control Wheel Steering mode.

22-08 Autothrottle Disengage Lights

22-08A One Inoperative

Interval	Installed	Required	Procedure
C	2	1	

One may be inoperative when autothrottle is used provided approach minimums do not require their use.

OPERATIONS NOTE

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

22-08 Autothrottle Disengage Lights
***

22-08B Both Inoperative

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided autothrottle is not used.

OPERATIONS NOTE

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

22-09 Speed Trim Fail Light System -400/-500/-600/-700/-800/-900

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided speed trim system is verified to operate normally.

MAINTENANCE (M)

For -300/-400/-500:

Use the DFCS BITE to verify normal operation of both speed trim systems (AMM 22-03-10/101).

1. Make these selections from the MAINT BITE INDEX screen on the CDU:
   A. <DFCS
   B. <CURRENT STATUS
   C. <SPEED TRIM SYSTEM
   D. <CHANNEL A AND B
2. Verify that the BITE diagnostic indicates a failed flight control module (light assembly).
3. Verify that other speed trim and stab trim BITE tests pass.
4. Advise flight crew that both speed trim systems have been tested.

For -600/-700/-800/-900:

Use the DFCS BITE to verify normal operation of both speed trim systems (AMM 22-00-00/901).

1. From the INIT/REF INDEX screen on the CDU, make these selections:
   A. MAINT>
   B. <DFCS
   C. <FAULT REVIEW
   D. <CURRENT STATUS
   E. <CHANNEL A AND B
   F. <SPEED TRIM SYSTEM
2. Verify that the BITE diagnostic indicates a failed flight control module (light assembly).
3. Verify that other speed trim and stab trim BITE tests pass.
4. Advise flight crew that both speed trim systems have been tested.

22-10 Speed Trim System -400/-500/-600/-700/-800/-900

Interval	Installed	Required	Procedure
C	2	1	**(M)**

One may be inoperative deactivated provided:

a. Remaining speed trim system is verified to operate normally.

b. Speed trim fail light operates normally.

MAINTENANCE (M)

For -300/-400/-500:

Deactivate the inoperative speed trim system and verify the remaining speed trim system is operating normally.

For -600/-700/-800/-900:

Deactivate the inoperative speed trim system and verify the remaining speed trim system is operating normally (AMM 22-00-00/901).

For All Models:

1. Open and collar the associated FCC DC circuit breaker on the P18-1 panel (channel A) or P6-2 panel (channel B), as appropriate.

   NOTE 1: The associated Flight Control Computer (FCC) will be deactivated. Refer to MMEL item 22-01.

   NOTE 2: Flight Director Takeoff and Go-around are not available when either FCC circuit breaker is pulled open.

   For -300/-400/-500:

   NOTE 3: If installed, the associated Airspeed Cursor will be deactivated. Refer to MMEL item 34-01.

   For -600/-700/-800/-900:

   NOTE 4: A deactivated FCC will generate a dispatchable PSEU fault. Refer to MMEL item 32-17.

2. Perform the DFCS BITE Group Number 14 Speed/Stab Trim Tests for the remaining system (channel A or channel B), and verify that the tests pass.

22-11 STAB OUT OF TRIM Light

Interval	Installed	Required	Procedure
B	1	0	**(O)**

Except for ER operations, may be inoperative provided autopilots are not used.

OPERATIONS (O)

Use DDG item 22-01 for an inoperative autopilot.

22-14 Mode Control Panel Selectors -400/-500/-600/-700/-800/-900

22-14-01 V/S Selector (DOWN, UP)

***

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided procedures do not require its use.

22-14 Mode Control Panel Selectors --400/-500/-600/-700/-800/-900

22-14-02 Bank Angle Selector (AUTO, 10, 15, 20, 25, 30)

***

Interval	Installed	Required	Procedure
C	1	0	

22-15 Mode Control Panel Switches / Paddles
-400/-500/-600/-700/-800/-900

22-15-01 A/P CWS Engage Switches

Interval	Installed	Required	Procedure
C	2	0	

22-15 Mode Control Panel Switches / Paddles
-400/-500/-600/-700/-800/-900

22-15-02 A/P CMD Engage Switches

22-15-02A One Inoperative

Interval	Installed	Required	Procedure
C	2	1	

22-15 Mode Control Panel Switches / Paddles
-400/-500/-600/-700/-800/-900

22-15-02 A/P CMD Engage Switches

22-15-02B Both Inoperative

Interval	Installed	Required	Procedure
B	2	0	**(O)**

Except for ER operations, may be inoperative provided autopilots are not used.

OPERATIONS (O)

Refer to MMEL item 22-1 Remarks or Exceptions for inoperative autopilots.

22-15 Mode Control Panel Switches / Paddles
-400/-500/-600/-700/-800/-900

22-15-03 Autothrottle Arm Switch

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided approach minimums do not require autothrottle use.

MAINTENANCE NOTE

The autothrottle system can be deactivated per DDG Item 22-04 Maintenance Note.

22-15 Mode Control Panel Switches / Paddles -400/-500/-600/-700/-800/-900

22-15-04 A/T SPEED Switch

***

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided approach minimums do not require autothrottle use.

22-15 Mode Control Panel Switches / Paddles --400/-500/-600/-700/-800/-900

22-15-05 F/D Switches

***

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided approach minimums do not require flight director use.

22-15 Mode Control Panel Switches / Paddles --400/-500/-600/-700/-800/-900

22-15-06 IAS/MACH Change Over Switch

***

Interval	Installed	Required	Procedure
C	1	0	

22-15 Mode Control Panel Switches / Paddles -400/-500/-600/-700/-800/-900)

22-15-07 APP Switch

***

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided approach minimums do not require autopilot or flight director use

22-15 Mode Control Panel Switches / Paddles -400/-500/-600/-700/-800/-900

22-15-08 EPR/N1, LNAV, VNAV, LVL CHG, V/S, HDG SEL, ALT HOLD and VOR/LOC Switches

***

Interval	Installed	Required	Procedure
C	-	0	

May be inoperative provided enroute operations do not require their use.

22-15 Mode Control Panel Switches / Paddles -400/-500/-600/-700/-800/-900)

22-15-09 SPD INTV, PDC and ALT INTV Switches

***

Interval	Installed	Required	Procedure
C	-	0	

22-16 Mode Control Panel Windows

22-16-01 Vertical Speed (VERT SPEED) -400/-500/-600/-700/-800/-900

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided procedures do not require its use.

22-16 Mode Control Panel Windows

22-16-02 (EFIS/PFD/ND) -400/-500/-600/-700/-800/-900 (Includes STC ST03355AT)

22-16-02-01 Airspeed (IAS/MACH)

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative and associated selector used provided selected airspeed indications operate normally.

22-16 Mode Control Panel Windows

22-16-02 (EFIS/PFD/ND) -400/-500/-600/-700/-800/-900 (Includes STC ST03355AT)

22-16-02-02 Heading (HEADING)

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative and associated selector used provided selected heading indications operate normally.

22-16 Mode Control Panel Windows

22-16-02 (EFIS/PFD/ND) -400/-500/-600/-700/-800/-900 (Includes STC ST03355AT)

22-16-02-03 Vertical Speed (VERT SPEED)

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided procedures do not require its use.

22-16 Mode Control Panel Windows

22-16-02 (EFIS/PFD/ND) -400/-500/-600/-700/-800/-900 (Includes STC ST03355AT)

22-16-02-04 Vertical Speed (VERT SPEED) -600/-700/-800/-900

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative and associated selector used provided selected vertical speed indications operate normally.

22-16 Mode Control Panel Windows

22-16-02 (EFIS/PFD/ND) -400/-500/-600/-700/-800/-900 (Includes STC ST03355AT)

22-16-02-05 Altitude (ALTITUDE) -600/-700/-800/-900

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative and associated selector used provided selected altitude indications operate normally.

22-16 Mode Control Panel Windows

22-16-02 (EFIS/PFD/ND) -400/-500/-600/-700/-800/-900 (Includes STC ST03355AT)

22-16-02-06 Course (COURSE)

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative and associated selector used provided selected course indications operate normally.

22-16 Mode Control Panel Windows

22-16-02 (EFIS/PFD/ND) -400/-500/-600/-700/-800/-900 (Includes STC ST03355AT)

22-16-02-07 Window Lighting

Interval	Installed	Required	Procedure
B	1	0	

May be inoperative provided:

a. Selected airspeed indications operate normally.
b. Selected heading indications operate normally.
c. Selected vertical speed indications operate normally.
d. Selected altitude indications operate normally.
e. Selected course indications operate normally.

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

22-17A One Inoperative

Interval	Installed	Required	Procedure
C	2	1	

One may be inoperative provided approach minimum do not require its use.

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

22-17B Both Inoperative

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided:

a. Both thrust levers are operated manually for takeoff.

b. Autopilot and Flight Director are not used below Minimum Descent Altitude or 500 feet, whichever is higher.

NOTE: Flight director go-around and windshear guidance are not available with both TO/GA switches inoperative.

22-18 Mode Control Panel Switch Lights
22-18-01 Autopilot Engage Switch Lights
22-18-01-01 CWS

Interval	Installed	Required	Procedure
C	2	0	

22-18 Mode Control Panel Switch Lights
22-18-01 Autopilot Engage Switch Lights
22-18-01-02 CMD
22-18-01-02A One Inoperative

Interval	Installed	Required	Procedure
C	2	1	

22-18 Mode Control Panel Switch Lights
22-18-01 Autopilot Engage Switch Lights
22-18-01-02 CMD
22-18-01-02B Both Inoperative

Interval	Installed	Required	Procedure
B	2	0	**(O)**

Except for ER operations, may be inoperative provided autopilots are not used.

OPERATIONS (O)

Refer to MMEL item 22-1 Remarks or Exceptions for inoperative autopilots.

22-18 Mode Control Panel Switch Lights
22-18-02 Mode Selector Switch Lights

Interval	Installed	Required	Procedure
C	-	0	

22-18 Mode Control Panel Switch Lights
***

22-18-03 A/T ARM Switch Light

Interval	Installed	Required	Procedure
C	1	0	

22-19 Thrust Mode Annunciator/Thrust Mode Display (-400/-500/-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided thrust mode limits are observed.

22-20 Automatic Landing System

22-20-01 Fail Passive

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided approach minimums do not require its use.

22-20 Automatic Landing System

22-20-02 Fail Operational (LAND 3) (-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided approach minimums do not require its use.

22-20 Automatic Landing System

22-20-03 AUTOLAND Light
22-20-03A Alternate Procedures Required

Interval	Installed	Required	Procedure
C	2	0	**(O)**

May be inoperative provided alternate procedures are established and used.

OPERATIONS (O)

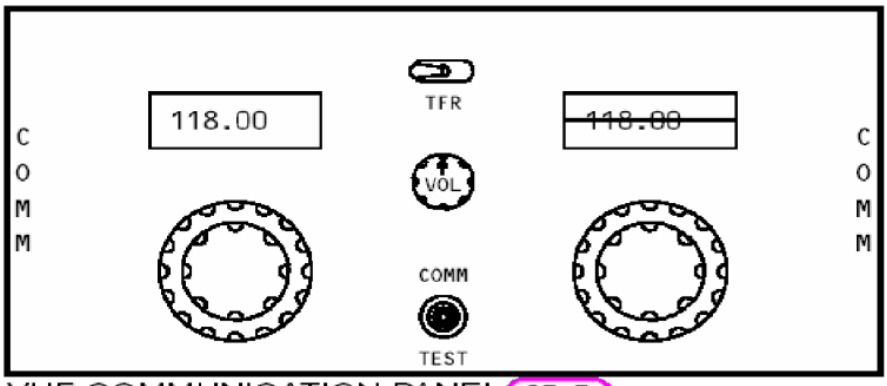
Each operator must establish alternate procedures to be used when dispatching with one or both AUTOLAND lights inoperative.

22-20 Automatic Landing System

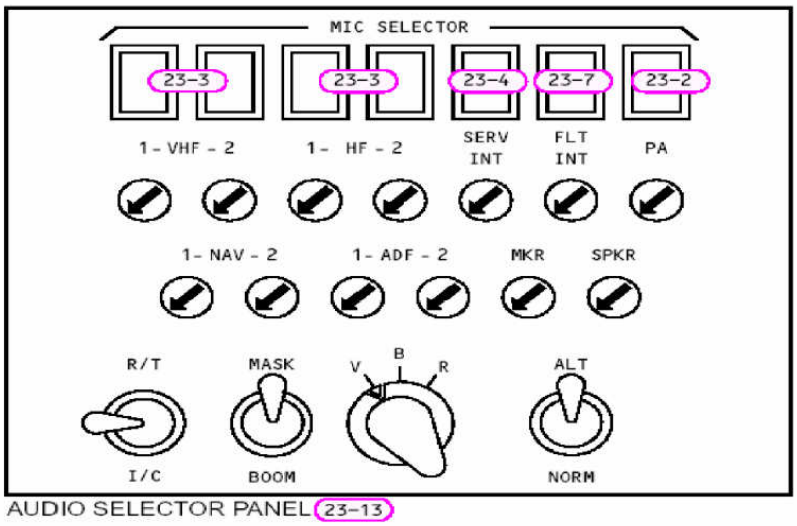
22-20-03 AUTOLAND Light
22-20-03B Procedures Do Not Require Use

Interval	Installed	Required	Procedure
D	2	0	

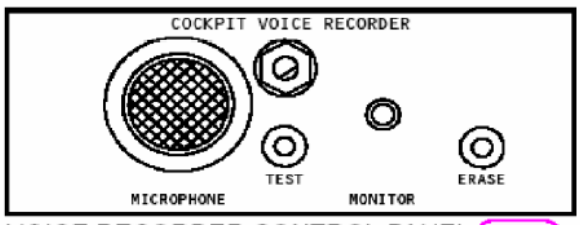
May be inoperative provided procedures do not require its use.



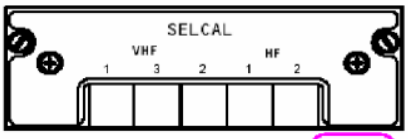
VHF COMMUNICATION PANEL 23-3



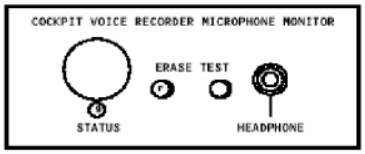
AUDIO SELECTOR PANEL 23-13



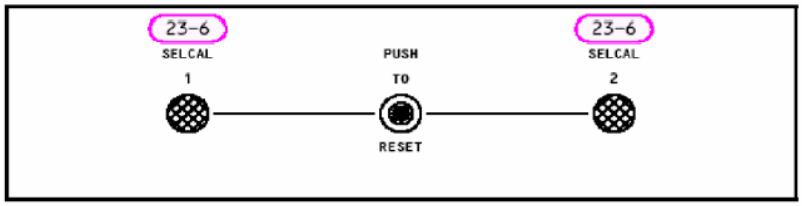
VOICE RECORDER CONTROL PANEL 23-10



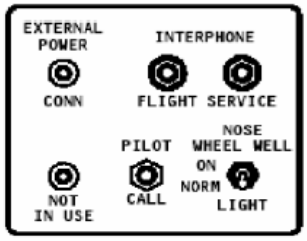
SELCAL CONTROL PANEL 23-6



VOICE RECORDER CONTROL PANEL 23-10

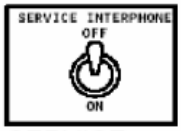


SELCAL CONTROL PANEL



23-7
23-4

EXTERNAL POWER PANEL



SERVICE INTERPHONE SWITCH 23-4

23-01 Flight Deck Speaker System
****

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided:

a. Procedures do not require its use.

b. Headset earphones or headphones associated with inoperative speaker(s) are installed and operate normally.

23-02 Passenger Address System (Includes STC ST10238SC)

23-02-01 Passenger Configuration

23-02-01A Flight Attendant Alerting System Operates Normally

Interval	Installed	Required	Procedure
B	1	0	**(O)**

May be inoperative provided:

a. Alternate, normal and emergency procedures and/or operating restrictions are established and used.

b. Flight attendant alerting system (audio and visual) operates normally.

NOTE: Any station function(s) that operates normally may be used.

OPERATIONS (O)

Crew normal and emergency procedures may vary considerably between operators. The individual operator should develop alternate emergency procedures based on the use of the service interphone system.

23-02 Passenger Address System (Includes STC ST10238SC)

23-02-01 Passenger Configuration

23-02-01-01 Lavatory Speakers

Interval	Installed	Required	Procedure
C	-	0	**(O)**

May be inoperative provided alternate procedures are established and used.

OPERATIONS (O)

Crew normal and emergency procedures may vary considerably between operators. The individual operator should develop alternate emergency procedures based on the use of the service interphone system.

23-02 Passenger Address System (Includes STC ST10238SC)

23-02-01 Passenger Configuration

23-02-01-02 Cabin Speakers

Interval	Installed	Required	Procedure
C	-	-	

May be inoperative provided inoperative speakers are not adjacent to each other.

23-03 Communication Systems (VHF and UHF)

Interval	Installed	Required	Procedure
D	-	-	

Any in excess of those required , may be inoperative provided it is not powered by Standby Bus and is not required for emergency procedures.

NOTE 1: Airlines must determine communication requirements depending on their type of operation (VFR/IFR) and their route system. See other appropriate regulations.

NOTE 2: Airplanes with ACARS and without Voice Mode Protection (VMP) or ACARS Over AVLC (Aviation VHF Link Control) (1) VHF-3 cannot be used for ATC voice communication when ACARS is operational (2) If VHF-3 can be tuned with ACARS deactivated, it can be used for dispatch credit (3) If VHF-3 cannot be tuned with ACARS deactivated, VHF-3 must be switched with an inoperative VHF-1 or VHF-2 transceiver to be used for dispatch credit.

NOTE 3: See DDG item 23-09 for dispatch with ACARS inoperative.

MAINTENANCE NOTE

ACARS may be deactivated by opening and collaring the ACARS AC and DC circuit breakers.

23-03 Communication Systems (VHF and UHF)

23-03-01 VHF Comm Control Panels

Interval	Installed	Required	Procedure
C	-	-	

One side of VHF Comm Control Panel tuning function may be inoperative provided:

a. Associated transceiver can be tuned from opposite side of control panel.
b. Associated transceiver operates normally.

23-03 Communication Systems (VHF and UHF)

23-03-01 VHF Comm Control Panels

23-03-01-01 Active Frequency Light

Interval	Installed	Required	Procedure
C	-	0	

23-03 Communication Systems (VHF and UHF)
23-03-01 VHF Comm Control Panels
23-03-01-02 Frequency Transfer Switch
23-03-01-02A VHF Active Frequency Can Be Selected

Interval	Installed	Required	Procedure
C	-	0	

May be inoperative provided associated VHF active frequency can be selected.

23-03 Communication Systems (VHF and UHF)
23-03-01 VHF Comm Control Panels
23-03-01-02 Frequency Transfer Switch
23-03-01-02B VHF Radio Considered Inoperative

Interval	Installed	Required	Procedure
D	-	-	

May be inoperative provided associated VHF radio is considered inoperative.

23-03 Communication Systems (VHF and UHF)
23-03-01 VHF Comm Control Panels
23-03-01-03 Frequency Selector Knob

Interval	Installed	Required	Procedure
C	-	2	

23-03 Communication Systems (VHF and UHF)
23-03-01 VHF Comm Control Panels
23-03-01-04 Frequency Indication

Interval	Installed	Required	Procedure
C	-	2	

23-03 Communication Systems (VHF and UHF)

23-03-02 Radio Tuning Panels

***

Interval	Installed	Required	Procedure
C	3	2	

One may be inoperative provided left radio tuning panel operates normally.

23-03 Communication Systems (VHF and UHF)

23-03-02 Radio Tuning Panels

***

23-03-02-01 Off-Side Tuning Light

Interval	Installed	Required	Procedure
C	-	0	

23-04 Crewmember Interphone System

23-04-01 Passenger Configuration

23-04-01-01 Flight Deck to Cabin, Cabin to Flight Deck Functions

Interval	Installed	Required	Procedure
B	-	-	**(O)**

May be inoperative provided:

a. Flight deck to cabin and cabin to flight deck interphone functions operate normally on at least fifty percent of cabin handsets.

b. Alternate communication procedures between affected flight attendant station(s) are established and used.

NOTE: Any station function(s) that operates normally may be used.

OPERATIONS (O)

Crew normal and emergency procedures vary considerably between operators, therefore the individual operator must develop alternate procedures based on the use of the PA System. Prior to flight, the pilot in command must brief cabin crew members on the alternate emergency procedures that will be used.

23-04 Crewmember Interphone System

23-04-01 Passenger Configuration

23-04-01-02 Cabin to Cabin Function

23-04-01-02A Two Handsets Installed

Interval	Installed	Required	Procedure
B	2	0	**(O)**

May be inoperative provided alternate communication procedures between affected flight attendant station(s) are established and used.

NOTE: Any station function(s) that operates normally may be used.

OPERATIONS (O)

Crew normal and emergency procedures vary considerably between operators, therefore the individual operator must develop alternate procedures based on the use of the PA System. Prior to flight, the pilot in command must brief cabin crew members on the alternate emergency procedures that will be used.

23-04 Crewmember Interphone System

23-04-01 Passenger Configuration

23-04-01-02 Cabin to Cabin Function

23-04-01-02B Operates Normally On At Least 50% Of Handsets

Interval	Installed	Required	Procedure
B	-	-	**(O)**

May be inoperative provided:

a. Cabin to cabin interphone functions operate normally on at least fifty percent of cabin handsets.

b. Alternate communication procedures between affected flight attendant station(s) are established and used.

NOTE: Any station function(s) that operates normally may be used.

OPERATIONS (O)

Crew normal and emergency procedures vary considerably between operators, therefore the individual operator must develop alternate procedures based on the use of the PA System. Prior to flight, the pilot in command must brief cabin crew members on the alternate emergency procedures that will be used.

23-04 Crewmember Interphone System

23-04-01 Passenger Configuration

23-04-01-03 Flight Deck to Ground Function (Includes CALL functions)

23-04-01-03-01 Large Turbojet Airplanes Operating

23-04-01-03-01A Service Interphone Operates Normally

Interval	Installed	Required	Procedure
C	1	0	**(O)**

Flight interphone flight deck to ground/ground to flight deck function may be inoperative provided:

a. Alternate procedures are established and used.

b. Nose gear/forward fuselage service interphone jack operates normally.

OPERATIONS (O)

Use service interphone for communications with ground crew during ground handling operations (jack is available at the external power receptacle). If communications still cannot be established, the operator should have alternate communications procedures available. These procedures would probably include hand signals for "ok to start engine", "gear pins out", "ok to taxi", "shut down", etc.

23-04 Crewmember Interphone System

23-04-01 Passenger Configuration

23-04-01-03 Flight Deck to Ground Function (Includes CALL functions)

23-04-01-03-01 Large Turbojet Airplanes Operating

23-04-01-03-01B Flight Interphone Operates Normally

Interval	Installed	Required	Procedure
C	1	0	**(O)**

Service interphone flight deck to ground/ground to flight deck function may be inoperative provided:

a. Alternate procedures are established and used.

b. Nose gear/forward fuselage flight interphone jack operates normally.

OPERATIONS (O)

Use flight interphone for communications with ground crew during ground handling operations (jack is available at the external power receptacle). If communications still cannot be established, the operator should have alternate communications procedures available. These procedures would probably include hand signals for "ok to start engine", "gear pins out", "ok to taxi", "shut down", etc.

23-04 Crewmember Interphone System

23-04-01 Passenger Configuration

23-04-01-03 Flight Deck to Ground Function (Includes CALL functions)

23-04-01-03-01 Large Turbojet Airplanes Operating

23-04-01-03-01C Alternate Procedures Required

Interval	Installed	Required	Procedure
B	-	0	**(O)**

May be inoperative provided alternate procedures are established and used.

OPERATIONS (O)

The operator should have alternate communications procedures available. These procedures would probably include hand signals for "ok to start engine", "gear pins out", "ok to taxi", "shut down", etc.

23-04 Crewmember Interphone System

23-04-01 Passenger Configuration

23-04-01-03 Flight Deck to Ground Function (Includes CALL functions)

23-04-01-03-02 All Other Aircraft/Operations

23-04-01-03-02A Alternate Procedures Required

Interval	Installed	Required	Procedure
C	-	0	**(O)**

May be inoperative provided alternate procedures are established and used.

OPERATIONS (O)

The operator should have alternate communications procedures available. These procedures would probably include hand signals for "ok to start engine", "gear pins out", "ok to taxi", "shut down", etc.

23-06 Selective Call System (SELCAL)
23-06A Alternate Procedures Required

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided alternate procedures are established and used.

OPERATIONS (O)

Airlines are responsible for establishing company policies for dispatch with the Selective Call System inoperative.

23-06 Selective Call System (SELCAL)
23-06B Procedures Do Not Require Use

Interval	Installed	Required	Procedure
D	1	0	

May be inoperative provided procedures do not require its use.

23-06 Selective Call System (SELCAL)
23-06-01 Channels
23-06-01A Alternate Procedures Required

Interval	Installed	Required	Procedure
C	-	0	**(O)**

May be inoperative provided alternate procedures are established and used.

OPERATIONS (O)

Airlines are responsible for establishing company policies for dispatch with the Selective Call System inoperative.

23-06 Selective Call System (SELCAL)
****
23-06-01 Channels
23-06-01B Procedures Do Not Require Use

Interval	Installed	Required	Procedure
D	-	0	

May be inoperative provided procedures do not require its use.

23-09 ACARS System
23-09A Alternate Procedures Required

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided alternate procedures are established and used.

NOTE: Any portion of system that operates normally may be used.

OPERATIONS (O)

Airlines must establish company policies for dispatch with the ACARS system inoperative or FMC interface Function inoperative.

23-09 ACARS System
23-09B Procedures Do Not Require Use

Interval	Installed	Required	Procedure
D	1	0	

May be inoperative provided procedures do not require its use.

NOTE: Any portion of system that operates normally may be used.

23-09 ACARS System
23-09-01 ACARS Printer

Interval	Installed	Required	Procedure
D	-	0	

23-09 ACARS System
23-09-02 FMC Interface Function
23-09-02A Alternate Procedures Required

Interval	Installed	Required	Procedure
C	-	0	**(O)**

May be inoperative provided alternate procedures are established and used.

NOTE: Any portion of system that operates normally may be used.

OPERATIONS (O)

Airlines must establish company policies for dispatch with the FMC Interface function inoperative.

23-09 ACARS System
****

23-09-02 FMC Interface Function

23-09-02B Procedures Do Not Require Use

Interval	Installed	Required	Procedure
D	1	0	

May be inoperative provided procedures do not require its use.

NOTE: Any portion of system that operates normally may be used.

23-10 Cockpit Voice Recorder System (CVR)

23-10-01 Aircraft without Recorder Independent Power Supply (RIPS)

Interval	Installed	Required	Procedure
A	1	0	

May be inoperative provided:

a. Flight Data Recorder (FDR) operates normally.

b. Repairs are made within three flight days.

23-10 Cockpit Voice Recorder System (CVR)

23-10-02 Aircraft with Recorder Independent Power Supply (RIPS) (-600/-700/-800/-900)

Interval	Installed	Required	Procedure
A	1	0	**(M)**

May be inoperative provided:

a. Flight Data Recorder (FDR) operates normally.

b. RIPS circuit breaker is pulled and collared.

c. A 15 minute interval after pulling the c/b is achieved before departure.

d. Repairs are made within three flight days.

NOTE: CVR is inoperative with the RIPS c/b pulled and collared.

MAINTENANCE (M)

Deactivate RIPS (AMM 23-00-00/901):

1. Open and collar RIPS circuit breaker.

23-10 Cockpit Voice Recorder System (CVR)

23-10-02 Aircraft with Recorder Independent Power Supply (RIPS) (-600/-700/-800/-900)

23-10-02-01 Recorder Independent Power Supply (RIPS)

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided:

a. CVR operates normally.

b. RIPS battery is removed.

MAINTENANCE (M)

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

1. Remove battery from RIPS.
2. Cover battery pack connector on the RIPS charger assembly with an electrical connector cap.
3. Secure electrical connector cap to charger assembly with tape.

23-11 High Frequency (HF) Communication System (Includes STC's ST02959AT and ST01837LA)

23-11A Not Required

Interval	Installed	Required	Procedure
D	-	-	

Any in excess of those required. may be inoperative.

NOTE: The systems indicated by the STC numbers above are not Boeing configurations. Information applicable to these systems is not provided.

23-11 High Frequency (HF) Communication System (Includes STC's ST02959AT and ST01837LA)

23-11B Operations Requiring Two LRCS

Interval	Installed	Required	Procedure
C	-	1	**(O)**

May be inoperative while conducting operations that require two LRCS 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 Inmarsat Codes are not available while using SATCOM voice, prior coordination with appropriate ATS facility is required.

NOTE: SATCOM is to be used only as a backup to normal HF communications unless otherwise authorized by appropriate ATS facility.

NOTE: The systems indicated by the STC numbers above are not Boeing configurations. Information applicable to these systems is not provided.

OPERATIONS (O)

1. Requirements for communication systems must be determined by each operator and appropriate procedures established to be used with inoperative items, if required. Refer other appropriate regulations.
2. For operations that require two long range communications systems with one HF communication system operating ensure SATCOM Voice or Data Link is available over the intended route of flight.

23-12 Emergency Locator Transmitter (ELT)
23-12-01 Survival Type ELTs

Interval	Installed	Required	Procedure
D	-	-	

Any in excess of those required . may be inoperative or missing.

NOTE: Airlines must determine requirements dependent on their type of operation and their route system. See other appropriate regulations.

23-12 Emergency Locator Transmitter (ELT)
23-12-02 Fixed ELTs
23-12-02-01 Required
23-12-02-01A Inoperative

Interval	Installed	Required	Procedure
A	-	0	**(M)**

May be inoperative provided:

a. System is deactivated.
b. Repairs are made within 90 days.

NOTE: Airlines must determine requirements dependent on their type of operation and their route system. See other appropriate regulations.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Deactivate the inoperative ELT:
For -600/-700/-800/-900:
Deactivate the inoperative ELT (AMM 23-00-00/901):
For All Models:

1. Gain access to the ELT in the passenger cabin ceiling.
2. Disconnect, tape and stow the wires to the electrical control line connector on the ELT unit.
3. Position the switch on the ELT unit to OFF.

23-12 Emergency Locator Transmitter (ELT)
23-12-02 Fixed ELTs
23-12-02-01 Required
23-12-02-01B Missing

Interval	Installed	Required	Procedure
A	-	0	

May be missing provided repairs are made within 90 days.

NOTE: Airlines must determine requirements dependent on their type of operation and their route system. See other appropriate regulations.

23-12 Emergency Locator Transmitter (ELT)
23-12-02 Fixed ELTs
23-12-02-02 Not Required
23-12-02-02A Inoperative

Interval	Installed	Required	Procedure
B	-	-	**(M)**

Any in excess of those required. may be inoperative provided system is deactivated .

NOTE: Airlines must determine requirements dependent on their type of operation and their route system. See other appropriate regulations.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Deactivate the inoperative ELT:
For -600/-700/-800/-900:
Deactivate the inoperative ELT (AMM 23-00-00/901):
For All Models:

1. Gain access to the ELT in the passenger cabin ceiling.
2. Disconnect, tape and stow the wires to the electrical control line connector on the ELT unit.
3. Position the switch on the ELT unit to OFF.

23-13 Flight Crew Audio Selector/Control Panels

Interval	Installed	Required	Procedure
A	2	1	**(O)**

Either the Captain's or First Officer's audio control panel may be inoperative provided:

a. Optional AUDIO transfer switch is installed and operates normally.
b. Primary observer's audio control panel is located on aft electronics panel and operates normally.
c. Repairs are made within two flight days.

NOTE: See DDG Item 25-11 for the primary observer's audio selector/control panel.

OPERATIONS (O)

Captain's audio selector/control panel inoperative:

Position the AUDIO transfer switch to CAPT ON OBS. The captain must use the primary observer's audio selector/control panel.

First officer's audio selector/control panel inoperative:

Position AUDIO transfer switch to F/O ON OBS. The first officer must use the primary observer's audio selector/control panel.

23-13 Flight Crew Audio Selector/Control Panels

23-13-01 AUDIO Transfer Switch

***

Interval	Installed	Required	Procedure
C	1	0	

23-14 Headsets/Headphones

Interval	Installed	Required	Procedure
C	-	-	

Any in excess of those required . may be inoperative or missing.

23-14 Headsets/Headphones

23-14-01 Headset Boom Microphones

23-14-01-01 Cockpit Voice Recorder Equipped to Record Boom Microphone

Interval	Installed	Required	Procedure
A	-	0	

May be inoperative provided:

a. Flight Data Recorder (FDR) operates normally.
b. Associated hand microphone is installed and operates normally.
c. Repairs are made within three flight days.

23-14 Headsets/Headphones

23-14-01 Headset Boom Microphones

23-14-01-02 Cockpit Voice Recorder Not Equipped to Record Boom Microphone

Interval	Installed	Required	Procedure
C	-	0	

Any in excess of those required . may be inoperative.

23-14 Headsets/Headphones

23-14-02 Headset Earphones/Headphones

Interval	Installed	Required	Procedure
C	-	1	

Either Captain’s or First Officer’s headset earphones/headphones may be inoperative provided associated flight deck speaker operates normally.

23-15 Pre-recorded Passenger Announcement System
23-15A Alternate Procedures Required

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided alternate procedures are established and used.

OPERATIONS (O)

Each operator must provide alternate procedures to be used when the pre-recorded passenger announcement system is inoperative.

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

23-16-01 Control Wheel PTT Switches

Interval	Installed	Required	Procedure
C	2	1	**(M)**

One may be inoperative provided:

a. Associated audio selector panel PTT switch operates normally.

b. Affected switch is either verified failed open or is deactivated.

MAINTENANCE (M)

For -300/-400/-500:

Verify the inoperative control wheel PTT switch is failed open. If the switch has not failed open, deactivate the switch.

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

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

2. To deactivate the inoperative switch, disconnect, cap and stow the ground wire of the control wheel PTT switch (AMM 23-51-41/401).

3. Use the audio selector panel PTT switch to verify R/T and/or I/C communications.

For -600/-700/-800/-900:

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

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

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

2. To deactivate the inoperative switch, disconnect, cap and stow the ground wire of the control wheel PTT switch (AMM 23-00-00/901).

3. Use the audio selector panel PTT switch to verify R/T and/or I/C communications.

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

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

Interval	Installed	Required	Procedure
C	2	1	**(M)**

One may be inoperative provided:

a. Associated control wheel PTT switch operates normally.

b. Affected switch is verified failed open.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

Verify the inoperative Flight Crew Audio Selector Panel PTT switch is failed open.

For -600/-700/-800/-900:

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

For All Models:

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

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

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

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

23-16-03 Glareshield Panel PTT Switch(es)
23-16-03A Required By Procedures

Interval	Installed	Required	Procedure
C	-	0	**(M)**

May be inoperative provided affected switch is either verified failed open or is deactivated.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

Verify the inoperative Glareshield Panel PTT switch(es) is failed open. If the switch(es) has not failed open, deactivate the switch(es).

For -600/-700/-800/-900:
Verify the inoperative Glareshield Panel PTT switch(es) is failed open. If the switch(es) has not failed open, deactivate the switch(es) (AMM 23-00-00/901).
For All Models:

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

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

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

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

23-16-03 Glareshield Panel PTT Switch(es)
23-16-03B Procedures Do Not Require Use

Interval	Installed	Required	Procedure
C	-	0	**(M)**

May be inoperative provided:

a. Affected switch is either verified failed open or is deactivated.
b. Procedures do not require its use.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Verify the inoperative Glareshield Panel PTT switch(es) is failed open. If the switch(es) has not failed open, deactivate the switch(es).
For -600/-700/-800/-900:
Verify the inoperative Glareshield Panel PTT switch(es) is failed open. If the switch(es) has not failed open, deactivate the switch(es) (AMM 23-00-00/901).
For All Models:

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

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

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

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

23-16-04 Pendant Switch(es)
23-16-04A Required By Procedures

Interval	Installed	Required	Procedure
C	-	0	**(M)**

May be inoperative provided affected switch is either verified failed open or is deactivated.

MAINTENANCE (M)

Verify the inoperative Pendant switch(es) is failed open. If the switch(es) has not failed open, deactivate the switch(es).

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

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

2. To deactivate the inoperative switch, disconnect, cap and stow the ground wire of the pendant switch(es).

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

23-16-04 Pendant Switch(es)
23-16-04B Procedures Do Not Require Use

Interval	Installed	Required	Procedure
D	-	0	**(M)**

May be inoperative provided:

a. Affected switch is either verified failed open or is deactivated.
b. Procedures are not based on its use.

MAINTENANCE (M)

Verify the inoperative Pendant switch(es) is failed open. If the switch(es) has not failed open, deactivate the switch(es).

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

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

2. To deactivate the inoperative switch, disconnect, cap and stow the ground wire of the pendant switch(es).

23-17 Flight Deck Hand Microphones

23-17A Boom Microphone Operates Normally

Interval	Installed	Required	Procedure
C	-	0	

May be inoperative or missing provided associated boom microphone operates normally.

23-17 Flight Deck Hand Microphones

23-17B Excess Flight Deck Hand Microphones

Interval	Installed	Required	Procedure
D	-	0	

Any in excess of those required for each person on flight deck duty may be inoperative or missing.

23-18 Satellite Communication System (SATCOM)
****

23-18A Alternate Procedures Required

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided alternate procedures are established and used.

OPERATIONS (O)

Requirements for communications systems must be determined by each operator and if required, appropriate procedures should be established for operations with the inoperative items. Reference other appropriate regulations.

23-19 Alerting System (Audio/Visual)

23-19-01 Passenger Configuration

23-19-01-01 Flight Deck Call Visual Alerting System

Interval	Installed	Required	Procedure
B	1	0	

May be inoperative provided flight deck audio alerting system operates normally.

NOTE: Flight deck audio alerting system must always be operative.

23-19 Alerting System (Audio/Visual)

23-19-01 Passenger Configuration

23-19-01-02 Flight Attendant Visual Alerting System

Interval	Installed	Required	Procedure
B	1	0	**(O)**

May be inoperative provided:

a. PA system operates normally.

b. If affected visual alerting system is used for lavatory smoke detector alerting, an alternate lavatory smoke detector alert (visual or audio) is installed and operates normally.

c. Alternate procedures for contacting flight attendants are established and used.

NOTE 1: Passenger to Attendant Call System is considered Non-Essential Equipment and Furnishing (NEF) item.

NOTE 2: Any visual alerting system function(s) that operates normally may be used.

OPERATIONS (O)

The operator must develop alternate procedures for flight attendant alerting that may be based on the use of remaining operative functions of the alerting system or on use of the Passenger Address System. Prior to flight, the pilot in command should brief cabin crew members on the alternate procedures to be used.

23-19 Alerting System (Audio/Visual)

23-19-01 Passenger Configuration

23-19-01-03 Flight Attendant Audio Alerting System

Interval	Installed	Required	Procedure
B	1	0	**(O)**

May be inoperative provided:

a. PA system operates normally.

b. If affected audio alerting system is used for lavatory smoke detector alerting, an alternate lavatory smoke detector alert (visual or audio) is installed and operates normally.

c. Alternate procedures for contacting flight attendants are established and used.

NOTE 1: Passenger to Attendant Call System is considered Non-Essential Equipment and Furnishing (NEF) item.

NOTE 2: Any audio alerting system function(s) that operates normally may be used.

OPERATIONS (O)

The operator must develop alternate procedures for flight attendant alerting that may be based on the use of remaining operative functions of the alerting system or on use of the Passenger Address System. Prior to flight, the pilot in command should brief cabin crew members on the alternate procedures to be used.

May be inoperative provided courier/supernumerary compartment remains unoccupied.

23-20 Handset Systems

***

23-20-01 Passenger Configuration

23-20-01-01 Flight Deck

23-20-01-01A Alternate Procedures Required

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided:

a. Flight deck to cabin communication operates normally.

b. Alternate procedures are established and used.

OPERATIONS (O)

Crew normal and non-normal procedures vary considerably between operators. The individual operator should develop alternate procedures based on the use of the Passenger Address System and/or the Interphone system. Prior to flight, the pilot in command should brief cabin crew members on the alternate procedures to be used.

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

23-20 Handset Systems

***

23-20-01 Passenger Configuration

23-20-01-01 Flight Deck

23-20-01-01B Procedures Do Not Require Use

Interval	Installed	Required	Procedure
D	1	0	

May be inoperative provided procedures do not require its use.

23-20 Handset Systems
****

23-20-01 Passenger Configuration

23-20-01-02 Cabin

Interval	Installed	Required	Procedure
B	-	-	**(O)**

May be inoperative provided:

a. Fifty percent of cabin handsets operate normally.
b. Alternate communication procedures between affected flight attendant station(s) are established and used.

NOTE 1: An operative handset at an inoperative flight attendant seat shall not be counted to satisfy fifty percent requirement.

NOTE 2: Any handset functions that operate normally may be used.

OPERATIONS (O)

Crew normal and non-normal procedures vary considerably between operators. The individual operator should develop alternate procedures based on the use of the Passenger Address System and/or the Interphone system. Prior to flight, the pilot in command should brief cabin crew members on the alternate procedures to be used.

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

23-21 Electronic Visual Surveillance Systems (All Installed Systems)

23-21A Alternate Procedures Required

Interval	Installed	Required	Procedure
A	1	0	**(O)**

May be inoperative and components may be missing provided:

a. Alternate procedures are established and used.

b. Repairs are made within three flight days.

NOTE: Any portion of the system which operates normally may be used.

OPERATIONS (O)

Alternate procedures must be established and used.

23-21 Electronic Visual Surveillance Systems (All Installed Systems)

23-21B Flight Deck Door Viewing Port Operates Normally

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative and components may be missing provided:

a. The flight deck door viewing port is installed and operates normally.

b. Alternate procedures are established and used.

NOTE: Any portion of the system which operates normally may be used.

OPERATIONS (O)

Verify no video image on monitor .

Doors should be locked during flight below FL 300

Pilots may use their own briefing for cabin crew: alternate procedures must be established and used.

(M) (STC ST01443LA)

Deactivate CDSS in the following steps:

A. Pull CDSS PWR (at the P6-3 panel, location C-11 only for 737-300/-400/-500,location E-2 only for 737-600/-700/-800/-900) and secure with red safety collar.

B. Mark C/B Panel at same location with gray INOP label. Cover CDSS ON/OFF switch on pilot's 0/H (P5) panel with gray INOP label.

C. Place gray INOP label on the top edge of the monitor,where it will not obstruct the view of the screen.

D. Return aircraft to serviceable condition.

23-22 Electronic Voice Checklist

***

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided alternate procedures are established and used.

NOTE: The Electronic Voice Checklist installation is not a Boeing configuration. Therefore, information and procedures applicable to this system are not provided.

23-23 Multipurpose Interactive Display Unit (MIDU)

***

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided alternate procedures are established and used for affected subsystems.

OPERATIONS (O)

NOTE: An inoperative Multipurpose Interactive Display Unit (MIDU) can also affect these systems (if installed): ACARS (see DDG item 23-09), SATCOM (see DDG item 23-18), and ACMS (see DDG item 31-07).

1. Do not use VHF-3 (if installed for voice communications) for ATC communication with ACARS operational, if the Voice Mode Protection function of the MIDU is inoperative.
2. Operators must develop alternate procedures to be used when the MIDU is inoperative.

23-24 Landscape Camera System (-800EF STC ST02000NY)
****

Interval	Installed	Required	Procedure
D	1	0	

NOTE: This STC is not a Boeing system. The STC holder should be contacted for information and procedures pertaining to this item

23-24 Landscape Camera System (-800EF STC ST02000NY)
****

23-24-01 Dome Camera

Interval	Installed	Required	Procedure
D	1	0	**(M)**

May be inoperative or missing.

NOTE: This STC is not a Boeing system. The STC holder should be contacted for information and procedures pertaining to this item

23-25 Automated Flight Information Reporting System (AFIRS) (STC's ST10345SC and ST02361NY)

23-25A Alternate Procedures Required

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided alternate procedures are established and used.

NOTE: Any portion of system that operates normally may be used.

NOTE: The system indicated by the STC numbers above is not a Boeing configuration. Procedures applicable to this system are not provided.

23-25 Automated Flight Information Reporting System (AFIRS) (STC's ST10345SC and ST02361NY)

23-25B Procedures Do Not Require Use

Interval	Installed	Required	Procedure
D	1	0	

May be inoperative provided procedures do not require its use.

NOTE: Any portion of system that operates normally may be used.

NOTE: The system indicated by the STC numbers above is not a Boeing configuration. Procedures applicable to this system are not provided.

23-25 Automated Flight Information Reporting System (AFIRS) (STC's ST10345SC and ST02361NY)

23-25-01 Global Voice SATCOM (ST02361NY)

23-25-01A Alternate Procedures Required

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided alternate procedures are established and used.

NOTE: The system indicated by the STC number above is not a Boeing configuration. Procedures applicable to this system are not provided.

23-25 Automated Flight Information Reporting System (AFIRS) (STC's ST10345SC and ST02361NY)
23-25-01 Global Voice SATCOM (ST02361NY)
23-25-01B Procedures Do Not Require Use

Interval	Installed	Required	Procedure
D	1	0	

May be inoperative provided procedures do not require its use.

23-25 Automated Flight Information Reporting System (AFIRS) (STC's ST10345SC and ST02361NY)
23-25-01 Global Voice SATCOM (ST02361NY)
23-25-01-01 Cockpit Dialer Pad
23-25-01-01A Alternate Procedures Required

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided alternate procedures are established and used.

NOTE: The system indicated by the STC number above is not a Boeing configuration. Procedures applicable to this system are not provided.

23-25 Automated Flight Information Reporting System (AFIRS) (STC's ST10345SC and ST02361NY)
23-25-01 Global Voice SATCOM (ST02361NY)
23-25-01-01 Cockpit Dialer Pad
23-25-01-01B Procedures Do Not Require Use

Interval	Installed	Required	Procedure
D	1	0	

May be inoperative provided procedures do not require its use.

23-25 Automated Flight Information Reporting System (AFIRS) (STC's ST10345SC and ST02361NY)
23-25-01 Global Voice SATCOM (ST02361NY)
23-25-01-02 Flt. Compt. Handset
23-25-01-02A Alternate Procedures Required

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided alternate procedures are established and used.

NOTE: The system indicated by the STC number above is not a Boeing configuration. Procedures applicable to this system are not provided.

23-25 Automated Flight Information Reporting System (AFIRS) (STC's ST10345SC and ST02361NY)
23-25-01 Global Voice SATCOM (ST02361NY)
23-25-01-02 Flt. Compt. Handset
23-25-01-02B Procedures Do Not Require Use

Interval	Installed	Required	Procedure
D	1	0	

May be inoperative provided procedures do not require its use.

23-25 Automated Flight Information Reporting System (AFIRS) (STC's ST10345SC and ST02361NY)
23-25-01 Global Voice SATCOM (ST02361NY)
23-25-01-03 Pax. Compt. Handset
23-25-01-03A Alternate Procedures Required

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided alternate procedures are established and used.

NOTE: The system indicated by the STC number above is not a Boeing configuration. Procedures applicable to this system are not provided.

23-25 Automated Flight Information Reporting System (AFIRS) (STC's ST10345SC and ST02361NY)
23-25-01 Global Voice SATCOM (ST02361NY)
23-25-01-03 Pax. Compt. Handset
23-25-01-03B Procedures Do Not Require Use

Interval	Installed	Required	Procedure
D	1	0	

May be inoperative provided procedures do not require its use.

23-25 Automated Flight Information Reporting System (AFIRS) (STC's ST10345SC and ST02361NY)
23-25-02 Global Messaging (ST02361NY)
23-25-02A Alternate Procedures Required

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided alternate procedures are established and used.

NOTE: The system indicated by the STC number above is not a Boeing configuration. Procedures applicable to this system are not provided.

23-25 Automated Flight Information Reporting System (AFIRS) (STC's ST10345SC and ST02361NY)
23-25-02 Global Messaging (ST02361NY)
23-25-02B Procedures Do Not Require Use

Interval	Installed	Required	Procedure
D	1	0	

May be inoperative provided procedures do not require its use.

NOTE: Any portion of the system that operates normally may be used

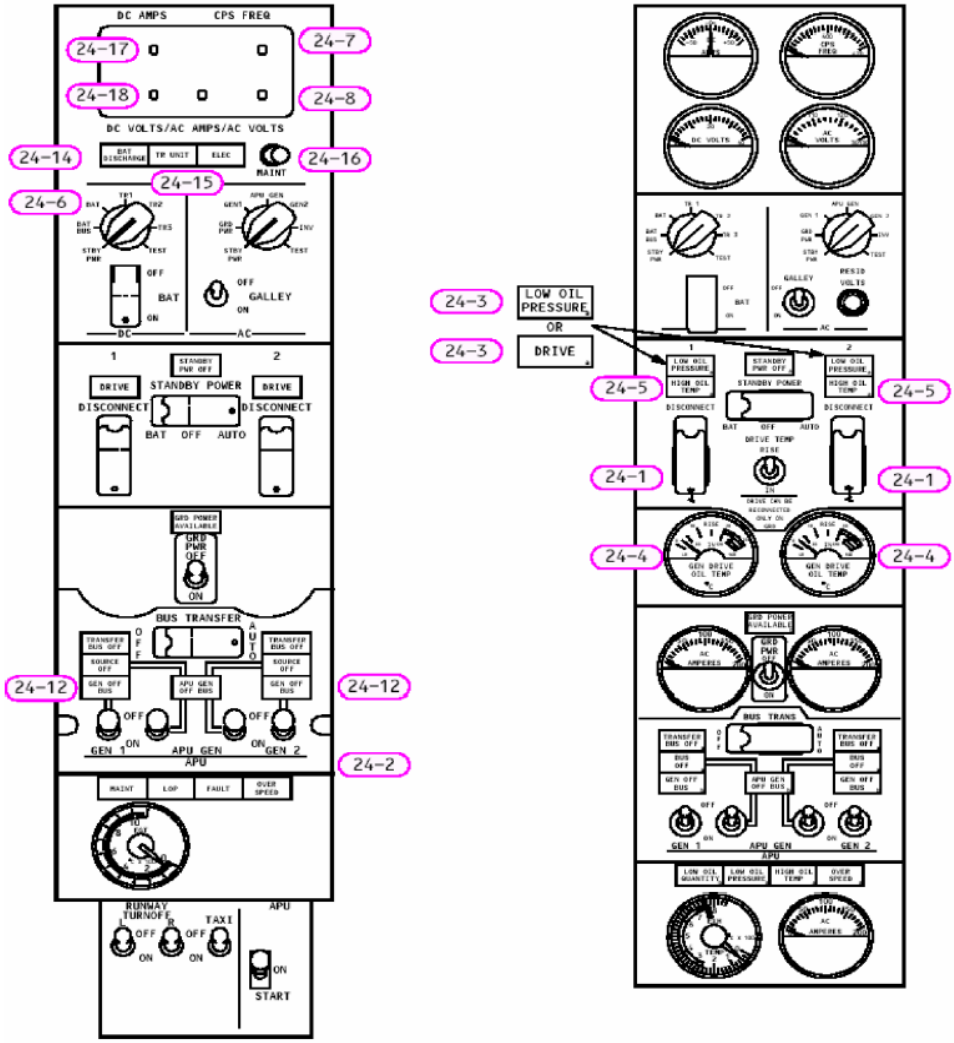
23-26 Avionica secureLINK Airborne Wireless Router (STC03151AT)

***

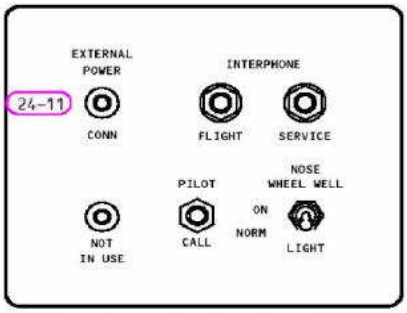
Interval	Installed	Required	Procedure
D	1	0	

May be inoperative provided procedures do not require its use.

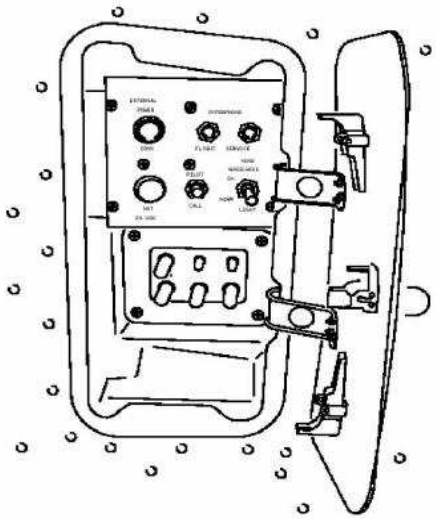
NOTE: Any mode that operates normally may be used.

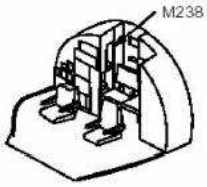


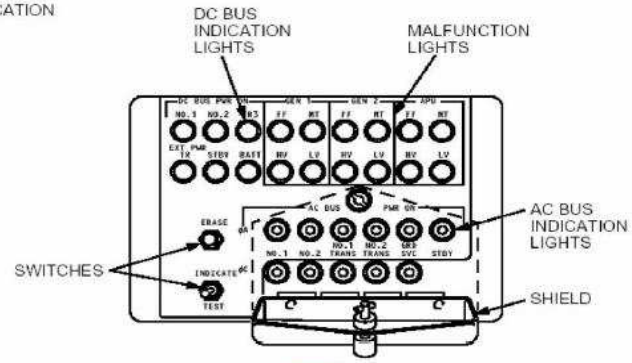
FORWARD OVERHEAD PANELS



EXTERNAL POWER PANEL







ELECTRICAL POWER ANNUNCIATOR PANEL

24-01 Engine Driven Generator Systems

24-01-01 -400/-500

24-01-01A APU Fuel Heater Installed

Interval	Installed	Required	Procedure
B	2	1	**(M) (O)**

Except for ER operations, may be inoperative provided:

a. APU generator operates normally and is used throughout flight.

b. An APU fuel heater is installed.

MAINTENANCE (M)

1. Check for proper oil level on the inoperative engine driven generator (AMM 12-13-21).

   NOTE 1: The CSD can be operated without oil for up to 50 hours in the disconnected mode.

   NOTE 2: The VSCF can be operated in the disconnected mode within the limits of this DDG item. Boeing does not recommend dispatch with complete loss of VSCF oil.

2. Check for proper oil level in the APU (AMM 12-13-31/201).
3. Disconnect the generator drive:

   A. Supply electrical power (AMM 24-22-0/201).

   B. Momentarily position the associated GEN 1 or GEN 2 Generator Switch to ON and then back to center.

   For -300/-400/-500:

   D. Start the associated engine and operate at idle power (AMM 71-00-00/201).

   E. Operate the DISCONNECT switch for the associated generator:

      NOTE: Do not disconnect the CSD unless the engine speed is AT OR ABOVE minimum idle.

      1) If the DISCONNECT switch is lock wired, remove the lockwire.

      2) Lift the DISCONNECT switch guard.

         NOTE: Do not push the DISCONNECT switch for MORE THAN 3 seconds.

      3) Momentarily push the DISCONNECT switch.

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

4. Verify generator drive has disconnected:
   A. Verify that the LOW OIL PRESSURE / DRIVE light is illuminated.
   B. Set the AC Meter Selector to the associated GEN 1 or GEN 2 position.
   C. Push and hold the RESID VOLTS switch.
   D. Verify that the AC Voltmeter shows less than 5 volts.
   E. Release the RESID VOLTS switch.
5. Verify that the Manual Trip (MT) light on the Electrical Power Annunciator Panel (M238) has illuminated for the associated generator.

For -300/-400/-500:

7. Shut down the engine (AMM 71-00-00/201).
8. Close the DISCONNECT switch guard and install lockwire (if previously installed).
9. Remove the lamps from these associated generator lights:
   A. LOW OIL PRESSURE / DRIVE
   B. HIGH OIL TEMP
   C. GEN OFF BUS.

For -300/-400/-500:

11. Verify normal APU operation by operating the APU under a loaded condition. Observe that APU is within defined limits (AMM 49-11-00/201).

OPERATIONS (O)

Use the APU generator to power the bus associated with the inoperative engine driven generator system.

NOTE: For APU operation during flight, refer to the Boeing Flight Planning and Performance Manual (FPPM) for additional fuel flow allowances.

With the generator disconnected, the ELEC light will illuminate during Master Caution recall and will extinguish when reset.

24-01 Engine Driven Generator Systems

24-01-01 --400/-500

24-01-01B Fuel Temp Maintained at or Above 32 Degrees F (0 Degrees C)

Interval	Installed	Required	Procedure
B	2	1	**(M) (O)**

Except for ER operations, may be inoperative provided:

a. APU generator operates normally and is used throughout flight.

b. Fuel temperature is maintained at or above 32 degrees F (0 degrees C).

MAINTENANCE (M)

1. Check for proper oil level on the inoperative engine driven generator (AMM 12-13-21).

   NOTE 1: The CSD can be operated without oil for up to 50 hours in the disconnected mode.

   NOTE 2: The VSCF can be operated in the disconnected mode within the limits of this DDG item. Boeing does not recommend dispatch with complete loss of VSCF oil.

2. Check the oil level in the APU (AMM 12-13-31/201).

3. Disconnect the generator drive:

   A. Supply electrical power (AMM 24-22-0/201).

   B. Momentarily position the associated GEN 1 or GEN 2 Generator Switch to ON and then back to center.

   For -300/-400/-500:

   D. Start the associated engine and operate at idle power (AMM 71-00-00/201).

   E. Operate the DISCONNECT switch for the associated generator:

      NOTE: Do not disconnect the CSD unless the engine speed is AT OR ABOVE minimum idle.

      1) If the DISCONNECT switch is lock wired, remove the lockwire.

      2) Lift the DISCONNECT switch guard.

         NOTE: Do not push the DISCONNECT switch for MORE THAN 3 seconds.

      3) Momentarily push the DISCONNECT switch.

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

4. Verify generator drive has disconnected:
   A. Verify that the LOW OIL PRESSURE / DRIVE light is illuminated.
   B. Set the AC Meter Selector to the associated GEN 1 or GEN 2 position.
   C. Push and hold the RESID VOLTS switch.
   D. Verify that the AC Voltmeter shows less than 5 volts.
   E. Release the RESID VOLTS switch.
5. Verify that the Manual Trip (MT) light on the Electrical Power Annunciator Panel (M238) has illuminated for the associated generator.

For -300/-400/-500:

7. Shut down the engine (AMM 71-00-00/201).
8. Close the DISCONNECT switch guard and install lockwire (if previously installed).
9. Remove the lamps from these associated generator lights:
   A. LOW OIL PRESSURE / DRIVE
   B. HIGH OIL TEMP
   C. GEN OFF BUS.

OPERATIONS (O)

1. Use the APU generator to power the bus associated with the inoperative engine driven generator system.

   NOTE: For APU operation during flight, refer to the Boeing Flight Planning and Performance Manual (FPPM) for additional fuel flow allowances.

2. With the generator disconnected, the ELEC light will illuminate during Master Caution recall and will extinguish when reset.
3. Keep the fuel temperature above 32 deg. F (0 deg. C):
   A. See tables 1 thru 4 below for the limit on flight duration (the time required for the fuel to cool to 32 deg. F (0 deg. C))

Table 1: Flight Duration (fuel cooling time) ISA-20 degrees C

Altitude (1000 ft)	Starting Fuel Tank Temperature			
	10°C	20°C	30°C	40°C
30	.4	.5	.7	.8
25	.4	.6	.7	.9
20	.4	.6	.8	1.0
15	.5	.8	1.1	1.2
10	1.1	1.6	1.9	2.1

Time inside table is in hours.

Table 2: Flight Duration (fuel cooling time) ISA-10 degrees C

Altitude (1000 ft)	Starting Fuel Tank Temperature			
	10°C	20°C	30°C	40°C
30	.5	.7	.8	1.0
25	.5	.8	1.0	1.2
20	.7	1.0	1.2	1.4
15	1.3	1.7	2.1	2.3
10	NL	NL	NL	NL

NL (No Limit) - Fuel does not cool to 0 degrees C. Time inside table is in hours.

Table 3: Flight Duration (fuel cooling time) ISA

Altitude (1000 ft)	Starting Fuel Tank Temperature			
	10°C	20°C	30°C	40°C
30	.7	.9	1.1	1.2
25	.9	1.3	1.6	1.8
20	1.5	2.0	2.3	2.5
15	NL	NL	NL	NL
10	NL	NL	NL	NL

NL (No Limit) - Fuel does not cool to 0 degrees C. Time inside table is in hours.

Table 4: Flight Duration (fuel cooling time) ISA+10 degrees C

Altitude (1000 ft)	Starting Fuel Tank Temperature			
	10°C	20°C	30°C	40°C
30	1.1	1.3	1.5	1.7
25	NL	NL	NL	NL
20	NL	NL	NL	NL
15	NL	NL	NL	NL
10	NL	NL	NL	NL

NL (No Limit) - Fuel does not cool to 0 degrees C. Time inside table is in hours.

24-01 Engine Driven Generator Systems

24-01-02 -600/-700/-800/-900

Interval	Installed	Required	Procedure
B	2	1	**(M) (O)**

Except for ER operations, may be inoperative provided APU generator operates normally and is used throughout flight.

MAINTENANCE (M)

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

1. Disconnect the engine driven generator (AMM 24-00-00/901):
   A. Check the oil level of the inoperative IDG (AMM 12-13-21/301).
      NOTE: The IDG can be operated without oil for up to 50 hours in the disconnected mode.
   B. Supply external power.
   C. Start the associated engine (AMM 71-00-00/201).
   D. Position the AC Meters Selector on the AC and DC Metering panel to the applicable GEN position.
   E. Lift the DISCONNECT switch guard.
   F. Push the DISCONNECT switch to the DISCONNECT position when the engine is at or above idle speed.
   G. Verify the DRIVE light illuminates.
   H. Verify these AC Meter indications on the P-5 panel:

1) Verify the AC VOLTS indication shows 0 volts.
2) Verify the CPS FREQ indication shows 0.

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

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

OPERATIONS (O)

Use the APU generator to power the bus associated with the inoperative engine driven generator system.

NOTE: For APU operation during flight, refer to the Boeing Flight Planning and Performance Manual (FPPM) for additional fuel flow allowances.

With the generator disconnected, the ELEC light will illuminate during Master Caution recall and will extinguish when reset.

24-02 APU Generator System

Interval	Installed	Required	Procedure
C	1	0	

Except for ER operations, may be inoperative.

24-03 Engine Driven Generator LOW OIL PRESSURE/DRIVE Lights

24-03-01 --400/-500

Interval	Installed	Required	Procedure
C	2	0	

LOW OIL PRESSURE/DRIVE lights and associated generator low oil pressure switches may be inoperative provided associated HIGH OIL TEMP light and oil temperature indicator operate normally.

24-03 Engine Driven Generator LOW OIL PRESSURE/DRIVE Lights

24-03-02 -600/-700/-800/-900

Interval	Installed	Required	Procedure
C	2	0	

DRIVE lights and associated generator low oil pressure switches may be inoperative.

24-04 Engine Driven Generator Oil Temperature Indicator Systems (-400/-500)

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided associated LOW OIL PRESSURE / DRIVE light and HIGH OIL TEMP light operate normally.

24-05 Engine Driven Generator HIGH OIL TEMP Lights (-400/-500)

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided associated LOW OIL PRESSURE / DRIVE light and oil temperature indicator operate normally.

24-07 Frequency Meter

Interval	Installed	Required	Procedure
C	1	0	

24-08 AC Volts Indication

Interval	Installed	Required	Procedure
B	1	0	**(O)**

May be inoperative except in STBY PWR position provided Standby Power Test is accomplished.

OPERATIONS (O)

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

Do the Supplementary Procedures - Electrical - Standby Power Test (refer to the Boeing Flight Crew Operations Manual).

24-08 AC Volts Indication

24-08-01 Residual Voltage Function (-400/-500)

Interval	Installed	Required	Procedure
C	1	0	

24-09 AC Ammeters

Interval	Installed	Required	Procedure
C	-	0	

May be inoperative provided associated generator off bus lights operate normally.

24-10 Generator System Annunciator Panel (-400/-500)

Interval	Installed	Required	Procedure
C	1	0	

24-11 External Power System

Interval	Installed	Required	Procedure
C	1	0	

NOTE: Any portion of system which operates normally may be used.

24-11 External Power System

24-11-01 DC Receptacle

****

Interval	Installed	Required	Procedure
D	1	0	

24-12 GEN OFF BUS Lights

Interval	Installed	Required	Procedure
C	2	1	

One may be inoperative provided associated generator AC ammeter operates normally.

OPERATIONS NOTE

The associated AC Ammeter can be used to determine when the generator does not supply power to the generator bus.

24-13 Galley Load Shed Sensor Module (-400/-500)

***

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided GALLEY Power Switch remains OFF when APU is being used to power both generator busses on ground.

24-14 BAT DISCHARGE Light
****

Interval	Installed	Required	Procedure
C	1	0	

OPERATIONS NOTE

These steps can be performed to verify that the batteries are not discharging:

1. Position the DC Meters Selector to BAT.
2. Verify that the DC AMPS indication is not negative.
3. If an APU (or AUX) battery is installed, position the DC Meters Selector to APU (or AUX) BAT.
4. Verify that the DC AMPS indication is not negative.

24-15 TR UNIT Light
****

Interval	Installed	Required	Procedure
C	1	0	

OPERATIONS NOTE

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

1. Position the DC Meters Selector to TR 1.
2. Verify that the DC AMPS indication is greater than 5 amps.
3. Position the DC Meters Selector to TR 2.
4. Verify that the DC AMPS indication is greater than 5 amps.
5. Position the DC Meters Selector to the TR 3.
6. Verify that the DC VOLTS indication is 28 ± 6 volts.

24-16 ELEC Light
24-16-01 --400/-500

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided:

a. Standby Power Test is accomplished.

b. Battery Charger is verified to operate normally.

OPERATIONS (O)

1. All models with dual batteries installed:
   - A. Establish AC electrical power on the airplane.
   - B. Do the Supplementary Procedures - Electrical - Standby Power Test (refer to the Boeing Flight Crew Operations Manual).
   - C. Position the DC Meters selector to APU (or AUX) BAT.
   - D. Position the STANDBY POWER switch to BAT.
   - E. Wait for 5 seconds.
   - F. Position the STANDBY POWER switch to AUTO.
   - G. Verify that the DC AMPS indication is greater than or equal to 10 Amps.
   - H. Position the DC Meters selector to BAT.
   - I. Verify that the DC AMPS indication is greater than or equal to 10 Amps.
   - J. If the DC AMPS indication is less than 10 Amps, position the STANDBY POWER switch to BAT.
     1) Wait for 5 seconds.
     2) Position the STANDBY POWER switch to AUTO.
     3) Verify that the DC AMPS indication is greater than or equal to 10 Amps.
   - K. Return the DC Meters selector to normal position.
2. All models with single battery and 40AH or 48AH battery charger installed:
   - A. Establish AC electrical power on the airplane.
   - B. Do the Supplementary Procedures - Electrical - Standby Power Test (refer to the Boeing Flight Crew Operations Manual).
   - C. Position the DC Meter selector to BAT.
   - D. Position the STANDBY POWER switch to BAT.
   - E. Wait for 5 seconds.
   - F. Position the STANDBY POWER switch to AUTO.
   - G. Verify that the DC AMPS indication is greater than or equal to 10 Amps.
   - H. Return the DC Meters selector to normal position.

24-16 ELEC Light
****

24-16-02 -600/-700/-800/-900

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided:

a. Standby Power Test is accomplished once each flight day.

b. Battery Charger is verified to operate normally.

OPERATIONS (O)

1. All models with dual batteries installed:
   - A. Establish AC electrical power on the airplane.
   - B. Do the Supplementary Procedures - Electrical - Standby Power Test (refer to the Boeing Flight Crew Operations Manual).
   - C. Position the DC Meters selector to APU (or AUX) BAT.
   - D. Position the STANDBY POWER switch to BAT.
   - E. Wait for 5 seconds.
   - F. Position the STANDBY POWER switch to AUTO.
   - G. Verify that the DC AMPS indication is greater than or equal to 10 Amps.
   - H. Position the DC Meters selector to BAT.
   - I. Verify that the DC AMPS indication is greater than or equal to 10 Amps.
   - J. If the DC AMPS indication is less than 10 Amps, position the STANDBY POWER switch to BAT.
     1) Wait for 5 seconds.
     2) Position the STANDBY POWER switch to AUTO.
     3) Verify that the DC AMPS indication is greater than or equal to 10 Amps.
   - K. Return the DC Meters selector to normal position.
2. All models with single battery and 40AH or 48AH battery charger installed:
   - A. Establish AC electrical power on the airplane.
   - B. Do the Supplementary Procedures - Electrical - Standby Power Test (refer to the Boeing Flight Crew Operations Manual).
   - C. Position the DC Meter selector to BAT.
   - D. Position the STANDBY POWER switch to BAT.

E. Wait for 5 seconds.
F. Position the STANDBY POWER switch to AUTO.
G. Verify that the DC AMPS indication is greater than or equal to 10 Amps.
H. Return the DC Meters selector to normal position.

3. All models with single battery and the 36AH battery charger installed:
A. Establish AC electrical power on the airplane.
B. Do the Supplementary Procedures - Electrical - Standby Power Test (refer to the Boeing Flight Crew Operations Manual).
C. Position the DC Meters selector to BAT.
D. If APU generator is on-line, position the BUS TRANSFER switch to OFF.
E. Position the APU GEN No. 2 switch or GRD PWR switch to OFF.
F. Wait for 5 seconds.
G. Position the APU GEN No. 2 switch or GRD PWR switch to ON.
1) Verify the DC AMPS indication is greater than 5 Amps.
2) Verify the DC VOLTS indication is greater than 26Vdc.
H. Position the BUS TRANSFER switch to AUTO.
I. Return the DC Meters selector to normal position.

24-17 DC Ammeter Indication

Interval	Installed	Required	Procedure
B	1	0	**(O)**

May be inoperative provided:

a. BAT position operates normally.
b. Standby Power Test is accomplished.
c. Procedures do not require its use.

OPERATIONS (O)

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

24-18 DC Volts Indication

Interval	Installed	Required	Procedure
B	1	0	**(O)**

May be inoperative except in STBY PWR position provided Standby Power Test is accomplished.

OPERATIONS (O)

Do the Supplementary Procedures - Electrical - Standby Power Test (refer to the Boeing Flight Crew Operations Manual).

24-19 APU GEN OFF BUS Light

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided:

a. APU frequency meter operates normally.

b. APU ammeter operates normally.

OPERATIONS NOTE

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

24-20 Cabin Power Switch (Jet Aviation Engineering Services (JAES))

***

Interval	Installed	Required	Procedure
B	1	0	**(M)**

May be inoperative provided procedures are established and used to deactivate cabin power.

NOTE: This STC is not a Boeing configuration. Therefore, procedures applicable to this installation are not provided.

25-01 Megaphones (Includes STCs SA2969SO and ST10238SC)

Interval	Installed	Required	Procedure
D	-	-	

Any in excess of those required , may be inoperative or missing provided:

a. Inoperative megaphone is removed from passenger cabin.

b. Required distribution is maintained.

NOTE: Not required for all-cargo operations.

25-03 Flight Attendant Seat Assembly (Single or Dual Position)

25-03-01 Required Flight Attendant Seats

Interval	Installed	Required	Procedure
B	-	-	**(M) (O)**

One seat position or assembly (dual position) may be inoperative provided:

a. Affected seat or seat assembly is not occupied.

b. Flight attendant(s) displaced by inoperative seat(s) occupies either an adjacent flight attendant seat or passenger seat which is most accessible to inoperative seat(s), so as to most effectively perform assigned duties.

c. Alternate procedures are established and used as published in crewmember manuals.

d. Folding type seat stows automatically or is secured in retracted position.

e. Passenger seat assigned to flight attendant is placarded "FOR FLIGHT ATTENDANT USE ONLY".

NOTE 1: An automatic folding seat that will not stow automatically is considered inoperative.

NOTE 2: A seat position with an inoperative or missing restraint system is considered inoperative.

NOTE 3: Individual operators when operating with inoperative seats, will consider locations and combinations of seats to ensure that proximity to exits and distribution requirements of applicable 14 CFR are met.

NOTE 4: If one side of a dual seat assembly is inoperative and a flight attendant is displaced to adjacent seat, adjacent seat must operate normally.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Remove or secure the inoperative seat in the stowed position.
For -600/-700/-800/-900:
Remove or secure the inoperative seat in the stowed position (AMM 25-00-00/901).

OPERATIONS (O)

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

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

25-03 Flight Attendant Seat Assembly (Single or Dual Position)

25-03-02 Excess Flight Attendant Seats

Interval	Installed	Required	Procedure
C	-	-	**(M)**

May be inoperative provided:

a. Affected seat position or seat assembly is not occupied.

b. Folding type seat stows automatically or is secured in retracted position.

NOTE 1: An automatic folding seat that will not stow automatically is considered inoperative.

NOTE 2: A seat position with an inoperative or missing restraint system is considered inoperative.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Remove or secure the inoperative seat in the stowed position.
For -600/-700/-800/-900:
Remove or secure the inoperative seat in the stowed position (AMM 25-00-00/901).

25-03 Flight Attendant Seat Assembly (Single or Dual Position)

25-03-04 Seat Cushion Heating System
***

Interval	Installed	Required	Procedure
D	-	0	**(M)**

May be inoperative provided heating system is deactivated.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Deactivate heating system by opening and collaring associated Panel P18-3
Attendant Seat Heating circuit breaker.
For -600/-700/-800/-900:
Deactivate heating system by opening and collaring associated Panel P18-3
Attendant Seat Heating circuit breaker (AMM 25-00-00/901).

25-04 Cabin Window Shades

Interval	Installed	Required	Procedure
D	-	0	

May be inoperative in a compartment used for cargo provided AFM Limitations are observed.

NOTE: Passenger Cabin Window Shades in compartments configured for passengers only are considered a passenger convenience item.

25-05 Cargo Compartment Restraint Components

25-05A Cargo Compartment Used

Interval	Installed	Required	Procedure
A	-	-	**(M)**

May be inoperative or missing provided:

a. Acceptable cargo loading limits from an approved source, i.e. an approved Cargo Loading Manual, or Weight and Balance Document are observed.

b. Repairs are made prior to the completion of the next heavy maintenance visit.

MAINTENANCE (M)

1. Deactivation procedures for most cargo restraint or cargo guiding equipment are either obvious (e.g. inoperative container stop needs to be released to retracted position or removed to prevent interference with cargo loading) or unnecessary (e.g., a damaged end stop can be left as is). With the exception of the restrictions below, no other procedures are provided.
2. Refer to the Weight and Balance Manual for cargo loading limits when operating with restraint components missing or inoperative. If the number of inoperative or missing restraint components exceeds the allowance in the Weight and Balance Manual, inform Dispatch that the affected cargo compartment cannot be used.

25-05 Cargo Compartment Restraint Components

25-05B Cargo Compartment(s) Remains Empty

Interval	Installed	Required	Procedure
C	-	-	

May be inoperative or missing provided associated cargo compartment remains empty.

25-05 Cargo Compartment Restraint Components

25-05C Affected Pallet Removed

Interval	Installed	Required	Procedure
C	-	-	

May be inoperative or missing provided pallet with inoperative lock(s) is removed.

25-06 Passenger Seat(s) (Includes STC ST10238SC)

Interval	Installed	Required	Procedure
D	-	-	

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.

c. Affected seat(s) is blocked and placarded “DO NOT OCCUPY".

NOTE 1: A seat with an inoperative seat belt is considered inoperative.

NOTE 2: Inoperative seat(s) do not affect required number of Flight Attendants.

NOTE 3: Affected seat(s) may include seat(s) behind and/or adjacent outboard seats.

25-06 Passenger Seat(s) (Includes STC ST10238SC)

25-06-01 Recline Mechanism

25-06-01A Seat Is Secured In Upright Position

Interval	Installed	Required	Procedure
D	-	-	**(M)**

May be inoperative and seat occupied provided seat is secured in upright position.

MAINTENANCE (M)

Refer to the seat manufacturer’s information for securing seat in the upright position.

25-06 Passenger Seat(s) (Includes STC ST10238SC)

25-06-01 Recline Mechanism

25-06-01B Seat Back Is Immovable In Full Upright Position

Interval	Installed	Required	Procedure
D	-	-	

May be inoperative and seat occupied provided seat back is immovable in full upright position.

25-06 Passenger Seat(s) (Includes STC ST10238SC)

25-06-02 Arm Rests

25-06-02-01 Arm Rest with Recline Mechanism

Interval	Installed	Required	Procedure
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.
c. If armrest is missing, seat is secured in full upright position.

MAINTENANCE (M)

Refer to the seat manufacturer's information for securing seat in the upright position.

25-06 Passenger Seat(s) (Includes STC ST10238SC)

25-06-02 Arm Rests

25-06-02-02 Arm Rest without Recline Mechanism

Interval	Installed	Required	Procedure
D	-	-	

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.

25-06 Passenger Seat(s) (Includes STC ST10238SC)

25-06-03 Underseat Baggage Restraining Bars

Interval	Installed	Required	Procedure
C	-	-	**(O)**

May be inoperative provided:

a. Baggage is not stowed under seat with inoperative restraining bar.
b. Associated seat is placarded "DO NOT STOW BAGGAGE UNDER THIS SEAT".
c. Procedures are established to alert Cabin Crew of inoperative restraining bar.

OPERATIONS (O)

Ensure cabin crew is notified of the inoperative restraining bar and that baggage is not to be placed under the associated seat

25-09 "Fasten Seat Belts While Seated" Signs or Placards

Interval	Installed	Required	Procedure
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.

25-10 Non-Essential Equipment & Furnishings (NEF)

***

Interval	Installed	Required	Procedure
	-	0	

May be inoperative, damaged, or missing provided that item(s) is deferred in accordance with operator's NEF deferral program. NEF program, procedures, and processes must be outlined in operator's appropriate document. (M) and (O) procedures, if required, must be available to flight crew and included in operator's appropriate document.

NOTE: Exterior lavatory door ashtrays are not considered NEF items.

25-11 Observer Seat(s)

25-11-01 Primary Observer's Seat (Including Associated Equipment)

25-11-01A Passenger Seat Available

Interval	Installed	Required	Procedure
A	1	0	

May be inoperative provided:

a. A passenger seat in passenger cabin is made available to an FAA inspector for performance of official duties.

b. Repairs are made within two flight days.

25-11 Observer Seat(s)

25-11-01 Primary Observer's Seat (Including Associated Equipment)

25-11-01B Second Observer Seat Available

Interval	Installed	Required	Procedure
A	1	0	

May be inoperative provided:

a. Second observer's seat is available to an FAA inspector for performance of official duties.

b. Repairs are made within two flight days.

25-11 Observer Seat(s)

25-11-01 Primary Observer's Seat (Including Associated Equipment)

25-11-01C Associated Safety Equipment Acceptable

Interval	Installed	Required	Procedure
A	1	0	

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.

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 any observer seat(s).

25-11 Observer Seat(s)

25-11-02 Second Observer's Seat (Including Associated Equipment)

***

Interval	Installed	Required	Procedure
D	1	0	

NOTE: Pilot-in-Command will determine if minimum safety equipment is functional for other persons authorized to occupy any observer seat(s).

25-11 Observer Seat(s)

25-11-03 Crotch Straps

***

Interval	Installed	Required	Procedure
C	-	0	

25-12 Emergency Flashlight Holders/Flashlights

***

25-12-01 Cabin

Interval	Installed	Required	Procedure
C	-	-	

May be inoperative or missing provided crewmember assigned to affected position has a normally operating flashlight readily available.

25-12 Emergency Flashlight Holders/Flashlights

***

25-12-02 Flight Deck

Interval	Installed	Required	Procedure
C	-	-	

May be inoperative or missing provided crewmember assigned to affected position has a normally operating flashlight readily available.

25-13 Emergency Evacuation Signal System

***

25-13A Alternate Procedures Required

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided alternate procedures are established and used.

OPERATIONS (O)

Evacuation procedures vary considerably between operators, therefore each operator must develop and distribute alternate procedures to initiate an emergency evacuation. These procedures would probably make use of the P. A. and/or Cabin/Service interphone systems. Prior to flight, the pilot in command should brief cabin crew members on the emergency procedures that will be used.

25-13 Emergency Evacuation Signal System

***

25-13B Procedures Do Not Require Use

Interval	Installed	Required	Procedure
D	1	0	

May be inoperative provided procedures do not require its use.

25-16 Lower Cargo Compartment Lining Panels and Floor Panels

Interval	Installed	Required	Procedure
C	-	-	**(M) (O)**

May be damaged or missing provided procedures are established and used to ensure associated compartment remains empty, or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits.

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

MAINTENANCE (M)

Each operator must develop and use procedures to ensure that any items in the associated cargo compartment are properly secured to prevent damage to airplane system components exposed by the damaged or missing lining panel(s).

OPERATIONS (O)

Operators must establish and use procedures to verify the associated compartment remains empty or contains only ballast, empty cargo handling equipment (ballast may be loaded in ULDs), or fly away kits. The operator's MEL must define which items are approved for inclusion in the fly away kits and which materials can be used as ballast.

25-17 Emergency Medical Equipment (Includes STC ST10238SC)

25-17-01 First Aid Kit (FAK) and/or Associated Equipment

25-17-01A Required

Interval	Installed	Required	Procedure
A	-	-	**(O)**

If more than one is required, only one required 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 can not be mistaken for a fully serviceable unit, and

b. Repairs or replacements are made within 3 flight cycles.

NOTE: See other appropriate regulations.

OPERATIONS (O)

Each inoperative or incomplete FAK must be sealed and clearly labelled to identify the missing or inoperative components, as appropriate.

25-17 Emergency Medical Equipment (Includes STC ST10238SC)

25-17-02 Emergency Medical Kit (EMK) and/or Associated Equipment

25-17-02A Required

Interval	Installed	Required	Procedure
A	-	0	**(O)**

May be incomplete, missing or inoperative provided:

a. EMK 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 3 flight cycles.

NOTE: See other appropriate regulations.

OPERATIONS (O)

Each inoperative or incomplete EMK must be sealed and clearly labelled to identify the missing or inoperative components, as appropriate.

25-17 Emergency Medical Equipment (Includes STC ST10238SC)

25-17-04 Automatic External Defibrillators (AED) and/or Associated Equipment

25-17-04A Required

Interval	Installed	Required	Procedure
A	-	0	**(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 3 flight cycles.

NOTE: See other appropriate regulations.

OPERATIONS (O)

Each inoperative or incomplete AED must be sealed and clearly labelled to identify the missing or inoperative components, as appropriate.

.

25-18 Flotation Equipment (Crew and Passengers)

Interval	Installed	Required	Procedure
D	-	-	

Any in excess of those required .may be inoperative or missing provided required distribution is maintained.

NOTE: See other appropriate regulations.

25-20 Exterior Lavatory Door Ashtrays

25-20-01 Airplanes With More Than One Exterior Lavatory Door Ashtray Installed

Interval	Installed	Required	Procedure
A	-	-	

One may be missing provided it is replaced within 10 calendar days.

25-20 Exterior Lavatory Door Ashtrays

25-20-02 Airplanes With Only One Exterior Lavatory Door Ashtray Installed

Interval	Installed	Required	Procedure
A	1	0	

May be missing provided it is replaced within 3 calendar days.

25-21 Flight Crew Seats

25-21-01 Recline Mechanism

Interval	Installed	Required	Procedure
A	2	0	**(M)**

May be inoperative provided:

a. Seat is secured in a position acceptable to affected crewmember.

b. Repairs are made within two flight days.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Secure seat in an acceptable position for the affected crewmember.
For -600/-700/-800/-900:
Secure seat in an acceptable position for the affected crewmember (AMM 25-00-00/901).
For All Models:

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

25-21 Flight Crew Seats

25-21-02 Vertical Adjustment

Interval	Installed	Required	Procedure
A	2	0	**(M)**

May be inoperative provided.

a. Seat is secured in a position acceptable to affected crewmember.

b. Repairs are made within two flight days.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Secure seat in an acceptable position for the affected crewmember.
For -600/-700/-800/-900:
Secure seat in an acceptable position for the affected crewmember (AMM 25-00-00/901).
For All Models:

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

25-21 Flight Crew Seats

25-21-03 Armrests

Interval	Installed	Required	Procedure
B	4	0	**(M)**

May be inoperative in up position or removed provided seat is acceptable to affected crewmember.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Secure an inoperative armrest in the up position or remove from seat.
For -600/-700/-800/-900:
Secure an inoperative armrest in the up position or remove from seat (AMM 26-00-00/901).

25-21 Flight Crew Seats

25-21-04 Lumbar/Thigh Supports

Interval	Installed	Required	Procedure
C	4	0	

May be inoperative provided seat is acceptable to affected crewmember.

25-21 Flight Crew Seats

25-21-05 Headrests

***

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative or missing provided seat is acceptable to affected crewmember.

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

25-22-01 Galley Waste Receptacle Access Doors/Covers

Interval	Installed	Required	Procedure
C	-	-	**(M) (O)**

May be inoperative provided:

a. Associated container is empty.

b. Container access is secured to prevent waste introduction into compartment.

c. Procedures are established to ensure that sufficient galley/lavatory waste receptacles are available to accommodate all waste that may be generated on flight.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Secure the inoperative access door/cover in a manner that will prevent waste from being deposited in the compartment.

For -600/-700/-800/-900:
Secure the inoperative access door/cover in a manner that will prevent waste from being deposited in the compartment (AMM 25-00-00/901).

OPERATIONS (O)

Ensure that sufficient galley/lavatory waste receptacles are available to accommodate all waste that may be generated on the flight.

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

25-22-02 Lavatory Waste Receptacle Access Doors/Covers

Interval	Installed	Required	Procedure
C	-	-	**(M) (O)**

May be inoperative provided:

a. Associated container is empty.

b. Container access is secured to prevent waste introduction into compartment.

c. Lavatory is used only by crewmembers.

d. Associated lavatory entrance door is locked closed and placarded: INOPERATIVE - DO NOT ENTER.

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

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

Secure the inoperative access door/cover in a manner that will prevent waste from being deposited in the compartment.

For -600/-700/-800/-900:

Secure the inoperative access door/cover in a manner that will prevent waste from being deposited in the compartment (AMM 25-00-00/901).

OPERATIONS (O)

Ensure that sufficient galley/lavatory waste receptacles are available to accommodate all waste that may be generated on the flight.

25-23 Automatic Cargo Loading Systems

***

Interval	Installed	Required	Procedure
D	-	0	

NOTE: Any portion of system(s) that operates normally may be used.

25-24 Overhead Storage Bin(s)/Cabin and Galley Storage
25-24A Door Secured Closed

Interval	Installed	Required	Procedure
C	-	-	**(M)**

May be inoperative provided:

a. Procedures are established to secure compartment CLOSED.
b. Associated bin or compartment is prominently placarded DO NOT USE.
c. Any emergency equipment located in affected compartment is considered inoperative.
d. Affected compartment is not used for storage of any item(s) except for those permanently affixed.

NOTE: For overhead storage compartments, if no partitions are installed, entire overhead storage compartment is considered one compartment.

MAINTENANCE (M)

Secure the bin or compartment closed using appropriate procedures.

25-24 Overhead Storage Bin(s)/Cabin and Galley Storage
25-24B Door Removed

Interval	Installed	Required	Procedure
C	-	-	**(M) (O)**

May be inoperative provided:

a. Affected door(s) is removed or, for retractable doors, secured in the retracted (fully open) position.
b. Associated bin or compartment is not used for storage of any items except for those permanently affixed.
c. Associated bin or compartment is prominently placarded DO NOT USE.
d. Procedures are established and used to alert crew members and passengers of inoperative bins.
e. Passengers are briefed that associated bin or compartment is not used.

NOTE 1: For overhead storage compartments, if no partitions are installed, entire overhead storage compartment is considered one compartment.

NOTE 2: Any emergency equipment located in the associated compartment (permanently affixed) is available for use.

MAINTENANCE (M)

Remove door from associated bin or compartment.

OPERATIONS (O)

Crewmembers are advised of inoperative bins. Passengers are briefed that associated bin or compartment is not used.

25-24 Overhead Storage Bin(s)/Cabin and Galley Storage
25-24-01 Multi Latch/Quarter-Turn Lug Installations

Interval	Installed	Required	Procedure
C	-	-	

One latch/lug per compartment may be inoperative provided:

a. Remaining latch(es)/lug(s) on affected compartments operate normally.
b. If affected compartment is used for a galley cart, cart remains empty.

25-24 Overhead Storage Bin(s)/Cabin and Galley Storage
25-24-02 Storage Compartment Key Locks

Interval	Installed	Required	Procedure
D	-	0	**(M)**

May be inoperative in the unlocked position provided doors can be secured by other means.

MAINTENANCE (M)

Secure door to compartment by an appropriate means.

25-25 Beds (Electrical Operation) (Jet Aviation Engineering Services (JAES))

***

Interval	Installed	Required	Procedure
C	-	0	

May be inoperative provided manual override system operates normally.

NOTE: This STC is not a Boeing configuration. Therefore, procedures applicable to this installation are not provided.

25-26 Tables (Electrical Operation) (Jet Aviation Engineering Services (JAES))

***

25-26A Manual Overide System Operates Normally

Interval	Installed	Required	Procedure
C	-	0	

May be inoperative provided manual override system operates normally.

NOTE: This STC is not a Boeing configuration. Therefore, procedures applicable to this installation are not provided.

25-26 Tables (Electrical Operation) (Jet Aviation Engineering Services (JAES))

***

25-26B Associated Seats Are Not Occupied

Interval	Installed	Required	Procedure
C	-	0	

May be inoperative provided seats at associated inoperative table are not occupied.

NOTE: This STC is not a Boeing configuration. Therefore, procedures applicable to this installation are not provided.

25-27 Crash Pads (Jet Aviation Engineering Services (JAES))

***

Interval	Installed	Required	Procedure
C	-	0	

May be inoperative or missing provided associated seat adjacent to crash pad is not occupied.

NOTE: This STC is not a Boeing configuration. Therefore, procedures applicable to this installation are not provided.

25-28 Emergency Vision Assurance System (EVAS) (STC SA00892LA)

***

Interval	Installed	Required	Procedure
C	2	0	

NOTE: This STC is not a Boeing configuration. Therefore, procedures applicable to this installation are not provided.

25-29 Secondary Door Barrier (Flight Deck Security)
25-29A Barrier Retracted

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided:

a. Barrier remains in retracted position.

b. Alternate procedures are established and used.

NOTE: The Flight Deck Security Secondary Door Barrier installation is not a Boeing configuration. Therefore, procedures applicable to this installation are not provided.

25-29 Secondary Door Barrier (Flight Deck Security)
25-29B Barrier Removed

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Barrier is removed.

b. Alternate procedures are established and used.

NOTE: The Flight Deck Security Secondary Door Barrier installation is not a Boeing configuration. Therefore, procedures applicable to this installation are not provided.

25-29 Secondary Door Barrier (Flight Deck Security)
25-29C Procedures Do Not Require Use

Interval	Installed	Required	Procedure
D	1	0	

May be inoperative provided procedures do not require its use.

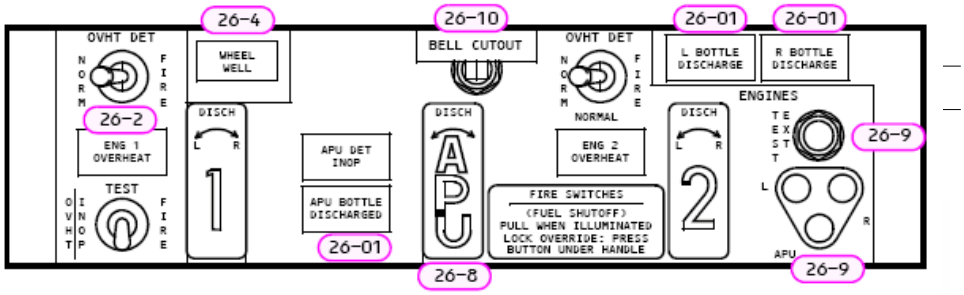
NOTE: The Flight Deck Security Secondary Door Barrier installation is not a Boeing configuration. Therefore, procedures applicable to this installation are not provided.

25-30 Security Kit and/or Associated Equipment

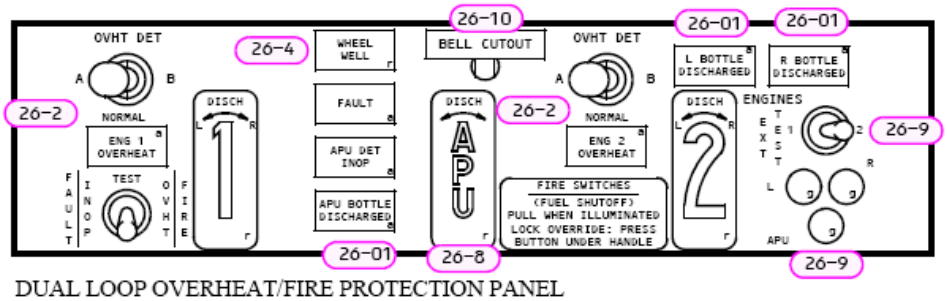
***

Interval	Installed	Required	Procedure
D	-	0	

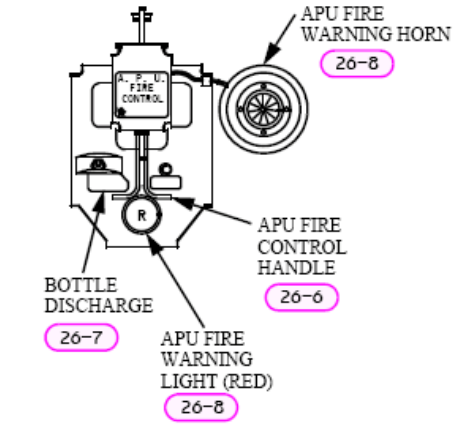
May be inoperative, missing, or have missing equipment.



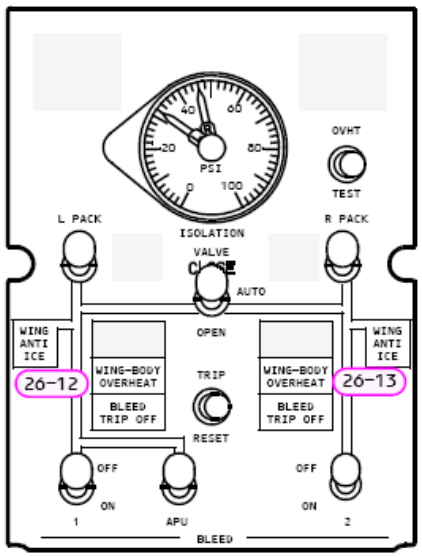
BASIC OVERHEAT/FIRE PROTECTION PANEL



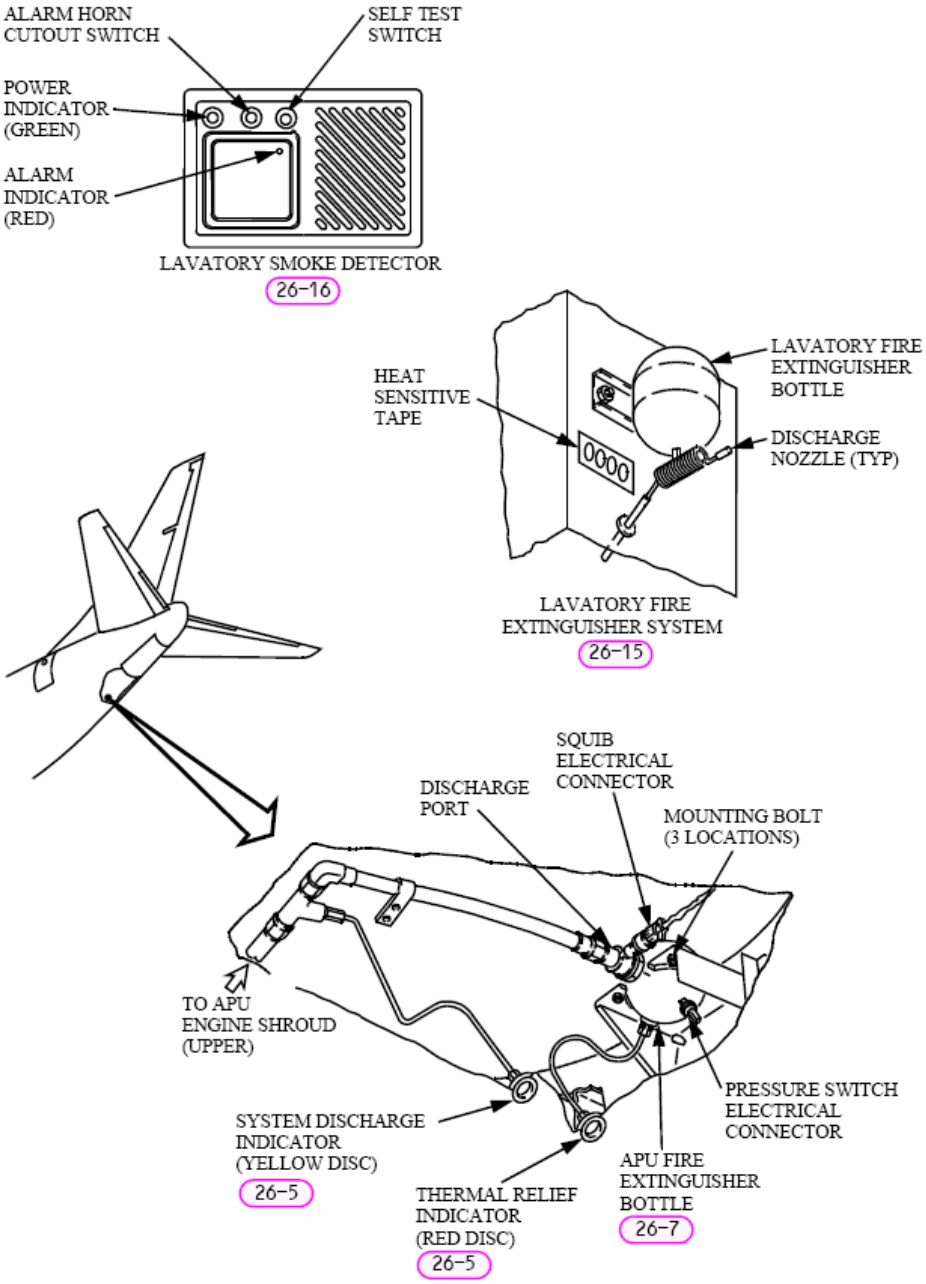
DUAL LOOP OVERHEAT/FIRE PROTECTION PANEL



APU GROUND PROTECTION PANEL

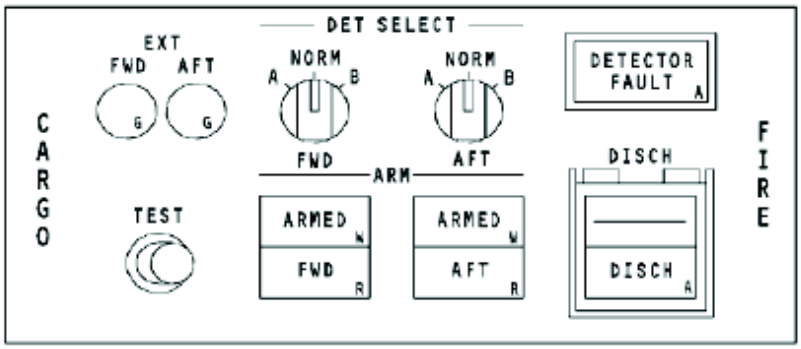


AIR CONDITIONING CONTROLS
ALL MODELS



FIRE PROTECTION SYSTEM

26-19



CARGO FIRE CONTROL PANEL

26-01 Engine and APU Fire Extinguisher Discharge Lights

Interval	Installed	Required	Procedure
C	3	0	

26-02 Engine Overheat and Fire Detection Systems

26-02-02 Dual Loop

Interval	Installed	Required	Procedure
C	4	2	**(O)**

Except for ER operations beyond 120 minutes, one loop (A or B) per engine may be inoperative.

OPERATIONS (O)

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

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

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

26-03 Portable Fire Extinguishers

Interval	Installed	Required	Procedure
D	-	-	**(M)**

Any in excess of those required , may be inoperative or missing provided:

a. Inoperative fire extinguisher is tagged inoperative, removed from installed location, and placed out of sight so it can not be mistaken for a functional unit.

b. Required distribution is maintained.

NOTE: Airlines must determine extinguisher requirements depending on their airplane configuration and number of seats. See other appropriate regulations.

MAINTENANCE (M)

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

26-04 Wheel Well Fire Detection System

26-04A BTMS Operates Normally

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided brake temperature monitoring system (BTMS) operates normally.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

Deactivate the wheel well fire detection system.

1. Remove the two light bulbs from the WHEEL WELL light on the P8 panel.
2. Disconnect the fire bell:
   A. Disconnect the wires from D4520, pin 3 and pin 4 on the E3-2 shelf.
   B. Cap and stow the wires.

For -600/-700/-800/-900:

Deactivate the wheel well fire detection system (AMM 26-00-00/901).

1. Perform a CODC “LOCAL TEST”.
2. If the fault code from the CODC “LOCAL TEST” is other than “84”, perform the following:
   A. Remove the two light bulbs from the WHEEL WELL light on the P8 panel.
   B. Disconnect the fire bell:
      1) Remove Flight Control Computer B to get access to the wiring for the fire bell.
      2) Disconnect the wires from D742, pin 16 and pin 25 on the E1-4 shelf.
      3) Cap and stow the wires.
      4) Install Flight Control Computer B.
3. If the fault code from the CODC “LOCAL TEST” is “84”, the wheel well fire alarm function is the source of the fault. Perform the following:
   A. Disconnect either the terminal lugs or connectors D840 and D842 (if installed) on both sides of the M270 detection element.
   B. Perform a second CODC “LOCAL TEST”.
   C. If the second CODC “LOCAL TEST” presents any fault codes, perform the following:
      1) Reconnect the terminal lugs or connectors D840 and D842 (if installed) on both sides of the M270 detection element.
      2) Remove the two light bulbs from the WHEEL WELL light on the P8 panel.

3) Disconnect the fire bell:
   a. Remove Flight Control Computer B to get access to the wiring for the fire bell.
   b. Disconnect the wires from D742, pin 16 and pin 25 on the E1-4 shelf.
   c. Cap and stow the wires.
   d. Install Flight Control Computer B.

D. If the second CODC "LOCAL TEST" shows no faults, perform the following:
   1) Stow the wiring and terminal lugs or connectors D840 and D842 (if installed) near the detector element.
   2) Perform the Overheat/Fire Warning System Test per AMM 26-18-00. All tests should pass except for the wheel well fire function with the disabled element.

26-04 Wheel Well Fire Detection System
26-04B BTMS Inoperative Or Not Installed

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided brakes are inspected and are cool to touch before engine start.

NOTE: In case of engine failure after V1, performance is prime consideration, and landing gear should be retracted normally until performance penalty with gear down is not a problem. Pilots must consider possibility of ice accumulation on gear associated with delayed raising of landing gear or lowering landing gear during winter operations.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

Deactivate the wheel well fire detection system and verify brakes are cool to the touch prior to engine start.

1. Remove the two light bulbs from the WHEEL WELL light on the P8 panel.
2. Disconnect the fire bell:
   A. Disconnect the wires from D4520, pin 3 and pin 4 on the E3-2 shelf.
   B. Cap and stow the wires.
3. Just prior to engine start, check that brakes are cool to the touch.

For -600/-700/-800/-900:

Deactivate the wheel well fire detection system and verify brakes are cool to the touch prior to engine start (AMM 26-00-00/901).

1. Perform a CODC "LOCAL TEST".

2. If the fault code from the CODC "LOCAL TEST" is other than "84", perform the following:
   A. Remove the two light bulbs from the WHEEL WELL light on the P8 panel.
   B. Disconnect the fire bell:
      1) Remove Flight Control Computer B to get access to the wiring for the fire bell.
      2) Disconnect the wires from D742, pin 16 and pin 25 on the E1-4 shelf.
      3) Cap and stow the wires.
      4) Install Flight Control Computer B.
3. If the fault code from the CODC "LOCAL TEST" is "84", the wheel well fire alarm function is the source of the fault. Perform the following:
   A. Disconnect either the terminal lugs or connectors D840 and D842 (if installed) on both sides of the M270 detection element.
   B. Perform a second CODC "LOCAL TEST".
   C. If the second CODC "LOCAL TEST" presents any fault codes, perform the following:
      1) Reconnect the terminal lugs or connectors D840 and D842 (if installed) on both sides of the M270 detection element.
      2) Remove the two light bulbs from the WHEEL WELL light on the P8 panel.
      3) Disconnect the fire bell:
         a. Remove Flight Control Computer B to get access to the wiring for the fire bell.
         b. Disconnect the wires from D742, pin 16 and pin 25 on the E1-4 shelf.
         c. Cap and stow the wires.
         d. Install Flight Control Computer B.
   D. If the second CODC "LOCAL TEST" shows no faults, perform the following:
      1) Stow the wiring and terminal lugs or connectors D840 and D842 (if installed) near the detector element.
      2) Perform the Overheat/Fire Warning System Test per AMM 26-18-00. All tests should pass except for the wheel well fire function with the disabled element.
4. Just prior to engine start, check that brakes are cool to the touch.

OPERATIONS (O)

1. After takeoff, leave the landing gear extended for 10 minutes unless engine inoperative climb performance and/or ice accumulation on the landing gear is a consideration (see MMEL Note).
2. To account for delayed gear retraction, increase trip fuel and time by 800 lb and 2 minutes respectively.

26-05 APU Fire Extinguisher Discharge Discs (-400/-500)

Interval	Installed	Required	Procedure
C	2	0	**(M)**

Discs may be missing provided indicator reading is checked to verify proper charge.

MAINTENANCE (M)

Perform APU Fire Extinguisher Bottle inspection/check per AMM 26-22-11/601.

26-05 APU Fire Extinguisher Discharge Discs (-400/-500)

26-05-01 HTL Type
****

Interval	Installed	Required	Procedure
C	2	0	**(M)**

Discs may be missing provided bottle integrity is verified by checking APU fire extinguisher bottle discharge light or weighing bottle once each flight day.

MAINTENANCE (M)

Perform APU Fire Extinguisher Bottle inspection/check per AMM 26-22-11/601.

26-06 APU Fire Shutoff System

Interval	Installed	Required	Procedure
C	1	0	**(O)**

Except for ER operations, may be inoperative provided APU is not used.

OPERATIONS (O)

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

26-07 APU Fire Extinguisher System

Interval	Installed	Required	Procedure
C	1	0	**(O)**

Except for ER operations, may be inoperative provided APU is not used.

OPERATIONS (O)

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

26-08 APU Fire Detection System

26-08-01 Single and Dual Loop

Interval	Installed	Required	Procedure
C	-	0	**(O)**

Except for ER operations, may be inoperative provided APU is not used.

MAINTENANCE NOTE

For -100/-200/-300/-400/-500:

To prevent nuisance/false warnings, the APU FIRE DETECTION circuit breaker can be opened and collared. With this circuit breaker open:

1. Airplanes with a Fire and Overheat Detector Control Module with a part number 10-61096 that has a dash number -98 and higher, the MASTER CAUTION lights and the OVHT/DET system annunciator light do not illuminate during the Fault/Inop test. The APU DET INOP light will remain illuminated and the MASTER CAUTION lights and the OVHT/DET system annunciator light will illuminate during a system annunciator panel recall.
2. Airplanes with a Fire and Overheat Detector Control Module with a part number 10-61096 that has a dash number lower than -98, the MASTER CAUTION lights and the OVHT/DET system annunciator light will illuminate during the Fault/Inop test and extinguish when the MASTER CAUTION is reset. The APU DET INOP light will remain illuminated and the MASTER CAUTION lights and the OVHT/DET system annunciator light will illuminate during a system annunciator panel recall.

For -600/-700/-800/-900:

To prevent nuisance/false warnings, the APU FIRE DETECTION circuit breaker can be opened and collared. With this circuit breaker open, the MASTER CAUTION lights and the OVHT/DET system annunciator light do not illuminate during the Fault/Inop test. The APU DET INOP light will remain illuminated and the MASTER CAUTION lights and the OVHT/DET system annunciator light will illuminate during a system annunciator panel recall.

OPERATIONS (O)

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

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

26-08 APU Fire Detection System

26-08-02 APU DET INOP Light

***

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative extinguished provided:

a. APU fire detection system operates normally.

b. A fire warning test is performed before each APU start.

OPERATIONS (O)

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

26-08 APU Fire Detection System

26-08-03 Dual Loop

Interval	Installed	Required	Procedure
C	2	1	**(O)**

Except for ER operations beyond 120 minutes, one loop (A or B) may be inoperative.

MAINTENANCE NOTE

For -100/-200/-300/-400/-500:

To prevent nuisance/false warnings, the APU FIRE DETECTION circuit breaker can be opened and collared. With this circuit breaker open:

1. Airplanes with a Fire and Overheat Detector Control Module with a part number 10-61096 that has a dash number -98 and higher, the MASTER CAUTION lights and the OVHT/DET system annunciator light do not illuminate during the Fault/Inop test. The APU DET INOP light will remain illuminated and the MASTER CAUTION lights and the OVHT/DET system annunciator light will illuminate during a system annunciator panel recall.
2. Airplanes with a Fire and Overheat Detector Control Module with a part number 10-61096 that has a dash number lower than -98, the MASTER CAUTION lights and the OVHT/DET system annunciator light will illuminate during the Fault/Inop test and extinguish when the MASTER CAUTION is reset. The APU DET INOP light will remain illuminated and the MASTER CAUTION lights and the OVHT/DET system annunciator light will illuminate during a system annunciator panel recall.

For -600/-700/-800/-900:
To prevent nuisance/false warnings, the APU FIRE DETECTION circuit breaker can be opened and collared. With this circuit breaker open, the MASTER CAUTION Lights and the OVHT/DET system annunciator light do not illuminate during the Fault/Inop test. The APU DET INOP light will remain illuminated and the MASTER CAUTION lights and the OVHT/DET system annunciator light will illuminate during a system annunciator panel recall.

OPERATIONS (O)

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

NOTE 1: If both loops A and B are inoperative, see MMEL item 26-08-01.

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

26-08 APU Fire Detection System

26-08-04 External Warning Horn/Warning Light

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative for ground operation provided flight deck APU Overheat/Fire Protection Panel is continuously monitored.

26-09 Engine/APU Fire Extinguisher Test System (EXT TEST) (Squib Test)

Interval	Installed	Required	Procedure
C	3	0	**(M)**

May be inoperative provided:

a. Failure is verified to be in squib test circuit.

b. Squib circuit is verified to operate normally once each flight day.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Prepare the airplane for flight with the squib test system inoperative:
For -600/-700/-800/-900:
Prepare the airplane for flight with the squib test system inoperative (AMM 26-00-00/901):
For All Models:

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

For -300/-400/-500/-600/-700/-800/-900:

1. Build a squib test lamp with pigtail leads that end in pin contacts. Use only a 28 Volt, 40 milliamp lamp in a suitable holder.
2. Verify that the squib circuit is operative:
   A. For Engines:
      1) Open all four engine fire extinguisher circuit breakers on the P6-2 Circuit Breaker Panel.
         NOTE: Refer to the table below for the appropriate circuit breakers.
      2) Gain access to the P6-2 Circuit Breaker Panel.
      3) Connect the test lamp across the terminals of the appropriate circuit breaker for the inoperative squib test circuit.
      4) Push the override switch to manually unlock the Engine Fire Warning switch.
      5) Pull the Engine Fire Warning switch up.
      6) Rotate the Engine Fire Warning switch (left or right):
         a. When the test lamp comes on the squib test circuit is intact.
      7) Rotate the Engine Fire Warning switch back to the center position and push it down.

8) Remove the test lamp from the circuit breaker.
9) Close the circuit breakers.

For -300/-400/-500/-600/-700/-800/-900 with Dual Outlet Dual Cartridge Bottle

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

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

26-09 Engine/APU Fire Extinguisher Test System (EXT TEST) (Squib Test)

26-09-01 APU Fire Extinguisher Squib Test Circuits (EXT TEST) (-400/-500/-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	2	1	**(O)**

May be inoperative provided remaining APU squib test circuit is verified to operate normally once each flight day.

OPERATIONS (O)

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

26-09 Engine/APU Fire Extinguisher Test System (EXT TEST) (Squib Test)

26-09-02 APU Squib Light

Interval	Installed	Required	Procedure
C	1	0	**(O)**

Except for ER operations, may be inoperative provided APU is not used.

OPERATIONS COI

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

26-10 Fire Warning Bell

26-10-01 Bell Cutout Switch (Overheat/Fire Protection Panel)

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided:

a. Bell cutout function of both Master Fire Warning lights operates normally.

b. Fire Warning Bell operates normally.

26-10 Fire Warning Bell

26-10-02 Bell Cutout Function of Master Fire Warning Light

Interval	Installed	Required	Procedure
C	2	1	

May be inoperative provided:

a. Bell cutout switch operates normally.

b. Fire Warning Bell operates normally.

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

Interval	Installed	Required	Procedure
C	1	0	**(O)**

Except for ER operations, may be inoperative provided:

a. Right pack and engine bleed is used for pressurization only.
b. Use of APU is prohibited except for engine start.
c. Isolation valve and left engine bleed valve remain closed for all operations except engine start.
d. Airplane is not operated in known or forecast icing conditions.

MAINTENANCE NOTE

Refer to DDG item 21-01-01 (M) procedure, as applicable, for information when the left pack is not used.

OPERATIONS (O)

1. Refer to DDG Item 21-01-01 (O) procedure for information when the left pack is not used.
2. Except for engine start, do not use the APU for pneumatic air supply and/or electrical power.
3. After engine start, make sure that:
   A. ISOLATION VALVE switch is set to CLOSE
   B. APU switch is set to OFF
   C. Engine No. 1 BLEED air switch is set to OFF.
   D. L PACK switch is set to OFF
   E. R PACK set as desired.
4. Do not dispatch into known icing or forecast icing conditions.

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

Interval	Installed	Required	Procedure
C	1	0	**(O)**

Except for ER operations, may be inoperative provided:

a. Left pack and left engine or APU bleed air is used for pressurization only.
b. Isolation valve and right engine bleed valve remain closed for all operations except engine start.
c. Airplane is not operated in known or forecast icing conditions.

MAINTENANCE NOTE

Refer to DDG item 21-01-01 (M) procedure, as applicable, for information when the right pack is not used.

OPERATIONS (O)

1. Refer to DDG Item 21-01-01 (O) procedure for information when the right pack is not used.
2. After engine start, make sure that:
   A. ISOLATION VALVE switch is set to CLOSE.
   B. Engine No. 2 BLEED air switch is set to OFF.
   C. R PACK switch is set to OFF
   D. L PACK as desired.
3. Do not dispatch into known icing or forecast icing conditions.

For -300/-400/-500/-600/-700/-800/-900:

4. Increased air flow will occur when flaps are extended (takeoff and landing) if the APU is used instead of engine bleed to supply bleed air to the left pack.
5. With the L PACK switch in AUTO, the pack operates in the high flow mode.
6. Do not set the L PACK to HIGH for takeoff and landing with the engine bleed on.
7. Do not use APU bleed air at altitudes above 17,000 feet.

26-15 Lavatory Fire Extinguisher Systems

26-15-01 Passenger Configuration

26-15-01A Lavatory Smoke Detection System Operates Normally

Interval	Installed	Required	Procedure
C	-	0	

For each lavatory, lavatory fire extinguisher system may be inoperative provided associated lavatory smoke detection system operates normally.

26-15 Lavatory Fire Extinguisher Systems

26-15-01 Passenger Configuration

26-15-01B Lavatory Smoke Detection System Inoperative

Interval	Installed	Required	Procedure
C	-	0	**(M) (O)**

For each lavatory, lavatory fire extinguisher system may be inoperative provided:

a. Lavatory waste receptacle is empty.

b. Associated lavatory door is locked closed and placarded, "INOPERATIVE - DO NOT ENTER".

c. Lavatory is used only by crewmembers.

NOTE: These provisions are not intended to prohibit lavatory use or inspections by crewmembers.

MAINTENANCE (M)

For an inoperative lavatory smoke detection system:

1. Empty the waste receptacles.
2. Lock the lavatory door.

OPERATIONS (O)

Make sure that the associated lavatory is kept locked and is not entered except for use or inspection by crew members.

26-16 Lavatory Smoke Detection System

26-16-01 Passenger Configuration

Interval	Installed	Required	Procedure
C	-	0	**(M) (O)**

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".

c. Lavatory is used only by crewmembers.

NOTE: These provisions are not intended to prohibit lavatory use or inspections by crewmembers.

MAINTENANCE (M)

For an inoperative lavatory smoke detection system:

1. Empty the waste receptacles.
2. Lock the lavatory door.

OPERATIONS (O)

Make sure that the associated lavatory is kept locked and is not entered except for use or inspection by crew members.

26-16 Lavatory Smoke Detection System

26-16-03 Lavatory Smoke Detector SELF TEST Switch ***

Interval	Installed	Required	Procedure
C	-	0	**(M)**

May be inoperative provided associated lavatory smoke detector is verified to operate normally.

MAINTENANCE (M)

For the associated smoke detector, do the lavatory smoke detection system test (AMM 26-14-00/501).

26-16 Lavatory Smoke Detection System

26-16-04 Lavatory Smoke Detector TEST Switch on Flight Attendant's Panel

***

Interval	Installed	Required	Procedure
C	-	0	**(M)**

May be inoperative provided each lavatory smoke detector is verified to operate normally.

MAINTENANCE (M)

For each smoke detector, do the lavatory smoke detection system test (AMM 26-14-00/501).

26-18 Wing-Body Overheat Test System

26-18-01 Flight Deck Test Feature

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided system integrity is verified by an acceptable procedure once each flight day.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Verify the integrity of the Wing-Body Overheat Test System:
For -600/-700/-800/-900:
Verify the integrity of the Wing-Body Overheat Test System (AMM 26-00-00/901):
For All Models:

1. Apply heat from an appropriate heat source to an operable detector element in the left wing-body overheat detection system and in the right wing-body overheat detection system. The substitute test heat device must not produce heat greater than 450°F (232°C). This temperature limit should be observed in event fuel vapors exist in the area.
2. When a detector element in the left system is heated, observe that these lights come on:
   A. Left WING-BODY OVERHEAT light on the Air Conditioning Panel (P5)
   B. The AIR COND light on the glareshield P7.
   C. The MASTER CAUTION lights.
3. When a detector element in the right system is heated, observe that these lights come on:
   A. Right WING-BODY OVERHEAT light on the Air Conditioning Panel (P5)
   B. The AIR COND light on the glareshield P7.
   C. The MASTER CAUTION lights.

26-19 Lower Cargo Compartment Fire Detection/Suppression Systems (All models and STC's)

***

Interval	Installed	Required	Procedure
C	-	0	**(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 1: Operator MELs must define which items are approved for inclusion in Fly Away Kits and which materials can be used as ballast.

NOTE 2: Class E cargo compartments require only installation of smoke or fire detection systems (not suppression).

OPERATIONS (O)

Operators must establish and use procedures to verify the associated compartment remains empty or contains only ballast, empty cargo handling equipment (ballast may be loaded in ULDs), or fly away kits. The operator's MEL must define which items are approved for inclusion in the fly away kits and which materials can be used as ballast.

26-19 Lower Cargo Compartment Fire Detection/Suppression Systems (All models and STC's)

***

26-19-01 Fwd/Aft Detection Loops

26-19-01-01 Boeing installed system, STC ST00749LA-D, ST00763LA-D, ST01184LA, ST01674AT, ST01424LA, ST10153T, ST01804LA, ST01114WI Only

***

Interval	Installed	Required	Procedure
C	4	2	**(O)**

One loop (A or B) in each compartment may be inoperative provided opposite loop is checked to operate normally.

OPERATIONS (O)

NOTE 1: This procedure is only for a Boeing installed system. Therefore, procedures applicable to systems installed by STC are not provided.

NOTE 2: If a Cargo Fire Panel FWD/AFT warning light does not illuminate during system test, one or more detection loops for the associated cargo compartment is inoperative.

To determine the inoperative loop(s):

1. On the Cargo Fire Panel, position the FWD and AFT DET SELECT switch to A.
2. Press and hold Cargo Fire Panel TEST switch.
3. Verify that the following indications occur within 4 seconds.
   A. Fire Bell sounds.
   B. Both Master FIRE WARN lights illuminate.
   C. Cargo Fire Panel FWD and AFT warning lights illuminate.
   D. Cargo Fire Panel DISCH light illuminates.
   E. Cargo Fire Panel EXT FWD and EXT AFT lights illuminate.
4. If one or more smoke detectors in Loop A is inoperative, the Cargo Fire Panel DETECTOR FAULT light will illuminate and the associated FWD or AFT warning light will remain extinguished for the cargo compartment with the inoperative detector.
5. Release the Cargo Fire Panel TEST switch. The DETECTOR FAULT light remains illuminated if a loop failure is detected in either the forward or aft cargo compartment. Otherwise all indications will clear within half a second.
6. Position Cargo Fire Panel FWD and AFT DET SELECT switch to B and repeat the above test (Steps 2 through 5).
7. Position Cargo Fire Panel DET SELECT switch(es) as required for flight. One detection loop (A or B) must operate normally in each cargo compartment or MMEL loading restrictions must be observed.

26-19 Lower Cargo Compartment Fire Detection/Suppression Systems (All models and STC's)

***

26-19-01 Fwd/Aft Detection Loops

26-19-01-02 STC ST00405LA-D Only

***

Interval	Installed	Required	Procedure
C	-	2	**(O)**

May be inoperative provided one loop in each compartment is checked to operate normally.

NOTE: This STC is not a Boeing installed system. Therefore, procedures and information applicable to this system are not provided.

26-19 Lower Cargo Compartment Fire Detection/Suppression Systems (All models and STC's)

26-19-02 Extinguisher Bottles

26-19-02-01 No. 1 (STC ST01424LA, ST01457LA and ST01804LA Only)

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided associated cargo compartment remains empty.

NOTE: STC ST01424LA, ST01457LA, ST01804LA are not Boeing installed systems. Therefore, procedures and information applicable to these systems are not provided.

26-19 Lower Cargo Compartment Fire Detection/Suppression Systems (All models and STC's)

26-19-02 Extinguisher Bottles

26-19-02-02 No. 2 (Boeing installed system and STC ST01184LA Only)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

Except for ER operations, may be inoperative with cargo carried in compartment.

MAINTENANCE (M)

NOTE: This procedure is only for a Boeing installed system. Therefore, procedures applicable to systems installed by STC are not provided.

For -100/-200/-300/-400/-500:

Do these steps to prevent anomalies in the indication of the DISCH light during operation and the EXT FWD test light during system test:

For -600/-700/-800/-900:

Do these steps to prevent anomalies in the indication of the DISCH light during operation and the EXT FWD test light during system test (AMM 26-00-00/901):

For All Models:

1. Disconnect, cap and stow electrical connector D12816 on the Extinguisher Bottle No. 2 pressure switch.

2. Disconnect electrical connectors D12820 and D12818 from the Extinguisher Bottle No. 2 squibs.
3. Install a jumper across pins 1 and 2 on both connectors. Cap and stow connectors.

OPERATIONS (O)

NOTE: This procedure is only for a Boeing installed system. Therefore, procedures applicable to systems installed by STC are not provided.

The fire suppression capability is reduced to 60 minutes. Therefore the airplane must remain within 60 minutes of a suitable airport.

26-19 Lower Cargo Compartment Fire Detection/Suppression Systems (All models and STC's)
26-19-02 Extinguisher Bottles
26-19-02-03 No. 2 (STC ST01424LA, ST01457LA and ST01804LA Only)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided associated cargo compartment remains empty.

NOTE: STC ST01424LA, ST01457LA, ST01804LA are not Boeing installed systems. Therefore, procedures and information applicable to these systems are not provided.

26-19 Lower Cargo Compartment Fire Detection/Suppression Systems (All models and STC's)
26-19-02 Extinguisher Bottles
26-19-02-04 No. LRD2 (STC ST00405LA-D Only)

Interval	Installed	Required	Procedure
C	1	0	**(O)**

Except for ER operations, may be inoperative with cargo carried in compartment.

NOTE: This STC is not a Boeing installed system. Therefore, procedures and information applicable to this system are not provided.

26-19 Lower Cargo Compartment Fire Detection/Suppression Systems (All models and STC's)

26-19-03 Squib Lights (STC ST01424LA and ST01457LA Only)

Interval	Installed	Required	Procedure
C	2	0	**(O)**

May be inoperative provided associated cargo compartment remains empty.

NOTE: STC ST01424LA, ST01457LA are not Boeing installed systems. Therefore, procedures and information applicable to these systems are not provided.

26-19 Lower Cargo Compartment Fire Detection/Suppression Systems (All models and STC's)

26-19-04 DISCH Light(s)

26-19-04-01 Boeing installed system, STC ST01184LA and ST00405LA-D Only

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided associated extinguisher bottle(s) is verified to have an adequate charge once each flight day.

NOTE: STC ST01184LA, ST00405LA-D are not Boeing installed systems. Therefore, procedures and information applicable to these systems are not provided.

MAINTENANCE (M)

NOTE: This procedure is only for a Boeing installed system. Therefore, procedures applicable to systems installed by STC are not provided.

For -100/-200/-300/-400/-500:

Do these steps for an inoperative DISCH light circuit to make sure that the fire extinguisher bottle has an adequate charge:

For -600/-700/-800/-900:

Do these steps for an inoperative DISCH light circuit to make sure that the fire extinguisher bottle has an adequate charge (AMM 26-00-00/901):

For All Models:

1. Build a test lamp (28 Volts DC/40 milliamps) with pigtail leads terminating in pin contacts in a suitable holder.

   NOTE: Any suitable lamp or digital multimeter can be used.
2. Remove the Cargo Fire Panel.
3. Disconnect the electrical connector D12760 from the panel.
4. Connect the test lamp or digital multimeter between the airplane side of connector D12760, Pin 48 (+28 volt source for Bottle No. 1) and Pin 28 (pressure switch ground).
5. For airplanes with Extinguisher Bottle No. 2:
   A. Connect test lamp or digital multimeter between the airplane side of connector D12760, Pin 45 (+28 volt source for Bottle No. 2) and Pin 28 (pressure switch ground).
6. If the test lamp remains extinguished or the digital multimeter indicates an open circuit the associated bottle has an adequate charge.
7. Remove the test lamp.
8. Install the Cargo Fire Panel.

26-19 Lower Cargo Compartment Fire Detection/Suppression Systems (All models and STC's)

26-19-04 DISCH Light(s)

26-19-04-02 STC ST01424LA, ST01457LA, and ST01804LA Only

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided associated compartment remains empty.

NOTE: STC ST01424LA, ST01457LA, ST01804LA are not Boeing installed systems. Therefore, procedures and information applicable to these systems are not provided.

26-19 Lower Cargo Compartment Fire Detection/Suppression Systems (All models and STC's)

26-19-05 Extinguisher Bottle Pressure Switch (Boeing installed system only)

Interval	Installed	Required	Procedure
C	-	0	**(M)**

May be inoperative provided associated extinguisher bottle(s) is verified to have an adequate charge once each flight day.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Do these steps to verify the charge of the associated fire extinguisher bottle and to deactivate the pressure switch:

For -600/-700/-800/-900:
Do these steps to verify the charge of the associated fire extinguisher bottle and to deactivate the pressure switch (AMM 26-00-00/901):

For -300/-400/-500/-600/-700/-800/-900:
Reference AMM 26-23-01.

For All Models:

1. Remove the extinguisher bottle.
2. Weigh the extinguisher bottle on a scale that is accurate to within +/- 0.1 pound.
3. Confirm that the extinguisher bottle weight is within 0.25 pounds of the service weight stamped on the bottle's identification plate.
4. Install the extinguisher bottle.
5. Cap and stow the associated bottle's pressure switch electrical connector.

26-19 Lower Cargo Compartment Fire Detection/Suppression Systems (All models and STC's)

26-19-06 EXT Lights (FWD and AFT) (Boeing installed system and STC ST01184LA and ST00405LA-D Only)

Interval	Installed	Required	Procedure
C	2	0	**(M)**

May be inoperative provided:

a. Failure is verified to be in squib light circuit.
b. Squib circuit is verified to operate normally once each flight day

MAINTENANCE (M)

NOTE: This procedure is only for a Boeing installed system. Therefore, procedures applicable to systems installed by STC are not provided.

For -100/-200/-300/-400/-500:
Do these steps for an inoperative EXT light circuit to verify normal operation of associated squib circuit:

For -600/-700/-800/-900:
Do these steps for an inoperative EXT light circuit to verify normal operation of associated squib circuit (AMM 26-00-00/901):

For All Models:

1. Build a test lamp (28 Volts DC/40 milliamps) with pigtail leads terminating in pin contacts in a suitable holder.

   NOTE: Any suitable lamp can be used.

2. Remove the Cargo Fire Panel.
3. Disconnect the electrical connector D12760 from the panel.

   CAUTION: TO PREVENT INJURY, RESTRICT PERSONNEL FROM EXTINGUISHER BOTTLE AREA DURING SQUIB CIRCUIT TEST. LIMIT CURRENT TO 40 MILLIAMPS MAXIMUM DURING TEST. USE TEST LAMP (28 VOLT, 40 MILLIAMPS ONLY). DO NOT USE A MULTIMETER.

4. Use the table below to determine which pin numbers to connect between the test lamp and the airplane side of connector D12760.
   A. If the test lamp illuminates, the squib circuit is intact.

CARGO FIRE BOTTLE SQUIB TEST TABLE				
Bottle	Squib	Squib Plug No.	TEST LAMP CONNECTION	
			Pin No. (+28 Vdc Source)	Pin No. (Ground Path)
1	FWD	D12794	D12760, Pin 48	D12760, Pin 26
1	AFT	D12796	D12760, Pin 48	D12760, Pin 24
2	FWD	D12818	D12760, Pin 45	D12760, Pin 12
2	AFT	D12820	D12760, Pin 45	D12760, Pin 23

5. Remove the test lamp.
6. Install the Cargo Fire Panel.

26-19 Lower Cargo Compartment Fire Detection/Suppression Systems (All models and STC's)

26-19-07 Fault(s) indicated by illumination of MX indicator (STC ST00511LA, ST00404LA-D, ST00740LA-D, ST00745LA-D, ST00751LA-D, and ST00990LA-D Only)

Interval	Installed	Required	Procedure
B	-	-	

Dispatch with MX indicator illuminated is permitted provided green SYS OK indicator remains illuminated.

NOTE: This is a fault tolerant system and unit will continue to perform its intended function as long as green SYS OK indicator remains illuminated.

NOTE: STC ST00511LA, ST00404LA-D, ST00740LA-D, ST00745LA-D, ST00751LA-D, ST00990LA-D are not Boeing installed systems. Therefore, procedures and information applicable to these systems are not provided.

26-19 Lower Cargo Compartment Fire Detection/Suppression Systems (All models and STC's)

26-19-07 Fault(s) indicated by illumination of the MX indicator (STC ST00511LA, ST00404LA-D, ST00740LA-D, ST00745LA-D, ST00751LA-D and ST00990LA-D Only)

26-19-07-01 Display of FWD INOP and/or AFT INOP Message(s)

Interval	Installed	Required	Procedure
B	-	-	**(O)**

May be displayed provided green SYS OK indicator remains illuminated and indicated cargo bay remains empty.

NOTE: STC ST00511LA, ST00404LA-D, ST00740LA-D, ST00745LA-D, ST00751LA-D, ST00990LA-D are not Boeing installed systems. Therefore, procedures and information applicable to these systems are not provided.

26-19 Lower Cargo Compartment Fire Detection/Suppression Systems (All models and STC's)

26-19-07 Fault(s) indicated by illumination of the MX indicator (STC ST00511LA, ST00404LA-D, ST00740LA-D, ST00745LA-D, ST00751LA-D and ST00990LA-D Only)

26-19-07-02 Smoke Detector(s)

Interval	Installed	Required	Procedure
C	-	-	**(O)**

One smoke detector may be inoperative in each compartment provided SYS OK indicator on CDU remains illuminated.

NOTE: MX indicator on CDU will remain illuminated.

NOTE: STC ST00511LA, ST00404LA-D, ST00740LA-D, ST00745LA-D, ST00751LA-D, ST00990LA-D are not Boeing installed systems. Therefore, procedures and information applicable to these systems are not provided.

26-19 Lower Cargo Compartment Fire Detection/Suppression Systems (All models and STC's)

26-19-08 Control Panel ALARM OFF Switch (STC ST00749LA-D and ST00763LA-D Only)

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided Fire Bell cutout switch silences Cargo Bay Fire Protection Fire Warning Bell.

NOTE: STC ST00749LA-D, ST00763LA-D are not Boeing installed systems. Therefore, procedures and information applicable to these systems are not provided.

26-19 Lower Cargo Compartment Fire Detection/Suppression Systems (All models and STC's)

26-19-09 DET Lights (STC ST01674AT and ST01114WI Only)

Interval	Installed	Required	Procedure
C	4	2	**(O)**

One light in each compartment may be inoperative provided remaining loop in associated compartment is checked to operate normally before each departure.

NOTE: STC ST01674AT, ST01114WI are not Boeing installed systems. Therefore, procedures and information applicable to these systems are not provided.

26-19 Lower Cargo Compartment Fire Detection/Suppression Systems (All models and STC's)

26-19-10 FAIL Lights (STC ST01674AT and ST01114WI Only)

Interval	Installed	Required	Procedure
C	4	2	**(O)**

One light in each compartment may be inoperative provided remaining loop in associated compartment is checked to operate normally before each departure.

NOTE: STC ST01674AT, ST01114WI are not Boeing installed systems. Therefore, procedures and information applicable to these systems are not provided.

26-19 Lower Cargo Compartment Fire Detection/Suppression Systems (All models and STC's)

26-19-11 Smoke Detectors
26-19-11-01 STC ST01674AT and ST01114WI Only

Interval	Installed	Required	Procedure
C	-	-	**(M)**

One detector in each detector enclosure may be inoperative provided remaining detector in associated detector enclosure is verified to operate normally before each departure.

NOTE: STC ST01674AT, ST01114WI are not Boeing installed systems. Therefore, procedures and information applicable to these systems are not provided.

26-19 Lower Cargo Compartment Fire Detection/Suppression Systems (All models and STC's)

26-19-11 Smoke Detectors

26-19-11-02 STC ST01424LA and ST01804LA (-300) Only

Interval	Installed	Required	Procedure
C	12	6	**(M)**

May be inoperative provided 2 FWD and 4 AFT in same loop are functional.

NOTE: STC ST01424LA-D, ST01804LA are not Boeing installed systems. Therefore, procedures and information applicable to these systems are not provided.

26-19 Lower Cargo Compartment Fire Detection/Suppression Systems (All models and STC's)

26-19-11 Smoke Detectors

26-19-11-03 STC ST01457LA and ST01804LA (-400) Only

Interval	Installed	Required	Procedure
C	14	7	**(M)**

May be inoperative provided 3 FWD and 4 AFT in same loop are functional.

NOTE: STC ST01457LA, ST01804LA are not Boeing installed systems. Therefore, procedures and information applicable to these systems are not provided.

26-19 Lower Cargo Compartment Fire Detection/Suppression Systems (All models and STC's)

26-19-12 Fault Panel (E & E Compartment, STC's ST01674AT and ST01114WI Only)

Interval	Installed	Required	Procedure
D	1	0	

NOTE: STC ST01674AT, ST01114WI are not Boeing installed systems. Therefore, procedures and information applicable to these systems are not provided.

26-19 Lower Cargo Compartment Fire Detection/Suppression Systems (All models and STC's)

26-19-13 DETECTOR FAULT Light (Boeing Installed System Only)

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided the cargo fire TEST switch is used to check for faults in the cargo fire detection and suppression system before each flight.

OPERATIONS (O)

Before each flight, do a test of the cargo fire detection and suppression system using the TEST switch on the cargo fire panel.

26-22 Galley Fire Detection System (Jet Aviation Engineering Services (JAES))

***

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided procedures are established and used to deactivate cooktop.

NOTE: This STC is not a Boeing installed system. Therefore, procedures and information applicable to this system are not provided.

26-23 Galley Vent Fire Extinguisher System (STC ST09977)
****

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided procedures are established and used to deactivate cooktop and vent fan.

NOTE: This STC is not a Boeing installed system. Therefore, procedures and information applicable to this system are not provided.

26-24 Smoke Detectors (Jet Aviation Engineering Services (JAES))

***

26-24-01 Equipment Cabinets

Interval	Installed	Required	Procedure
C	-	0	**(M)**

May be inoperative provided all equipment in cabinet is deactivated off.

NOTE: This STC is not a Boeing installed system. Therefore, procedures and information applicable to this system are not provided.

26-24 Smoke Detectors (Jet Aviation Engineering Services (JAES))

***

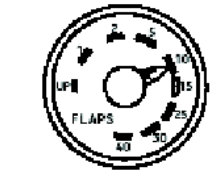
26-24-02 Cabin Compartments

Interval	Installed	Required	Procedure
C	-	0	**(O)**

May be inoperative provided associated cabin compartment remains open and is continuously monitored.

NOTE: This STC is not a Boeing installed system. Therefore, procedures and information applicable to this system are not provided.

FLIGHT CONTROL PANELS



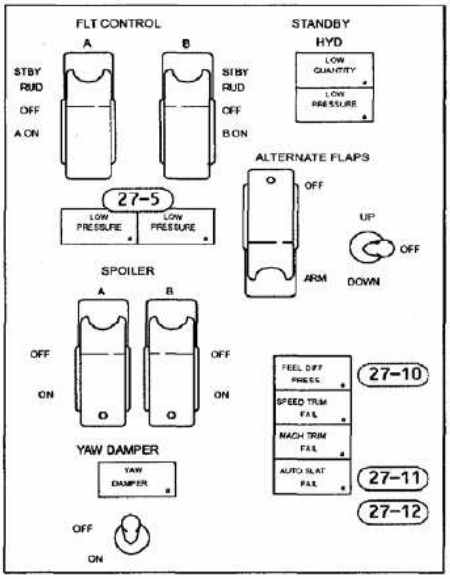
FLAP POSITION INDICATOR

27-3

27-1

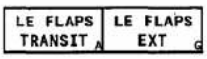
STAB TRIM LIGHT

CONTROL STAND



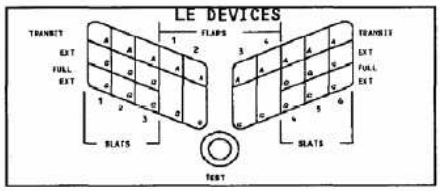
27-4

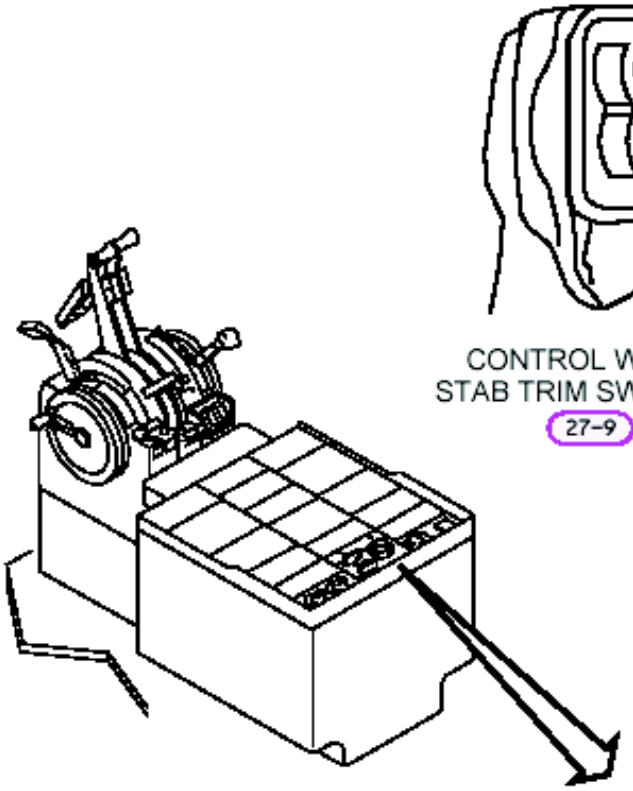
CENTER INSTRUMENT PANEL

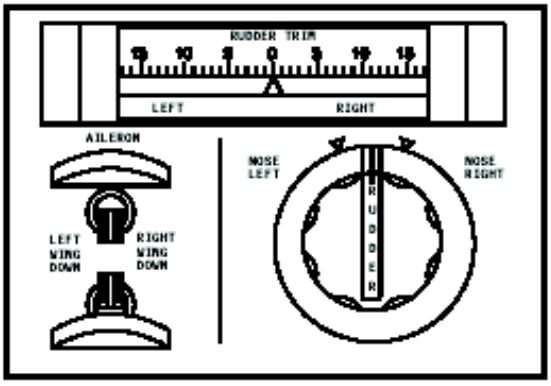


27-4

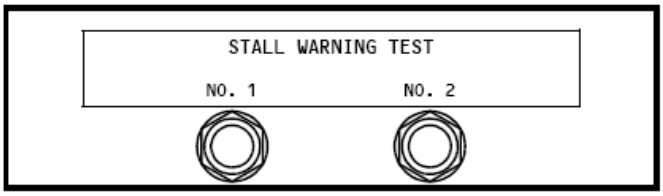
LEADING EDGE DEVICES ANNUNCIATOR PANEL



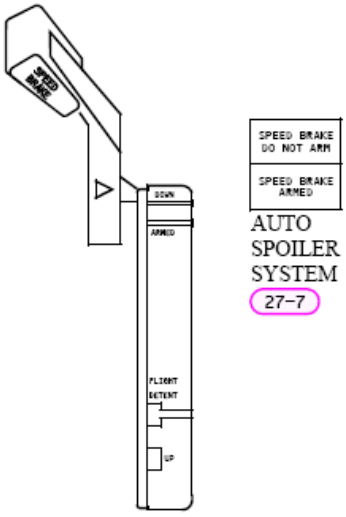




RUDDER TRIM INDICATOR 27-14



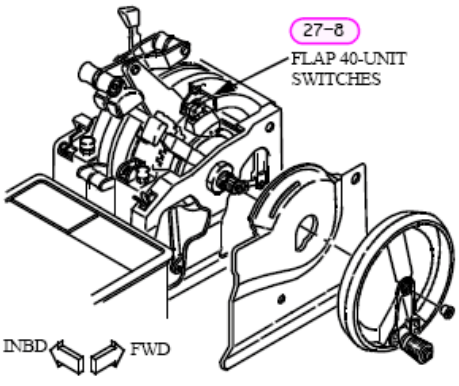
27-13



SPEED BRAKES

AUTO SPOILER SYSTEM

27-7



27-8

FLAP 40-UNIT SWITCHES

27-04 Leading Edge Flap/Slat Position Light Systems

27-04A LE DEVICES Annunciator Panel Inoperative

Interval	Installed	Required	Procedure
C	2	1	

Aft overhead panel LE DEVICES Annunciator panel may be inoperative.

27-04 Leading Edge Flap/Slat Position Light Systems

27-04B Forward Panel Lights Inoperative

Interval	Installed	Required	Procedure
C	2	1	**(M)**

Forward panel lights may be inoperative provided:

a. LE DEVICES Annunciator panel operates normally and is used to verify proper LED position.

b. A placard is installed to indicate proper positions for flap configuration in use.

MAINTENANCE (M)

For -300/-400/-500:

With forward position indicator lights inoperative:

1. Cycle the flaps.
2. Verify that the LE DEVICES annunciator panel (P5) operates normally during flap extension and retraction.

   NOTE: If an annunciator panel TRANSIT light fails to illuminate while the corresponding device is in motion, then this light must be considered inoperative.
3. Remove the bulbs from the associated forward position indicator light(s) on the center instrument panel, P2.
4. Use this data to make a placard and put it adjacent to the LE DEVICES annunciator panel:
   A. Flap positions 1 thru 5:
      1) All slats in EXT position.
      2) LE flaps extended.
   B. Flap positions 10 thru 40:
      1) All slats in FULL EXT position.
      2) LE flaps extended.
5. Determine which TE flap lever position(s) result in inoperative indication.

   NOTE: If faulty indication is intermittent or cannot be replicated on the ground, and Flap/Slat Indication Module (FSIM) part number 65-52807-73 is installed, use FSIM BITE to determine if an FSIM input has been recently faulty. If FSIM BITE (LE Flap/Slat Cycle 0) indicates fault message numbers 228 or 229, open and collar the Stall Warning Asymmetry Mode circuit breaker on the P18-2 Panel.

6. Set flaps to the position which produces the faulty indication.
7. Verify that the leading edge and trailing edge devices are in the correct position.
8. Verify normal operation of both Stall Warning Systems:

   NOTE: If the inoperative slat indication occurs at more than one flap position, repeat the procedure to verify normal operation of both Stall Warning Systems at Flaps 0, Flaps 1 and Flaps 10.

   A. Verify that hydraulic system B pressure is between 2900 and 3100 psi.
   B. Push and hold STALL WARNING TEST NO. 1 and NO. 2 switch on the stall warning test module (P5 Overhead Panel).
   C. Check that the control column stick shakers operate normally.
   D. If both stick shakers fail to operate normally, open and collar the Stall Warning Asymmetry Mode circuit breaker on the P18-2 Panel if not already accomplished in step 5 above, and then repeat test in steps B and C.
9. If the stick shaker tests are normal the airplane can be dispatched.

For -600/-700/-800/-900/:

With forward position indicator lights inoperative (AMM 27-00-00/901):

1. Cycle the flaps.
2. Verify that the LE DEVICES annunciator panel (P5) operates normally during flap extension and retraction.

   NOTE: If an annunciator panel TRANSIT light fails to illuminate while the corresponding device is in motion, then this light must be considered inoperative.
3. Remove the bulbs from the associated forward position indicator light(s) on the center instrument panel, P2.
4. Use this data to make a placard and put it adjacent to the LE DEVICES annunciator panel:

   A. Flap positions 1 thru 5:
      1) All slats in EXT position.
      2) LE flaps extended.
   B. Flap positions 10 thru 40:
      1) All slats in FULL EXT position.
      2) LE flaps extended.

   For -800SFP/-900ER:

   A. Flap positions 1 thru 25:
      1) All slats in EXT position.
      2) LE flaps extended.
   B. Flap positions 30 and 40:
      1) All slats in FULL EXT position.
      2) LE flaps extended.

27-04 Leading Edge Flap/Slat Position Light Systems

27-04-02 Leading Edge Slat Indications (-500)

Interval	Installed	Required	Procedure
C	6	5	**(M) (O)**

Indication lights on forward panel, and in addition, indication lights for one leading edge slat on overhead annunciator panel may be inoperative provided:

a. Normal operation is verified by flight crew before each takeoff and landing. b. Maximum speed is limited to 300 KIAS at/below FL 200 or .65 Mach above
FL 200.

c. All remaining indications on overhead annunciator panel operate normally. d. Stall warning operation of both systems is verified to operate normally.

MAINTENANCE (M)

With forward position indicator lights inoperative and one SLATS annunciator panel light inoperative:

1. Cycle the flaps.
2. Verify that the remaining LE DEVICES annunciator panel (P5) lights operate normally during flap extension and retraction.

   NOTE 1: If an annunciator panel TRANSIT light fails to illuminate while the corresponding device is in motion, then this light must be considered inoperative.

   NOTE 2: This MMEL item is applicable to inoperative leading edge SLAT indications and not the leading edge FLAP indications on the LE DEVICES annunciator panel. Dispatch is not allowed if the LE DEVICES annunciator panel FLAP lights do not illuminate properly and the forward panel light(s) are inoperative.
3. Remove the bulbs from the associated forward position indicator light(s) on the center instrument panel, P2.
4. Use this data to make a placard and put it adjacent to the annunciator panel:
   A. Flap positions 1 thru 5:
      1) All slats in EXT position.
      2) LE flaps extended.
   B. Flap positions 10 thru 40:
      1) All slats in FULL EXT position.
      2) LE flaps extended.
5. Determine which TE flap lever position(s) result in inoperative indication.

NOTE: If faulty indication is intermittent or cannot be replicated on the ground, and Flap/Slat Indication Module (FSIM) part number 65-52807-73 is installed, use FSIM BITE to determine if an FSIM input has been recently faulty. If FSIM BITE (LE Flap/Slat Cycle 0) indicates fault message numbers 202 through 213 or 222 through 227, open and collar the Stall Warning Asymmetry Mode circuit breaker on the P18-2 Panel.

6. Set flaps to the position which produces the faulty indication.
7. Verify that the leading edge and trailing edge devices are in the correct position.
8. Verify normal operation of both Stall Warning Systems:

   NOTE: If the inoperative slat indication occurs at more than one flap position, repeat the procedure to verify normal operation of both Stall Warning Systems at Flaps 0, Flaps 1 and Flaps 10.

   A. Verify that hydraulic system B pressure is between 2900 and 3100 psi.

   B. Push and hold STALL WARNING TEST NO. 1 and NO. 2 switch on the stall warning test module (P5 Overhead Panel).

   C. Check that the control column stick shakers operate normally.

   D. If both stick shakers fail to operate normally, open and collar the Stall Warning Asymmetry Mode circuit breaker on the P18-2 Panel if not already accomplished in step 5 above, and then repeat test in steps B and C.
9. If the stick shaker tests are normal the airplane can be dispatched.

OPERATIONS (O)

With forward position indicator lights inoperative and one SLATS annunciator panel light inoperative:

1. Verify leading edge slat position for the inoperative indication before each takeoff and landing.
2. Limit airspeed:

   A. At or below FL 200, limit airspeed to 300 KIAS. B. Above FL 200, limit airspeed to 0.65 Mach.

   NOTE: Refer to Section 4 of the Airplane Flight Manual for the Cruise Maneuvering Capability chart for maintaining minimum maneuvering speeds.

27-04 Leading Edge Flap/Slat Position Light Systems

27-04-03 Leading Edge Slat Indications (-400)

Interval	Installed	Required	Procedure
C	6	5	**(M) (O)**

Indication lights on forward panel, and in addition, indication lights for one leading edge slat, except for slats 3 and 4, on overhead annunciator panel may be inoperative provided:

a. Normal operation is verified by flight crew before each takeoff and landing. b. Maximum speed is limited to 300 KIAS at/below FL 200 or .65 Mach above FL 200.

c. All remaining indications on overhead annunciator panel operate normally. d. Stall warning operation of both systems is verified to operate normally.

MAINTENANCE (M)

With forward position indicator lights inoperative and one SLATS annunciator panel light inoperative:

1. Cycle the flaps.
2. Verify that the remaining LE DEVICES annunciator panel (P5) lights operate normally during flap extension and retraction.

NOTE 1: If an annunciator panel TRANSIT light fails to illuminate while the corresponding device is in motion, then this light must be considered inoperative.

NOTE 2: This MMEL item is applicable to inoperative leading edge SLAT indications and not the leading edge FLAP indications on the LE DEVICES annunciator panel. Dispatch is not allowed if the LE DEVICES annunciator panel FLAP lights do not illuminate properly and the forward panel light(s) are inoperative.

3. Remove the bulbs from the associated forward position indicator light(s) on the center instrument panel, P2.
4. Use this data to make a placard and put it adjacent to the annunciator panel:
   A. Flap positions 1 thru 5:

1) All slats in EXT position.
2) LE flaps extended.

B. Flap positions 10 thru 40:
1) All slats in FULL EXT position.
2) LE flaps extended.

5. Determine which TE flap position(s) result in inoperative indication.

NOTE: If faulty indication is intermittent or cannot be replicated on the ground, and Flap/Slat Indication Module (FSIM) part number 65-52807-73 is installed, use FSIM BITE to determine if an FSIM input has been recently faulty. If FSIM BITE (LE Flap/Slat Cycle 0) indicates fault message numbers 202 through 213 or 222 through 227, open and collar the Stall Warning Asymmetry Mode circuit breaker on the P18-2 Panel.

6. Set flaps to the position which produces the faulty indication.
7. Verify that the leading edge and trailing edge devices are in the correct position.
8. Verify normal operation of both Stall Warning Systems:

NOTE: If the inoperative slat indication occurs at more than one flap position, repeat the procedure to verify normal operation of both Stall Warning Systems at Flaps 0, Flaps 1 and Flaps 10.

A. Verify that hydraulic system B pressure is between 2900 and 3100 psi.
B. Push and hold STALL WARNING TEST NO. 1 and NO. 2 switch on the stall warning test module (P5 Overhead Panel).
C. Check that the control column stick shakers operate normally.
D. If both stick shakers fail to operate normally, open and collar the Stall Warning Asymmetry Mode circuit breaker on the P18-2 Panel if not already accomplished in step 5 above, and then repeat test in steps B and C.

9. If the stick shaker tests are normal the airplane can be dispatched.

OPERATIONS (O)

With forward position indicator lights inoperative and one SLATS annunciator panel light inoperative:

1. Verify leading edge slat position for the inoperative indication before each takeoff and landing.
2. Limit airspeed:

A. At or below FL 200, limit airspeed to 300 KIAS.
B. Above FL 200, limit airspeed to 0.65 Mach.

NOTE: Refer to Section 4 of the Airplane Flight Manual for the Cruise Maneuvering Capability chart for maintaining minimum maneuvering speeds.

27-04 Leading Edge Flap/Slat Position Light Systems

27-04-05 Leading Edge Slat Indications (-800)

Interval	Installed	Required	Procedure
C	8	7	**(M) (O)**

Indication lights on forward panel, and in addition, indication lights for one leading edge slat, except for slats 3, 4, 5, and 6, on overhead annunciator panel may be inoperative provided:

a. Normal operation is verified by flight crew before each takeoff and landing.
b. Maximum speed is limited to 300 KIAS at/below FL 200 or .65 Mach above FL 200.
c. All remaining indications on overhead annunciator panel operate normally.
d. Stall warning operation of both systems is verified to operate normally.

MAINTENANCE (M)

With forward position indicator lights inoperative and one SLATS annunciator panel light inoperative (AMM 27-00-00/901):

1. Cycle the flaps.
2. Verify that the remaining LE DEVICES annunciator panel (P5) lights operate normally during flap extension and retraction.

   NOTE 1: If an annunciator panel TRANSIT light fails to illuminate while the corresponding device is in motion, then this light must be considered inoperative.

   NOTE 2: This MMEL item is applicable to inoperative leading edge SLAT indications and not the leading edge FLAP indications on the LE DEVICES annunciator panel. Dispatch is not allowed if the LE DEVICES annunciator panel FLAP lights do not illuminate properly and the forward panel light(s) are inoperative.
3. Remove the bulbs from the associated forward position indicator light(s) on the center instrument panel, P2.
4. Use this data to make a placard and put it adjacent to the annunciator panel:

   For -800:

   A. Flap positions 1 thru 5:
      1) All slats in EXT position.
      2) LE flaps extended.

   B. Flap positions 10 thru 40:
      1) All slats in FULL EXT position.
      2) LE flaps extended.

   For -800SFP:

A. Flap positions 1 thru 25:
   1) All slats in EXT position.
   2) LE flaps extended.

B. Flap positions 30 and 40:
   1) All slats in FULL EXT position.
   2) LE flaps extended.

5. Determine which TE flap position(s) result in inoperative indication.

   NOTE: If faulty indication is intermittent or cannot be replicated on the ground, use FSEU BITE to determine if an FSEU input has been recently faulty. If FSEU BITE (Flight Leg 0) indicates fault message codes 27-81200 through 27-81223 or 27-81225 through
   27-81236, open and collar the Stall Warning Asymmetry Mode circuit breaker on the P18-2 Panel.

6. Set flaps to the position which produces the faulty indication.
7. Verify that the leading edge and trailing edge devices are in the correct position.
8. Verify normal operation of both Stall Warning Systems:

   For -800:

   NOTE 1: If the inoperative slat indication occurs at more than one flap position, repeat the procedure to verify normal operation of both Stall Warning Systems at Flaps 0, Flaps 1 and Flaps 10.

   For -800SFP:

   NOTE 2: If the inoperative slat indication occurs at more than one flap position, repeat the procedure to verify normal operation of both Stall Warning Systems at Flaps 0, Flaps 1 and Flaps 30.

   A. Verify that hydraulic system B pressure is between 2900 and 3100 psi.
   B. Push and hold STALL WARNING TEST NO. 1 and NO. 2 switch on the stall warning test module (P5 Overhead Panel).
   C. Check that the control column stick shakers operate normally.
   D. If both stick shakers fail to operate normally, open and collar the Stall Warning Asymmetry Mode circuit breaker on the P18-2 Panel if not already accomplished in step 5 above, and then repeat test in steps B and C.
9. If the stick shaker tests are normal the airplane can be dispatched.

OPERATIONS (O)

With forward position indicator lights inoperative and one SLATS annunciator panel light inoperative:

1. Verify leading edge slat position for the inoperative indication before each takeoff and landing.
2. Limit airspeed:

A. At or below FL 200, limit airspeed to 300 KIAS.

B. Above FL 200, limit airspeed to 0.65 Mach.

NOTE 1: Refer to Section 4 of the Airplane Flight Manual for the Cruise Maneuvering Capability chart for maintaining minimum maneuvering speeds.

NOTE 2: With FMC update 10.7 or later, VNAV will limit the speed target to 230 KIAS unless speed intervention is used.

27-04 Leading Edge Flap/Slat Position Light Systems

27-04-06 Leading Edge Slat Indications (-900)

Interval	Installed	Required	Procedure
C	8	7	**(M) (O)**

Indication lights on forward panel, and in addition, indication lights for one leading edge slat, except for slats 2, 3, 4, 5, 6, and 7 on overhead annunciator panel may be inoperative provided:

a. Normal operation is verified by flight crew before each takeoff and landing.
b. Maximum speed is limited to 300 KIAS at/below FL 200 or .65 Mach above FL 200.
c. All remaining indications on overhead annunciator panel operate normally.
d. Stall warning operation of both systems is verified to operate normally.

MAINTENANCE (M)

With forward position indicator lights inoperative and one SLATS annunciator panel light inoperative (AMM 27-00-00/901):

1. Cycle the flaps.
2. Verify that the remaining LE DEVICES annunciator panel (P5) lights operate normally during flap extension and retraction.

   NOTE 1: If an annunciator panel TRANSIT light fails to illuminate while the corresponding device is in motion, then this light must be considered inoperative.

   NOTE 2: This MMEL item is applicable to inoperative leading edge SLAT indications and not the leading edge FLAP indications on the LE DEVICES annunciator panel. Dispatch is not allowed if the LE DEVICES annunciator panel FLAP lights do not illuminate properly and the forward panel light(s) are inoperative.
3. Remove the bulbs from the associated forward position indicator light(s) on the center instrument panel, P2.
4. Use this data to make a placard and put it adjacent to the annunciator panel:

   For -900:

   A. Flap positions 1 thru 5:
      1) All slats in EXT position.
      2) LE flaps extended.
   B. Flap positions 10 thru 40:

1) All slats in FULL EXT position.
2) LE flaps extended.

For -900ER:

C. Flap positions 1 thru 25:
1) All slats in EXT position.
2) LE flaps extended.

D. Flap positions 30 and 40:

1) All slats in FULL EXT position.
2) LE flaps extended.

5. Determine which TE flap position(s) result in inoperative indication.

NOTE: If faulty indication is intermittent or cannot be replicated on the ground, use FSEU BITE to determine if an FSEU input has been recently faulty. If FSEU BITE (Flight Leg 0) indicates fault message codes 27-81200 through 27-81223 or 27-81225 through
27-81236, open and collar the Stall Warning Asymmetry Mode circuit breaker on the P18-2 Panel.

6. Set flaps to the position which produces the faulty indication.
7. Verify that the leading edge and trailing edge devices are in the correct position.
8. Verify normal operation of both Stall Warning Systems:

For -900:

NOTE 1: If the inoperative slat indication occurs at more than one flap position, repeat the procedure to verify normal operation of both Stall Warning Systems at Flaps 0, Flaps 1 and Flaps 10.

For -900ER:

NOTE 2: If the inoperative slat indication occurs at more than one flap position, repeat the procedure to verify normal operation of both Stall Warning Systems at Flaps 0, Flaps 1 and Flaps 30.

A. Verify that hydraulic system B pressure is between 2900 and 3100 psi.
B. Push and hold STALL WARNING TEST NO. 1 and NO. 2 switch on the stall warning test module (P5 Overhead Panel).
C. Check that the control column stick shakers operate normally.
D. If both stick shakers fail to operate normally, open and collar the Stall Warning Asymmetry Mode circuit breaker on the P18-2 Panel if not already accomplished in step 5 above, and then repeat test in steps B and C.

9. If the stick shaker tests are normal the airplane can be dispatched.

OPERATIONS (O)

With forward position indicator lights inoperative and one SLATS annunciator panel light inoperative:

1. Verify leading edge slat position for the inoperative indication before each takeoff and landing.
2. Limit airspeed:
   A. At or below FL 200, limit airspeed to 300 KIAS.
   B. Above FL 200, limit airspeed to 0.65 Mach.

   NOTE 1: Refer to Section 4 of the Airplane Flight Manual for the Cruise Maneuvering Capability chart for maintaining minimum maneuvering speeds.

   NOTE 2: With FMC update 10.7 or later, VNAV will limit the speed target to 230 KIAS unless speed intervention is used.

27-07 Auto Speed Brake System

27-07-01 All Models except -800 with Short Field Performance (SFP) Option and -900ER

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. System is deactivated.

b. Operations are conducted in accordance with AFM.

c. For models with Blended Winglet with Speed Brake Load Alleviation System, Speed Brake Load Alleviation System is considered inoperative.

MAINTENANCE (M)

For -300/-500/-700/-800:

NOTE: With Blended Winglet and Speed Brake Load Alleviation System (LAS) installed, LAS must also be considered inoperative and deactivated prior to deactivating the auto speed brake system. See DDG item 27-20 (M) procedure.

For -100/-200/-300/-400/-500:

Prepare the airplane for flight with the auto speed brake system inoperative:

1. Verify manual speed brake operation.
2. Open and collar P6 Panel circuit breaker AUTO SPEED BRAKE.

For -600/-700/-800/-900:

Prepare the airplane for flight with the auto speed brake system inoperative (AMM 27-00-00/901):

1. Verify manual speed brake operation.
2. Open and collar P6 Panel circuit breaker FLIGHT CONTROL AUTO SPEED BRAKE.

OPERATIONS (O)

1. Prior to takeoff, make sure that the speed brake lever is in the full down detent.
2. Base landing performance on manual speed brakes.
3. Extend speedbrakes manually for rejected takeoff or landing.
   A. For rejected takeoff:
      1) Simultaneously close the thrust levers, disengage the autothrottles and apply maximum manual wheel brakes or verify operation of RTO autobrakes.
      2) Manually raise SPEED BRAKE lever.
      3) Apply the maximum amount of reverse thrust consistent with conditions.

B. For landing, use the SPEED BRAKE DO NOT ARM non-normal checklist.

For -100/-200/-300/-400/-500:

4. The autobrakes will not disarm when the speed brake lever is stowed. Auto brakes can be disarmed by positioning the AUTO BRAKE select switch to OFF, applying brakes manually or advancing the thrust levers.

For -600/-700/-800/-900:

5. The autobrakes may not disarm when the speed brake lever is stowed. Auto brakes can be disarmed by positioning the AUTO BRAKE select switch to OFF, applying brakes manually or advancing the thrust levers.

For -300/-500/-700/-800:

NOTE: With Blended Winglet and the Speed Brake Load Alleviation System (LAS) installed, LAS must also be considered inoperative. See DDG item 27-20 (O) procedure.

27-07 Auto Speed Brake System
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27-07-02 -800SFP and -900ER

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. System is deactivated.

b. Appropriate performance adjustments are applied.

c. For models with Blended Winglet with Speed Brake Load Alleviation System, Speed Brake Load Alleviation System is considered inoperative,

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MAINTENANCE (M)

NOTE: With Blended Winglet and Speed Brake Load Alleviation System (LAS) installed, LAS must also be considered inoperative. See DDG item 27-20 (M) procedure.

Prepare the airplane for flight with the auto speed brake system inoperative (AMM 27-00-00/901):

1. Verify manual speed brake operation.

   NOTE: Extend flaps prior to moving speed brake lever beyond the FLIGHT DETENT position.

2. Open and collar P6 Panel circuit breaker FLIGHT CONTROL AUTO SPEED BRAKE.

OPERATIONS (O)

NOTE: With Blended Winglet and Speed Brake Load Alleviation System (LAS) installed, LAS must also be considered inoperative. See DDG item 27-20 (O) procedure.

1. Prior to takeoff, make sure that the speed brake lever is in the full down detent.
2. Do NOT use AFM landing performance data based on manual speed brakes.
3. Reduce performance limited weights by the following:
   For 737-800SFP:
   A. Takeoff field length limit weight and brake energy limit weight: 2300 lb (1044 kg)
   B. Landing field length limit weight: 13,000 lb (5897 kg)
   For 737-900ER:
   C. Takeoff field length limit weight and brake energy limit weight: 1600 lb (726 kg)
   D. Landing field length limit weight: 15,000 lb (6804kg)
4. Extend speedbrakes manually for rejected takeoff or landing.
   A. For rejected takeoff:
      1) Simultaneously close the thrust levers, disengage the autothrottles and apply maximum manual wheel brakes or verify operation of RTO autobrakes.
      2) Manually raise SPEED BRAKE lever.
      3) Apply the maximum amount of reverse thrust consistent with conditions.
   B. For landing, use the SPEED BRAKE DO NOT ARM non-normal checklist.
5. The autobrakes may not disarm when the speed brake lever is stowed. Auto brakes can be disarmed by positioning the AUTO BRAKE select switch to OFF, applying brakes manually or advancing the thrust levers.

27-08 Flap Load Limiter System

27-08-02 -400/-500

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided flaps are not extended beyond Flaps 30.

27-08 Flap Load Limiter System

27-08-05 -800 without Short Field Performance (SFP) Option

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided:

a. Flaps are not extended beyond Flaps 30 at gross weights above 93,995 lb. (42,635 kg).

b. Flaps are not extended beyond Flaps 15 at gross weights above 104,875 lb. (47,570 kg).

27-08 Flap Load Limiter System

27-08-06 -800 with Short Field Performance (SFP) Option

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided:

a. Flaps are not extended beyond Flaps 30 at gross weights above 95,800 lb. (43,454 kg).

b. Flaps are not extended beyond Flaps 15 at gross weights above 105,000 lb. (47,627 kg).

c. Flaps are not extended beyond Flaps 10 at gross weights above 135,800 lb. (61,597 kg).

27-08 Flap Load Limiter System

27-08-07 -900

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided:

a. Flaps are not extended beyond Flaps 30 at gross weights above 94,760 lb. (42,982 kg).

b. Flaps are not extended beyond Flaps 15 at gross weights above 105,130 lb. (47,686 kg).

27-08 Flap Load Limiter System

27-08-08 -900ER

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided:

a. Flaps are not extended beyond Flaps 30 at landing gross weights above 105,800 lb. (47,990 kg).

b. Flaps are not extended beyond Flaps 15 at landing gross weights above 113,400 lb. (51,437 kg).

c. Flaps are not extended beyond Flaps 10 at landing gross weights above 135,600 lb. (61,507 kg).

d. Flaps are not extended beyond Flaps 15 at takeoff gross weights above 155,600 lb. (70,578 kg).

e. Flaps are not extended beyond Flaps 5 at takeoff gross weights above 176,000 lb. (79,832 kg).

27-09 Control Wheel Trim Switch Systems

Interval	Installed	Required	Procedure
B	2	1	

One may be inoperative on non-flying pilot's side provided stabilizer trim system operates normally on flying pilot's side.

27-10 FEEL DIFF PRESS Light System

Interval	Installed	Required	Procedure
B	1	0	**(M)**

May be inoperative provided:

a. Elevator feel system is verified to operate normally.

b. Verification is repeated each flight day.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

Verify that the feel system is operative:

1. Pressurize the elevator hydraulic systems A and B (AMM 27-31-00/201).

   CAUTION: MAKE SURE PERSONNEL ARE CLEAR OF THE HORIZONTAL TAIL AND ARE AWARE THAT HYDRAULIC SYSTEMS ARE PRESSURIZED.

2. Use the stabilizer trim switches to set the stabilizer to 3 units of trim.
3. Set the FLT CONTROL A and B switches to OFF.
4. Verify that the horizontal stabilizer “B” dimension is 41.57 ± 0.01 inches.
5. Set the mach trim actuator in null position (AMM 27-31-00/201).
6. Do a check for pressure leakage in the feel pitot system:
   A. Apply a seal to the drain hole in each feel pitot tube on the vertical fin.
   B. Remove the drain plugs from the system A and B pitot lines.

      NOTE: The pitot lines are located below the elevator feel computer.

   C. Connect the pressure gage lines from the air pressure regulator to the drain holes of the pitot lines.

      CAUTION: DO NOT RAISE TEST PRESSURE ABOVE 5.0 PSI (437 KNOTS) AT ANY TIME DURING TEST.

   D. Connect the pressure lines from air pressure regulator to both pitot probes on the vertical fin.
   E. Pressurize the pitot system to 4.8 ± 0.1 psi (429 ± 4 knots).
   F. Turn the shutoff valve in the air pressure regulator to off.
   G. Make sure the pressure does not decrease more than 0.3 psi (12 knots) during a 2-minute period.
   H. Reduce the pitot pressure to zero.
7. Set the FLT CONTROL A and B switches to ON.
8. Pressurize the pitot system to these psi values:

CAUTION: DO NOT RAISE TEST PRESSURE ABOVE 5.0 PSI (437 KNOTS) AT ANY TIME DURING TEST.

Model	Pitot Pressure	Speed
-400/-500	2.47 ± 0.05 psi	315 ± 3 knots

9. Apply masking tape on the tail cone along the direction of the right elevator trailing edge travel.

   NOTE: Elevator travel measuring tool may be used in lieu of tape method.

10. Move the captain's control column lightly to put the elevator system in the neutral position.

    NOTE: Make sure that the control columns are not disturbed from this position during the next step.

11. Mark the actual elevator trailing edge neutral position on the masking tape.
12. Set FLT CONTROL B switch to OFF and leave FLT CONTROL A switch in the ON position.
13. Move the captain's control column slowly with a push/pull type spring scale applied to the center of the control wheel to the elevator positions as shown in the table below.

    NOTE: Make sure the force to hold the control column is as shown in the table below.

Model	Elevation Position	Column Force
-300/-400/-500	1.20 ± 0.05 inches up 1.20 ± 0.05 inches down	42.5 ± 4.5 lbs 45.0 ± 4.5 lbs

14. Set FLT CONTROL A switch to OFF and FLT CONTROL B switch to ON.
15. Do step 13 again.
16. Restore the airplane to its usual condition:
    A. Make sure that all tools used during testing are removed.
    B. Remove all masking tape.
    C. Remove seals from the drain holes in each vertical fin pitot probe.
    D. Remove the pressure gage lines from systems A and B drain lines.
    E. Install the drain plugs to the systems A and B drain lines.
    F. Remove regulated air pressure lines from both vertical fin pitot probes.

G. Close all circuit breakers opened during testing.

H. Restore airplane to normal hydraulic configuration (AMM 27-31-00/201).

I. Remove electrical power if no longer required.

For -600/-700/-800/-900:

Verify that the feel system is operative (AMM 27-00-00/901):

1. Pressurize the elevator hydraulic systems A and B (AMM 27-31-00/201).

   CAUTION: MAKE SURE PERSONNEL ARE CLEAR OF THE HORIZONTAL TAIL AND ARE AWARE THAT HYDRAULIC SYSTEMS ARE PRESSURIZED.

2. Use the stabilizer trim switches to set the stabilizer to 4 units of trim.
3. Set the FLT CONTROL A and B switches to OFF.
4. Verify that the horizontal stabilizer “B” dimension is 39.89 ± 0.01 inches.
5. Set the mach trim actuator in null position (AMM 27-31-00/201).
6. Do a check for pressure leakage in the feel pitot system:
   A. Apply a seal to the drain hole in each feel pitot tube on the vertical fin.
   B. Remove the drain plugs from the system A and B pitot lines.
      NOTE: The pitot lines are located below the elevator feel computer.
   C. Connect the pressure gage lines from the air pressure regulator to the drain holes of the pitot lines.

      CAUTION: DO NOT RAISE TEST PRESSURE ABOVE 5.0 PSI (437 KNOTS) AT ANY TIME DURING TEST.

   D. Connect the pressure lines from air pressure regulator to both pitot probes on the vertical fin.
   E. Pressurize the pitot system to 4.8 ± 0.1 psi (429 ± 4 knots).
   F. Turn the shutoff valve in the air pressure regulator to off.
   G. Make sure the pressure does not decrease more than 0.3 psi (12 knots) during a 2-minute period.
   H. Reduce the pitot pressure to zero.
7. Set the FLT CONTROL A and B switches to ON.
8. Pressurize the pitot system to 2.47 ± 0.05 psi (315 ± 3 knots).

   CAUTION: DO NOT RAISE TEST PRESSURE ABOVE 5.0 PSI (437 KNOTS) AT ANY TIME DURING TEST.

9. Apply masking tape on the tail cone along the direction of the right elevator trailing edge travel.

   NOTE: Elevator travel measuring tool may be used in lieu of tape method.

10. Move the captain’s control column lightly to put the elevator system in the neutral position.

NOTE: Make sure that the control columns are not disturbed from this position during the next step.

11. Mark the actual elevator trailing edge neutral position on the masking tape.
12. Set FLT CONTROL B switch to OFF and leave FLT CONTROL A switch in the ON position.
13. Move the captain's control column slowly with a push/pull type spring scale applied to the center of the control wheel to the elevator positions as shown in the table below.

    NOTE: Make sure the force to hold the control column is as shown in the table below.

Model	Elevation Position	Column Force
-600/-700/-800/-900	1.20 ± 0.05 inches up 1.20 ± 0.05 inches down	38.0 ± 4.0 lbs 38.0 ± 4.0 lbs

14. Set FLT CONTROL A switch to OFF and FLT CONTROL B switch to ON.
15. Do step 13 again.
16. Restore the airplane to its usual condition:
    A. Make sure that all tools used during testing are removed.
    B. Remove all masking tape.
    C. Remove seals from the drain holes in each vertical fin pitot probe.
    D. Remove the pressure gage lines from systems A and B drain lines.
    E. Install the drain plugs to the systems A and B drain lines.
    F. Remove regulated air pressure lines from both vertical fin pitot probes.
    G. Close all circuit breakers opened during testing.
    H. Restore airplane to normal hydraulic configuration (AMM 27-31-00/201).
    I. Remove electrical power if no longer required.

27-11 Auto Slat Fail Light System (-400/-500/-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided:

a. Auto slat systems are verified to operate normally.

b. Verification is repeated every two flight days.

MAINTENANCE (M)

For -300/-400/-500:

1. With autoslat computer installed:
   A. Verify that no amber fault indicator lights are illuminated on the front of each autoslat computer (AMM 27-83-00).
2. With stall management computer installed (AMM 27-32-00):
   A. Push the ON/OFF switch on the front of each stall management computer.
   B. Check that the display on each stall management computer reads TEST IN PROGRESS and then SYS OK.
   C. Push the ON/OFF switch to exit the BITE.

For -600/-700/-800/-900:

1. Do the EXISTING FAULTS test on the SMYD BITE (AMM 27-00-00/901):
   A. Push the ON/OFF switch.
   B. Push the YES switch when the display shows EXISTING FAULTS?
      1) Make sure the display shows NO FAULTS.
   C. Push the MENU switch.
   D. Push the ON/OFF switch to exit the BITE.

27-12 Auto Slat Systems (-400/-500/-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	2	1	**(O)**

One system may be inoperative provided:

a. Remaining auto slat system is checked to operate normally.
b. Auto slat fail light operates normally.

MAINTENANCE NOTE

The inoperative autoslat system can be deactivated by opening and collaring the associated P6-2 Panel AUTO SLAT DC circuit breaker.

OPERATIONS (O)

Verify normal operation of the remaining autoslat system:

NOTE: Illumination of the associated lights when recalled and extinguishing when reset verifies normal operation.

1. Press and release a system annunciator panel on the glareshield and observe that these lights illuminate:
   A. FLT CONT
   B. AUTO SLAT FAIL
   C. MASTER CAUTION.
2. Press and release a MASTER CAUTION light and observe that these lights extinguish:
   A. FLT CONT
   B. AUTO SLAT FAIL
   C. MASTER CAUTION.

27-13 Stall Warning Systems

27-13-01 -400/-500/-600/-700/-800/-900 without Blended Winglet, -300/-500 with Blended Winglet

Interval	Installed	Required	Procedure
C	-	1	**(M)**

One may be inoperative provided remaining system is verified to operate normally before each departure.

MAINTENANCE (M)

For -200/-300/-400/-500:

1. Deactivate the inoperative stall warning system:
   A. For stall warning system no. 1:
      1) Open and collar P18-2 Panel circuit breaker STALL WARNING 1 DC or SMC 1 CMPTR DC.
      2) If the Captain's PLI, lower barber pole or lower amber band symbols show erroneous data, open and collar P18-2 Panel circuit breakers STALL WARNING 1 AC or SMC 1 SNSR EXC AC.
   B. For stall warning system no. 2:
      1) Open and collar P6-1 Panel circuit breaker STALL WARNING 2 DC or SMC 2 CMPTR DC.
      2) If the First Officer's PLI, lower barber pole or lower amber band symbols show erroneous data, open and collar P6-1 Panel circuit breakers STALL WARNING 2 AC or SMC 2 SNSR EXC AC.
2. Opening circuit breakers SMC CMPTR DC, SMC SNSR EXC AC deactivates these associated systems:
   A. Auto Slat Systems (see MMEL item 27-12)
   B. Mach/Airspeed Warning Systems (upper/lower barber poles and amber bands) (see MMEL item 34-01 and/or item 34-02).
   C. Pitch Limit Indication (PLI) (see MMEL item 34-38)
3. Verify normal operation of the remaining stall warning system:
   A. Press and hold the applicable STALL WARNING TEST switch on the stall warning test module (P5-18).
   B. Verify control column stick shaker operates normally.
4. If both stall warning systems fail to test:
   A. If Hydraulic System B is not pressurized, pressurize the system and test the stall warning systems. If one system operates normally, the airplane may be dispatched.

B. If Hydraulic System B pressure is normal and both systems do not test properly:

1) Open and collar the Stall Warning Asymmetry Mode circuit breaker on the P18-2 Panel and repeat the stall warning test.

2) If one system operates normally, the airplane may be dispatched.

NOTE: The digital stall warning systems on EFIS equipped airplanes are considered to be operating normally provided they activate the stick shaker upon testing even though sub-functions Pitch Limit Indication (PLI), Flap and Alpha data for Ground Proximity System, Mach/Airspeed Limit Warning or Reference Speeds for EFIS speed displays may be inoperative.

For -600/-700/-800/-900:

1. Deactivate the inoperative stall warning system (AMM 27-00-00/901):

A. For stall warning system no. 1:

1) Open and collar P18-2 Panel circuit breaker STICK SHAKER LEFT.

2) If the Captain's PLI, lower barber pole or lower amber band symbols show erroneous data, open and collar P18-2 Panel circuit breaker SMYD-1 SNSR EXC AC.

B. For stall warning system no. 2:

1) Open and collar P6-1 Panel circuit breaker STICK SHAKER RIGHT.

2) If the First Officer's PLI, lower barber pole or lower amber band symbols show erroneous data, open and collar P6-1 Panel circuit breaker SMYD-2 SNSR EXC AC.

2. Opening circuit breakers SMYD SNSR EXC AC deactivates these associated systems:

A. Auto Slat Systems (see MMEL item 27-12)

B. Mach/Airspeed Warning Systems (upper/lower barber poles and amber bands) (see MMEL item 34-01 and/or item 34-02).

C. Pitch Limit Indication (PLI) (see MMEL item 34-38)

D. Autopilot Systems (see MMEL item 22-01)

E. Mach Trim Systems (see MMEL item 22-05)

F. Flight director System (see MMEL item 34-12)

3. Opening circuit breaker SMYD-1 SNSR EXC AC deactivates these associated systems:

A. Yaw damper (see MMEL item 22-03)

B. Heads Up Display System (HUD) (see MMEL item 34-44)

NOTE: Loss of maximum and minimum operation speeds, stick shaker speed and stick shaker angle of attack indications.

4. Also, when circuit breaker SMYD-1 (or SMYD-2) SNSR EXC AC is opened, the PSEU shows a dispatchable fault (see MMEL item 32-17).

5. Verify normal operation of the remaining stall warning system:
   A. Press and hold the applicable STALL WARNING TEST switch on the stall warning test module (P5-18).
   B. Verify control column stick shaker operates normally.
6. If both stall warning systems fail to test:
   A. If Hydraulic System B is not pressurized, pressurize the system and test the stall warning systems. If one system operates normally, the airplane may be dispatched.
   B. If Hydraulic System B pressure is normal and both systems do not test properly:
      1) Open and collar the Stall Warning Asymmetry Mode circuit breaker on the P18-2 Panel and repeat the stall warning test.
      2) If one system operates normally, the airplane may be dispatched.

27-13 Stall Warning Systems

27-13-02 -700/-800/-900 with Blended Winglet without Speedbrake Load Alleviation System

Interval	Installed	Required	Procedure
C	2	1	**(M)**

One may be inoperative provided remaining system is verified to operate normally before each departure.

MAINTENANCE (M)

1. Deactivate the inoperative stall warning system (AMM 27-00-00/901):
   A. For stall warning system no. 1:
      1) Open and collar P18-2 Panel circuit breaker STICK SHAKER LEFT.
      2) If the Captain's PLI, lower barber pole or lower amber band symbols show erroneous data, open and collar P18-2 Panel circuit breaker SMYD-1 SNSR EXC AC.
   B. For stall warning system no. 2:
      1) Open and collar P6-1 Panel circuit breaker STICK SHAKER RIGHT.
      2) If the First Officer's PLI, lower barber pole or lower amber band symbols show erroneous data, open and collar P6-1 Panel circuit breaker SMYD-2 SNSR EXC AC.
2. Opening circuit breaker SMYD SNSR EXC AC deactivates these associated systems:

A. Auto Slat Systems (see MMEL item 27-12)
B. Mach/Airspeed Warning Systems (upper/lower barber poles and amber bands) (see MMEL item 34-01 and/or item 34-02).
C. Pitch Limit Indication (PLI) (see MMEL item 34-38)
D. Autopilot Systems (see MMEL item 22-01)
E. Mach Trim Systems (see MMEL item 22-05)
F. Flight Director System (see MMEL item 34-12)

3. Opening circuit breaker SMYD-1 SNSR EXC AC deactivates these associated systems:
   A. Yaw damper (see MMEL item 22-03)
   B. Heads Up Display System (HUD) (see MMEL item 34-44)

      NOTE: Loss of maximum and minimum operation speeds, stick shaker speed and stick shaker angle of attack indications.

4. Also, when circuit breaker SMYD-1 (or SMYD-2) SNSR EXC AC is opened, the PSEU shows a dispatchable fault (see MMEL item 32-17).
5. Verify normal operation of the remaining stall warning system:
   A. Press and hold the applicable STALL WARNING TEST switch on the stall warning test module (P5-18).
   B. Verify control column stick shaker operates normally.
6. If both stall warning systems fail to test:
   A. If Hydraulic System B is not pressurized, pressurize the system and test the stall warning systems. If one system operates normally, the airplane may be dispatched.
   B. If Hydraulic System B pressure is normal and both systems do not test properly:
      1) Open and collar the Stall Warning Asymmetry Mode circuit breaker on the P18-2 Panel and repeat the stall warning test.
      2) If one system operates normally, the airplane may be dispatched.

27-13 Stall Warning Systems

27-13-03 -700/-800/-900ER with Blended Winglet with Speedbrake Load Alleviation System

Interval	Installed	Required	Procedure
C	2	1	**(M)**

No. 1 SMYD may be inoperative provided remaining stall warning system is verified to operate normally before each departure.

MAINTENANCE (M)

1. Deactivate stall warning system No. 1 (AMM 27-00-00/901):

A. Open and collar P18-2 Panel circuit breaker STICK SHAKER LEFT.

B. If the Captain's PLI, lower barber pole or lower amber band symbols show erroneous data, open and collar P18-2 Panel circuit breaker SMYD-1 SNSR EXC AC.

2. Opening circuit breaker SMYD-1 SNSR EXC AC deactivates these associated systems:
   A. Auto Slat Systems (see MMEL item 27-12)
   B. Mach/Airspeed Warning Systems (upper/lower barber poles and amber bands) (see MMEL item 34-01 and/or item 34-02).
   C. Pitch Limit Indication (PLI) (see MMEL item 34-38)
   D. Autopilot Systems (see MMEL item 22-01)
   E. Mach Trim Systems (see MMEL item 22-05)
   F. Flight Director System (see MMEL item 34-12)
   G. Yaw Damper (see MMEL item 22-03)
   H. Heads Up Display System (HUD) (see MMEL item 34-44).

      NOTE: Loss of maximum and minimum operation speeds, stick shaker speed and stick shaker angle of attack indications.

3. Also, when circuit breaker SMYD-1 SNSR EXC AC is opened, the PSEU shows a dispatchable fault (see MMEL item 32-17).
   A. Verify normal operation of stall warning system No. 2:
      1) Press and hold STALL WARNING TEST NO. 2 switch on the stall warning test module (P5-18).
      2) Verify control column stick shaker operates normally.
4. If the stall warning system fails to test:
   A. If Hydraulic System B is not pressurized, pressurize the system and test the stall warning system. If the system operates normally, the airplane may be dispatched.
   B. If Hydraulic System B pressure is normal and the system does not test properly:
      1) Open and collar the Stall Warning Asymmetry Mode circuit breaker on the P18-2 Panel and repeat the stall warning test.
      2) If the system operates normally, the airplane may be dispatched.

27-13 Stall Warning Systems

27-13-03-02 -800

27-13-03-02A No.2 SMYD - Airspeed Does Not Exceed 265 KIAS When Inflight Gross Weight Exceeds 155,000 lb. (70,306 kg.)

Interval	Installed	Required	Procedure
C	2	1	**(M)**

No. 2 SMYD may be inoperative provided:

a. Remaining stall warning system is verified to operate normally before each departure.

b. Speedbrake handle forces are normal from full down position to full up position.

c. Airspeed does not exceed 265 KIAS when inflight gross weight is in excess of 155,000 lb. (70,306 kg.).

d. Severe turbulent air penetration speed is 265 KIAS or 0.76 Mach, whichever is lower, when inflight gross weight is in excess of 155,000 lb. (70,306 kg.).

MAINTENANCE (M)

1. Deactivate stall warning system No. 2 (AMM 27-00-00/901):
   A. Open and collar P6-1 Panel circuit breaker STICK SHAKER RIGHT.
   B. If the First Officer's PLI, lower barber pole or lower amber band symbols show erroneous data, open and collar P6-1 Panel circuit breaker SMYD-2 SNSR EXC AC.
2. Open and collar the circuit breaker AUTOSTOW (C1611) for the speedbrake on the P6-2 panel.
   NOTE: The speedbrake load alleviation system (see MMEL item 27-20) is also inoperative when dispatching with stall warning system No. 2 inoperative.
3. Opening circuit breaker SMYD-2 SNSR EXC AC deactivates these associated systems:
   A. Auto Slat Systems (see MMEL item 27-12)
   B. Mach/Airspeed Warning Systems (upper/lower barber poles and amber bands) (see MMEL item 34-01 and/or item 34-02).
   C. Pitch Limit Indication (PLI) (see MMEL item 34-38)
   D. Autopilot Systems (see MMEL item 22-01)
   E. Mach Trim Systems (see MMEL item 22-05)
   F. Flight Director System (see MMEL item 34-12)
4. Also, when circuit breaker SMYD-2 SNSR EXC AC is open the PSEU

shows a dispatchable fault (see MMEL item 32-17).

5. Verify normal operation of stall warning system No. 1:
   A. Press and hold STALL WARNING TEST NO. 1 switch on the stall warning test module (P5-18).
   B. Verify control column stick shaker operates normally.
6. If the stall warning system fails to test:
   A. If Hydraulic System B is not pressurized, pressurize the system and test the stall warning system. If the system operates normally, the airplane may be dispatched.
   B. If Hydraulic System B pressure is normal and the system does not test properly:
      1) Open and collar the Stall Warning Asymmetry Mode circuit breaker on the P18-2 Panel and repeat the stall warning test.
      2) If the system operates normally, the airplane may be dispatched.

27-13 Stall Warning Systems

27-13-03 -700/-800/-900ER with Blended Winglet with Speedbrake Load Alleviation System

27-13-03-02 -800

27-13-03-02B No.2 SMYD - Takeoff Weight Does Not Exceed 156,500 lb. (70,987 kg.)

Interval	Installed	Required	Procedure
C	2	1	**(M)**

No. 2 SMYD may be inoperative provided:

a. Remaining stall warning system is verified to operate normally before each departure.
b. Speedbrake handle forces are normal from full down position to full up position.
c. Takeoff weight does not exceed 156,500 lb. (70,987 kg.).

MAINTENANCE (M)

1. aDe ctivate stall warning system No. 2 (AMM 27-00-00/901):
   A. Open and collar P6-1 Panel circuit breaker STICK SHAKER RIGHT.
   B. If the First Officer's PLI, lower barber pole or lower amber band symbols show erroneous data, open and collar P6-1 Panel circuit breaker SMYD-2 SNSR EXC AC.
2. Open and collar the circuit breaker AUTOSTOW (C1611) for the speedbrake on the P6-2 panel.

   NOTE: The speedbrake load alleviation system (see MMEL item 27-20) is also inoperative when dispatching with stall warning system No. 2 inoperative.

3. Opening circuit breaker SMYD-2 SNSR EXC AC deactivates these associated systems:
   A. Auto Slat Systems (see MMEL item 27-12)
   B. Mach/Airspeed Warning Systems (upper/lower barber poles and amber bands) (see MMEL item 34-01 and/or item 34-02).
   C. Pitch Limit Indication (PLI) (see MMEL item 34-38)
   D. Autopilot Systems (see MMEL item 22-01)
   E. Mach Trim Systems (see MMEL item 22-05)
   F. Flight Director System (see MMEL item 34-12)
4. Also, when circuit breaker SMYD-2 SNSR EXC AC is open the PSEU shows a dispatchable fault (see MMEL item 32-17).
5. Verify normal operation of stall warning system No. 1:
   A. Press and hold STALL WARNING TEST NO. 1 switch on the stall warning test module (P5-18).
   B. Verify control column stick shaker operates normally.
6. If the stall warning system fails to test:
   A. If Hydraulic System B is not pressurized, pressurize the system and test the stall warning system. If the system operates normally, the airplane may be dispatched.
   B. If Hydraulic System B pressure is normal and the system does not test properly:
      1) Open and collar the Stall Warning Asymmetry Mode circuit breaker on the P18-2 Panel and repeat the stall warning test.
      2) If the system operates normally, the airplane may be dispatched.

27-13 Stall Warning Systems

27-13-03 -700/-800/-900ER with Blended Winglet with Speedbrake Load Alleviation System

27-13-03-03 -900ER

27-13-03-03A No.2 SMYD - Airspeed Does Not Exceed 265 KIAS When Inflight Gross Weight Exceeds 170,000 lb. (77,110 kg.)

Interval	Installed	Required	Procedure
C	2	1	**(M)**

No. 2 SMYD may be inoperative provided:

a. Remaining stall warning system is verified to operate normally before each departure.
b. Speedbrake handle forces are normal from full down position to full up

position.

c. Airspeed does not exceed 265 KIAS when inflight gross weight is in excess of 170,000 lb. (77,110 kg.).

d. Severe turbulent air penetration speed is 265 KIAS or 0.76 Mach, whichever is lower, when inflight gross weight is in excess of 170,000 lb. (77,110 kg.).

MAINTENANCE (M)

1. Deactivate stall warning system No. 2 (AMM 27-00-00/901):
   A. Open and collar P6-1 Panel circuit breaker STICK SHAKER RIGHT.
   B. If the First Officer's PLI, lower barber pole or lower amber band symbols show erroneous data, open and collar P6-1 Panel circuit breaker SMYD-2 SNSR EXC AC.

2. Open and collar the circuit breaker AUTOSTOW (C1611) for the speedbrake on the P6-2 panel.

   NOTE: The speedbrake load alleviation system (see MMEL item 27-20) is also inoperative when dispatching with stall warning system No. 2 inoperative.

3. Opening circuit breaker SMYD-2 SNSR EXC AC deactivates these associated systems:
   A. Auto Slat Systems (see MMEL item 27-12)
   B. Mach/Airspeed Warning Systems (upper/lower barber poles and amber bands) (see MMEL item 34-01 and/or item 34-02).
   C. Pitch Limit Indication (PLI) (see MMEL item 34-38)
   D. Autopilot Systems (see MMEL item 22-01)
   E. Mach Trim Systems (see MMEL item 22-05)
   F. Flight Director System (see MMEL item 34-12)
4. Also, when circuit breaker SMYD-2 SNSR EXC AC is open the PSEU shows a dispatchable fault (see MMEL item 32-17).
5. Verify normal operation of stall warning system No. 1:
   A. Press and hold STALL WARNING TEST NO. 1 switch on the stall warning test module (P5-18).
   B. Verify the control column shaker operates.
6. If the stall warning system fails to test:
   A. If Hydraulic System B is not pressurized, pressurize the system and test the stall warning system. If the system operates normally, the airplane may be dispatched.
   B. If Hydraulic System B pressure is normal and the system does not test properly:
      1) Open and collar the Stall Warning Asymmetry Mode circuit breaker on the P18-2 Panel and repeat the stall warning test.
      2) If the system operates normally, the airplane may be dispatched.

27-13 Stall Warning Systems

27-13-03 -700/-800/-900ER with Blended Winglet with Speedbrake Load Alleviation System

27-13-03-03 -900ER

27-13-03-03B No.2 SMYD - Takeoff Weight Does Not Exceed 171,500 lb. (77,791 kg.)

Interval	Installed	Required	Procedure
C	2	1	**(M)**

No. 2 SMYD may be inoperative provided:

a. Remaining stall warning system is verified to operate normally before each departure.

b. Speedbrake handle forces are normal from full down position to full up position.

c. Takeoff weight does not exceed 171,500 lb. (77,791 kg.).

MAINTENANCE (M)

1. Deactivate stall warning system No. 2 (AMM 27-00-00/901):
   A. Open and collar P6-1 Panel circuit breaker STICK SHAKER RIGHT.
   B. If the First Officer's PLI, lower barber pole or lower amber band symbols show erroneous data, open and collar P6-1 Panel circuit breaker SMYD-2 SNSR EXC AC.
2. Open and collar the circuit breaker AUTOSTOW (C1611) for the speedbrake on the P6-2 panel.
   NOTE: The speedbrake load alleviation system (see MMEL item 27-20) is also inoperative when dispatching with stall warning system No. 2 inoperative.
3. Opening circuit breaker SMYD-2 SNSR EXC AC deactivates these associated systems:
   A. Auto Slat Systems (see MMEL item 27-12)
   B. Mach/Airspeed Warning Systems (upper/lower barber poles and amber bands) (see MMEL item 34-01 and/or item 34-02).
   C. Pitch Limit Indication (PLI) (see MMEL item 34-38)
   D. Autopilot Systems (see MMEL item 22-01)
   E. Mach Trim Systems (see MMEL item 22-05)
   F. Flight Director System (see MMEL item 34-12)
4. Also, when circuit breaker SMYD-2 SNSR EXC AC is open the PSEU shows a dispatchable fault (see MMEL item 32-17).
5. Verify normal operation of stall warning system No. 1:
   A. Press and hold STALL WARNING TEST NO. 1 switch on the stall

warning test module (P5-18).

B. Verify control column stick shaker operates normally.

6. If the stall warning system fails to test:

A. If Hydraulic System B is not pressurized, pressurize the system and test the stall warning system. If the system operates normally, the airplane may be dispatched.

B. If Hydraulic System B pressure is normal and the system does not test properly:

1) Open and collar the Stall Warning Asymmetry Mode circuit breaker on the P18-2 Panel and repeat the stall warning test.

2) If the system operates normally, the airplane may be dispatched.

27-14 Rudder Trim Indicator
27-14-01 -600/-700/-800/-900

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided:

a. Control Surface Position Indicating System is installed and operates normally.
b. Rudder trim actuator is checked to operate normally.
c. Rudder trim is checked to be centered before each departure.

OPERATIONS (O)

Confirm normal operation of the rudder trim actuator and confirm rudder trim is centered before each departure.

1. Pressurize rudder hydraulic systems A and B.
2. Do a test of the rudder trim actuator:
   A. Turn the rudder trim knob to the NOSE LEFT position.
   B. Observe that the captain's left rudder pedal moves forward and right rudder pedal moves aft.
   C. Turn the rudder trim knob to the NOSE RIGHT position.
   D. Observe that captain's left rudder pedal moves aft and right rudder pedal moves forward.
3. Do a test of the rudder trim centering:
   A. Turn the rudder trim knob in appropriate direction until the captain's rudder pedals are aligned with each other.
   B. Make sure that the rudder is centered (in the neutral position). If not, use rudder trim until rudder is centered.

27-14 Rudder Trim Indicator

27-14-02 All models, upon incorporation of Boeing Service Bulletin 737-27-1252, 737-27-1253, or 737-27-1255, or production equivalent

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided:

a. Rudder trim actuator is checked to operate normally.

b. Rudder trim is checked to be centered before each departure.

OPERATIONS (O)

Confirm normal operation of the rudder trim actuator and confirm rudder trim is centered before departure:

1. Pressurize rudder hydraulic systems A and B.
2. Do a test of the rudder trim actuator:
   A. Turn the rudder trim knob to the NOSE LEFT position.
   B. Observe that the captain's left rudder pedal moves forward and right rudder pedal moves aft.
   C. Turn the rudder trim knob to the NOSE RIGHT position.
   D. Observe that captain's left rudder pedal moves aft and right rudder pedal moves forward.
3. Do a test of the rudder trim centering:
   A. Turn the rudder trim knob in appropriate direction until the captain's rudder pedals are aligned with each other.
   B. Make sure that the rudder is centered (in the neutral position). If not, use rudder trim until rudder is centered.

27-16 SPEED BRAKE/SPEEDBRAKES EXTENDED Light
27-16-01 --400/-500
****

Interval	Installed	Required	Procedure
D	1	0	

27-16 SPEED BRAKE/SPEEDBRAKES EXTENDED Light
27-16-02 -600/-700/-800/-900

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided speed brakes are verified to operate normally.

MAINTENANCE (M)

Verify normal operation of the speed brakes (AMM 27-00-00/901).

1. Verify that wheel chocks are in place.
2. Put the SPEED BRAKE lever in the DOWN position.
3. Visually verify that flight and ground spoilers are all down.
4. Put the SPEED BRAKE lever in the FLIGHT DETENT.
5. Visually verify that ground spoilers and flight spoilers deploy.
6. Put the SPEED BRAKE lever in the DOWN position.
7. Visually verify that flight and ground spoilers are all down.
8. Verify that stabilizer trim is in the green band.
9. Position flaps to a takeoff position.
10. Release the parking brake.
11. Advance (engines not running) both thrust levers beyond 60 degrees.
12. Make sure that the Takeoff Configuration Warning Horn does not sound.
13. Retard thrust levers to idle.
14. Return airplane to it’s normal configuration, i.e., set parking brake and retract flaps.
15. If the SPEEDBRAKES EXTENDED light remains illuminated while on the ground, extinguish it by removing the light bulb.

27-17 Wheel to Rudder Interconnect System (WTRIS) (-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	1	0	

27-18 Control Surface Position Indicating System
****

Interval	Installed	Required	Procedure
C	1	0	

27-19 Rudder Pressure Reducer (RPR) System --400/-500

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

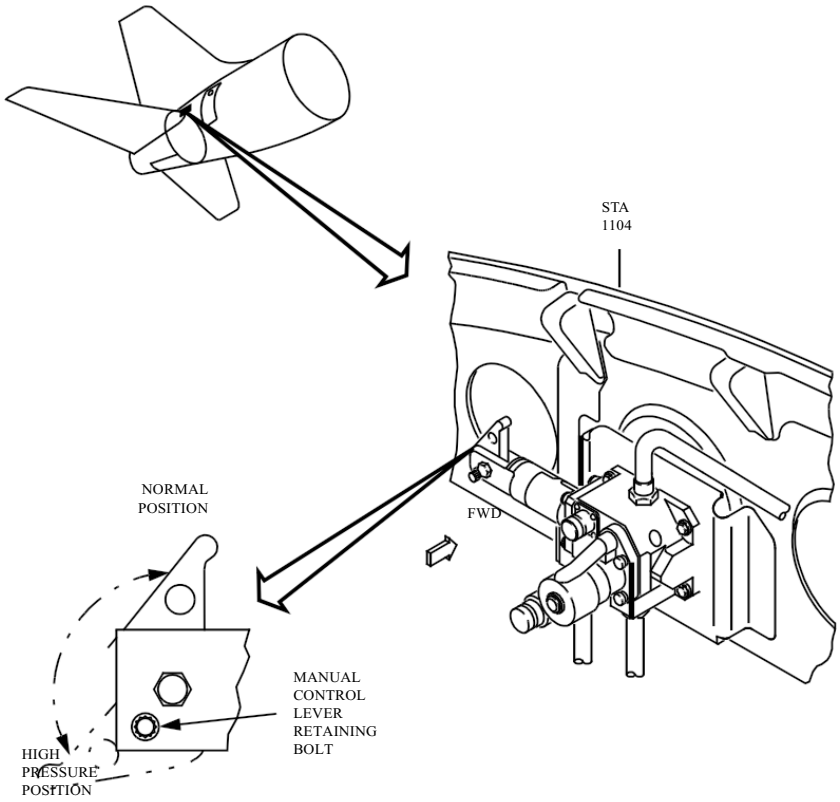
a. RPR system is deactivated.

b. RPR valve is verified to provide high pressure output.

MAINTENANCE (M)

For airplanes with Boeing Service Bulletin 737-27A1206, 737-27-1252, 737-27-1255 or production equivalent.

1. Deactivate the Rudder Pressure Reducer System.
   - A. Position the stab trim in an airplane nose up position.
   - B. Position these switches to CUTOUT:
     1) Stabilizer trim MAIN ELECT cutout switch on the control stand.
     2) Stabilizer trim AUTOPILOT cutout switch on the control stand.
   - C. Placard the Stab Trim Control Wheels INOP - DO NOT MOVE.
   - D. Re-position the manual control lever to the HIGH position as follows.
     1) Remove the manual control lever retaining bolt.
     2) Rotate the manual control lever to the HIGH position.
     3) Re-install the manual control lever retaining bolt, including nut lockwire.
   - E. Return airplane to it's normal configuration.
2. Verify RPR valve provides high pressure output:
   - A. With hydraulic system A off and flight controls system A on, make sure:
     1) Yaw damper coupler BITE display indicates 0 to 500 psi for the RPR transducer output.
     2) Flight Control Panel (P5) LOW PRESSURE light is on.
   - B. With hydraulic system A on and flight controls system A on, make sure:
     1) Yaw damper coupler BITE display indicates 2200 to 3500 psi for the RPR transducer output.
     2) Flight Control Panel (P5) LOW PRESSURE light is off.
     3) Yaw damper coupler BITE can drive the LOW PRESSURE light (system A) on.



RUDDER PRESSURE REDUCER

OPERATIONS (O)

With the Rudder Pressure Reducer System deactivated, these minimum maneuvering speeds should be used during approach maneuvering (do not deviate from the airspeeds specified in Boeing Operations Manual Non-Normal Procedures).

Flap Position	Minimum Maneuvering Speeds (KIAS)		
	Gross Weight		
	Up to 117,000 lb (53,070 kg)	117,000 lb (53,070 kg) to 138,500 lb (62,823 kg)	Above 138,500 lb (62,823 kg)
0	220	230	240
1	200	210	220
5	190	200	210
10	170	180	190
15	150	160	170
25	140	150	160

27-20 Speed Brake Load Alleviation System
****

27-20-01 -700/-800 with Blended Winglet STC ST00830SE

27-20-01-02 -800

27-20-01-02A Airspeed Does Not Exceed 265 KIAS When The Inflight Gross Weight Exceeds 155,000 lb. (70,306 kg.)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Speedbrake handle forces are normal from full down to full up position.
b. Airspeed does not exceed 265 KIAS when inflight gross weight is in excess of 155,000 lb. (70,306 kg.).
c. Severe turbulent air penetration speed is 265 KIAS or 0.76 Mach, whichever is lower, when inflight gross weight is in excess of 155,000 lb. (70,306 kg.).
d. Automatic Speed Brake System is considered inoperative.

MAINTENANCE (M)

Deactivate the Speedbrake Load Alleviation System and the Automatic Speed Brake System is considered inoperative (AMM 27-00-00/901).

1. The Speedbrake Load Alleviation System may be inoperative due to:
   A. Mechanical failures.
   B. Electrical failures (including failure of the system actuator in the center control stand).
   C. SMYD in the #2 position generating an autostow fault.
2. In any of the above cases, open and collar the circuit breaker for speed brake AUTOSTOW on P6-2 circuit breaker panel.
3. Use DDG item 27-07 (M) procedure for an inoperative automatic speed brake system.

OPERATIONS (O)

Use DDG item 27-07 (O) procedure for an inoperative automatic speed brake system.

27-20 Speed Brake Load Alleviation System
****

27-20-01 -700/-800 with Blended Winglet STC ST00830SE

27-20-01-02 -800

27-20-01-02B Takeoff Weight Does Not Exceed 155,500 lb. (70,533 kg.)

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided:

a. Speedbrake handle forces are normal from full down to full up position.
b. Takeoff weight does not exceed 155,500 lb. (70,533 kg.).

MAINTENANCE (M)

Deactivate the Speedbrake Load Alleviation System (AMM 27-00-00/901).

1. The Speedbrake Load Alleviation System may be inoperative due to:
   A. Mechanical failures.
   B. Electrical failures (including failure of the system actuator in the center control stand).
   C. SMYD in the #2 position generating an autostow fault.
2. In any of the above cases, open and collar the circuit breaker for speed brake AUTOSTOW on P6-2 circuit breaker panel.

27-20 Speed Brake Load Alleviation System
****

27-20-02 --500 with Blended Winglet STC ST01219SE

27-20-02A Airspeed Does Not Exceed 265 KIAS When The Inflight Gross Weight Exceeds 125,000 lb. (56,699 kg.)

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided:

a. Speedbrake handle forces are normal from full down to full up position.
b. Airspeed does not exceed 265 KIAS when inflight gross weight is in excess of 125,000 lb. (56,699 kg.).
c. Severe turbulent air penetration speed is 265 KIAS or 0.73 Mach, whichever is lower, when inflight gross weight is in excess of 125,000 lb. (56,699 kg.).

MAINTENANCE (M)

1. The Speedbrake Load Alleviation System may be inoperative due to: A. Mechanical failures.
   B. Electrical failures (including failure of the system actuator in the center control stand).
   C. Speed brake autostow controller (SAC) giving an autostow fault.
2. In any of the above cases, perform the following:
   A. Open and collar circuit breaker C9028, speed brake AUTOSTOW, on the P6-2 panel.
   B. Open circuit breaker C440, AUTO SPEED BRAKE on the P6-2 panel. C. Remove airplane harness connector from the SAC and remove cover off adjacent test connector.
   D. Install airplane harness connector on adjacent test connector and install test cover on SAC connector
   E. Close circuit breaker C440, AUTO SPEED BRAKE on the P6-2 panel.

27-20 Speed Brake Load Alleviation System
****

27-20-02 --500 with Blended Winglet STC ST01219SE

27-20-02B Takeoff Weight Does Not Exceed 126,500 lb. (57,380 kg.)

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided:

a. Speedbrake handle forces are normal from full down to full up position. b. Takeoff weight does not exceed 126,500 lb. (57,380 kg.).

MAINTENANCE (M)

1. The Speedbrake Load Alleviation System may be inoperative due to: A. Mechanical failures.
   B. Electrical failures (including failure of the system actuator in the center control stand).
   C. Speed brake autostow controller (SAC) giving an autostow fault.
2. In any of the above cases, perform the following:
   A. Open and collar circuit breaker C9028, speed brake AUTOSTOW, on the P6-2 panel.
   B. Open circuit breaker C440, AUTO SPEED BRAKE on the P6-2 panel. C. Remove airplane harness connector from the SAC and remove cover off adjacent test connector.
   D. Install airplane harness connector on adjacent test connector and install test cover on SAC connector
   E. Close circuit breaker C440, AUTO SPEED BRAKE on the P6-2 panel.

27-20 Speed Brake Load Alleviation System
****

27-20-03 -900ER with Blended Winglet

27-20-03A Airspeed Does Not Exceed 265 KIAS When The Inflight Gross Weight Exceeds 170,000 lb. (77,110 kg.)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Speedbrake handle forces are normal from full down to full up position.
b. Airspeed does not exceed 265 KIAS when inflight gross weight is in excess of 170,000 lb. (77,110 kg.).
c. Severe turbulent air penetration speed is 265 KIAS or 0.76 Mach, whichever is lower, when inflight gross weight is in excess of 170,000 lb. (77,110 kg.).
d. Automatic Speed Brake System is considered inoperative.

MAINTENANCE (M)

Deactivate the Speedbrake Load Alleviation System and the Automatic Speed Brake System is considered inoperative (AMM 27-00-00/901).

1. The Speedbrake Load Alleviation System may be inoperative due to:
   A. Mechanical failures.
   B. Electrical failures (including failure of the system actuator in the center control stand).
   C. SMYD in the #2 position generating an autostow fault.
2. In any of the above cases, open and collar the circuit breaker for speed brake AUTOSTOW on P6-2 circuit breaker panel.
3. Use DDG item 27-07 (M) procedure for an inoperative automatic speed brake system.

OPERATIONS (O)

Use DDG item 27-07 (O) procedure for an inoperative automatic speed brake system.

27-20 Speed Brake Load Alleviation System
****

27-20-03 -900ER with Blended Winglet

27-20-03B Takeoff Weight Does Not Exceed 170,500 lb. (77,337 kg.)

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided:

a. Speedbrake handle forces are normal from full down to full up position.

b. Takeoff weight does not exceed 170,500 lb. (77,337 kg.).

MAINTENANCE (M)

Deactivate the Speedbrake Load Alleviation System (AMM 27-00-00/901).

1. The Speedbrake Load Alleviation System may be inoperative due to:
   A. Mechanical failures
   B. Electrical failures (including failure of the system actuator in the center control stand)
   C. SMYD in the #2 position generating an autostow fault
2. In any of the above cases, open and collar the circuit breaker for speed brake AUTOSTOW on P6-2 circuit breaker panel.

27-21 STBY RUD ON light (Boeing Service Bulletin 737-27A-1279, 737-27-1252R3, 737-27-1253R3, 737-27-1255R3, or production equivalent, incorporated)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Rudder is verified to operate normally on hydraulic system A and B independently.

b. Standby hydraulic pump is verified to operate normally.

c. Rudder force fight monitor is deactivated.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

Open and collar the FORCE FIGHT MON circuit breaker on the P6-2 panel.

For -600/-700/-800/-900:

Open and collar the FORCE FIGHT MON circuit breaker on the P6-2 panel (AMM 27-00-00/901).

For All Models:

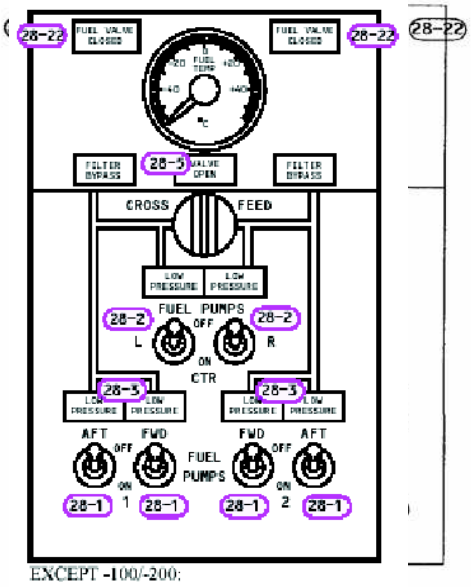
NOTE: If the STBY RUN ON light is inoperative ON, verify light extinguishes after pulling circuit breaker.

OPERATIONS (O)

1. Verify that the rudder operates normal on hydraulic system A and B:
   - A. Pressurize hydraulic systems A and B.
   - B. Set FLT CONTROL A switch ON and FLT CONTROL B switch OFF.
   - C. Verify normal rudder pedal forces by pushing captain's left rudder pedal forward (while holding tiller to prevent tire scrub) until it touches the stop and hold.
   - D. Have ground observer confirm that rudder travels left.
   - E. Release left rudder pedal and verify normal rudder pedal forces by pushing the captain's right rudder pedal forward (while holding tiller to prevent tire scrub) until it touches the stop and hold.
   - F. Have ground observer confirm that rudder travels right.
   - G. Release captain's right rudder pedal.
   - H. Have ground observer confirm that rudder returns to neutral.
   - I. Set FLT CONTROL B switch ON and FLT CONTROL A switch OFF.
   - J. Repeat steps C through H above.

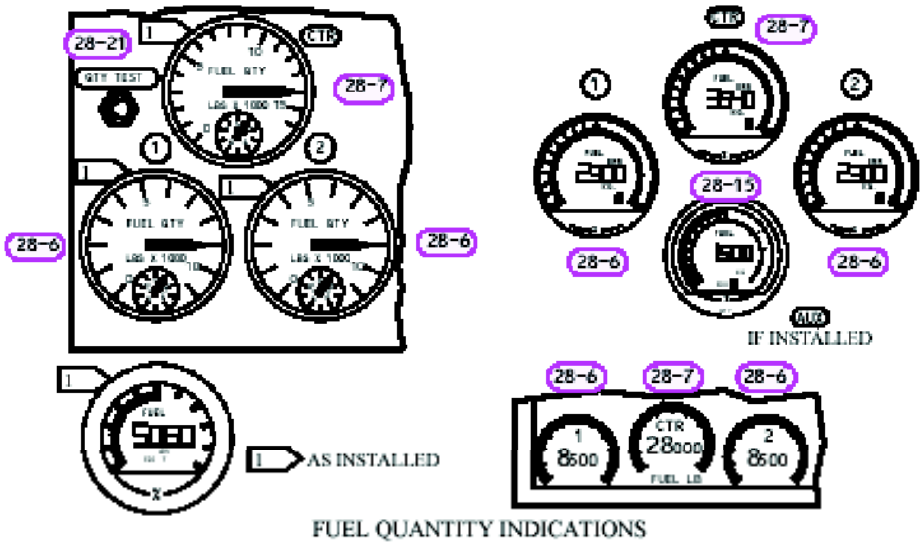
2. Verify that the standby hydraulic pump is operating normally by either:
   A. Verifying that the standby hydraulic pump can be heard turning on when either FLT CONTROL A or B switches are placed in the STBY RUD position.
      OR
   B. With one FLT CONTROL switch placed in the STBY RUD position (other FLT CONTROL switch OFF), repeat steps C through H above.
3. Return FLT CONTROL switches to normal position for flight.

FUEL CONTROL PANELS

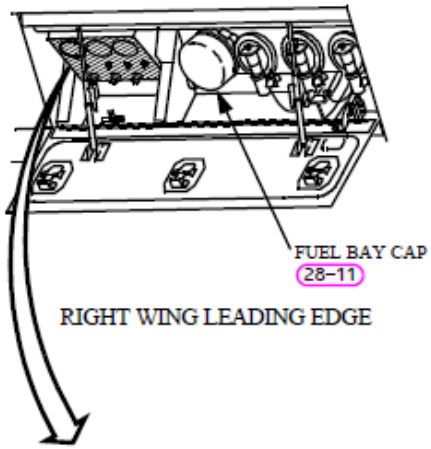


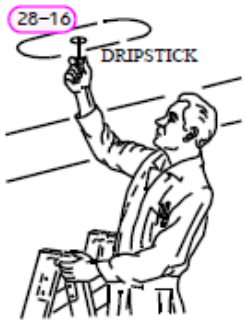
EXCEPT -100/-200:

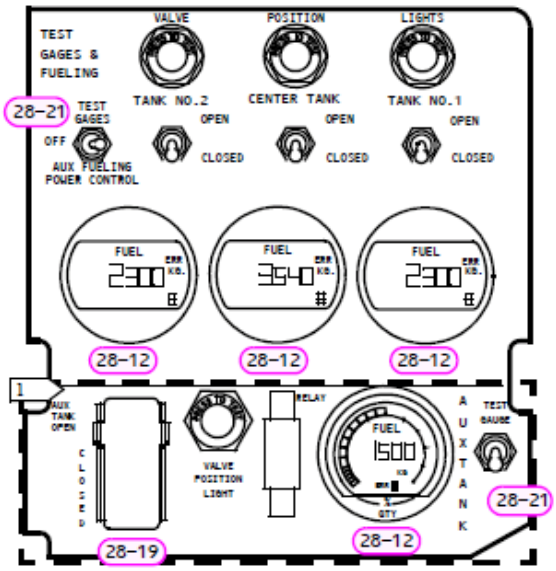
FUEL QUANTITY INDICATIONS



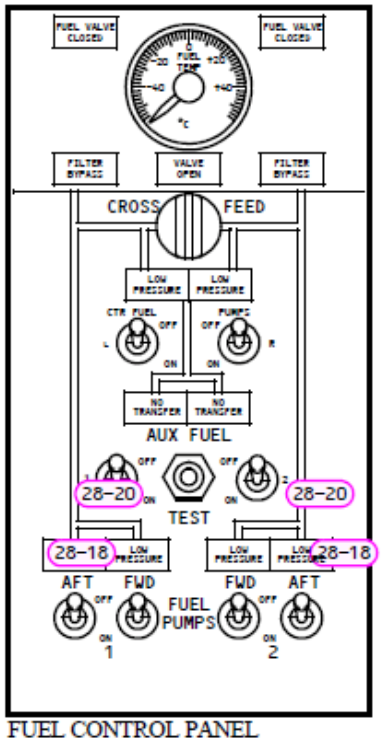
FUEL QUANTITY INDICATIONS







REFUEL PANEL
1 AUX TANK (IF INSTALLED)



FUEL CONTROL PANEL
AUX TANK (IF INSTALLED)

28-01 Fuel Boost Pumps (Main Tanks)

28-01-01 --400/-500 (All pumps except Plessey 8240 MK I & MK II)

28-01-01-01 Aft Pumps

Interval	Installed	Required	Procedure
C	2	1	**(O)**

One may be inoperative provided:

a. Both main tank forward pumps operate normally.

b. At start of takeoff, fuel quantity in associated tank is not less than 7,500 lb. (3,402 kg.).

c. A minimum fuel quantity of 2,500 lb. (1,134 kg.) is maintained in associated tank.

MAINTENANCE NOTE

1. Position the associated AFT FUEL PUMP switch to OFF.
2. Open and collar the associated aft fuel pump circuit breaker on the P6 Circuit Breaker Panel.
3. Notify dispatch, the fuel required will increase.

OPERATIONS (O)

NOTE: Observe the Flight Manual limitations concerning lateral fuel imbalance. Plan fuel load to allow for the appropriate minimum fuel. Range and/or payload restrictions may result.

1. The minimum fuel requirements with an inoperative aft fuel boost pump assures that the operative forward fuel boost pump and suction feed inlet remain submerged during rotation to high nose up attitudes during takeoff or go around.
2. In the event the second (forward) boost pump in a main tank fails, the engine will operate satisfactorily on suction feed. With both tank No. 1 boost pumps inoperative, APU operation may become unreliable at altitudes above 25,000 feet.

28-01 Fuel Boost Pumps (Main Tanks)

28-01-01 --400/-500 (All pumps except Plessey 8240 MK I & MK II pumps)

28-01-01-02 Forward Pumps

Interval	Installed	Required	Procedure
C	2	1	**(O)**

One may be inoperative provided:

a. Both main tank aft pumps operate normally.

b. At start of takeoff, fuel quantity in associated tank is not less than 4,800 lb. (2,177 kg.).

c. A minimum fuel quantity of 1,800 lb. (817 kg.) is maintained in associated tank.

MAINTENANCE NOTE

1. Position the associated FWD FUEL PUMP switch to OFF.
2. Open and collar the associated forward fuel pump circuit breaker on the P6 Circuit Breaker Panel.
3. Notify dispatch, the fuel required will increase.

OPERATIONS (O)

NOTE: Observe the Flight Manual limitations concerning lateral fuel imbalance. Plan fuel load to allow for the appropriate minimum fuel. Range and/or payload restrictions may result.

1. The minimum fuel requirements with an inoperative forward fuel boost pump assures that the operative aft fuel boost pump and suction feed inlet remain submerged during rotation to high nose up attitudes during takeoff or go around.
2. In the event the second (aft) boost pump in a main tank fails, the engine will operate satisfactorily on suction feed. With both tank No. 1 boost pumps inoperative, APU operation may become unreliable at altitudes above 25,000 feet.

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28-01 Fuel Boost Pumps (Main Tanks)

28-01-03 -600/-700/-800/-900

28-01-03-01 Aft Pumps

Interval	Installed	Required	Procedure
C	2	1	**(O)**

Except for ER operations beyond 120 minutes, one may be inoperative provided:

a. Both main tank forward pumps operate normally,

b. At start of takeoff, fuel quantity in associated tank is not less than 7,500 lb. (3,402 kg.), and

c. A minimum fuel quantity of 2,500 lb. (1,134 kg.) is maintained in associated tank.

MAINTENANCE NOTE

1. Position the associated AFT FUEL PUMP switch to OFF.
2. Open and collar the associated aft fuel pump circuit breaker on Power Distribution Panel P91 or P92.
3. Notify dispatch, the fuel required will increase.

OPERATIONS (O)

NOTE: Observe the Flight Manual limitations concerning lateral fuel imbalance. Plan fuel load to allow for the appropriate minimum fuel. Range and/or payload restrictions may result.

1. The minimum fuel requirements with an inoperative aft fuel boost pump assures that the operative forward fuel boost pump and suction feed inlet remain submerged during rotation to high nose up attitudes during takeoff or go around.

2. In the event the second (forward) boost pump in a main tank fails, the engine will operate satisfactorily on suction feed. With both tank No. 1 boost pumps inoperative, APU operation may become unreliable at altitudes above 25,000 feet

28-01 Fuel Boost Pumps (Main Tanks)

28-01-03 -600/-700/-800/-900

28-01-03-02 Forward Pumps

Interval	Installed	Required	Procedure
C	2	1	**(O)**

Except for ER operations beyond 120 minutes, one may be inoperative provided:

a. Both main tank aft pumps operate normally.

b. At start of takeoff, fuel quantity in associated tank is not less than 4,800 lb. (2,177 kg.).

c. A minimum fuel quantity of 1,800 lb. (817 kg.) is maintained in associated tank.

MAINTENANCE NOTE

1. Position the associated FWD FUEL PUMP switch to OFF.
2. Open and collar the associated forward fuel pump circuit breaker on Power Distribution Panel P91 or P92.
3. Notify dispatch, the fuel required will increase.

OPERATIONS (O)

NOTE: Observe the Flight Manual limitations concerning lateral fuel imbalance. Plan fuel load to allow for the appropriate minimum fuel. Range and/or payload restrictions may result.

1. The minimum fuel requirements with an inoperative forward fuel boost pump assures that the operative aft fuel boost pump and suction feed inlet remain submerged during rotation to high nose up attitudes during takeoff or go around.
2. In the event the second (aft) boost pump in a main tank fails, the engine will operate satisfactorily on suction feed. With both tank No. 1 boost pumps inoperative, APU operation may become unreliable at altitudes above 25,000 feet.

28-02 Fuel Boost Pumps (Center Tank)

28-02A Tank Remains Empty

Interval	Installed	Required	Procedure
C	2	1	

May be inoperative provided tank remains empty.

MAINTENANCE NOTE

1. Position the associated CTR FUEL PUMP switch to OFF.

For -100/-200/-300/-400/-500:

2. Open and collar the associated center tank fuel pump circuit breaker on the P6 Circuit Breaker Panel.

For -600/-700/-800/-900:

3. Open and collar the associated center tank fuel pump circuit breaker on the Power Distribution Panel P91 or P92.

28-02 Fuel Boost Pumps (Center Tank)

28-02B Tank Contains Fuel

Interval	Installed	Required	Procedure
C	2	1	**(O)**

May be inoperative with center tank fueled provided:

a. Fuel quantity remaining in main wing tanks is adequate to reach a suitable airport if remaining center pump fails at any time.
b. Zero fuel weight calculations are adjusted by weight of center tank fuel.
c. Effect on airplane balance, in event fuel cannot be used, is accounted for.
d. LOW PRESSURE light of operating center fuel tank pump operates normally.
e. Center tank quantity indication operates normally.

MAINTENANCE NOTE

1. Position the associated CTR FUEL PUMP switch to OFF.

For -100/-200/-300/-400/-500:

2. Open and collar the associated center tank fuel pump circuit breaker on the P6 Circuit Breaker Panel.

For -600/-700/-800/-900:

3. Open and collar the associated center tank fuel pump circuit breaker on the Power Distribution Panel P91 or P92.

For All Models:

4. Notify Dispatch. Fuel planning should have main tank fuel quantities adequate to reach an alternate destination if the remaining center tank pump fails inflight.

OPERATIONS (O)

1. Verify that the zero fuel weight and balance limitations have been accounted for.
2. Adjust the zero fuel weight of the airplane by including the weight of center tank fuel, or adjust the maximum zero fuel weight by subtracting the weight of center tank fuel.
3. Fuel usage takeoff configuration:
   A. Position the CROSSFEED selector to the closed position.
   B. Position the AFT and FWD main tank FUEL PUMP switches to ON for all operating main pumps.
4. Verify that the operating center tank FUEL PUMP switch is in the OFF position.
   For -600/-700/-800/-900:
   NOTE: Fuel CONFIG alert may be displayed with fuel in the center tank.
5. After takeoff:
   A. Position the operating center tank FUEL PUMP switch to ON.
   B. Position the CROSSFEED selector to the open position.
6. When the center tank LOW PRESSURE light illuminates:
   A. Position the operating center tank FUEL PUMP switch to OFF.
   B. Position the CROSSFEED selector the closed position.

   NOTE: Prior to the center tank LOW PRESSURE light illuminating, a fuel imbalance between the main tanks may be indicated as a result of differences in fuel pump output pressures when operating with the crossfeed valve open.

28-02 Fuel Boost Pumps (Center Tank)

28-02C Both Pumps Inoperative

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided:

a. Center tank quantity indication operates normally.

b. Center tank remains empty or zero fuel weight calculations are adjusted by weight of center tank fuel.

NOTE: AFM limitations for fuel loading must be observed.

MAINTENANCE NOTE

1. Position the associated CTR FUEL PUMP switch to OFF.

For -100/-200/-300/-400/-500:

2. Open and collar the associated center tank fuel pump circuit breaker on the P6 Circuit Breaker Panel.

For -600/-700/-800/-900:

3. Open and collar the associated center tank fuel pump circuit breaker on the Power Distribution Panel P91 or P92.

28-02 Fuel Boost Pumps (Center Tank)

28-02-01 Universal Fault Interrupter (UFI) (STC ST01844LA, -300, ST02076LA, -600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided associated center tank boost pump is considered inoperative.

28-03 Fuel Boost Pump Low Pressure Warning Light Systems

28-03-01 Main Tank Pump Low Pressure Warning Light Systems

Interval	Installed	Required	Procedure
C	4	3	**(M) (O)**

May be inoperative provided:

a. Associated fuel pump is not used.

b. MASTER CAUTION lights and FUEL system annunciator light are verified to operate normally.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

Verify the MASTER CAUTION lights and FUEL system annunciator light operate normally in affected main tank.

1. Reset the MASTER CAUTION lights by pressing either Master Caution light module.
2. Set fuel boost pump switches in affected fuel tank to OFF.
3. Confirm MASTER CAUTION lights and FUEL system annunciator panel light illuminate.

For -600/-700/-800/-900:

Verify the MASTER CAUTION lights and FUEL system annunciator light operate normally in affected main tank (AMM 28-00-00/901).

1. Reset the MASTER CAUTION lights by pressing either Master Caution light module.
2. Set fuel boost pump switches in affected fuel tank to OFF.
3. Confirm MASTER CAUTION lights and FUEL system annunciator panel light illuminate.
4. If MASTER CAUTION lights and FUEL system annunciator panel light illuminate, no further maintenance steps required.
5. If MASTER CAUTION lights and FUEL system annunciator panel light do not illuminate, proceed to step 6.
6. Install a jumper plug to associated boost pump low pressure switch connector.
   A. Remove connector from associated boost pump low pressure switch and install 4M Sigma Corporation jumper plug 4MS-737NG-1 or equivalent.
   B. Secure jumper plug and associated wiring.
   C. Cover exposed main tank low pressure switch connector with protective cover M83723/60-2-10AN.

D. Reset the MASTER CAUTION lights by pressing either Master Caution light module.

E. Set the main tank fuel boost pump switch to ON (boost pump without the jumper plug on the low pressure switch in affected tank) and verify the LOW PRESSURE light extinguishes.

F. Set the main tank fuel boost pump switch to OFF (boost pump without the jumper plug on the low pressure switch in affected tank) and verify the LOW PRESSURE light illuminates. Verify MASTER CAUTION lights and FUEL system annunciator panel light illuminate.

OPERATIONS (O)

Observe MMEL item 28-1 REMARKS OR EXCEPTIONS requirements and the Operational requirements when dispatching with a fuel boost pump low pressure warning system inoperative and the associated fuel pump is not used.

28-03 Fuel Boost Pump Low Pressure Warning Light Systems

28-03-01 Main Tank Pump Low Pressure Warning Light Systems

28-03-01-01 Main Tank Pump Lights

28-03-01-01A Both Pumps Operate Normally

Interval	Installed	Required	Procedure
C	4	3	

May be inoperative provided:

a. Both pumps in associated tank operate normally.

b. Associated tank quantity indicator operates normally.

28-03 Fuel Boost Pump Low Pressure Warning Light Systems

28-03-01 Main Tank Pump Low Pressure Warning Light Systems

28-03-01-01 Main Tank Pump Lights

28-03-01-01B Pump Inoperative

Interval	Installed	Required	Procedure
C	4	3	

May be inoperative for an associated inoperative pump.

28-03 Fuel Boost Pump low Pressure Warning Light Systems

28-03-02 Center Tank Pump Low Pressure Warning Light Systems

28-03-02A Center Tank Fuel Usable

Interval	Installed	Required	Procedure
C	2	1	**(M) (O)**

May be inoperative provided:

a. Associated fuel pump is not used.

b. MASTER CAUTION lights and FUEL system annunciator light are verified to operate normally.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

Verify the MASTER CAUTION lights and FUEL system annunciator light operate normally.

1. Airplanes without Boeing Service Bulletin 737-28A1228, 737-28A1216 or equivalent installed:
   A. Set the two CTR FUEL PUMPS switches to OFF.
   B. Open and collar the associated circuit breakers for both center pumps on the P6 Panel.
   C. Reset MASTER CAUTION lights by pressing either MASTER CAUTION light module.
   D. Set the two CTR FUEL PUMPS switches to ON.
   E. Confirm MASTER CAUTION lights and FUEL system annunciator panel light illuminate.
   F. Set the two CTR FUEL PUMPS switches to OFF.
   G. Close the associated circuit breakers for both center pumps on the P6 Panel.
   H. Reset MASTER CAUTION lights by pressing either MASTER CAUTION light module.
2. Airplanes with Boeing Service Bulletin 737-28A1228, 737-28A-1216 or equivalent installed:
   A. Set the two CTR FUEL PUMPS switches to OFF.
   B. Open and collar the associated center tank fuel boost pump circuit breaker for the center tank pump on the P6 Panel.
   C. Reset MASTER CAUTION lights by pressing either MASTER CAUTION light module.
   D. Set the associated center tank fuel boost pump switch to ON.

E. Confirm MASTER CAUTION lights and FUEL system annunciator panel light illuminate after approximately 10 seconds.

F. Set the associated center tank fuel boost pump switch to OFF.

G. Close the associated circuit breaker on the P6 Panel.

H. Reset MASTER CAUTION lights by pressing either MASTER CAUTION light module.

For -600/-700/-800/-900:

Verify the MASTER CAUTION lights and FUEL system annunciator light operate normally (AMM 28-00/901).

1. Airplanes without Boeing Service Bulletin 737-28A1206 or equivalent installed:

   A. Set the two CTR FUEL PUMPS switches to OFF.

   B. Open and collar the associated circuit breakers for both center pumps on Power Distribution Panel P91 and P92.

   C. Reset MASTER CAUTION lights by pressing either MASTER CAUTION light module.

   D. Set the two CTR FUEL PUMPS switches to ON.

   E. Confirm MASTER CAUTION lights and FUEL system annunciator panel light illuminate.

   F. Set the two CTR FUEL PUMPS switches to OFF.

   G. Close the associated circuit breakers for both center pumps on Power Distribution Panel P91 and P92.

   H. Reset MASTER CAUTION lights by pressing either MASTER CAUTION light module.

   I. If MASTER CAUTION lights and FUEL system annunciator panel light illuminate in step 1.E, no further maintenance steps are required.

   J. If MASTER CAUTION lights and FUEL system annunciator panel light do not illuminate in step 1.E, proceed to step 1.K.

   K. Install a jumper plug to associated boost pump low pressure switch connector.

      1) Remove connector from associated boost pump low pressure switch and install 4M Sigma Corporation jumper plug 4MS-737NG-1 or equivalent.

      2) Secure jumper plug and associated wiring.

      3) Cover exposed main tank low pressure switch connector with protective cover M83723/60-2-10AN.

      4) Reset the MASTER CAUTION lights by pressing either Master Caution light module.

      5) Set the center tank fuel boost pump switch to ON (boost pump without the jumper plug on the low pressure switch) and verify the LOW PRESSURE light extinguishes.

      6) Set the center tank fuel boost pump switch to OFF (boost pump without the jumper plug on the low pressure switch).

7) On Power Distribution Panel P91 or P92, open and collar the center tank fuel boost pump circuit breaker for the center tank fuel pump without the jumper plug on the low pressure switch. Set the center tank fuel boost pump switch to ON (boost pump without the jumper plug on the low pressure switch). Verify MASTER CAUTION lights and FUEL system annunciator panel light illuminate.

8) Set the center tank fuel boost pump switch to OFF (boost pump without the jumper plug on the low pressure switch).

9) Close the associated circuit breaker on Power Distribution Panel P91 or P92.

2. Airplanes with Boeing Service Bulletin 737-28A1206 or equivalent installed:

A. Set the two CTR FUEL PUMPS switches to OFF.

B. Open and collar the associated center tank fuel boost pump circuit breaker for the center tank pump on Power Distribution Panel P91 or P92.

C. Reset MASTER CAUTION lights by pressing either MASTER CAUTION light module.

D. Set the associated center tank fuel boost pump switch to ON.

E. Confirm MASTER CAUTION lights and FUEL system annunciator panel light illuminate after approximately 10 seconds.

F. Set the associated center tank fuel boost pump switch to OFF.

G. Close the associated circuit breaker on Power Distribution Panel P91 and P92.

H. Reset MASTER CAUTION lights by pressing either MASTER CAUTION light module.

OPERATIONS (O)

Observe MMEL item 28-2 REMARKS OR EXCEPTIONS requirements and the Operational requirements when dispatching with a fuel boost pump low pressure warning system inoperative and the associated fuel pump is not used.

28-03 Fuel Boost Pump Low pressure Warning Light Systems

28-03-02 Center Tank Pump Low Pressure Warning Light Systems

28-03-02B Center Tank Fuel Not Required For Flight

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided:

a. Center tank fuel is not required for flight.
b. Center tank fuel boost pumps are turned off.
c. Center tank remains empty or zero fuel weight calculations are adjusted by weight of center tank fuel.

28-03 Fuel Boost Pump Low Pressure Warning Light Systems

28-03-02 Center Tank Pump Low Pressure Warning Light Systems

28-03-02-01 Center Tank Pump Lights

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative provided:

a. Center tank fuel quantity indicator operates normally.
b. MASTER CAUTION lights and FUEL system annunciator light are verified to operate normally.

MAINTENANCE (M)

When dispatching with one or both center tank fuel pump LOW PRESSURE lights inoperative and center tank fuel is to be used, the MASTER CAUTION lights and FUEL system annunciator panel light must illuminate when center tank fuel is depleted.

For -100/-200/-300/-400/-500:

Verify the MASTER CAUTION lights and FUEL system annunciator light operate normally.

1. Airplanes without Boeing Service Bulletin 737-28A1228, 737-28A-1216 or equivalent installed:
   A. Set the two CTR FUEL PUMPS switches to OFF.
   B. Open and collar the associated circuit breakers for both center pumps on the P6 Panel.
   C. Reset MASTER CAUTION lights by pressing either MASTER CAUTION light module.

D. Set the two CTR FUEL PUMPS switches to ON.
E. Confirm MASTER CAUTION lights and FUEL system annunciator panel light illuminate.
F. Set the two CTR FUEL PUMPS switches to OFF.
G. Close the associated circuit breakers for both center pumps on the P6 Panel.
H. Reset MASTER CAUTION lights by pressing either MASTER CAUTION light module.

2. Airplanes with Boeing Service Bulletin 737-28A1228, 737-28A1216 or equivalent installed:
   A. Set the two CTR FUEL PUMPS switches to OFF.
   B. Open and collar the associated center tank fuel boost pump circuit breaker for the center tank pump on the P6 Panel.
   C. Reset MASTER CAUTION lights by pressing either MASTER CAUTION light module.
   D. Set the associated center tank fuel boost pump switch to ON.
   E. Confirm MASTER CAUTION lights and FUEL system annunciator panel light illuminate after approximately 10 seconds.
   F. Set the associated center tank fuel boost pump switch to OFF.
   G. Close the associated circuit breaker on the P6 Panel.
   H. Reset MASTER CAUTION lights by pressing either MASTER CAUTION light module.

For -600/-700/-800/-900:
Verify the MASTER CAUTION lights and FUEL system annunciator light operate normally (AMM 28-00/901).

1. Airplanes without Boeing Service Bulletin 737-28A1206 or equivalent installed:
   A. Set the two CTR FUEL PUMPS switches to OFF.
   B. Open and collar the associated circuit breakers for both center pumps on Power Distribution Panel P91 and P92.
   C. Reset MASTER CAUTION lights by pressing either MASTER CAUTION light module.
   D. Set the two CTR FUEL PUMPS switches to ON.
   E. Confirm that MASTER CAUTION lights and FUEL system annunciator panel light illuminate.
   F. Set the two CTR FUEL PUMPS switches to OFF.
   G. Close the associated circuit breakers for both center pumps on Power Distribution Panel P91 and P92.
   H. Reset MASTER CAUTION lights by pressing either MASTER CAUTION light module.
2. Airplanes with Boeing Service Bulletin 737-28A1206 or equivalent installed:

A. Set the two CTR FUEL PUMPS switches to OFF.

B. Open and collar the associated center tank fuel boost pump circuit breaker for the center tank pump on Power Distribution Panel P91 or P92.

C. Reset MASTER CAUTION lights by pressing either MASTER CAUTION light module.

D. Set the associated center tank fuel boost pump switch to ON.

E. Confirm MASTER CAUTION lights and FUEL system annunciator panel light illuminate after approximately 10 seconds.

F. Set the associated center tank fuel boost pump switch to OFF.

G. Close the associated circuit breaker on Power Distribution Panel P91 and P92.

H. Reset MASTER CAUTION lights by pressing either MASTER CAUTION light module.

OPERATIONS (O)

When dispatching with one or both center tank fuel pump LOW PRESSURE lights inoperative and center tank fuel is to be used, position the two CTR FUEL PUMPS switches to OFF when both the MASTER CAUTION lights and the FUEL system annunciator panel light illuminate as a result of center tank fuel depletion.

28-04 APU Fuel Valve

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

Except for ER operations, may be inoperative provided:

a. APU is not used.

b. Valve is deactivated closed.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

Deactivate the APU fuel shutoff valve:

1. Open and collar these circuit breakers:
   A. On the P6 panel, APU CONT
   B. EE Bay, on the M280, APU CONTROL UNIT
2. Locate valve on the left wing rear spar in the wheel well.
3. Remove, cap and stow the electrical connector.
4. If necessary, use the manual override handle to close valve.
5. Lockwire manual override handle in closed position.

For -600/-700/-800/-900:

Deactivate the APU fuel shutoff valve (AMM 28-00-00/901):

1. Open and collar these circuit breakers on the P6 panel:
   A. AUX POWER UNIT CONT
   B. APU FIRE SW POWER.
2. Locate valve on the left wing rear spar in the wheel well.
3. Remove, cap and stow the electrical connector.
4. If necessary, use the manual override handle to close valve.
5. Lockwire manual override handle in closed position.

OPERATIONS (O)

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

28-05 Crossfeed VALVE OPEN Light

Interval	Installed	Required	Procedure
C	1	0	**(M)**

Except for ER operations, may be inoperative provided:

a. Crossfeed valve is verified to operate normally.

b. Fuel quantity indication for both main tanks operates normally.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

Do the Fuel Crossfeed Valve Test (AMM 28-22-00, Engine Fuel Feed System - Adjustment/Test). Disregard the test steps that check the illumination of the Crossfeed VALVE OPEN light.

For -600/-700/-800/-900:

Do the Crossfeed Valve Open Light Deactivation Procedure (AMM 28-00-00/901).

28-06 Flight Deck Fuel Quantity Indicators (Main Tanks)

Interval	Installed	Required	Procedure
C	2	1	**(M) (O)**

Except for ER operations, one may be inoperative provided:

a. All boost pumps in associated tank operate normally. b. Fuel flow meters operate normally.

c. Center tank indicator operates normally.

d. Flight crew periodically computes fuel remaining, or checks fuel remaining against a pre-computed fuel burn chart.

e. Fuel quantity in associated main tank is verified by an acceptable procedure.

NOTE 1: Inoperative fuel quantity main tanks indications can affect refueling control panel quantity indications. See MMEL item 28-12.

For -200/-300/-400/-500:

NOTE 2: With PDCS or FMCS installed, the fuel quantity indicators send signals to a Fuel Summation Unit (FSU) to calculate total fuel. Total fuel information then goes to the PDC or FMC to determine the airplane gross weight. To prevent the possibility that the PDC or FMC uses erroneous fuel quantity information to calculate gross weight, the FSU should be deactivated. With FMC software Update 7.5, 8.5 or 10.x, flight crews can manually enter current fuel on board via the FMC PERF INIT page to calculate reference speeds or fuel remaining at destination. Periodic manual updating is required for information to remain valid.

For -600/-700/-800/-900:

NOTE 3: The FQIS will send a “no valid data” signal to the FMC if it detects a fuel quantity system error. There is no need to deactivate the FQIS input to the FMC. Flight crews can manually enter current fuel on board via the FMC PERF INIT page to calculate reference speeds or fuel remaining at destination. Periodic manual updating is required for information to remain valid.

NOTE 4: The fuel LOW alert and fuel IMBAL alert may not be displayed when appropriate.

MAINTENANCE (M)

For -200/-300/-400/-500:

NOTE: The Digital Sunburst Fuel Quantity Indicators are considered to operate normally with ERR Codes 1, 3, 5, and 7 displayed on the Simmonds indicators or ERR Codes 1, 3, and 6 displayed on Smiths indicators. The fuel quantity readings are within the certified limits.

1. FUEL SUMMATION UNIT DEACTIVATION:

   A. Open the QTY and EP GND FUELING circuit breakers on the P6 panel.

   B. Gain access to the rear of the FSU on the P23 panel by loosening the four mounting screws.

C. Disconnect, cap and stow the FSU electrical connector D2472 or D3224.

D. Close the QTY and EP GND FUELING circuit breakers on the P6 panel.

2. Do the fuel servicing procedures when the fuel quantity indicating system does not operate (AMM 12-11-04/301).

For -600/-700/-800/-900:

Do the fuel servicing procedures when the fuel quantity indicating system does not operate (AMM 12-11-00).

OPERATIONS (O)

1. The MMEL requirement to keep track of the fuel burn is intended to ensure that the pilot will notice an abnormal fuel feed situation and correct the resulting lateral fuel imbalance.

   The following are examples of methods that accomplish this requirement and are valid with crossfeed valve closed or open.

   Keep the CROSSFEED selector in CLOSED position, unless directed otherwise.

2. The objective of the following procedures is to assure that the fuel being consumed is coming from the intended tank. A verification of the fuel source can be made by comparing the fuel quantity change in 6 minutes to1/10 of the fuel flow on the engine or engines feeding from that tank.

   For example, when using center tank fuel, if the rate of quantity decrease in the center tank is one half of the sum of the fuel flow for the engines, one engine is feeding from a wing tank.

   METHOD I - FOR AIRPLANES WITH FUEL USED INDICATORS:

	Example	Actual
a) Initial Fuel Load	28,000	
b) Fuel Remaining in Tanks (total)	7,000	
Tank 1	7,000	
Center	0	
Tank 2	INOP	
c) Fuel Used by Engines: (total)	13,300	
Engine #1	6,600	
Engine #2	6,700	
d) Fuel used by APU (refer to Operations Manual)		
2 hrs. @ 150 lbs/hr	300	
e) Total fuel used (c plus d)	13,600	
f) Total Fuel Accounted for (b plus e)	20,600	
g) Fuel remaining (a - f)	7,400	

METHOD II - AIRPLANES WITHOUT FUEL USED INDICATORS:
Compare the precomputed fuel remaining against the actual fuel remaining. If the differences are unaccounted for and exceed 1000 pounds,
perform the appropriate procedures to re-establish the proper fuel distribution.

Initial Fuel Load 22,000

CHECKPOINTS	CENTER (planned)	WINGS (planned)	CENTER (actual)	WINGS (actual)
TAKEOFF	3200	9400		
TOP OF CLIMB	0	9000		
POINT A	0	7900		
POINT B	0	6800		
POINT C	0	5700		
POINT D	0	4600		
BEGIN DESCENT	0	3500		
BEGIN APPROACH	0	3100		

Computation of fuel remaining can stop at top of descent if it is obvious that one has adequate fuel remaining. If weather, ATC or other problems cause concern, continue taking fuel flow and time readings at appropriate intervals.

For -200/-300/-400/-500:

3. With the Fuel Summation Unit deactivated, the PDC or FMC will not display information that uses the airplane gross weight.

For -300/-400/-500:

4. Without FMC Software update 7.5, 8.5 or 10.x installed, VNAV mode is not available. The EFIS speed tape (if installed) does not display information that uses the FMC gross weight.
5. With FMC Software update 7.5, 8.5 or 10.x installed, if VNAV capability is desired, enter and periodically update current fuel on board into the FMC.

For -600/-700/-800/-900:

6. If VNAV capability is desired, enter and periodically update current fuel on board into the FMC.

28-07 Flight Deck Fuel Quantity Indicator (Center Tank)
28-07-01 -600/-700/-800/-900

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided:

a. One center tank boost pump operates normally. b. Center tank remains empty.

NOTE 1: Inoperative flight deck fuel quantity indications can affect refueling control panel quantity indications (see MMEL item 28-12).

For -600/-700/-800/-900:

NOTE 2: The FQIS will send a “no valid data” signal to the FMC if it detects a fuel quantity system error. There is no need to deactivate the FQIS input to the FMC. Flight crews can manually enter current fuel on board via the FMC PERF INIT page to calculate reference speeds or fuel remaining at destination. Periodic manual updating is required for information to remain valid.

NOTE 3: The fuel CONFIG alert may not be displayed when appropriate.

OPERATIONS NOTE

For -600/-700/-800/-900:

If VNAV capability is desired, enter and periodically update current fuel on board into the FMC.

28-07 Flight Deck Fuel Quantity Indicator (Center Tank)

28-07-02 --400/-500

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided:

a. One center tank boost pump operates normally.

b. Center tank remains empty.

NOTE 1: Inoperative flight deck fuel quantity indications can affect refueling control panel quantity indications (see MMEL item 28-12).

NOTE 2: With Performance Data Computer (PDC) or Flight Management Computer (FMC), the fuel quantity indicators send signals to a Fuel Summation Unit (FSU) to calculate total fuel. Total fuel information then goes to the PDC or FMC to determine the airplane gross weight. To prevent the possibility that the PDC or FMC uses erroneous fuel quantity information to calculate gross weight, the FSU should be deactivated. With FMC software Update 7.5, 8.5 or 10.x, flight crews can manually enter current fuel on board via the FMC PERF INIT page to calculate reference speeds or fuel remaining at destination. Periodic manual updating is required for information to remain valid.

MAINTENANCE (M)

NOTE: The Digital Sunburst Fuel Quantity Indicators are considered to operate normally with ERR Codes 1, 3, 5, and 7 displayed on the Simmonds indicators or ERR Codes 1, 3, and 6 displayed on Smiths indicators. The fuel quantity readings are within the certified limits.

1. Deactivate the Fuel Summation Unit:

   A. For (airplanes prior to Line No. 1961) OR (airplanes prior to Line No. 1980 WITH auxiliary tanks):

      For -300/-400/-500:

      NOTE: If Boeing Service Bulletin 737-28-1087 is incorporated, step B. below can be used instead.

      For -200/-300/-400/-500:

      1) Open the QTY and EP GND FUELING circuit breakers on the P6 panel.

      2) Gain access to the rear of the FSU on the P23 panel by loosening the four mounting screws.

      3) Disconnect, cap and stow the FSU electrical connector D2472 or D3224.

      4) Close the QTY and EP GND FUELING circuit breakers on the P6 panel.

For -300/-400/-500:

B. (WITH Boeing Service Bulletin 737-28-1087 incorporated) OR (airplanes Line No.1961 & up) OR (airplanes Line No. 1980 & up WITH auxiliary tanks) with (PDC or FMC installed):

Open and collar P6 Panel circuit breaker FUEL QTY IND CTR.

OPERATIONS NOTE

When the Fuel Summation Unit is deactivated, the PDC or FMC will not display information that uses the airplane gross weight.

For -300/-400/-500:

Without FMC Software update 7.5, 8.5 or 10.x installed, VNAV mode is not available. The EFIS speed tape (if installed) does not display information that uses the FMC gross weight.

With FMC Software update 7.5, 8.5 or 10.x installed, if VNAV capability is desired, enter and periodically update current fuel on board into the FMC.

28-07 Flight Deck Fuel Quantity Indicator (Center Tank)

28-07-03 -100/-200/-300/-400/-500

Interval	Installed	Required	Procedure
C	1	0	**(M)**

Except for ER operations, may be inoperative provided:

a. Both center tank boost pumps operate normally.

b. Fuel quantity in center tank is verified by an acceptable procedure.

NOTE 1: Inoperative flight deck fuel quantity indications can affect refueling control panel quantity indications (see MMEL item 28-12).

For -200/-300/-400/-500:

NOTE 2: With Performance Data Computer (PDC) or Flight Management Computer (FMC), the fuel quantity indicators send signals to a Fuel Summation Unit (FSU) to calculate total fuel. Total fuel information then goes to the PDC or FMC to determine the airplane gross weight. To prevent the possibility that the PDC or FMC uses erroneous fuel quantity information to calculate gross weight, the FSU should be deactivated. With FMC software Update 7.5, 8.5 or 10.x, flight crews can manually enter current fuel on board via the FMC PERF INIT page to calculate reference speeds or fuel remaining at destination. Periodic manual updating is required for information to remain valid.

MAINTENANCE (M)

For -300/-400/-500:

NOTE: The Digital Sunburst Fuel Quantity Indicators are considered to operate normally with ERR Codes 1, 3, 5, and 7 displayed on the Simmonds indicators or ERR Codes 1, 3, and 6 displayed on Smiths indicators. The fuel quantity readings are within the certified limits.

1. Deactivate the Fuel Summation Unit
   A. For (airplanes prior to Line No. 1961) OR (airplanes prior to Line No. 1980 WITH auxiliary tanks):
      NOTE: If Boeing Service Bulletin 737-28-1087 is incorporated, step B. below can be used instead.
      1) Open the QTY and EP GND FUELING circuit breakers on the P6 panel.
      2) Gain access to the rear of the FSU on the P23 panel by loosening the four mounting screws.
      3) Disconnect, cap and stow the FSU electrical connector D2472 or D3224.
      4) Close the QTY and EP GND FUELING circuit breakers on the P6 panel.
   B. (WITH Boeing Service Bulletin 737-28-1087 incorporated) OR (airplanes Line No.1961 & up) OR (airplanes Line No. 1980 & up WITH auxiliary tanks) with (PDC or FMC installed):
      Open and collar P6 Panel circuit breaker FUEL QTY IND CTR.
2. Verify the fuel quantity of the center tank (AMM 12-11-04/301).

OPERATIONS NOTE

If desired, fuel remaining in the center tank can be determined using the fuel used indicators method or the operative tank indicators. Refer to DDG item 28-06
Operations procedure.

When the Fuel Summation Unit is deactivated, the PDC or FMC will not display information that uses the airplane gross weight.

For -300/-400/-500:
Without FMC Software update 7.5, 8.5 or 10.x installed, VNAV mode is not available. The EFIS speed tape (if installed) does not display information that uses the FMC gross weight.

With FMC Software update 7.5, 8.5 or 10.x installed, if VNAV capability is desired, enter and periodically update current fuel on board into the FMC.

28-07 Flight Deck Fuel Quantity Indicator (Center Tank)

28-07-04 -600/-700/-800/-900 with Boeing Service Bulletin 737-28A1206 or production equivalent installed

Interval	Installed	Required	Procedure
C	1	0	**(M)**

Except for ER operations, may be inoperative provided:

a. Both center tank boost pumps operate normally.

b. Fuel quantity in center tank is verified by an acceptable procedure.

NOTE 1: Inoperative flight deck fuel quantity indications can affect refueling control panel quantity indications (see MMEL item 28-12).

NOTE 2: FQIS will send a “no valid data” signal to the FMC if it detects a fuel quantity system error. There is no need to deactivate the FQIS input to the FMC. Flight crews can manually enter current fuel on board via the FMC PERF INIT page to calculate reference speeds or fuel remaining at destination. Periodic manual updating is required for information to remain valid.

NOTE 3: Fuel CONFIG alert may not be displayed when appropriate.

MAINTENANCE (M)

Verify the fuel quantity of the center tank (AMM 12-11-00).

OPERATIONS NOTE

If desired, fuel remaining in the center tank can be determined using the fuel used indicators method or the operative tank indicators. Refer to DDG item 28-06 Operations procedure.

If VNAV capability is desired, enter and periodically update current fuel on board into the FMC.

28-08 Fuel Temperature Indicator

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided Total Air Temperature or Ram Air Temperature is substituted as an indication of fuel temperature.

28-09 Fuel Quantity Totalizer

***

Interval	Installed	Required	Procedure
C	1	0	

For -200/-300/-400/-500:

NOTE 1: With Performance Data Computer (PDC) or Flight Management Computer (FMC), the fuel quantity indicators send signals to a Fuel Summation Unit (FSU) to calculate total fuel. Total fuel information then goes to the PDC or FMC to determine the airplane gross weight. To prevent the possibility that the PDC or FMC uses erroneous fuel quantity information to calculate gross weight, the FSU should be deactivated. With FMC software Update 7.5, 8.5 or 10.x, flight crews can manually enter current fuel on board via the FMC PERF INIT page to calculate reference speeds or fuel remaining at destination. Periodic manual updating is required for information to remain valid.

For -600/-700/-800/-900:

NOTE 2: The FMC CDU will display a VERIFY GW AND FUEL message if the FMC receives no data or receives a “no valid data” signal from the Fuel Quantity Processor Unit (FQPU). There is no need to deactivate the FQIS input to the FMC. Flight crews can manually enter current fuel on board via the FMC PERF INIT page to calculate reference speeds or fuel remaining at destination. Periodic manual updating is required for information to remain valid.

OPERATIONS NOTE

For -200/-300/-400/-500:

1. With the Fuel Summation Unit deactivated, the PDC or FMC will not display information that uses the airplane gross weight.

For -300/-400/-500:

2. Without FMC Software update 7.5, 8.5 or 10.x installed, VNAV mode is not available. The EFIS speed tape (if installed) does not display information that uses the FMC gross weight.
3. With FMC Software update 7.5, 8.5 or 10.x installed, if VNAV capability is desired, enter and periodically update current fuel on board into the FMC.

For -600/-700/-800/-900:

4. If VNAV capability is desired, enter and periodically update current fuel on board into the FMC.

28-10 Pressure Fueling System

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided alternate procedures are established and used.

MAINTENANCE (M)

Individual components of the system which operate normally can be used to develop refueling procedure (AMM 12-11-00/301).

For -100/-200/-300/-400/-500:

Overwing fueling procedure can be used.

28-10 Pressure Fueling System

28-10-01 Fueling Manifold Check Valves

Interval	Installed	Required	Procedure
C	-	0	**(M)**

May be inoperative provided associated Fueling Shutoff Valve is verified to operate normally.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

Verify fueling shutoff valve(s) operates normally:

For -600/-700/-800/-900:

Verify fueling shutoff valve(s) operates normally (AMM 28-00-00/901):

For All Models:

1. During refueling, observe that the valve position light illuminates/extinguishes normally when opening/closing the associated fueling shutoff valve.
2. After refueling nozzle is disconnected, visually check for fuel leakage.

28-10 Pressure Fueling System

28-10-02 Fueling Shutoff Valves

Interval	Installed	Required	Procedure
C	-	0	**(M)**

May be inoperative closed provided:

a. Associated Fueling Manifold Check Valve operates normally.

b. Alternate procedures are established and used.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Do these steps:
For -600/-700/-800/-900:
Do these steps (AMM 28-00-00/901):
For All Models:

1. Verify that fuel load for the associated tank does not exceed the tank capacity.
2. Manually open fuel shutoff valve(s).

CAUTION: OVERFILL PROTECTION IS INOPERATIVE. THE PRESSURE FUELING SYSTEM WILL NOT STOP THE REFUEL OPERATION AT A SET FUEL QUANTITY. STOP THE FUELING SOURCE AT THE DESIRED QUANTITY FOR THE ASSOCIATED TANK.

3. Refuel the associated tank, stopping the fueling source at the desired fuel quantity.
4. Manually close the fuel shutoff valve(s).

28-10 Pressure Fueling System

28-10-03 Refuel Panel Fueling Power Control Switch

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative off provided refuel panel indicator test switch operates normally in AUX FUELING POWER CONTROL position or FUEL DOOR SWITCH BYPASS position, as applicable.

28-11 Fueling Bay Fuel Cap
***

Interval	Installed	Required	Procedure
D	1	0	

28-12 Refueling Control Panel Quantity Indicators

Interval	Installed	Required	Procedure
C	-	0	**(M)**

May be inoperative provided fuel quantity is verified by an acceptable procedure.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Verify fuel quantity:

For -600/-700/-800/-900:
Verify fuel quantity (AMM 28-00-00/901):

For All Models:

Refuel using fuel quantity indicators on the pilots center instrument panel (if operable) or AMM 12-11-00 procedures, Fuel Servicing - Refuel Operation When the Fuel Quantity Indicating System Does Not Operate.

28-16 Fuel Measuring Sticks/Dripsticks

Interval	Installed	Required	Procedure
C	-	0	**(M)**

May be inoperative or broken/missing provided fuel quantity is determined by other acceptable means.

MAINTENANCE (M)

If fuel leakage is detected, verify that the leakage does not exceed acceptable limits (AMM 28-11-00).

28-17 Fuel Scavenge System
****

28-17A Valve Closed

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative with fuel scavenge shutoff valve closed

28-17 Fuel Scavenge System
****

28-17B Valve Open

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative with fuel scavenge shutoff valve open provided No. 1 main fuel tank forward boost pump remains off.

OPERATIONS (O)

1. Make sure the No.1 main tank FWD FUEL PUMPS switch remains in the OFF position.
2. Observe the REMARKS OR EXCEPTIONS of MMEL item 28-01.

28-17 Fuel Scavenge System
****

28-17C Tank Empty

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative with fuel scavenge shutoff valve open provided center tank remains empty.

28-21 Fuel Quantity Test Switches
28-21-01 Digital System

Interval	Installed	Required	Procedure
C	-	0	

28-22 FUEL/SPAR VALVE CLOSED Lights
28-22-01 FUEL VALVE CLOSED Lights (-400/-500)

Interval	Installed	Required	Procedure
C	2	0	**(M)**

May be inoperative provided:

a. Associated valve is verified to operate normally.
b. Crossfeed VALVE OPEN light operates normally.

MAINTENANCE (M)

Verify that the affected valve operates normally per Engine Fuel Shutoff Valve Test (AMM 28-22-00, Engine Fuel Feed System - Adjustment/Test).

NOTE: Disregard the test steps that check the illumination of the associated FUEL VALVE CLOSED light.

28-22 FUEL/SPAR VALVE CLOSED Lights
28-22-02 SPAR VALVE CLOSED Lights (-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	2	0	**(M)**

May be inoperative provided:

a. Associated valve is verified to operate normally.
b. Crossfeed VALVE OPEN light operates normally.

MAINTENANCE (M)

Verify that the affected valve operates normally per Spar Valve Closed Light Deactivation Procedure (AMM 28-00-00/901).

28-23 Fuel Summation Unit (FSU) (-400/-500)

****

28-23-01 PDCS

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided PDCS functions requiring gross weight are not used.

NOTE: The fuel quantity indicators send signals to a Fuel Summation Unit (FSU) to calculate total fuel. Total fuel information then goes to the PDC to determine the airplane gross weight. To prevent the possibility that the PDC uses erroneous fuel quantity information to calculate gross weight, the FSU should be deactivated.

MAINTENANCE (M)

Fuel Summation Unit Deactivation:

1. Open the QTY and EP GND FUELING circuit breakers on P6 panel.
2. Gain access to the rear of the FSU on the P23 panel by loosening the four mounting screws.
3. Disconnect, cap and stow the FSU electrical connector D2472 or D3224.
4. Close the QTY and EP GND FUELING circuit breakers on P6 panel.

OPERATIONS (O)

With the Fuel Summation Unit deactivated, the PDC will not display information that uses the airplane gross weight.

28-23 Fuel Summation Unit (FSU) (-400/-500)

28-23-02 FMCS (Software Update 7.4 and prior)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. FMCS functions requiring gross weight are not used.
b. AFDS VNAV mode is not used.

NOTE: The fuel quantity indicators send signals to a Fuel Summation Unit (FSU) to calculate total fuel. Total fuel information then goes to the FMC to determine the airplane gross weight. To prevent the possibility that the FMC uses erroneous fuel quantity information to calculate gross weight, the FSU should be deactivated.

MAINTENANCE (M)

Fuel Summation Unit Deactivation:

1. Open the QTY and EP GND FUELING circuit breakers on P6 panel.
2. Gain access to the rear of the FSU on the P23 panel by loosening the four mounting screws.
3. Disconnect, cap and stow the FSU electrical connector D2472 or D3224.
4. Close the QTY and EP GND FUELING circuit breakers on P6 panel.

OPERATIONS (O)

With the Fuel Summation Unit deactivated, the FMC will not display information that uses the airplane gross weight.

For -300/-400/-500:

VNAV mode will not be available and the Speed Tape (if installed) will not display information that uses the FMC gross weight.

28-23 Fuel Summation Unit (FSU) (-400/-500)

28-23-03 FMCS (Software Updates 7.5, 8.5 and 10.x)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided alternate procedures are established and used.

NOTE: The fuel quantity indicators send signals to a Fuel Summation Unit (FSU) to calculate total fuel. Total fuel information then goes to the FMC to determine the airplane gross weight. To prevent the possibility that the FMC uses erroneous fuel quantity information to calculate gross weight, the FSU should be deactivated. Flight Crews can manually enter current fuel onboard via the FMC Performance Page to calculate reference speeds or fuel remaining at destination. Periodic manual updating is required for information to remain valid.

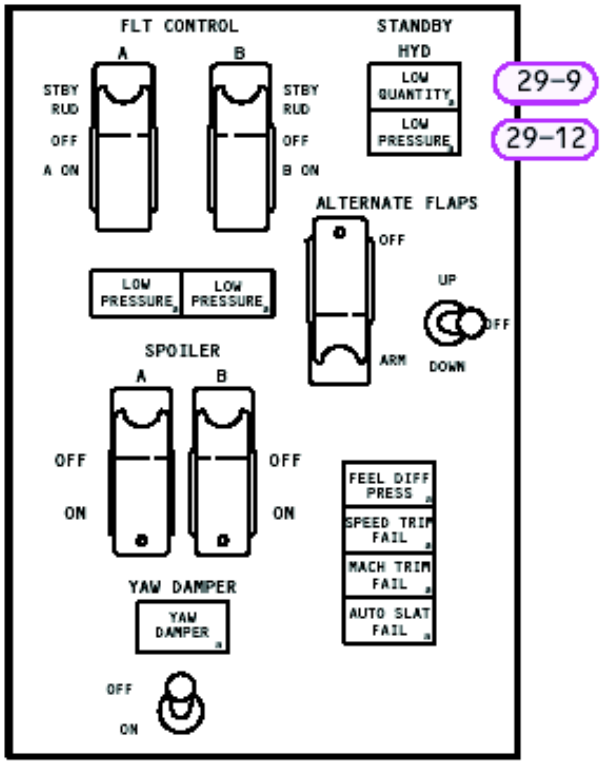
MAINTENANCE (M)

Fuel Summation Unit Deactivation:

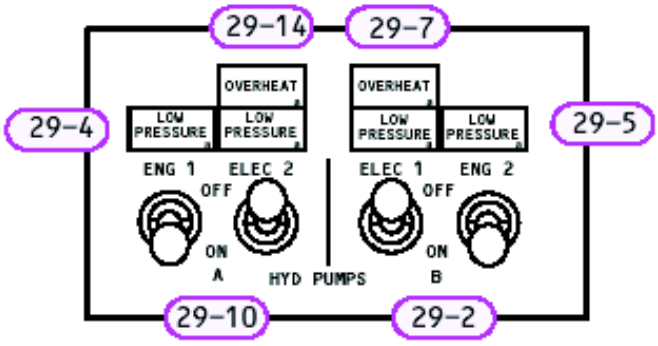
1. Open the QTY and EP GND FUELING circuit breakers on P6 panel.
2. Gain access to the rear of the FSU on the P23 panel by loosening the four mounting screws.
3. Disconnect, cap and stow the FSU electrical connector D2472 or D3224.
4. Close the QTY and EP GND FUELING circuit breakers on P6 panel.

OPERATIONS (O)

With the Fuel Summation Unit deactivated, the FMC will not display information that uses the airplane gross weight. If VNAV capability is desired, enter and periodically update current fuel on board into the FMC

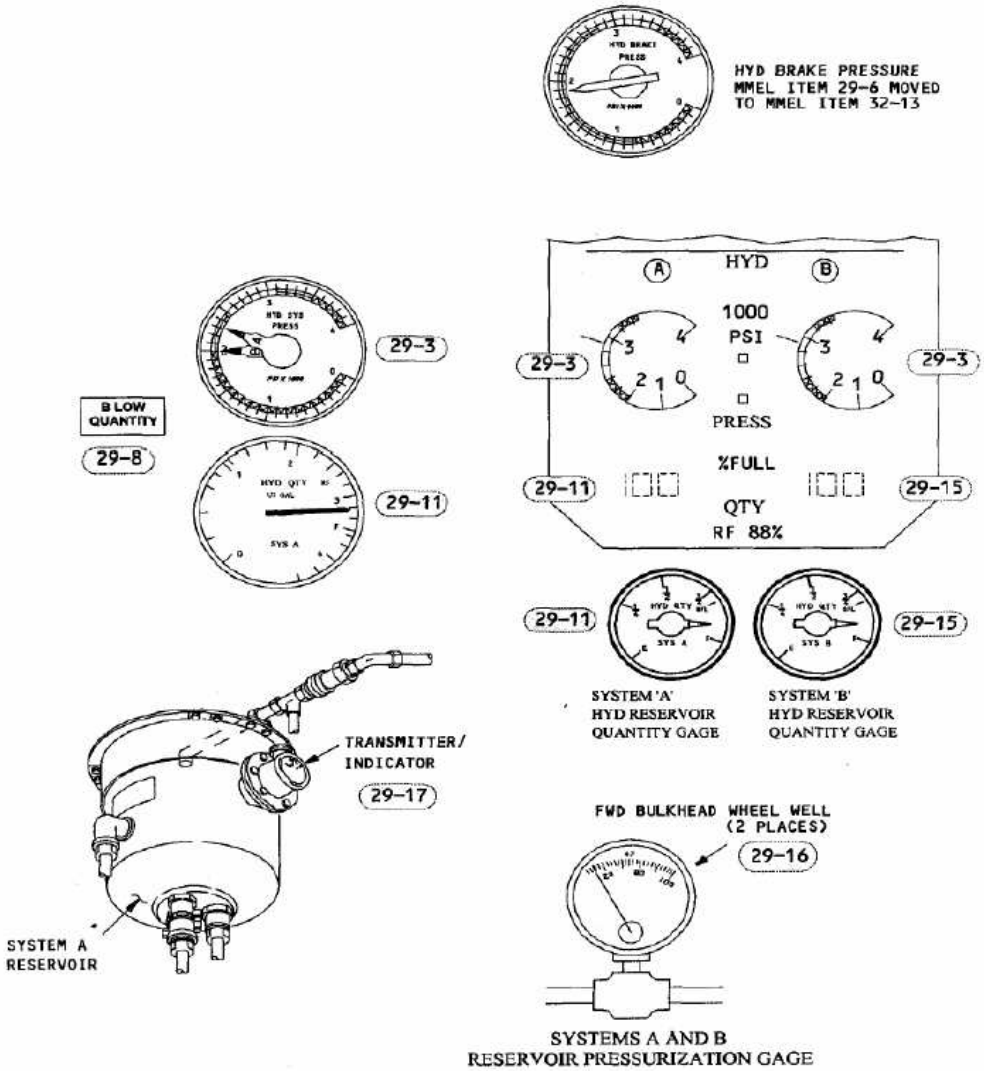


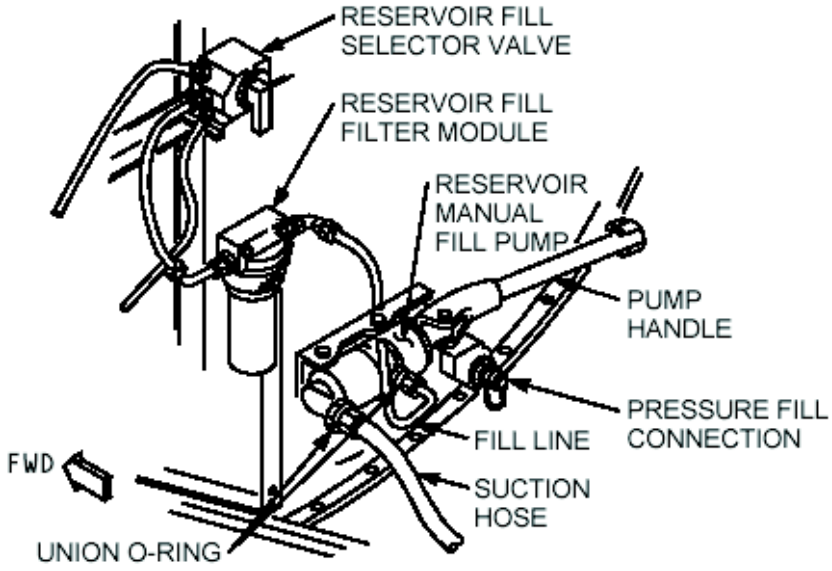
FLIGHT CONTROL PANEL



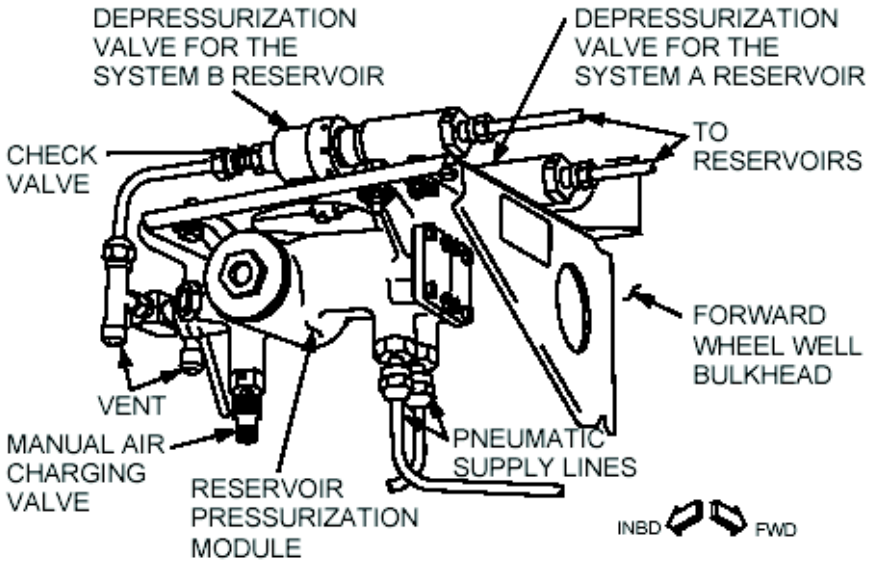
HYDRAULIC PUMP PANELS

HYDRAULIC PRESSURE/QUANTITY INDICATOR





RESERVOIR FILL SYSTEM
29-18



HYDRAULIC RESERVOIR PRESSURIZATION SYSTEM
29-13

29-03 System Pressure Indications (A and B)

29-03-02 -400/-500/-600/-700/-800/-900

Interval	Installed	Required	Procedure
C	2	1	**(O)**

One may be inoperative provided:

a. System pressure is checked before each departure.

b. All hydraulic low pressure lights operate normally.

OPERATIONS (O)

System A Pressure Verification:

Verify that Flight Control LOW PRESSURE light for system A extinguishes when hydraulic system is pressurized.

System B Pressure Verification:

1. With Systems A and B depressurized, verify that the brake pressure indicator shows less than 2800 psi. If not, apply brakes and pressure should drop.
2. Select the flight control and spoiler switches OFF.
3. Pressurize System B hydraulics with ELEC 1.
4. Verify brake pressure:

For -300/-400/-500:

Make sure the brake pressure increases to between 2800 psi and 3200 psi.

For -600/-700/-800/-900:

Make sure the brake pressure increases to between 2850 psi and 3200 psi.

5. Select spoiler switch ON.
6. Verify the Flight Control LOW PRESSURE light for system B is illuminated.
7. Select flight control switch ON.
8. Verify that Flight Control LOW PRESSURE light for system B extinguishes.
9. Restore airplane to its required configuration.

29-04 System A Pump Low Pressure Indication Systems

Interval	Installed	Required	Procedure
C	2	1	**(O)**

One may be inoperative provided output of associated pump is checked before each departure.

MAINTENANCE NOTE

If the associate pressure switch is inoperative, cap and stow electrical connector.

OPERATIONS (O)

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For -300/-400/-500/-600/-700/-800/-900:

1. ENG 1 LOW PRESSURE light inoperative:
   - A. Dry motor or start Start No. 1 engine.
   - B. Position ENG 1 hydraulic pump switch ON.
   - C. Position ELEC 2 hydraulic pump switch OFF.
   - D. Position the flight control and spoiler switches OFF.
   - E. Verify system A pressure:

     For -300/-400/-500:

     Make sure the pressure is between 2800 psi and 3200 psi.

     For -600/-700/-800/-900:

     Make sure the pressure is between 2850 psi and 3200 psi.
   - F. Restore airplane to its required configuration.
2. ELEC 2 LOW PRESSURE light inoperative:
   - A. Power Generator Bus No. 2.
   - B. Position ELEC 2 hydraulic pump switch ON.
   - C. Position ENG 1 hydraulic pump switch OFF.
   - D. Position the flight control and spoiler switches OFF.
   - E. Verify system A pressure:

     For -300/-400/-500:

     Make sure the pressure is between 2800 psi and 3200 psi.

     For -600/-700/-800/-900:

     Make sure the pressure is between 2850 psi and 3200 psi.
   - F. Restore airplane to its required configuration.

29-05 System B Pump Low Pressure Indication Systems

Interval	Installed	Required	Procedure
C	2	1	**(O)**

One may be inoperative provided output of associated pump is checked before each departure.

MAINTENANCE NOTE

If the associated pressure switch is inoperative, cap and stow electrical connector.

OPERATIONS (O)

For -300/-400/-500/-600/-700/-800/-900:

1. ELEC 1 LOW PRESSURE light inoperative:
   - A. Power Generator Bus No. 1.
   - B. Position ELEC 1 hydraulic pump switch ON.
   - C. Position ENG 2 hydraulic pump switch OFF.
   - D. Position the flight control and spoiler switches OFF.
   - E. Verify system B pressure:

     For -300/-400/-500:

     Make sure the pressure is between 2800 psi and 3200 psi.

     For -600/-700/-800/-900:

     Make sure the pressure is between 2850 psi and 3200 psi.
   - F. Restore airplane to its required configuration.
2. ENG 2 LOW PRESSURE light inoperative:
   - A. Dry motor or start Start No. 2 engine.
   - B. Position ENG 2 hydraulic pump switch ON.
   - C. Position ELEC 1 hydraulic pump switch OFF.
   - D. Position the flight control and spoiler switches OFF.
   - E. Verify system B pressure:

     For -300/-400/-500:

     Make sure the pressure is between 2800 psi and 3200 psi.

     For -600/-700/-800/-900:

     Make sure the pressure is between 2850 psi and 3200 psi.
   - F. Restore airplane to its required configuration.

29-07 System A and B Overheat Lights

29-07-03 --400/-500/-600/-700/-800/-900

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided associated Low Pressure light operates normally.

29-09 Hydraulic Quantity Low Level Light System (Standby System)

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided quantity is verified adequate before each departure.

MAINTENANCE (M)

For -300/-400/-500:

Verify hydraulic quantity is adequate before each departure.

1. With flaps/leading edge devices retracted, spoilers down, and all control surfaces in neutral position, verify that Hydraulic System B gauge or indication indicates more than “RFL” or “RF”, as applicable (6.4 U.S. gallons).
2. To prevent illumination of the Master Caution light due to an inoperative low level quantity switch in the standby system, disconnect and stow the cannon plug to the quantity switch.

For -600/-700/-800/-900:

Verify hydraulic quantity is adequate before each departure (AMM 29-00-00/901).

1. With flaps/leading edge devices retracted, spoilers down, and all control surfaces in neutral position, verify that Hydraulic System B gauge or indication indicates more than “RFL” or “RF”, as applicable (6.9 U.S. gallons).
2. To prevent illumination of the Master Caution light due to an inoperative low level quantity switch in the standby system, disconnect and stow the cannon plug to the quantity switch.

29-10 System A Pumps

29-10-01 Engine Driven Hydraulic Pump Depressurization Function

Interval	Installed	Required	Procedure
C	-	0	

MAINTENANCE NOTE

To avoid damage to steering components or towing equipment, install nose gear steering lockout pin in steering depressurization valve when airplane is to be pushed back or towed with engines operating.

29-11 System A Quantity Indication System (Flight Deck)

29-11-02 --400/-500/-600/-700/-800/-900

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided:

a. Quantity is verified adequate before each departure.
b. System pressure indication operates normally.
c. Pump low pressure lights operate normally.

MAINTENANCE (M)

For -300/-400/-500:
Make sure Hydraulic System A Reservoir quantity is adequate.
For -600/-700/-800/-900:
Make sure Hydraulic System A Reservoir quantity is adequate (AMM 29-00-00/901).

Verify that:

1. Spoilers are down
2. All flight controls are in neutral position
3. Thrust reversers are stowed.

Verify fluid quantity by checking the hydraulic quantity indicator mounted on the System A reservoir, visible from the fluid filling station located in the right main gear well. If quantity is low service per AMM 12-12-00/301.

29-12 Standby System Low Pressure Light

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided:

a. Standby system low quantity light operates normally.

b. Output of standby pump is verified before each departure. c. Both System B pumps operate normally.

MAINTENANCE (M)

For -300/-400/-500:

Perform the following procedure prior to engine start:

1. Position the Master LIGHTS test and dim switch to TEST and verify LOW QUANTITY light illuminates.
2. Get ground clearance to extend leading edge flaps.
3. Position ALTERNATE FLAPS Master Switch to ARM.
4. Momentarily position ALTERNATE FLAPS Position Switch to DOWN.
5. On the LE DEVICES annunciator panel, verify that lights indicate all leading edge devices are fully extended within approximately one minute.
6. Return both ALTERNATE FLAPS Master and Position switches to OFF.
7. Turn Hydraulic System B ELEC 1 pump ON.
8. Verify that System B ELEC 1 LOW PRESSURE light extinguishes.
9. Leave pump on until L.E. flaps are up.

For -600/-700/-800/-900:

Perform the following procedure prior to engine start (AMM 29-00-00/901):

1. Position the Master LIGHTS test and dim switch to TEST and verify LOW QUANTITY light illuminates.
2. Get ground clearance to extend leading edge flaps.
3. Position ALTERNATE FLAPS Master Switch to ARM.
4. Momentarily position ALTERNATE FLAPS Position Switch to DOWN.
5. On the LE DEVICES annunciator panel, verify that lights indicate all leading edge devices are fully extended within approximately one minute.
6. Return both ALTERNATE FLAPS Master and Position switches to OFF.
7. Turn Hydraulic System B ELEC 1 pump ON.
8. Verify that System B ELEC 1 LOW PRESSURE light extinguishes.
9. Leave pump on until L.E. flaps are up.

29-13 Hydraulic Reservoir Pressurization System Sources

Interval	Installed	Required	Procedure
C	-	1	**(M)**

May be inoperative provided reservoir can be pressurized.

MAINTENANCE (M)

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For -300/-400/-500:
Verify reservoir can be pressurized:

1. Disconnect the pressurization supply line of the inoperative pneumatic source at the reservoir pressurization module or the restrictor cross fitting, as installed, located in the wheel well.
2. Install a cap on the reservoir pressurization module or the restrictor cross fitting, as installed.
3. Install a cap on the disconnected pressurization supply line.
4. Pressurize pneumatic manifold (AMM 36-05-00).
5. Verify that the hydraulic reservoir air pressure gauge(s) located on the forward wheel well bulkhead indicates the same pressure as the pneumatic duct pressure indicator on the forward overhead panel.

For -600/-700/-800/-900:
Verify reservoir can be pressurized (AMM 29-00-00/901):

1. Disconnect the pressurization supply line of the inoperative pneumatic source at the reservoir pressurization module or the restrictor cross fitting, as installed, located in the wheel well.
2. Install a cap on the reservoir pressurization module or the restrictor cross fitting, as installed.
3. Install a cap on the disconnected pressurization supply line.
4. Pressurize pneumatic manifold (AMM 36-05-00).
5. Verify that the hydraulic reservoir air pressure gauge(s) located on the forward wheel well bulkhead indicates the same pressure as the pneumatic duct pressure indicator on the forward overhead panel.

29-15 System B Quantity Indication System (Flight Deck) (--400/-500/-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided:

a. Quantity is verified adequate before each departure.
b. System pressure indication operates normally.
c. Pump low pressure lights operate normally.

MAINTENANCE (M)

For -300/-400/-500:
Make sure Hydraulic System B Reservoir quantity is adequate.
For -600/-700/-800/-900:
Make sure Hydraulic System B Reservoir quantity is adequate (AMM 29-00-00/901).

1. Verify that:
   A. Flaps/leading edge devices are retracted
   B. Spoilers are down
   C. All flight controls are in neutral position
   D. Thrust reversers are stowed.
2. Verify fluid quantity by checking the hydraulic quantity indicator mounted on the System B reservoir, visible from the fluid filling station located in the right main gear well:

   If quantity is low service per AMM 12-12-00/301.

OPERATIONS NOTE

Nose wheel steering may not be available if hydraulic system A power is lost.

29-16 Hydraulic Reservoir Air Pressure Indicator (Wheel Well)

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Interval	Installed	Required	Procedure
C	-	0	

29-17 Hydraulic Reservoir Quantity Indicator (Wheel Well)

Interval	Installed	Required	Procedure
C	-	0	

29-18 Hydraulic Reservoir Fill System (Wheel Well)

Interval	Installed	Required	Procedure
C	1	0	

30-01 Wing Anti-Ice Valves

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

Except for ER operations beyond 120 minutes, may be inoperative closed provided airplane is not operated in known or forecast icing conditions.

MAINTENANCE (M)

For -300/-400/-500:

1. The wing anti-ice shutoff valves are located outboard of the engine in the leading edge of the wing. Access to the valves is through panels in the bottom of the wing leading edge.
2. Accomplish the following prior to engine start:
   A. Open ENG & WING VALVE ANTI-ICE circuit breaker for affected engine on P18 panel.
   B. Remove access panel (AMM 12-30-00).
   C. Disconnect, cap and stow electrical connector.
      NOTE: Disconnecting the wing anti-ice valve's electrical connector will cause the associated wing anti-ice VALVE OPEN light to illuminate bright.
   D. Manually move the valve to the CLOSED position using the manual override handle.
   E. Install access panel (AMM 12-30-00).
   F. Close ENG & WING VALVE ANTI-ICE circuit breaker.

For -600/-700/-800/-900:

Prepare the airplane for flight with wing anti-ice valve inoperative (AMM 30-00-00/901):

1. Prepare to close the valve:
   A. Deactivate the leading edge slats (AMM 27-81-00).
   B. Open and collar the ANTI-ICE AND RAIN WING ANTI-ICE VALVE circuit breaker.
   C. Open the associated outboard leading edge blowout door.

2. Disconnect, cap and stow the electrical connector from the associated wing anti-ice valve.

   NOTE: Disconnecting the wing anti-ice valve's electrical connector will cause the associated wing anti-ice VALVE OPEN light to illuminate bright.

3. Move the red lever on the associated wing anti-ice valve to the CLOSED position.
4. Return the airplane to its usual condition with a wing anti-ice valve closed: A. Close the outboard leading edge blowout door.
   B. Close the ANTI-ICE AND RAIN WING ANTI-ICE VALVE circuit breaker.
   C. Activate the leading edge slats (AMM 27-81-00).

OPERATIONS (O)

NOTE: Disconnecting the wing anti-ice valve's electrical connector will cause the associated wing anti-ice VALVE OPEN light to illuminate bright.

Do not operate in icing conditions.

30-01 Wing Anti-Ice Valves

30-01-02 --400/-500/-600/-700/-800/-900

Interval	Installed	Required	Procedure
C	2	1	**(M) (O)**

One may be inoperative open provided:

a. Except for engine start, associated manifold is depressurized when outside air temperature is above 50 degrees F (10 degrees C).
b. Associated engine bleed thrust limits are followed when manifold is pressurized.
c. Air conditioning and pressurization requirements are followed when one manifold is depressurized.

MAINTENANCE (M)

For -300/-400/-500:

1. The wing anti-ice shutoff valves are located outboard of the engine in the leading edge of the wing. Access to the valves is through panels in the bottom of the wing leading edge. Personnel should not access valve when the associated engine is running because of the position of the valve relative to the engine exhaust area.

2. For dispatch with left valve open, accomplish the following:
   A. Establish communications with flight deck.
   B. When using APU bleed air, perform the following:
      1) Open ENG & WING VALVE ANTI-ICE circuit breaker for LEFT (No. 1) engine on P18 panel.
      2) Remove access panel (AMM 12-30-00).
      3) Disconnect, cap and stow electrical connector.

         NOTE: Disconnecting the wing anti-ice valve's electrical connector will cause the associated wing anti-ice VALVE OPEN light to illuminate bright.
      4) Manually move the valve to the CLOSED position using the manual override handle.
      5) After personnel have been cleared from engine hazard area, inform flight deck that RIGHT (No. 2) engine may be started.
      6) After RIGHT (No. 2) engine has been started, request flight deck to depressurize left pneumatic duct (close isolation and APU bleed air valves).
      7) After flight deck reports left pneumatic duct depressurized, manually move valve to OPEN position using the manual override handle.
      8) Install access panel (AMM 12-30-00).
      9) Close ENG & WING VALVE ANTI-ICE circuit breaker.
      10) After personnel have been cleared from engine hazard area, inform flight deck that LEFT (No. 1) engine may be started (using engine crossbleed).
   C. When using ground service air, perform the following:
      1) Open ENG & WING VALVE ANTI-ICE circuit breaker for LEFT (No. 1) engine on P18 panel.
      2) Remove access panel (AMM 12-30-00).
      3) Disconnect, cap and stow electrical connector.

         NOTE: Disconnecting the wing anti-ice valve's electrical connector will cause the associated wing anti-ice VALVE OPEN light to illuminate bright.
      4) Manually move valve to the OPEN position using the manual override handle.
      5) Install access panel (AMM 12-30-00).
      6) Close ENG & WING VALVE ANTI-ICE circuit breaker.
      7) After personnel have been cleared from engine hazard area, inform flight deck that RIGHT (No. 2) engine may be started (Isolation valve closed) and then the LEFT (No. 1) engine (using engine crossbleed).

3. For dispatch with right valve open, accomplish the following:
   A. Establish communications with flight deck.
   B. When using APU bleed air, perform the following:
      1) Open ENG & WING VALVE ANTI-ICE circuit breaker for RIGHT (No. 2) engine on P18 panel.
      2) Remove access panel (AMM 12-30-00).
      3) Disconnect, cap and stow electrical connector.

         NOTE: Disconnecting the wing anti-ice valve's electrical connector will cause the associated wing anti-ice VALVE OPEN light to illuminate bright.

      4) Manually move valve to the OPEN position using the manual override handle.
      5) Install access panel (AMM 12-30-00).
      6) Close ENG & WING VALVE ANTI-ICE circuit breaker.
      7) After personnel have been cleared from engine hazard area, inform flight deck that LEFT (No. 1) engine may be started (Isolation valve closed) and then the RIGHT (No. 2) engine (using crossbleed start).
   C. When using ground service air, perform the following:
      1) Open ENG & WING VALVE ANTI-ICE circuit breaker for RIGHT (No. 2) engine on P18 panel.
      2) Remove access panel (AMM 12-30-00).
      3) Disconnect, cap and stow electrical connector.

         NOTE: Disconnecting the wing anti-ice valve's electrical connector will cause the associated wing anti-ice VALVE OPEN light to illuminate bright.

      4) Manually move the valve to the CLOSED position using the manual override handle.
      5) After personnel have been cleared from engine hazard area, inform flight deck that LEFT (No. 1) engine may be started.
      6) After LEFT (No. 1) engine has been started, disconnect ground air and request flight deck to depressurize right pneumatic duct (close isolation valve).
      7) After flight deck reports right pneumatic duct depressurized, manually move valve to OPEN position by using position indicator.
      8) Install access panel (AMM 12-30-00).
      9) Close ENG & WING VALVE ANTI-ICE circuit breaker.
      10) After personnel have been cleared from engine hazard area, inform flight deck that RIGHT (No. 2) engine may be started (using engine crossbleed).

For -600/-700/-800/-900:

1. Prepare the airplane for flight with wing anti-ice valve inoperative (AMM 30-00-00/901):
2. For dispatch with left valve open:
   A. To open the left valve when APU bleed air will be used for engine start, do these steps:
      1) Deactivate the leading edge slats (AMM 27-81-00).
      2) Open and collar the ANTI-ICE AND RAIN WING ANTI-ICE VALVE circuit breaker.
      3) Open the associated outboard leading edge blowout door.
      4) Disconnect, cap and stow the electrical connector from the left wing anti-ice valve.

         NOTE: Disconnecting the wing anti-ice valve's electrical connector will cause the associated wing anti-ice VALVE OPEN light to illuminate bright.

      5) Move the red lever on the left wing anti-ice valve to the CLOSED position.
      6) Make sure that all personnel are cleared from the right engine danger area.
      7) Start the right engine (AMM 71-00-00).
      8) Close the isolation valve switch and APU bleed air valve switch on the flight deck to depressurize the left pneumatic duct.
      9) After the pneumatic duct is depressurized, move the left wing anti-ice valve to the OPEN position.
      10) Close the ANTI-ICE AND RAIN WING ANTI-ICE VALVE circuit breaker.
      11) Close the associated outboard leading edge blowout door.
      12) Activate the leading edge slats (AMM 27-81-00).
      13) When personnel have been cleared from engine danger area, inform flight deck that left engine may be started (using engine crossbleed).
   B. To open the left valve when ground service air will be used for engine start, do these steps:
      1) Deactivate the leading edge slats (AMM 27-81-00).
      2) Open and collar the ANTI-ICE AND RAIN WING ANTI-ICE VALVE circuit breaker.
      3) Open the associated outboard leading edge blowout door.
      4) Disconnect, cap and stow the electrical connector from the left wing anti-ice valve.

         NOTE: Disconnecting the wing anti-ice valve's electrical connector will cause the associated wing anti-ice VALVE OPEN light to illuminate bright.

5) Move the red lever on the left wing anti-ice valve to the OPEN position.
6) Close the associated outboard leading edge blowout door.
7) Close the ANTI-ICE AND RAIN WING ANTI-ICE VALVE circuit breaker.
8) Activate the leading edge slats (AMM 27-81-00).
9) When personnel have been cleared from engine danger area, inform flight deck that the right engine may be started (isolation valve closed) and then the left engine may be started (using crossbleed start).

3. For dispatch with right valve open:
   A. To open the right valve when APU bleed air will be used for engine start, do these steps:
      1) Deactivate the leading edge slats (AMM 27-81-00).
      2) Open and collar the ANTI-ICE AND RAIN WING ANTI-ICE VALVE circuit breaker.
      3) Open the associated outboard leading edge blowout door.
      4) Disconnect, cap and stow the electrical connector from the right wing anti-ice valve.

         NOTE: Disconnecting the wing anti-ice valve's electrical connector will cause the associated wing anti-ice VALVE OPEN light to illuminate bright.

      5) Move the red lever on the right wing anti-ice valve to the OPEN position.
      6) Close the associated outboard leading edge blowout door.
      7) Close the ANTI-ICE AND RAIN WING ANTI-ICE VALVE circuit breaker.
      8) Activate the leading edge slats (AMM 27-81-00).
      9) When personnel have been cleared from engine danger area, inform flight deck that the left engine may be started (isolation valve closed) and then the right engine may be started (using crossbleed start)
   B. To open the right valve when ground service air will be used for engine start, do these steps:
      1) Deactivate the leading edge slats (AMM 27-81-00).
      2) Open and collar the ANTI-ICE AND RAIN WING ANTI-ICE VALVE circuit breaker.
      3) Open the associated outboard leading edge blowout door.
      4) Disconnect, cap and stow the electrical connector from the right wing anti-ice valve.

         NOTE: Disconnecting the wing anti-ice valve's electrical connector will cause the associated wing anti-ice VALVE OPEN light to illuminate bright.

5) Move the red lever on the right wing anti-ice valve to the CLOSED position.
6) Make sure that all personnel are cleared from the left engine danger area.
7) Start the left engine (AMM 71-00-00).
8) Remove the ground air source from the airplane.
9) Close the isolation valve switch on the flight deck to depressurize the right pneumatic duct.
10) After the pneumatic duct is depressurized, move the right wing anti-ice valve to the OPEN position.
11) Close the associated outboard leading edge blowout door.
12) Close the ANTI-ICE AND RAIN WING ANTI-ICE VALVE circuit breaker.
13) Activate the leading edge slats (AMM 27-81-00).
14) When personnel have been cleared from engine danger area, inform flight deck that right engine may be started (using engine crossbleed).

OPERATIONS (O)

NOTE 1: Disconnecting the wing anti-ice valve's electrical connector will cause the associated wing anti-ice VALVE OPEN light to illuminate bright.

NOTE 2: With the affected wing anti-ice valve open, bleed trip off and possible loss of cabin pressure above approximately FL350 may occur.

1. When the left Wing Anti-ice Valve is failed open, do not use APU bleed air for air conditioning purposes on the ground. APU may only be used for engine start.
2. When the right Wing Anti-ice Valve is failed open, APU bleed air may be used for air conditioning purposes on the ground using only the left AC pack and with the isolation valve closed.
3. The engine bleed to the affected manifold must be off for takeoff. Position the isolation valve switch to CLOSE to maintain isolated bleed sources. The isolation valve switch must remain in the CLOSE position until the associated manifold can be pressurized by turning the engine bleed on (see MMEL temperature restrictions).
4. When dispatching with a single engine bleed on for takeoff due to one wing anti-ice valve failed open (airplane pressurized), V1(MCG) should be determined based on AC packs OFF. Takeoff performance should be based on AC packs AUTO.

30-02 Wing Anti-Ice Valve Position Lights

Interval	Installed	Required	Procedure
C	2	0	**(M)**

May be inoperative provided valve is verified to operate normally before operating in known or forecast icing conditions.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

Verify that associated wing anti-ice valve operates normally.

1. Deactivate the leading edge slats (AMM 27-81-00).
2. Gain access to valve.
3. Position the WING ANTI-ICE switch to the GRD TEST or ON position.
4. Observe that position indicator on the valve indicates OPEN.
5. Position the WING ANTI-ICE switch to the OFF position.
6. Observe that position indicator on the valve indicates CLOSED.
7. Restore airplane to desired configuration and activate the leading edge slats (AMM 27-81-00).

For -600/-700/-800/-900:

Verify that associated wing anti-ice valve operates normally (AMM 30-00-00/901):

1. Deactivate the leading edge slats (AMM 27-81-00).
2. Gain access to valve.
3. Position the WING ANTI-ICE switch to the ON position.
4. Observe that position indicator on the valve indicates OPEN.
5. Position the WING ANTI-ICE switch to the OFF position.
6. Observe that position indicator on the valve indicates CLOSED.
7. Restore airplane to desired configuration and activate the leading edge slats (AMM 27-81-00).

30-03 Engine and Nose Cowl Anti-Ice Valves

30-03-02 --400/-500

30-03-02A Valve Inoperative Closed

Interval	Installed	Required	Procedure
C	2	1	**(M)**

One may be inoperative closed provided airplane is not operated in known or forecast icing conditions.

MAINTENANCE (M)

1. Open fan duct cowl (AMM 78-31-00).
2. Check valve position indicator to verify that the valve is closed.
3. If necessary, manually position valve to the closed and locked position.

   WHITTAKER VALVE:

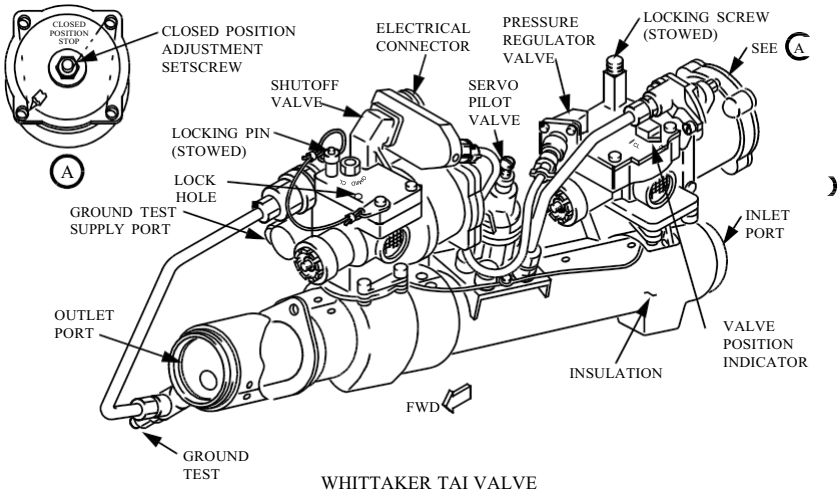
   A. Manually wrench flats labeled OP-MID-CL to CL (closed) position.

      NOTE: The torque required to move the valve butterfly will not exceed 25 in-lb.

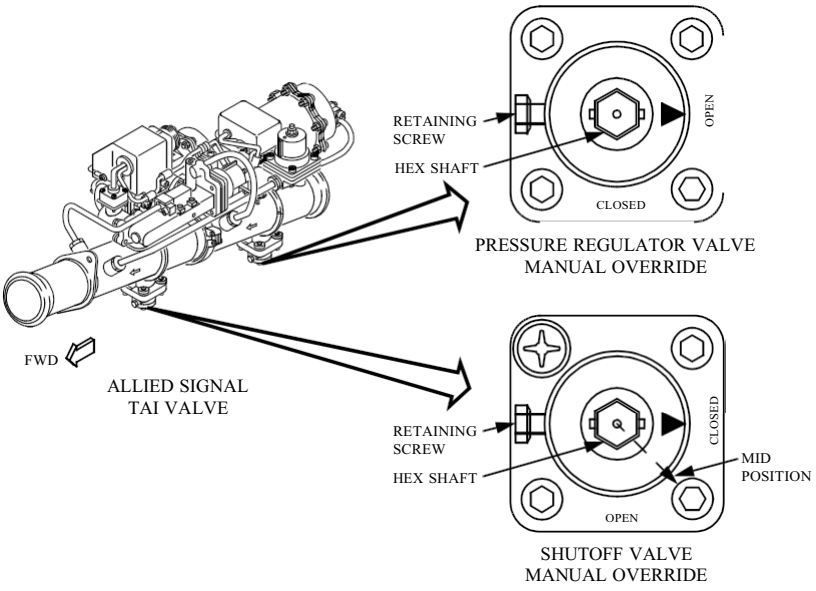
   B. Insert quick-release pin into lock hole in the valve cover.

   ALLIEDSIGNAL VALVE:

   A. Loosen the retaining screw on the manual locking assembly.
   B. Wrench the hex shaft to the CLOSED position.
   C. Slide the assembly up the shaft until it fits into the recess in the cover plate.
   D. Tighten the retaining screw.
4. Close fan duct cowl (AMM 78-31-00).



WHITTAKER TAI VALVE



PRESSURE REGULATOR VALVE MANUAL OVERRIDE

ALLIED SIGNAL TAI VALVE

SHUTOFF VALVE MANUAL OVERRIDE

OPERATIONS NOTE

Do not operate in icing conditions.

30-03 Engine and Nose Cowl Anti-Ice Valves

30-03-02 --400/-500

30-03-02B Valve Inoperative Open

Interval	Installed	Required	Procedure
C	2	1	**(M) (O)**

One may be inoperative locked open provided:

a. Associated High Stage Valve is considered inoperative.

b. Ambient temperature is below 100 degrees F (38 degrees C).

c. A minimum of 60% N1 is maintained on associated engine during flight in icing conditions.

d. All thrust rating limits on affected engine, except Takeoff and Go-Around, are reduced by 0.8% N1.

e. Enroute climb limited weight is reduced by 4,500 lb. (2,040 kg).

f. At temperatures greater than 50 degrees F (10 degrees C), Takeoff and Go-Around thrust limits on associated engine and takeoff and landing performance limited weights are reduced by:

RATING	%N1	WEIGHT
18.5 K	0.8	3650 lb (1670 kg)
20.0 K	0.8	3900 lb (1770 kg)
22.0 K	0.8	3900 lb (1770 kg)
23.5 K	1.1	4650 lb (2110 kg)

g. For temperatures at or below 50 degrees F (10 degrees C), base performance limited weights on Engine Anti-ice ON.

MAINTENANCE (M)

NOTE 1: Dispatching with an engine and nose cowl anti-ice valve inoperative open will cause the associated COWL VALVE OPEN light to illuminate bright.

NOTE 2: The cowl anti-ice valve consists of a pressure regulator valve and a shutoff valve.

1. Open fan duct cowl and thrust reverser (AMM 78-31-00).
2. Secure cowl anti-ice valve open.
   A. Lock pressure regulator valve in FULL OPEN position.
      WHITTAKER VALVE:
      1) Manually wrench flats labeled OP-CL to OP (open) position.
         NOTE: The torque required to move the valve butterfly will not exceed 25 in-lb.

2) Replace the closed position adjustment set screw with a locking screw.

NOTE 1: Once the pressure regulating valve is deactivated by removing the close position set screw and installing the lock screw, the valve must be removed for CMM adjustment prior to reactivating the valve.

NOTE 2: Airplanes with forward mount/thrust reverser hinge vibration isolators installed require the valve clamps to be loosened and the valve hardware removed. The valve should then be rotated until the closed position adjustment set screw can be removed and replaced with a locking screw. After the locking screw is installed, the valve must be re-aligned and the hardware and clamps re-installed.

ALLIEDSIGNAL VALVE:

1) Loosen the retaining screw on the manual locking assembly.
2) Wrench the hex shaft to OPEN position.
3) Slide the assembly up the shaft until it fits into the recess in the cover plate.
4) Tighten the retaining screw.

B. Lock shutoff valve in MID or PARTIAL OPEN position.

WHITTAKER VALVE:

1) Lock shutoff valve in mid-position by manually wrenching flats labeled OP-MID-CL to MID (mid) position.

NOTE: The torque required to move the valve butterfly will not exceed 25 in-lb.

2) Insert a quick-release pin into lock hole in the valve cover.

ALLIEDSIGNAL VALVE:

1) Lock shutoff valve in partial open position by loosening the retaining screw on the manual locking assembly.
2) Wrench the hex shaft to partial open position.

NOTE: The arrow on the manual locking assembly should line up with the white indicator between the OPEN and CLOSED position.

3) Slide the assembly up the shaft until it fits into the recess in the cover plate.
4) Tighten the retaining screw.

C. Disconnect, cap and stow electrical connector from pressure switch.

3. Close off the 9th stage bleed air supply:

NOTE: Only one high stage valve may be locked in the closed position for dispatch. Dispatch with the opposite high stage valve inoperative under MMEL item 36-9 is not allowed.

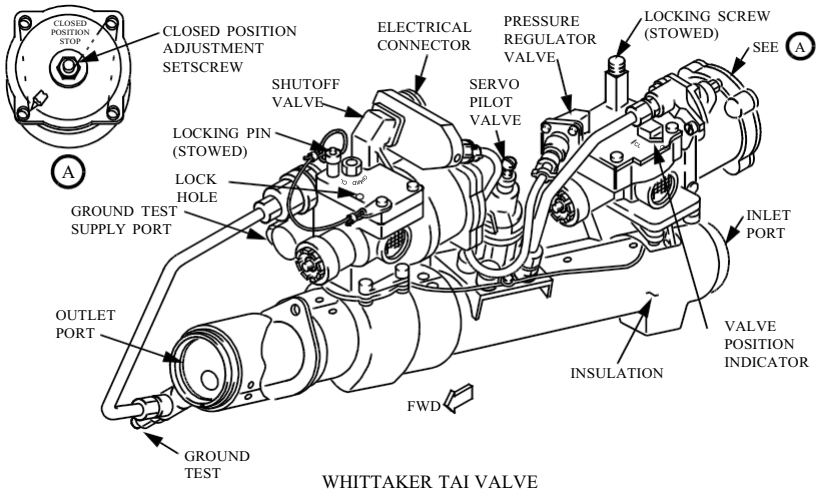
A. Manually wrench High Stage Valve to the CLOSE position.

B. Loosen the position indicator screw.

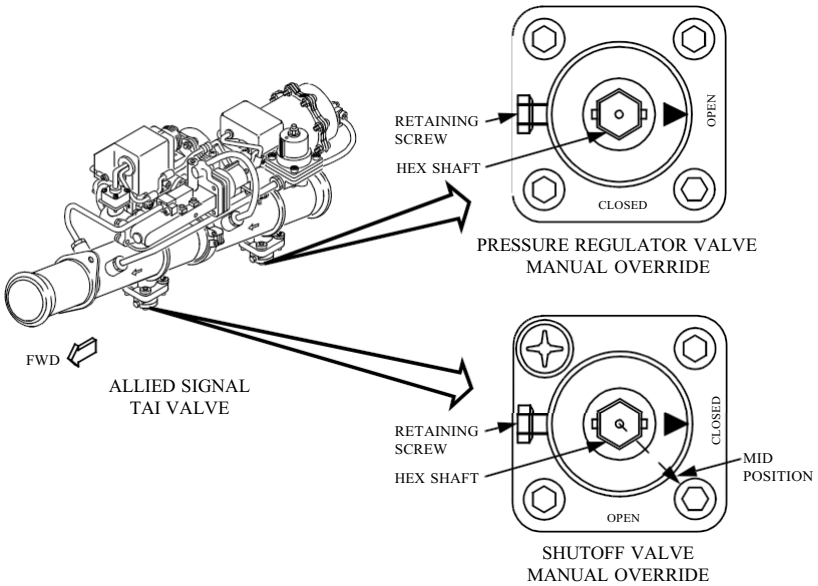
C. Slide the lock up into the recess in the cover plate.

D. Tighten the position indicator screw.

4. Close fan duct cowl and thrust reverser (78-31-00).



WHITTAKER TAI VALVE



OPERATIONS (O)

NOTE: Dispatching with an engine and nose cowl anti-ice valve inoperative open will cause the associated COWL VALVE OPEN light to illuminate bright.

1. Operate with the associated ENG ANTI-ICE switch in the OFF position.
2. Apply adjustments to N1 limits and performance limited weights. Observe maximum operating temperature restrictions.
3. Inflight, maintain a minimum of 60% N1 on the associated engine in icing conditions.
4. During ground operations with the APU running, turn the engine bleed OFF whenever the associated engine is not running.
5. Apply a fuel mileage decrement of 1.3% to account for the engine and nose cowl anti-ice valve inoperative open.
6. Apply the following additonal fuel mileage decrement to account for flight in icing conditions which require a minimum of 60% N1 on the associated engine:

A. 2.0% for trip distances less than or equal to 1000 nautical miles. B. 1.0% for trip distances greater than 1000 nautical miles

30-03 Engine and Nose Cowl Anti-Ice Valves

30-03-03 -600/-700/-800/-900

30-03-03A Valve Inoperative Closed

Interval	Installed	Required	Procedure
C	2	1	**(M)**

Except for ER operations beyond 120 minutes, one may be inoperative closed provided airplane is not operated in known or forecast icing conditions.

MAINTENANCE (M)

Prepare the airplane for flight with the engine anti-ice valve inoperative (AMM 30-00-00/901).

1. Open the fan cowl panels (AMM 71-11-02).
2. Position the shutoff valve in the closed position.
   A. Loosen the retaining screw on the manual locking assembly.
   B. Move the hex shaft to the CLOSED position.
   C. Slide the locking assembly up the shaft into the recess in the cover plate.
   D. Tighten the retaining screw.
3. Close the cowl panels (AMM 71-11-02).

OPERATIONS NOTE

Do not operate in icing conditions.

30-03 Engine and Nose Cowl Anti-Ice Valves

30-03-03 -600/-700/-800/-900

30-03-03B Valve Inoperative Open

Interval	Installed	Required	Procedure
C	2	1	**(M) (O)**

One may be inoperative locked open provided:

a. Associated High Stage Valve is considered inoperative.

b. Ambient temperature is below 100 degrees F (38 degrees C).

c. A minimum of 60% N1 is maintained on associated engine during flight in icing conditions.

d. All thrust rating limits on affected engine, except Takeoff and Go-Around, are reduced by 1.1% N1.

e. Enroute climb limited weight is reduced by 4,000 lb. (1,810 kg).

f. At temperatures greater than 50 degrees F (10 degrees C):

1) Takeoff and go-around thrust limits on associated engine are reduced by 1.4% N1.

2) Takeoff and landing performance limited weights are reduced by 4,500 lb. (2,040 kg)

g. For temperatures at or below 50 degrees F (10 degrees C), base performance limited weights on Engine Anti-Ice ON.

MAINTENANCE (M)

NOTE: Dispatching with an engine and nose cowl anti-ice valve inoperative open will cause the associated COWL VALVE OPEN light to illuminate bright and the associated Thermal Anti-Ice (TAI) indication to illuminate amber.

Prepare the airplane for flight with the engine anti-ice valve inoperative (AMM 30-00-00/901).

1. Open the fan cowl panels (AMM 71-11-02) and thrust reverser (AMM 78-31-00).
2. Position the shutoff valve in the open position.
   A. Loosen the retaining screw on the manual locking assembly.
   B. Move the hex shaft to the OPEN position.
   C. Slide the locking assembly up the shaft into the recess in the cover plate.
   D. Tighten the retaining screw.
3. Disconnect, cap and stow the electrical connector from the pressure switch.
4. Close off the 9th stage bleed air supply:

NOTE: Only one high stage valve may be locked in the closed position for dispatch. Dispatch with the opposite high stage valve inoperative under MMEL item 36-9 is not allowed.

A. Manually wrench the High Stage Valve to the CLOSE position.

B. Loosen the position indicator screw.

C. Slide the lock into the recess in the cover plate.

D. Tighten the position indicator screw.

5. Close the fan cowl panels (AMM 71-11-02) and thrust reverser (AMM 78-31-00).

OPERATIONS (O)

NOTE: Dispatching with an engine and nose cowl anti-ice valve inoperative open will cause the associated COWL VALVE OPEN light to illuminate bright and the associated Thermal Anti-Ice (TAI) indication to illuminate amber.

1. Operate with the associated ENG ANTI-ICE switch in the OFF position.
2. Apply adjustments to N1 limits and performance limited weights. Observe maximum operating temperature restrictions.
3. Inflight, maintain a minimum of 60% N1 on the associated engine in icing conditions.
4. During ground operations with the APU running, turn the engine bleed OFF whenever the associated engine is not running.
5. Apply a fuel mileage decrement of 1.3% to account for the engine and nose cowl anti-ice valve inoperative open.
6. Apply the following additonal fuel mileage decrement to account for flight in icing conditions which require a minimum of 60% N1 on the associated engine:

   A. 2.0% for trip distances less than or equal to 1000 nautical miles.

   B. 1.0% for trip distances greater than 1000 nautical miles.

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

30-04-02 --400/-500/-600/-700/-800/-900

Interval	Installed	Required	Procedure
C	-	0	**(O)**

May be inoperative provided valve is verified to operate normally before each departure.

OPERATIONS (O)

Verify proper operation of the engine and nose cowl anti-ice valve before each departure:

1. Start the associated engine.
2. Wait for the engine to stabilize at idle.
3. Verify that the engine and APU bleed air switches are in the OFF position.
4. Verify that the ENG ANTI-ICE switch is in the OFF position.
5. Monitor the EGT:
   A. Wait for the EGT to stabilize and record the temperature.

      CAUTION: LIMIT COWL TAI OPERATION TO 30 SECONDS MAXIMUM.

   B. Put the ENG ANTI-ICE switch in the ON position.
   C. Wait for the EGT to stabilize and record the temperature.
   D. Position ENG ANTI-ICE switch to OFF.
   E. Wait for the EGT to stabilize and record the temperature.
6. Verify that the following changes occurred:
   A. The EGT increased by a minimum of 15 degrees C when the ENG ANTI-ICE switch was put in the ON position.
   B. The EGT returned to the original idle temperature when the ENG ANTI-ICE switch was put in the OFF position.
7. Configure the airplane as needed for flight or shut down the engine if required.

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

30-04-03 -600/-700/-800/-900

Interval	Installed	Required	Procedure
C	4	2	

One valve position indication (either COWL VALVE OPEN light or TAI indication) for each engine may be inoperative provided other valve position indication for that engine operates normally.

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

30-04-04 All Models

Interval	Installed	Required	Procedure
C	-	-	

May be inoperative provided associated valve is considered inoperative.

OPERATIONS NOTE

The associated engine and nose cowl anti-ice valve is considered inoperative. The airplane must also be dispatched using MMEL item 30-03.

30-05 Pitot/Static Probe Heaters

30-05-01 --400/-500

30-05-01-01 No. 1 Aux Pitot/Static Heater (Right Lower Probe)

Interval	Installed	Required	Procedure
B	1	0	

May be inoperative provided:

a. No. 2 Aux Pitot Static heater operates normally.
b. RVSM operations are not conducted.
c. Airplane is not operated in known or forecast icing conditions.

OPERATIONS NOTE

On airplanes equipped with static source selector, operate with the affected static source selector in the ALTERNATE position.

30-05 Pitot/Static Probe Heaters

30-05-01 --400/-500

30-05-01-02 No. 2 Aux Pitot/Static Heater (Left Lower Probe)

30-05-01-02A No RVSM Operations

Interval	Installed	Required	Procedure
B	1	0	

May be inoperative provided:

a. No. 1 Aux Pitot Static heater operates normally.
b. RVSM operations are not conducted.
c. Airplane is not operated in known or forecast icing conditions.

OPERATIONS NOTE

On airplanes equipped with static source selector, operate with the affected static source selector in the ALTERNATE position.

30-05 Pitot/Static Probe Heaters

30-05-01 --400/-500

30-05-01-02 No. 2 Aux Pitot/Static Heater (Left Lower Probe)

30-05-01-02B Dispatch Deviations For Associated Equipment Are Observed

Interval	Installed	Required	Procedure
B	1	0	

May be inoperative provided:

a. No. 1 Aux Pitot Static heater operates normally.

b. Dispatch deviations for associated equipment are observed.

OPERATIONS NOTE

1. On airplanes with Flap Load Limiter inputs from No.1 and No.2 Auxiliary Pitot Static probes, do not operate in known or forecast icing conditions unless dispatch is based on Flap Load Limiter System inoperative (MMEL Item 27-08).
2. On airplanes with the Standby Pneumatic Airspeed/Altimeter input from the No. 2 Auxiliary Pitot Static probe, do not operate in known or forecast icing conditions.
3. On airplanes equipped with static source selector, operate with the affected static source selector in the ALTERNATE position.

30-05 Pitot/Static Probe Heaters

30-05-01 --400/-500

30-05-01-03 Pitot/Static Heaters (Upper Probes)

Interval	Installed	Required	Procedure
B	2	1	

Pilot's or copilot's may be inoperative for day VMC provided airplane is not operated in visible moisture, or in known or forecast icing conditions.

30-05 Pitot/Static Probe Heaters

30-05-02 -600/-700/-800/-900

30-05-02-01 Left/Right Pitot Heaters

Interval	Installed	Required	Procedure
B	2	1	

Except for ER operations beyond 120 minutes, one may be inoperative for day VMC provided:

a. Aux Pitot heater operates normally.

b. Airplane is not operated in visible moisture.

c. Airplane is not operated in known or forecast icing conditions.

30-05 Pitot/Static Probe Heaters

30-05-02 -600/-700/-800/-900

30-05-02-02 Aux Pitot Heater (Right Lower Probe)

Interval	Installed	Required	Procedure
B	1	0	

Except for ER operations beyond 120 minutes, may be inoperative provided:

a. Both Left and Right Pitot heaters operate normally.

b. Airplane is not operated in known or forecast icing conditions.

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

***

Interval	Installed	Required	Procedure
B	2	1	

Except for ER operations beyond 120 minutes, one may be inoperative provided airplane is not operated in known or forecast icing conditions.

30-07 Total Air Temperature Probe Heater

30-07A Not Operated in Known or Forecast Icing Conditions

Interval	Installed	Required	Procedure
C	-	0	

Except for ER operations beyond 120 minutes, may be inoperative provided airplane is not operated in known or forecast icing conditions.

30-07 Total Air Temperature Probe Heater

30-07B Alternate Temperature Indicator Installed

Interval	Installed	Required	Procedure
C	-	0	**(O)**

May be inoperative provided an alternate temperature indicator system is installed and operating normally (i.e., Ram Air or Static Air Temperature).

OPERATIONS (O)

With static air temperature available, the following table may be used to determine TAT.

TOTAL AIR TEMPERATURE (°C) vs STATIC AIR TEMPERATURE (°C)

SAT (°C)	TAT (°C)											
	M.50	M.60	M.68	M.70	M.72	M.74	M.76	M.78	M.80	M.82	M.84	M.86
40	56	62	69	70								
35	51	57	64	65	66	68	70					
30	45	52	58	59	61	63	65	67	68	70		
25	40	47	52	54	56	57	59	61	63	64	66	68
20	35	41	47	48	50	51	53	55	57	58	60	63
15	30	36	42	43	44	46	48	49	51	53	55	57
10	24	31	36	37	38	40	43	44	46	47	49	51
5	19	25	31	32	33	35	37	38	40	41	43	45
0	13	20	25	26	28	29	31	33	34	36	38	40
-5	8	14	20	21	22	24	26	27	29	30	32	34
-10	3	9	14	15	17	19	20	22	23	25	26	28
-15	-2	3	9	10	11	13	14	16	17	19	21	23
-20	-7	-2	3	4	6	7	9	10	12	13	15	17
-25	-12	-7	-3	-1	0	2	3	5	6	8	9	11
-30	-18	-12	-8	-7	-5	-4	-2	-1	1	2	4	6
-35	-23	-17	-13	-12	-10	-9	-8	-7	-5	-4	-2	0
-40	-28	-23	-18	-17	-16	-15	-13	-12	-11	-9	-7	-6
-45	-34	-29	-24	-23	-21	-20	-19	-17	-16	-14	-13	-11
-50	-39	-34	-29	-28	-27	-26	-24	-23	-21	-20	-19	-17
-55	-44	-39	-35	-34	-32	-31	-30	-28	-27	-26	-24	-23
-60	-49	-45	-40	-39	-38	-37	-35	-34	-33	-31	-30	-28
-65	-55	-50	-46	-45	-43	-42	-41	-40	-38	-37	-36	-34
-70	-60	-55	-51	-50	-49	-48	-47	-45	-44	-43	-41	-40

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

Interval	Installed	Required	Procedure
C	-	0	

Except for ER operations beyond 120 minutes, may be inoperative provided airplane is not operated in known or forecast icing conditions.

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

30-09-02 Amber (Heater Off) Lights

***

30-09-02-01 Pitot and Pitot/Static

Interval	Installed	Required	Procedure
B	-	0	**(M)**

Except for ER operations beyond 120 minutes, may be inoperative provided:

a. Associated heater function is verified to operate normally.

b. Airplane is not operated in known or forecast icing conditions.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

Verify that probe heater operates normally.

For -600/-700/-800/-900:

Verify that probe heater operates normally (AMM 30-00-00/901).

For All Models:

1. Station ground observer at associated probe heater, establish communications.
2. Ensure covers are removed from all air data probes and vanes.
3. Supply electrical power to airplane (AMM 24-22-00).
4. Position the associated PITOT STATIC HEAT switch or PROBE HEAT switch to the ON position.
5. Verify that heat radiation can be detected from associated probe, indicating that heater is functioning. DO NOT TOUCH PROBE.

   CAUTION: DO NOT PLACE HAND ON PROBE. TEMPERATURES ARE HIGH ENOUGH TO CAUSE BURNS. DO NOT LEAVE HEATER ON LONGER THAN REQUIRED. HEATER LIFE MAY BE UNNECESSARILY SHORTENED.

6. Position the associated PITOT STATIC HEAT switch or PROBE HEAT switch to the OFF or AUTO position.
7. Restore airplane electrical system to normal.

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

30-09-02 Amber (Heater Off) Lights
***

30-09-02-02 Temperature

30-09-02-02A One Required

Interval	Installed	Required	Procedure
C	-	1	

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

30-09-02 Amber (Heater Off) Lights
***

30-09-02-02 Temperature

30-09-02-02B Associated Heater Verified To Operate Normally

Interval	Installed	Required	Procedure
C	-	0	**(M)**

May be inoperative provided associated heater function is verified to operate normally before each departure.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Verify that probe heater operates normally prior to each departure.

For -600/-700/-800/-900:
Verify that probe heater operates normally prior to each departure (AMM 30-00-00/901).

For All Models:

1. Station ground observer at associated probe heater, establish communications.
2. Ensure covers are removed from all air data probes and vanes.
3. Supply electrical power to airplane (AMM 24-22-00).
4. For airplanes with non-aspirated TAT probes with air/ground logic for probe heater power, verifying TAT probe heater operation requires that first, the Ground Sensing switch located on the E11 shelf be pressed to simulate “air” mode.
5. Position the associated PITOT STATIC HEAT switch or PROBE HEAT switch to the ON position. For aspirated TAT probes, momentarily press/hold TAT TEST switch when verifying the TAT probe heater.

6. Verify that heat radiation can be detected from associated probe, indicating that heater is functioning. DO NOT TOUCH PROBE.

   CAUTION: DO NOT PLACE HAND ON PROBE. TEMPERATURES ARE HIGH ENOUGH TO CAUSE BURNS. DO NOT LEAVE HEATER ON LONGER THAN REQUIRED. HEATER LIFE MAY BE UNNECESSARILY SHORTENED.

7. Position the associated PITOT STATIC HEAT switch or PROBE HEAT switch to the OFF or AUTO position.
8. Restore airplane electrical system to normal.

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

30-09-02 * Amber (Heater Off) Lights**

30-09-02-02 Temperature

30-09-02-02C Associated Heater Inoperative

Interval	Installed	Required	Procedure
C	-	0	

May be inoperative provided associated heater is inoperative.

30-10 Wing Anti-Ice Duct Overheat System

30-10-01 Ground Test Feature

***

Interval	Installed	Required	Procedure
C	1	0	

30-11 Electrically Heated Windshields

30-11-01 No.1 or No. 2 Window

Interval	Installed	Required	Procedure
C	4	3	

Except for ER operations beyond 120 minutes, one No. 1 or No. 2 window heater may be inoperative provided:

a. Airplane is not operated in known or forecast icing conditions.
b. Windshield de-fog system operates normally.
c. Airspeed is limited to 250 KIAS below 10,000 feet MSL.

MAINTENANCE NOTE

Requirements for replacement of damaged windows are discussed in Chapter 56 of the Airplane Maintenance Manual (AMM).

Dispatch with window damage that does not require replacement per the AMM is permitted.

OPERATIONS NOTE

With No. 1 window heat inoperative, operate with the Windshield Air (pneumatic anti-fogging system) on when window heat is required.

30-11 Electrically Heated Windshields

30-11-02 No.4 or No. 5 Window

***

Interval	Installed	Required	Procedure
C	4	0	

No. 4 and No. 5 window heat may be inoperative provided airspeed is limited to 250 KIAS below 10,000 feet MSL.

MAINTENANCE NOTE

Requirements for replacement of damaged windows are discussed in Chapter 56 of the Airplane Maintenance Manual (AMM).

Dispatch with window damage that does not require replacement per the AMM is permitted.

30-11 Electrically Heated Windshields

30-11-03 No. 3 Window Heat System(s)

***

Interval	Installed	Required	Procedure
D	2	0	

30-12 De-Fog System

Interval	Installed	Required	Procedure
C	1	0	

30-13 Windshield Wiper System(s)

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided airplane is not operated in precipitation within 5 nautical miles of airport of takeoff or intended landing.

MAINTENANCE NOTE

For -100/-200/-300/-400/-500:

If wiper blade obstructs forward vision do these steps:

1. Remove bolt securing arm to converter shaft and remove wiper arm.
2. Install wiper arm in PARK position. To locate arm for PARK position, install arm on converter shaft so that blade will be parallel to window seal when a 2 to 3 pound force is applied to blade attach point.
3. Secure wiper arm to converter shaft with attaching bolt and lockwire.

For -600/-700/-800/-900:

If wiper blade obstructs forward vision do these steps:

1. Do this task: Windshield Wiper Arm Removal (AMM 30-42-31).
2. Do this task: Windshield Wiper Arm Installation (AMM 30-42-31).

   NOTE: It is only necessary to put the wiper arm in the parked position and to apply the appropriate downward force on the wiper blade. The steps related to the sweep of the wiper arm are not necessary.

30-13 Windshield Wiper System(s)

30-13-01 Park Function

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative for all flight conditions provided blade(s) can be positioned in a location that will not obstruct forward vision.

30-13 Windshield Wiper System(s)

30-13-02 Intermittent Speed Function (-400/-500/-600/-700/-800/-900)

***

Interval	Installed	Required	Procedure
D	2	0	

30-13 Windshield Wiper System(s)

30-13-03 Low Speed Function

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided both high speed functions operate normally.

30-13 Windshield Wiper System(s)

30-13-04 High Speed Function

30-13-04A One Inoperative

Interval	Installed	Required	Procedure
C	2	1	

One may be inoperative provided associated low speed function operates normally.

30-13 Windshield Wiper System(s)

30-13-04 High Speed Function

30-13-04B Both Inoperative

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided both low speed functions operate normally and rain intensity is less than moderate.

30-14 RainBoe Rain Repellent System (-400/-500)

***

Interval	Installed	Required	Procedure
D	1	0	

30-15 Windshield Perimeter Heater(s)

***

Interval	Installed	Required	Procedure
C	2	0	

30-17 COWL ANTI-ICE Lights (-400/-500/-600/-700/-800/-900)

30-17A Not Operated In Known Or Forecast Icing Conditions

Interval	Installed	Required	Procedure
C	2	1	

Except for ER operations beyond 120 minutes, one may be inoperative provided airplane is not operated in known or forecast icing conditions.

30-17 COWL ANTI-ICE Lights (-400/-500/-600/-700/-800/-900)

30-17B Associated Cowl Anti-Ice Valve Locked Open

Interval	Installed	Required	Procedure
C	2	1	**(M) (O)**

One may be inoperative provided associated cowl anti-ice valve is locked open.

NOTE: If dispatching with the associated cowl anti-ice valve locked open, MMEL Item 30-03 restrictions for a cowl anti-ice valve inoperative locked open must be observed.

MAINTENANCE (M)

For -300/-400/-500:
Refer to DDG Item 30-03-02B (M) procedure to dispatch with associated cowl anti-ice valve locked open.

For -600/-700/-800/-900:
Refer to DDG Item 30-03-03B (M) procedure to dispatch with associated cowl anti-ice valve locked open.

OPERATIONS (O)

For -300/-400/-500:
Refer to DDG Item 30-03-02B (O) procedure to dispatch with associated cowl anti-ice valve locked open.

For -600/-700/-800/-900:
Refer to DDG Item 30-03-03B (O) procedure to dispatch with associated cowl anti-ice valve locked open.

30-18 Alpha Vane Heater Light Systems

***

30-18A Associated Heater Verified To Operate Normally

Interval	Installed	Required	Procedure
C	2	0	**(M)**

May be inoperative provided associated heater function is verified to operate normally before each departure.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

With alpha vane heater light inoperative, check associated heater as follows prior to each departure:

For -600/-700/-800/-900:

With alpha vane heater light inoperative, check associated heater as follows prior to each departure (AMM 30-00-00/901):

For All Models:

1. Station ground observer at associated vane heater, establish communications.
2. Ensure covers are removed from all probe and vane heads.
3. Supply electrical power to airplane.
4. Position the associated PITOT STATIC HEAT switch or PROBE HEAT switch to the ON position.
5. Check that heat radiation can be detected from associated vane, indicating that heater is functioning. DO NOT TOUCH VANE.

   CAUTION: DO NOT PLACE HAND ON VANE. TEMPERATURES ARE HIGH ENOUGH TO CAUSE BURNS. DO NOT LEAVE HEATER ON LONGER THAN REQUIRED. HEATER LIFE MAY BE UNNECESSARILY SHORTENED.

6. Position the associated PITOT STATIC HEAT switch or PROBE HEAT switch to the OFF or AUTO position.
7. Restore airplane electrical system to normal.

30-18 Alpha Vane Heater Light Systems

***

30-18B Associated Heater Inoperative

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided associated heater is considered inoperative.

OPERATIONS NOTE

The associated alpha vane heater is considered inoperative. The airplane must also be dispatched using MMEL item 30-08.

30-19 Drain Mast Heaters

***

Interval	Installed	Required	Procedure
C	2	0	**(M)**

May be inoperative provided water supply to associated components is secured off.

MAINTENANCE (M)

.

For -300/-400/-500:

Turn off water supply to associated components and deactivate inoperative drain mast heaters.

1. Close the associated water supply shutoff valves (lavatory, galley or fountain).
2. Deactivate both drain mast heaters by opening and collaring the following circuit breakers on the P-18 panel:
   A. DRAIN MAST HEATER - GROUND
   B. DRAIN MAST HEATER - AIR

   NOTE: There is no procedure available for independently deactivating a single drain mast heater for dispatch.

For -600/-700/-800/-900:

Turn off water supply to associated components and deactivate inoperative drain mast heaters (AMM 21-00-00/901).

1. Close the associated water supply shutoff valves (lavatory, galley or fountain).
2. Deactivate inoperative drain mast heater(s):
   A. For an inoperative forward drain mast heater, disconnect, cap and stow wire 0243-20 from terminal block TB2201.
   B. For an inoperative aft drain mast heater, disconnect, cap and stow wire 0244-20 from terminal block TB2201.

   NOTE: Alternatively, both drain mast heaters may be deactivated by opening and collaring the following circuit breakers on the P-18 panel:

   A. HEATERS DRAIN MAST GND
   B. HEATERS DRAIN MAST AIR

30-20 Ice Detection System

***

Interval	Installed	Required	Procedure
D	1	0	

30-21 Control Stand Wing Anti-Ice Switches

***

30-21A Inoperative Closed

Interval	Installed	Required	Procedure
C	2	0	**(O)**

May be inoperative closed.

OPERATIONS (O)

Set WING ANTI-ICE switch to OFF on the ground and for takeoff.

NOTE: Wing anti-ice will not be available on the ground. Wing anti-ice will operate normally in-flight.

30-21 Control Stand Wing Anti-Ice Switches

***

30-21B Inoperative Open

Interval	Installed	Required	Procedure
C	2	0	**(O)**

May be inoperative open.

OPERATIONS (O)

Set WING ANTI-ICE switch to OFF for takeoff.

NOTE: Wing anti-ice is available on the ground. Wing anti-ice will operate normally in-flight.

31-01 Clocks

Interval	Installed	Required	Procedure
C	2	1	

One may be inoperative at either pilot or copilot station.

31-01 Clocks

31-01-01 Automatic UTC Update Function ***

Interval	Installed	Required	Procedure
C	2	0	**(O)**

May be inoperative provided manual mode is set and operates normally.

OPERATIONS (O)

NOTE: When UTC time/date information is not being received from GPS (MMEL item 34-45), dashes will be displayed in clock's UTC time/date display.

1. To set manual mode on clock:
   A. Select Manual Mode (MAN) with the "TIME/DATE" push button on the clock.
   B. Manually set the correct time/date as required.

31-02 Flight Data Recorder System (FDR)

31-02B Required

Interval	Installed	Required	Procedure
A	-	0	

May be inoperative provided:

a. Cockpit Voice Recorder (CVR) operates normally.

b. Airplane is not dispatched from a designated airport as listed in operator's MEL unless:

1) FDR failure occurs after pushback but prior to takeoff, or

2) FDR repair was attempted but was not successful.

c. In those cases where repair is attempted but not successful, aircraft may be dispatched on a flight or series of flights until next designated airport where repair must be accomplished prior to dispatch.

d. Repairs are made within three flight days.

31-02 Flight Data Recorder System (FDR)

31-02-01 FDR Recording Parameters required

Interval	Installed	Required	Procedure
A	-	-	

Up to three (3) recording parameters may be inoperative provided:

a. Cockpit Voice Recorder (CVR) operates normally.

b. Repairs are made within 20 calendar days.

MAINTENANCE NOTE

The following procedure may be used to confirm whether or not DFDAU faults affect the mandatory function of the FDR or only the ACMS function.

1. Position the Flight Recorder Test Switch to the TEST position.

2. If the Flight Recorder System OFF Light extinguishes, the fault does not affect the mandatory function of the FDR but does affect the ACMS function (see MMEL Item 31-07).

3. If the Flight Recorder System OFF light remains illuminated, the fault does affect the mandatory function of the FDR.

31-06 AIDS Maintenance Recorder

***

Interval	Installed	Required	Procedure
D	1	0	

31-07 Aircraft Condition Monitoring System (ACMS)
***

Interval	Installed	Required	Procedure
D	1	0	

NOTE: The Quick Access Recorder (QAR) is considered to be an ACMS component.

31-07 Aircraft Condition Monitoring System (ACMS)
***

31-07-01 Avionica miniQAR (Quick Access Recorder) (STC's ST02472AT or ST03151AT)

Interval	Installed	Required	Procedure
D	1	0	

31-08 Common Display System (CDS) (-600/-700/-800/-900)

31-08-01 Display Units (DU)

31-08-01-01 Lower DU

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided:

a. All remaining DUs operate normally.

b. It is checked that engine display can be switched to an alternate DU.

MAINTENANCE NOTE

With the lower display unit inoperative for dispatch, depending on the failure mode, the upper display unit may exhibit flickering. Deactivating the lower display unit by opening and collaring circuit breaker DISPLAY CTR LWR on the P6-1 panel will reduce the risk of this interference.

OPERATIONS (O)

Verify that engine indications can be manually selected to either Captain's or First Officer's inboard DU.

31-08 Common Display System (CDS) (-600/-700/-800/-900)

31-08-01 Display Units (DU)

31-08-01-02 Inboard DU

Interval	Installed	Required	Procedure
A	2	1	**(O)**

For EFIS/MAP configuration, one may be inoperative provided:

a. It is checked that engine display can be switched to an alternate DU.

b. All navigation must be based on ILS/VOR/DME.

c. Repairs are made within one flight day.

OPERATIONS (O)

Verify that engine indications can be manually selected to either Captain's or First Officer's inboard DU.

31-08 Common Display System (CDS) (-600/-700/-800/-900)

31-08-02 CDS MAINT Annunciation

31-08-02-01 PFD/ND

Interval	Installed	Required	Procedure
B	-	0	

May be dispatched with faults indicated by CDS MAINT annunciation provided CDS Operational Program Software (OPS) P/N 3111-HNP-01A-05 or later, is installed.

31-08 Common Display System (CDS) (-600/-700/-800/-900)

31-08-02 CDS MAINT Annunciation

31-08-02-02 EFIS/MAP

Interval	Installed	Required	Procedure
A	-	0	

May be dispatched with faults indicated by CDS MAINT annunciation provided:

a. Captain's Inboard DU operates normally.

b. CDS Operational Program Software (OPS) P/N 3111-HNP-01A-05 or later, is installed.

c. Repairs are made within one flight day.

31-09 Remote Light Sensor System (-400/-500/-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided all manual display brightness controls operate normally.

31-10 Speed Reference Selector (-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided speeds can be set using CDU.

31-11 Mechanical Timer

***

31-11A Alternate Procedures Required

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided alternate procedures are established and used.

OPERATIONS (O)

Each operator must establish alternate procedures to be used when dispatching with the mechanical timer inoperative.

31-11 Mechanical Timer

***

31-11B Procedures Do Not Require Use

Interval	Installed	Required	Procedure
D	1	0	

May be inoperative provided procedures do not require its use.

31-12 Takeoff Warn Test Switch

***

31-12A Procedures Require Use

Interval	Installed	Required	Procedure
C	1	0	

31-13 Flat Panel Display System (Universal Avionics, Inc. EFI-890) (STC ST03355AT and ST03362AT)

31-13-01 Inboard DU (ND)

Interval	Installed	Required	Procedure
A	2	1	**(O)**

For PFD/ND configuration, one may be inoperative provided:

a. Reversionary Display on PFD is checked prior to departure.

b. PFD Lateral Deviation Scale operates normally.

c. Repairs are made within two flight days.

NOTE: STC's are not Boeing configurations. Information and/or procedures are applicable to this installation are not provided.

31-13 Flat Panel Display System (Universal Avionics, Inc. EFI-890) (STC ST03355AT and ST03362AT)

31-13-01 Inboard DU (ND)

31-13-01-01 Display Control Panel Switches/Control Knobs

Interval	Installed	Required	Procedure
A	-	0	

May be inoperative provided:

a. Inboard DU is considered inoperative.

b. Repairs are made within two flight days.

31-13 Flat Panel Display System (Universal Avionics, Inc. EFI-890) (STC ST03355AT and ST03362AT)

31-13-01 Inboard DU (ND)

31-13-01-01 Display Control Panel Switches/Control Knobs

31-13-01-01-01 TERR

Interval	Installed	Required	Procedure
C	2	1	

31-13 Flat Panel Display System (Universal Avionics, Inc. EFI-890) (STC ST03355AT and ST03362AT)

31-13-01 Inboard DU (ND)

31-13-01-01 Display Control Panel Switches/Control Knobs

31-13-01-01-02 TFC

Interval	Installed	Required	Procedure
C	2	1	

31-13 Flat Panel Display System (Universal Avionics, Inc. EFI-890) (STC ST03355AT and ST03362AT)

31-13-01 Inboard DU (ND)

31-13-01-01 Display Control Panel Switches/Control Knobs

31-13-01-01-03 WX

Interval	Installed	Required	Procedure
C	2	1	

31-13 Flat Panel Display System (Universal Avionics, Inc. EFI-890) (STC ST03355AT and ST03362AT)

31-13-02 Outboard DU (PFD)

31-13-02-01 Display Control Panel Switches/Control Knobs

31-13-02-01-01 RA/DA Set

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided approach minimums do not require its use.

31-13 Flat Panel Display System (Universal Avionics, Inc. EFI-890) (STC ST03355AT and ST03362AT)

31-13-02 Outboard DU (PFD)

31-13-02-01 Display Control Panel Switches/Control Knobs

31-13-02-01-02 RA/DA

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided approach minimums do not require its use.

31-13 Flat Panel Display System (Universal Avionics, Inc. EFI-890) (STC ST03355AT and ST03362AT)

31-13-02 Outboard DU (PFD)

31-13-02-01 Display Control Panel Switches/Control Knobs

31-13-02-01-03 RA/Test

Interval	Installed	Required	Procedure
C	2	0	

31-14 TAKEOFF CONFIG Light
31-14-01 --400/-500 (upon incorporation of Boeing Service Bulletin 737-31A1325)
31-14-01A CABIN ALTITUDE Light Operates Normally

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided the CABIN ALTITUDE warning light operates normally.

31-14 TAKEOFF CONFIG Light
31-14-01 --400/-500 (upon incorporation of Boeing Service Bulletin 737-31A1325)
31-14-01B Before-Takeoff Crew Briefing Required

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided flight crew performs a briefing on cabin altitude warning indications and procedures before engine start for the first flight of the day or following any change of either flight crew member.

OPERATIONS (O)

Use DDG item 21-11-02-01B (O) procedure.

31-14 TAKEOFF CONFIG Light
31-14-02 -600/-700/-800/-900 (upon incorporation of Boeing Service Bulletin 737-31A1332, or production equivalent)
31-14-02A Associated CABIN ALTITUDE Light Operates Normally

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided the associated CABIN ALTITUDE warning light operates normally.

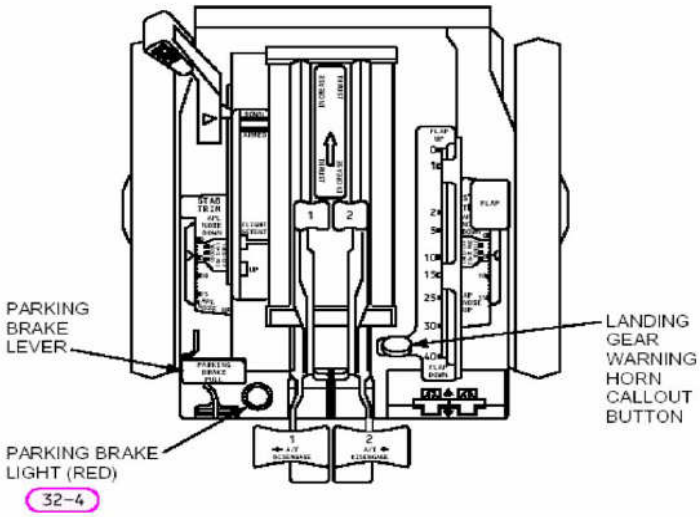
31-14 TAKEOFF CONFIG Light
31-14-02 -600/-700/-800/-900 (upon incorporation of Boeing Service Bulletin 737-31A1332, or production equivalent)
31-14-02B Before-Takeoff Crew Briefing Required

Interval	Installed	Required	Procedure
C	2	0	**(O)**

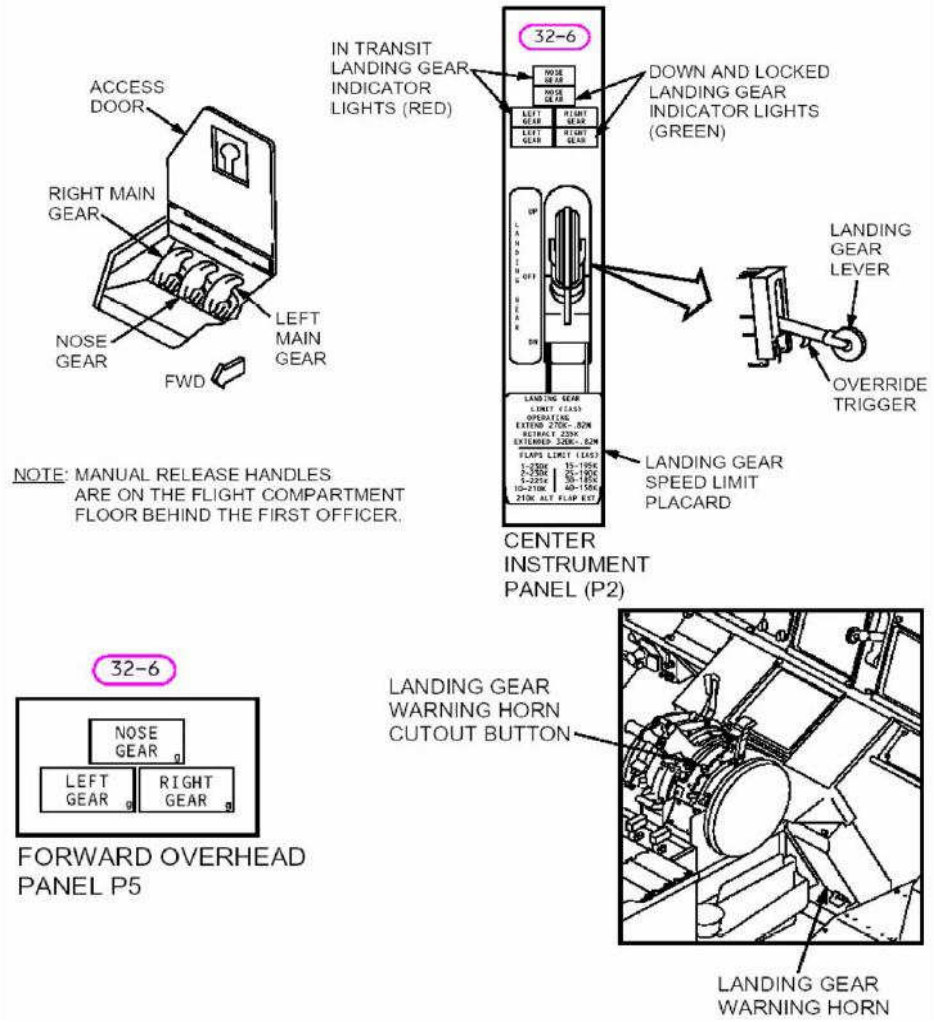
May be inoperative provided flight crew performs a briefing on cabin altitude warning indications and procedures before engine start for the first flight of the day or following any change of either flight crew member.

OPERATIONS (O)

Use DDG item 21-11-02-02B (O) procedure.



BRAKE CONTROLS AND INDICATIONS



LANDING GEAR CONTROLS AND INDICATION

32-02 Antiskid System

32-02-01 --400/-500

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided operations are conducted in compliance with AFM.

NOTE:

-300/-400/-500 antiskid system has two circuit breakers (C/B's); one for Inboard (INBD) and one for Outboard (OUTBD) wheel brakes. If only one of the two antiskid channels is inoperative, the other channel may be left on to provide antiskid protection for the INBD or OUTBD wheels. Any channel that is inoperative must be turned off to ensure full manual braking capability.

MAINTENANCE NOTE

For -300/-400/-500:

1. Verify power is available to both the inboard and outboard antiskid channels and the antiskid switch is on.
2. Gain access to the antiskid control unit in the electronics bay E3-2.
3. Conduct a BITE check of the antiskid control unit by placing the wheel selector switch in the position shown in the table, pressing the test switch indicated, and observing the LED response. Any response other than the normal response requires maintenance action as shown.

   NOTE: Verify that wheel chocks are in place as the above BITE check will require that the parking brake be released (OFF) temporarily.
4. Verify correct circuit breaker was pulled by repeating Step 3 after opening circuit breaker. The powered channel will have responses as shown in the table. No LED's will illuminate for components in the unpowered channel.
5. Install a collar on the open circuit breaker.
6. Repeat Step 3 daily until aircraft is repaired in order to detect subsequent failures.

TEST SWITCH	WHEEL SELECT	NORMAL LED INDICATION	NON-NORMAL INDICATION ACTION
VALVE	LO	Center Green LED	Open CB C195, Outboard Antiskid
VALVE	LI	Center Green LED	Open CB C196, Inboard Antiskid
VALVE	RI	Center Green LED	Open CB C196, Inboard Antiskid
VALVE	RO	Center Green LED	Open CB C195, Outboard Antiskid
VALVE	PB (Parking Brake SET)	Center Green LED	See DDG Item 32-03
VALVE	PB (Parking Brake OFF)	Center Green LED	See DDG Item 32-03
VALVE	L ALT	Center Green LED	See DDG Item 32-10
VALVE	R ALT	Center Green LED	See DDG Item 32-10
XDCR	LO	Right Green LED	Open CB C195, Outboard Antiskid
XDCR	LI	Right Green LED	Open CB C196, Inboard Antiskid
XDCR	RI	Right Green LED	Open CB C196, Inboard Antiskid
XDCR	RO	Right Green LED	Open CB C195, Outboard Antiskid

OPERATIONS (O)

For -300/-400/-500:

2. Place antiskid control switch to OFF if both antiskid channels are inoperative.

For -100/-200/-300/-400/-500:

3. Reduced thrust takeoff using the assumed temperature method is not permitted.
4. Turn Autobrake System (if installed) OFF.
5. Payload may be affected due to takeoff and landing runway length requirements.
6. Adjust takeoff and landing gross weight limits as required for antiskid inoperative.
7. Extend speed brakes manually since automatic extension system may not be operative with antiskid inoperative.
8. Use antiskid inoperative braking procedure (AFM Section 4).

32-02 Antiskid System

32-02-02 -600/-700/-800/-900

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Associated Antiskid channel(s) is deactivated.

b. Operations are conducted in compliance with AFM.

NOTE: The antiskid system has two circuit breakers (C/B's); one for Inboard (INBD) and one for Outboard (OUTBD) wheel brakes. If only one of the two antiskid channels is inoperative, the other channel may be left on to provide antiskid protection for the INBD or OUTBD wheels. Any channel that is inoperative must be turned off to ensure full manual braking capability.

MAINTENANCE (M)

Deactivate the inoperative Antiskid System channels (AMM 32-00-00/-901).

Identify faulty channels by performing a maintenance BITE check as follows:

NOTE: If only one of the two antiskid channels is inoperative, the other channel may be left on to provide antiskid protection for the INBD or OUTBD wheels.

1. Gain access to the antiskid/autobrake control unit in the electronics bay E1-3.
2. Note all faults by pressing the PRESS/TEST - BIT switch to the BIT position until “TEST END”.
3. Clear all faults by pushing RESET.
4. Note existing faults by pressing the PRESS/TEST - BIT switch to the BIT position until “TEST END”.
5. Open and collar the P6-3 panel ANTISKID circuit breaker associated with existing faults.

Alternatively, the Antiskid system may be deactivated without performing the maintenance BITE check.

Open and collar the P6-3 panel INBOARD ANTISKID and OUTBOARD circuit breakers.

OPERATIONS (O)

1. Reduced thrust takeoff using the assumed temperature method is not permitted.

2. Takeoff on wet runways is not permitted unless AFM performance for wet skid-resistant surfaces and antiskid inoperative is applicable and used.
3. Turn Autobrake System (if installed) OFF.
4. Payload may be affected due to takeoff and landing runway length requirements.
5. Adjust takeoff and landing gross weight limits as required for antiskid inoperative.
6. Extend speed brakes manually since automatic extension system may not be operative with antiskid inoperative.
7. Use antiskid inoperative braking procedure (AFM Section 4).

32-03 Parking Brake Valve (--400/-500/-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative closed provided operations comply with AFM antiskid inoperative decrements.

MAINTENANCE (M)

For -300/-400/-500:

1. Deactivate the parking brake valve in the closed position:
   A. Check that landing gear ground lock pins are properly installed.
   B. With electrical power on airplane and wheels chocked, release the parking brake.
   C. Open P6-3 panel ANTISKID FAIL & PARKING BRAKE or LANDING GEAR PARKING BRAKE circuit breaker.
   D. Deactivate antiskid system:
      Place antiskid switch to OFF position.
   E. Gain access to the parking brake valve and disconnect and stow electrical connector at valve.
   F. Manually position override lever on the valve to the fully closed (POS 2) position.
   G. Close P6-3 panel ANTISKID FAIL & PARKING BRAKE or LANDING GEAR PARKING BRAKE circuit breaker.

For -600/-700/-800/-900:

2. Deactivate the parking brake valve in the closed position (AMM 32-00-00/901):
   A. Check that landing gear ground lock pins are properly installed.
   B. With electrical power on airplane and wheels chocked, release the parking brake.
   C. Open P6-3 panel ANTISKID FAIL & PARKING BRAKE or LANDING GEAR PARKING BRAKE circuit breaker.
   D. Deactivate antiskid system:
      Open and collar the ANTISKID INBD and ANTISKID OUTBD circuit breakers.
   E. Gain access to the parking brake valve and disconnect and stow electrical connector at valve.
   F. Manually position override lever on the valve to the fully closed (POS 2) position.
   G. Close P6-3 panel ANTISKID FAIL & PARKING BRAKE or LANDING GEAR PARKING BRAKE circuit breaker.

3. With the parking brake released and antiskid deactivated, verify that the ANTISKID INOP light is on.
4. Position auto brake switch to OFF position.
5. Restore the airplane to its required configuration.

OPERATIONS (O)

NOTE: The parking brake operates normally with the parking brake valve inoperative closed.

1. Verify that the antiskid system is deactivated:

For -300/-400/-500:

Antiskid and auto brake switches are in the OFF position.

For -600/-700/-800/-900:

P6-3 panel ANTISKID INBD and ANTISKID OUTBD circuit breakers are opened and collared.

2. Verify that the auto brake switch is OFF.
3. Observe AFM limitations for dispatch with antiskid system inoperative.
4. Use antiskid inoperative braking procedure (AFM Section 4).
5. Extend speed brakes manually.

32-04 Parking Brake Light

32-04-02 Motor Operated Parking Brake Valve Installed

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided parking brake shutoff valve is verified to operate normally.

NOTE: Some Goodyear and all Mark III antiskid systems have motor operated parking brake shutoff valves.

MAINTENANCE (M)

For -300/-400/-500/-600/-700/-800/-900:
Verify parking brake shutoff valve operates normally.

1. Check that landing gear ground lock pins are properly installed.
2. With electrical power on the airplane and wheels chocked, set and release the parking brake.
3. Verify that the parking brake shutoff valve (located on the wheel well aft bulkhead) moves to the closed position (POS 2) when the parking brake is set and moves to the open position (POS 1) when the parking brake is released. These results indicate that the parking brake valve is operating normally.
4. The ANTISKID INOP light may illuminate when the parking brake is set. Check that ANTISKID INOP light extinguishes when parking brake is released. If ANTISKID INOP light does not extinguish when parking brake is released, refer to MMEL Item 32-02, Antiskid System.
5. Remove landing gear ground lock pins prior to dispatch.

32-04 Parking Brake Light

32-04-03 External Parking Brake Light

****

32-04-03A Alternate Procedures Used

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided alternate procedures are established and used.

OPERATIONS (O)

1. Establish communications between ground crew and flight deck.
2. Notify ground crew when the parking brake is set and released.

.

32-06 Landing Gear Warning and Indicating System (--400/-500)

Interval	Installed	Required	Procedure
C	-	2	

Either of two other indicating systems may be inoperative provided center panel indications operate normally.

NOTE 1: Some airplanes, including all cargo airplanes, have an additional gear indicating system that is located on the overhead panel. Dispatch requires that the center panel system and either the overhead panel system or the viewing system operate normally.

NOTE 2: Airplanes with the auxiliary landing gear indication system toggle switch installed on the E-11 shelf or the P5 overhead panel may dispatch with the primary downlock sensors inoperative provided the toggle switch is placed in the SECONDARY position and the viewing system operates normally. This configuration provides the required center instrument panel indications, with the second independent system being the viewing system (the center instrument panel is a repeater of the aft overhead panel). Airplanes with the auxiliary landing gear indication system toggle switch installed on the E-11 shelf or the P5 overhead panel may dispatch with the secondary downlock sensors inoperative provided the toggle switch is placed in the PRIMARY position and the viewing system operates normally. This configuration provides the required center instrument panel indications, with the second independent system being the viewing system, while preventing nuisance landing gear configuration aural warnings on approach (the aft overhead panel is a repeater of the center instrument panel).

32-07 Automatic Brake System
***

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided system is deactivated and secured.

MAINTENANCE (M)

If AUTO BRAKE DISARM or INOP light extinguishes with AUTO BRAKE switch OFF, dispatch is allowed with the AUTO BRAKE switch in the OFF position without any further deactivation procedures. If AUTO BRAKE DISARM or INOP light illuminates with AUTO BRAKE switch in the OFF position, perform the following additional procedures:

For -300/-400/-500:

1. Depressurize hydraulic system B:
   Reference AMM 29-15-00.
2. Open and collar the following P6-3 Panel auto brake control circuit breaker:
   Autobrakes Cont
3. In main gear wheel well, on the ceiling locate the auto brake valve module V122 and deactivate system by one of the two following methods:
   A. METHOD 1
      1) Disconnect, cap and stow electrical connectors from auto brake valve module.
      2) Remove the auto brake valve module and cap the supply pressure line.
      3) Connect the brake pressure line and the return line with a 3/8 inch section of tubing or flexible hose (prevents hydraulically locking the brake shuttle valves in the brakes off position).
   B. METHOD 2
      1) Disconnect, cap and stow electrical connectors from auto brake valve module.
      2) To ensure that alternate source selector valve remains pressurized, remove the "TEE" at the supply pressure port on the valve module and replace with a 90 degree "ELBOW" fitting (BACE21BL0604J, BACE21AR0604J, or equivalent). Cap the supply pressure port on the valve module (MS21914-6, BACC14AD-6 or equivalent).

4. Repressurize the hydraulic systems (AMM 29-15-00) and check vicinity of auto brake valve for leaks.

For -600/-700/-800/-900:
AMM 32-00-00/901:

1. Depressurize hydraulic system B:

   Reference AMM 29-11-00.
2. Open and collar the following P6-3 Panel auto brake control circuit breakers:

   Autobrake/BITE 1 and Autobrake/BITE 2
3. In main gear wheel well, on the ceiling locate the auto brake valve module V122 and deactivate system by one of the two following methods:
   A. METHOD 1
      1) Disconnect, cap and stow electrical connectors from auto brake valve module.
      2) Remove the auto brake valve module and cap the supply pressure line.
      3) Connect the brake pressure line and the return line with a 3/8 inch section of tubing or flexible hose (prevents hydraulically locking the brake shuttle valves in the brakes off position).
   B. METHOD 2
      1) Disconnect, cap and stow electrical connectors from auto brake valve module.
      2) Disconnect and plug the supply pressure line and cap the supply pressure port on the valve module.
4. Uncollar and close the two P6-3 Panel auto brake circuit breakers.
5. Repressurize the hydraulic systems (AMM 29-11-00) and check vicinity of auto brake valve for leaks.

32-08 Rudder Pedal Nose Wheel Steering System

32-08-01 Rotary Actuator (-400/-500/-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative deactivated in disengage position provided:

a. Operation of associated systems are not affected.

b. All takeoffs and landings are made by pilot with access to an operating tiller.

NOTE: Dispatch is only allowed with the rudder pedal nose wheel steering not operating (electrical rotary actuator inoperative in the disengage position). The rotary actuator cannot be manually positioned.

MAINTENANCE (M)

For -300/-400/-500:

1. Open and collar P6-3 Panel circuit breaker LANDING GEAR NOSE GEAR AIR/GND or P6-2 Panel circuit breaker NOSE GEAR AIR/GND and wait at least 10 seconds
2. Open and collar P6-3 Panel circuit breaker LANDING GEAR NOSE GEAR STEER or P6-2 Panel circuit breaker NOSE GEAR STEER.
3. Close P6-3 Panel circuit breaker LANDING GEAR NOSE GEAR AIR/GND or P6-2 Panel circuit breaker NOSE GEAR AIR/GND
4. Operate the rudder pedal steering and verify that the nose gear does not turn.
5. Operate rudder pedals and verify that the rudder operates normally.
6. Operate the tiller and verify that the nose gear steering operates normally.

For -600/-700/-800/-900:

(AMM 32-00-00/901)

1. Put the airplane in the air mode (AMM 32-09-00/201) and wait at least 5 seconds.
2. Open and collar P6-3 Panel circuit breaker LANDING GEAR NOSE GEAR STEER.
3. Return the airplane to the ground mode (AMM 32-09-00/201).
4. Operate the rudder pedal steering and verify that the nose gear does not turn.
5. Operate rudder pedals and verify that the rudder operates normally.
6. Operate the tiller and verify that the nose gear steering operates normally.

OPERATIONS (O)

Flight crew should be informed that the crew member with access to the tiller will be flying and the following procedures used:

NOTE: Pilots must use caution when using the nose wheel steering tiller (wheel) above 20 knots to avoid over-controlling the nose wheels resulting in possible loss of directional control.

Takeoff:

The crew member with access to the tiller should steer the airplane by manipulating the steering wheel control until the rudder becomes effective between 40 and 60 kts. The crew member not flying should assist by keeping the wings level and applying a light forward pressure on the control column until the tiller is no longer required for steering.

Landing:

The crew member with access to the tiller should use the rudder and steering wheel control as required during the landing roll. The crew member not flying should assist by keeping the wings level and a forward pressure on the control column.

32-09 Direct Reading Tire Pressure Gauge

***

Interval	Installed	Required	Procedure
D	-	0	

32-10 Alternate Antiskid Valves (-400/-500/-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	2	0	**(M)**

May be inoperative provided manual braking capability of alternate brake system is verified on associated wheels.

MAINTENANCE (M)

For -300/-400/-500:

If the alternate antiskid valve is inoperative, verify manual braking is available on the affected wheels with the alternate brake system:

1. Check that landing gear ground lock pins are properly installed.
2. Provide electrical power (AMM 24-22-00).
3. Verify that ANTISKID switch is ON.
4. Verify that wheel chocks are in place.
5. Depressurize Hydraulic System B and provide Hydraulic System A pressure (AMM 29-15-00).
6. Depress and release brake pedals several times. Observe brake wear indicator pins for movement to ensure that all brakes are operating normally.
7. If brakes do not operate normally, turn ANTISKID switch OFF.
   A. Depress and release brake pedals several times. Observe brake wear indicator pins for movement to ensure that all brakes are operating normally.
   B. If all brakes operate normally, also dispatch the airplane using MMEL item 32-02 (Antiskid System).

   NOTE: If any brake remains inoperative, the airplane cannot be dispatched.
8. Remove landing gear ground lock pins prior to dispatch.

For -600/-700/-800/-900:

If the alternate antiskid valve is inoperative, verify manual braking is available on the affected wheels with the alternate brake system (AMM 32-00-00-901):

1. Check that landing gear ground lock pins are properly installed.
2. Provide electrical power (AMM 24-22-00).
3. Verify that P6-3 panel circuit breakers ANTISKID INBD and ANTISKID OUTBD are closed.
4. Verify that wheel chocks are in place.
5. Depressurize Hydraulic System B and provide Hydraulic System A pressure (AMM 29-11-00).

6. Depress and release brake pedals several times. Observe brake wear indicator pins for movement to ensure that all brakes are operating normally.
7. If brakes do not operate normally, open and collar P6-3 panel circuit breakers ANTISKID INBD and ANTISKID OUTBD.
   A. Depress and release brake pedals several times. Observe brake wear indicator pins for movement to ensure that all brakes are operating normally.
   B. If all brakes operate normally, also dispatch the airplane using MMEL item 32-02 (Antiskid System).

   NOTE: If any brake remains inoperative, the airplane cannot be dispatched.
8. Remove landing gear ground lock pins prior to dispatch.

32-11 Brake Temperature Monitor System

***

32-11A Procedures Require Use

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided AFM Maximum Quick Turnaround Weight limitations are observed.

OPERATIONS (O)

Observe AFM Maximum Quick Turnaround Weight limitations.

32-12 Nose Wheel Steering Switch (-400/-500/-600/-700/-800/-900)

***

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided:

a. Nose wheel steering is powered by Hydraulic System A.

b. Landing gear transfer valve is verified to operate normally.

MAINTENANCE (M)

For -300/-400/-500:

Verify that the landing gear transfer valve operates normally:

1. Pressurize Hydraulic System A.
   Reference AMM 29-15-00.
2. Perform the Landing Gear Transfer Valve Operational Test (AMM 32-31-71).
3. Depressurize Hydraulic System A.
   Reference AMM 29-15-00.
4. Place Nose Wheel Steering switch to NORM position.

For -600/-700/-800/-900:

Verify that the landing gear transfer valve operates normally (AMM 32-00-00/901):

1. Pressurize Hydraulic System A.
   Reference AMM 29-11-00.
2. Perform the Landing Gear Transfer Valve Operational Test (AMM 32-31-71).
3. Depressurize Hydraulic System A.
   Reference AMM 29-11-00.
4. Place Nose Wheel Steering switch to NORM position.

OPERATIONS NOTE

Nose wheel steering will not be available if Hydraulic System A power is lost.

32-13 Hydraulic Brake Pressure Indication System

32-13-02 --400/-500/-600/-700/-800/-900

32-13-02-01 Wheel Well Brake Accumulator Gauge

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided flight deck brake pressure indicator operates normally.

32-13 Hydraulic Brake Pressure Indication System

32-13-02 -300/-400/-500/-600/-700/-800/-900

32-13-02-02 Flight Deck HYD BRAKE PRESS Indicator System

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided brake accumulator charge is verified normal once each flight day.

MAINTENANCE (M)

For -300/-400/-500:

Verify brake accumulator charge.

1. Chock wheels and release parking brakes.
2. Depressurize Hydraulic Systems A and B (AMM 29-15-00).
3. Apply and release brakes 10 times with approximately 3 seconds between each application. Verify that associated wheel well brake accumulator gauge pressure indication is within limits after 10 applications (AMM 12-15-11 or wheel well placard).
4. Pressurize Hydraulic Systems A and B (AMM 29-15-00) and verify that associated wheel well brake accumulator gauge pressure indication is approximately 3000 psi.
5. Set parking brakes.
6. Depressurize Hydraulic Systems A and B (AMM 29-15-00).

For -600/-700/-800/-900:

Verify brake accumulator charge (AMM 32-00-00/901).

1. Chock wheels and release parking brakes.
2. Depressurize Hydraulic Systems A and B (AMM 29-11-00).
3. Apply and release brakes 10 times with approximately 3 seconds between each application. Verify that associated wheel well brake accumulator gauge pressure indication is within limits after 10 applications (AMM 12-15-11 or wheel well placard).

4. Pressurize Hydraulic Systems A and B (AMM 29-11-00) and verify that associated wheel well brake accumulator gauge pressure indication is approximately 3000 psi.
5. Set parking brakes.
6. Depressurize Hydraulic Systems A and B (AMM 29-11-00).

32-14 Gear Retraction Braking System (-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided:

a. After takeoff, landing gear remains extended for two minutes before retraction.

b. Takeoff performance is based on Landing Gear Extended.

OPERATIONS (O)

1. Base takeoff performance on landing gear extended. Takeoff performance for landing gear extended is available using the Boeing Takeoff Module (BTM) computer program.
2. After takeoff, leave the landing gear extended for a minimum of two minutes to allow the wheels to spin down prior to gear retraction.

32-15 Landing Gear Selector Valve Bypass Module (-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided it is deactivated in normal position.

MAINTENANCE (M)

Deactivate the landing gear selector valve bypass module. (AMM 32-00-00/901).

1. Open and collar P6-3 panel LANDING GEAR ALTN EXTEND SOL circuit breaker.
2. Check that landing gear ground lock pins are properly installed.
3. Verify that the bypass valve module is in the NORMAL position:
   A. Momentarily position the landing gear lever in the UP position
   B. Verify that the main landing gear downlock actuator tries to extend.
   C. Ensure landing gear lever is returned to the DOWN position.
4. Remove landing gear ground lock pins when all maintenance and servicing of airplane is complete.

OPERATIONS (O)

The maximum performance-limited landing weight must be based on flaps 15 and reduced by the following weight adjustments.

NOTE: A landing flap setting other than 15 may be used unless the landing gear lever is jammed in the up position.

A/C Type	Flaps 15 Performance Limited Landing Weight Adjustment
737-800	28,900 lb (13,109 kg)
737-800SFP	19,900 lb (9027 kg)
737-900	34,400 lb (15,604 kg)
737-900ER	21,200 lb (9617 kg)

If the landing gear lever will not move from the UP position when required, accomplish the following procedure to extend the landing gear. This procedure replaces the Flight Crew Operations Manual QRH, “LANDING GEAR LEVER JAMMED IN THE UP POSITION” procedure.

1. Pull Landing gear override trigger.

   NOTE: 270K/0.82M maximum speed.

2. Position LANDING GEAR lever Down.
3. If landing gear lever moves down.
   A. Check landing gear indicator lights.
   B. If all landing gear are down and locked, do the normal DESCENT, APPROACH and LANDING checklists.
   C. If all landing gear are not down and locked, do the MANUAL GEAR EXTENSION checklist in the Flight Crew operations Manual QRH.
4. If landing gear lever does not move down.

   NOTE: Manual gear extension using this procedure may require up to 10 minutes to accomplish. Do not accomplish this procedure unless there is sufficient fuel to extend the gear and then complete an approach, with appropriate reserves. If sufficient fuel is not available, accomplish the PARTIAL OR ALL GEAR UP LANDING checklist in the Flight Crew Operations Manual QRH.

   A. Verify NOSE WHEEL STEERING switch is NORM.

      NOTE: Do not use alternate nose wheel steering because the landing gear may retract on the ground.

   B. Position the system A FLT CONTROL switch to STBY RUD.
   C. Position the system A hydraulic pump switches to OFF.
   D. Cycle the speed brake lever until system A hydraulic pressure is below 500 psi.

      NOTE 1: It may take a number of cycles to reduce the system A pressure to below 500 psi.

      NOTE 2: Do not repressurize hydraulic system A inflight or on the ground and do not use alternate nose wheel steering because the landing gear may retract.

      NOTE 3: The engine No. 1 thrust reverser will deploy and retract at a slower rate and some thrust asymmetry can be anticipated during thrust reverser deployment.

      NOTE 4: The following items will be inoperative:

      1) Ground spoilers.
      2) Flight spoilers 2, 4, 9, 11.
      3) Autopilot A.
      4) Normal nose wheel steering.
      5) Alternate brakes.
      6) Two-Position tail skid extension (applicable on 900ER, optional on 800SFP).

   E. Pull the manual gear extension handles.

      NOTE 1: 270K/0.82M maximum speed.

      NOTE 2: Do not wait for an indication that a landing gear is down and locked before pulling the next handle.

F. Continue to cycle the speed brake lever to relieve hydraulic pressure as the gear extends.

NOTE 1: It may take a number of cycles and up to 4 minutes until all three landing gear indicator lights are illuminated.

NOTE 2: With the LANDING GEAR lever in the UP or OFF position, the red landing gear indicator lights will stay illuminated.

G. If all landing gear are not down and locked, accomplish the PARTIAL OR ALL GEAR UP LANDING checklist in the Flight Crew Operations Manual QRH.

H. If all landing gear are down and locked, plan for a flaps 15 landing.

1) Set VREF 15 + 10 knots.

NOTE: Provides tail clearance during landing since "A" hydraulic system flight spoilers will be unlocked and may float.

2) Position the GROUND PROXIMITY FLAP INHIBIT switch to FLAP INHIBIT.

3) If installed, position the GROUND PROXIMITY GEAR INHIBIT switch to GEAR INHIBIT.

4) If GROUND PROXIMITY GEAR INHIBIT switch not installed, pull GND PROX WARN circuit breaker.

32-16 Landing Gear Actuation System (-600/-700/-800/-900)

Interval	Installed	Required	Procedure
B	1	0	**(M) (O)**

May be inoperative provided:

a. Inoperative components are secured by an accepted procedure.
b. Landing gear are secured in down position.
c. Airplane is dispatched in accordance with AFM Gear Extended Appendix.

MAINTENANCE (M)

Secure the landing gear in the down position (AMM 32-00-00/901).

1. Install landing gear downlock pins (AMM 32-00-01/201).
2. Re-program airspeed indicator and airspeed warnings (VMO/MMO) for landing gear extended by placing the Alternate Gear Down Dispatch switch located in the main equipment center to the VMO position.

OPERATIONS (O)

Dispatch the airplane in accordance with the AFM Landing Gear Extended Appendix.

1. Observe AFM Landing Gear Extended certificate limitations and operational limits.
2. Airplane performance with landing gear extended is available in AFM-DPI and the Boeing 737-600/-700/-800/-900 Flight Planning and Performance Manual for operators that have the AFM appendix for Landing Gear Extended.

32-17 Proximity Switch Electronics Unit (PSEU) System and Supplemental Proximity Sensor Electronics Unit (SPSEU) (-600/-700/-800/-900)

32-17-01 PSEU Fault

32-17-01A PSEU Faults Checked Before Each Departure

Interval	Installed	Required	Procedure
C	-	0	**(M)**

May be dispatched with faults indicated by PSEU light provided PSEU is checked for faults before each departure.

MAINTENANCE (M)

Check the PSEU BITE for faults (AMM 32-00-00/901):

1. Gain access to the PSEU through the forward access door.
2. Power the PSEU BITE Control Panel by pressing the ON/OFF switch.
3. EXISTING FAULTS? will be displayed. Press the YES switch.
4. One of the following messages will be displayed:
   A. "NO FAULTS" - airplane may be dispatched without further action.
   B. "DISPATCH FAULT" (or "DISPATCH PER MEL" if PSEU P/N 285A1600-4 or later is installed) - msg #32-64003 - dispatch allowed for 10 days unless msg #32-62009, 32-62109, 32-62010, 32-62110, or 32-62014 are also displayed. If msg #32-62009, 32-62109, 32-62010, 32-62110, or 32-62014 are displayed, refer to MMEL item 32-21.
   C. "NO DISP FAULT" (or "DO NOT DISPATCH" if PSEU P/N 285A1600-4 or later is installed) - msg #32-64004 - dispatch is not allowed. If msg #32-62009, 32-62109, 32-62010, 32-62110, or 32-62014 are also displayed, refer to MMEL item 32-21.

32-17 Proximity Switch Electronics Unit (PSEU) System and Supplemental Proximity Sensor Electronics Unit (SPSEU) (-600/-700/-800/-900)

32-17-01 PSEU Fault

32-17-01B PSEU Light Can Be Extinguished

Interval	Installed	Required	Procedure
C	-	0	

May be dispatched with faults indicated by PSEU light provided PSEU light can be extinguished.

MAINTENANCE NOTE

For dispatchable faults, extinguish the PSEU light by one of these three steps:

1. Pushing the MASTER CAUTION light, or
2. Setting the parking brake, or
3. Shutting down both engines.

32-17 Proximity Switch Electronics Unit (PSEU) System and Supplemental Proximity Sensor Electronics Unit (SPSEU) (-600/-700/-800/-900)

32-17-02 PSEU Light

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided PSEU is checked for faults before each departure.

MAINTENANCE (M)

Check the PSEU BITE for faults (AMM 32-00-00/901):

1. Gain access to the PSEU through the forward access door.
2. Power the PSEU BITE Control Panel by pressing the ON/OFF switch.
3. EXISTING FAULTS? will be displayed. Press the YES switch.
4. One of the following messages will be displayed:
   A. “NO FAULTS” - airplane may be dispatched without further action.
   B. “DISPATCH FAULT” (or “DISPATCH PER MEL” if PSEU P/N 285A1600-4 or later is installed) - msg #32-64003 - dispatch allowed for 10 days unless msg #32-62009, 32-62109, 32-62010, 32-62110, or 32-62014 are also displayed. If msg #32-62009, 32-62109, 32-62010, 32-62110, or 32-62014 are displayed, refer to MMEL item 32-21.
   C. “NO DISP FAULT” (or “DO NOT DISPATCH” if PSEU P/N 285A1600-4 or later is installed) - msg #32-64004 - dispatch is not allowed. If msg #32-62009, 32-62109, 32-62010, 32-62110, or 32-62014 are also displayed, refer to MMEL item 32-21.

32-17 Proximity Switch Electronics Unit (PSEU) System and Supplemental Proximity Sensor Electronics Unit (SPSEU) (-600/-700/-800/-900)

32-17-03 Supplemental Proximity Sensor Electronics Unit (SPSEU) Light (-900ER)

***

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided SPSEU is checked for faults before each departure.

MAINTENANCE (M)

Check SPSEU BITE for faults (AMM 32-00-00/901).

1. Supply power to the airplane.
2. Gain access to the SPSEU through the electronic equipment access door.
3. Press the DISPLAY FAULT button on the SPSEU when the display is off. Repeat pressing the DISPLAY FAULT button to cycle through all faults that may be present.

   NOTE: Fault codes 1-8, and B-E are NOT allowed for dispatch. Fault code 9 indicates a flightlock fault, refer to MMEL item 52-15. Fault code A indicates a Tail Skid Output Overcurrent, refer to MMEL item 32-22. A blinking F is an indication that one or more faults are latched, but is not a fault code itself. Fault code 0 indicates that there are no faults.

32-18 Landing Gear Alternate Extension System (-600/-700/-800/-900)

Interval	Installed	Required	Procedure
B	1	0	**(M) (O)**

May be inoperative provided:

a. Inoperative components are secured by an accepted procedure.

b. Landing gear are secured in down position.

c. Airplane is dispatched in accordance with AFM Gear Extended Appendix.

MAINTENANCE (M)

Secure the landing gear in the down position (AMM 32-00-00/901).

1. Install landing gear downlock pins (AMM 32-00-30/201).
2. Re-program airspeed indicator and airspeed warnings (VMO/MMO) for landing gear extended by placing the Alternate Gear Down Dispatch switch located in the main equipment center to the VMO position.

OPERATIONS (O)

Dispatch the airplane in accordance with the AFM Landing Gear Extended Appendix.

1. Observe AFM Landing Gear Extended certificate limitations and operational limits.
2. Airplane performance with landing gear extended is available in AFM-DPI and the Boeing 737-600/-700/-800/-900 Flight Planning and Performance Manual for operators that have the AFM appendix for Landing Gear Extended.

32-19 Main Landing Gear Uplock Springs

Interval	Installed	Required	Procedure
B	4	3	**(M) (O)**

One spring on one main gear uplock mechanism may be missing provided landing gear lever remains in UP position for duration of flight until gear extension is required.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Remove the affected main landing gear uplock spring.
For -600/-700/-800/-900:
Remove the affected main landing gear uplock spring (AMM 32-00-00/901).

OPERATIONS (O)

After takeoff, leave landing gear lever in the UP position for the duration of flight until gear extension is required.

32-20 Landing Gear Frangible Fitting (-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	2	0	**(M)**

May be broken or missing provided fitting is replaced with a hydraulic cap assembly.

MAINTENANCE (M)

Remove the frangible fitting and nut and replace with a standard BACC14AD06JL or equivalent hydraulic cap assembly (AMM 32-00-00/901).

32-21 Flap Landing Warning Switch, S138 (-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	1	0	**(M)**

Switch contacts normally in use may be inoperative provided:

a. S138 switch is rewired using an alternate set of contacts.

b. PSEU BITE is used to verify normal operation of S138 switch.

MAINTENANCE (M)

S138 switch is rewired and PSEU BITE is used to verify normal operation of the S138 switch (AMM 32-00-00/901).

1. Failure of the S138 switch is indicated by illumination of the PSEU fault light accompanied by fault message numbers 32-62009, 32-62109, 32-62010, 32-62110, or 32-62014 shown in the PSEU BITE.
2. Each fault message indicates a high resistance short to ground or disagreement between contacts as shown below:
   A. 32-62009/32-62109 D10984 pin 48 S138 contact “3” wire W8124-A-CC
   B. 32-62010/32-62110 D10984 pin 49 S138 contact “18” wire W8124-A-UU
   C. 32-62014 Disagreement between contacts “3” and “18”

   For a S138 switch with connector attached to D14730 -
   A. 32-62009/32-62109 D10984 pin 48 S138 contact “C” wire W8124-0506-20
   B. 32-62010/32-62110 D10984 pin 49 S138 contact “U” wire W8124-0511-20
   C. 32-62014 Disagreement between contacts “C” and “U”
3. Refer to Wiring Diagram Manual 32-64-21 and wire list for available contacts. The wires for the contact set (center tap contact and normally open contact) may be cut from the S138 switch set and temporarily connected to an available set of contacts in the same switch as follows, until the switch can be replaced:
   A. Select flaps full up.
   B. Select an available set of contacts, after verifying that the normally open contact exhibits better than 10.0 mega-ohms isolation resistance to ground and to center tap.
   C. Connect wire to selected set of contacts using approved waterproof splices per Standard Wiring Practices Manual.
   D. Cap and stow deactivated wires from S138 switch.

E. Test the S138 switch as follows:

1) Use the PSEU BITE panel to select the S138 switch through D10984 pin 48 and 49 and verify each position displays NO GND.

2) Select flaps 15

3) Use the PSEU BITE panel to select the S138 switch through D10984 pin 48 and 49 and verify each position displays GND.

4. Alternate to step 3. For a S138 switch with connector attached to D14730. Refer to Wiring Diagram Manual 32-64-21 and wire list for available contacts. Refer to Standard Wiring Practices Manual for any established wiring procedures required. Remove the connector pins A and C, or U and S, from whichever is discrepant on the switch side.

A. Select flaps full up.

B. Select an available set of contacts, after verifying that the normally open contact exhibits better than 10.0 mega-ohms isolation resistance to ground and to center tap. Available set may be any of the switch NO and CT contacts on any available switch (i.e.: D and F, K and M, N and R).

C. Insert the connector pins removed from A and C, or U and S, into whichever set of connector pin locations previously selected above.

D. Plug connector holes with removed plugs from pins at newly used set of contacts.

E. Test the S138 switch as follows:

1) Use the PSEU BITE panel to select the S138 switch through D10984 pin 48 and 49 and verify each position displays NO GND.

2) Select flaps 15.

3) Use the PSEU BITE panel to select the S138 switch through D10984 pin 48 and 49 and verify each position displays GND.

32-22 Two-position Tail Skid

32-22-01 -800 with Short Field Performance (SFP) Option

32-22-01-01 Retraction Mechanism

32-22-01-01A Tail Skid Secured in Retracted Position

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Tail skid is secured in retracted position.

b. Appropriate performance adjustments are applied.

MAINTENANCE (M)

Secure the tail skid in the fully retracted position (AMM 32-00-01/201):

1. Remove the split rings and the REMOVE BEFORE FLIGHT streamer from the retractable tail skid lockout pin.
2. Open the stabilizer trim access door to get access to the tail skid assembly.
3. Do a general visual inspection of the tail skid hydraulic actuator for evidence of leaks or damage.
4. Do a general visual inspection of the tail skid linkage for evidence of corrosion or damage.
5. Install the retractable tail skid lockout pin, in the lock links for the tail skid.

   NOTE: When the tail skid is in the retracted position the lockout pin is installed from the right to the left from inside the aft unpressurized compartment.
6. Install the lockpin, part of the retractable tail skid lockout pin, through the end of the retractable tail skid lockout pin.
7. Make sure the lockpin is closed.
8. Close the access panel.

OPERATIONS (O)

Apply the following performance adjustments:

For takeoff:

No performance adjustments are required for takeoff.

For landing:

Do not use the Alternative Performance selection for Two Position Tail Skid in AFM-DPI.

32-22 Two-position Tail Skid

32-22-01 -800 with Short Field Performance (SFP) Option I

32-22-01-01 Retraction Mechanism

32-22-01-01B Tail Skid Secured in Extended Position

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Tail skid is secured in extended position.

b. Appropriate performance adjustments are applied.

MAINTENANCE (M)

Secure the tail skid in the fully extended position (AMM 32-00-01/201):

1. Remove the split rings and the REMOVE BEFORE FLIGHT streamer from the retractable tail skid lockout pin.
2. Open the stabilizer trim access door to get access to the tail skid assembly.
3. Do a general visual inspection of the tail skid hydraulic actuator for evidence of leaks or damage.
4. Do a general visual inspection of the tail skid linkage for evidence of corrosion or damage.
5. Install the retractable tail skid lockout pin, in the lock links for the tail skid.

   NOTE: When the tail skid is in the extended position the lockout pin is installed from the left to the right by reaching between the drag lever skirt and the fairing.
6. Install the lockpin, part of the retractable tail skid lockout pin, through the end of the retractable tail skid lockout pin.
7. Make sure the lockpin is closed.
8. Close the access panel.

OPERATIONS (O)

Apply the following performance adjustments:

For takeoff:

1. Reduce the performance limited takeoff weight by 10,000 lb (4536 kg).
2. Determine takeoff V-speeds at actual takeoff weight. Increase V1, VR and V2 by 2 kts. Verify that adjusted V1 does not exceed VMBE.

For landing:

No performance adjustments are required for landing.

NOTE: Fuel consumption will increase by 0.3% with the tail skid locked in the extended (landing) position.

32-22 Two-position Tail Skid

32-22-01 -800 with Short Field Performance (SFP) Option

32-22-01-02 Cartridge Core Assembly

Interval	Installed	Required	Procedure
B	1	0	**(M) (O)**

May be inoperative provided:

a. Detailed AMM inspection reveals no internal and external structural damage.

b. Tail skid is secured in retracted position.

c. Appropriate performance adjustments are applied.

MAINTENANCE (M)

Do the detailed tail strike/skid inspection procedure if an airplane tail strike occurred when the airplane landed or during a takeoff (AMM 05-51-32/201).

NOTE: Dispatch is not allowed if internal or external damage is found.

Secure the tail skid in the fully retracted position (AMM 32-00-01/201):

A. Remove the split rings and the REMOVE BEFORE FLIGHT streamer from the retractable tail skid lockout pin.

B. Open the stabilizer trim access door to get access to the tail skid assembly.

C. Do a general visual inspection of the tail skid hydraulic actuator for evidence of leaks or damage.

D. Do a general visual inspection of the tail skid linkage for evidence of corrosion or damage.

E. Install the retractable tail skid lockout pin, in the lock links for the tail skid.

NOTE: When the tail skid is in the retracted position the lockout pin is installed from the right to the left from inside the aft unpressurized compartment.

F. Install the lockpin, part of the retractable tail skid lockout pin, through the end of the retractable tail skid lockout pin.

G. Make sure the lockpin is closed.

H. Close the access panel.

OPERATIONS (O)

Apply the following performance adjustments:

For Takeoff:

1. Do not operate on runways contaminated with standing water, slush or snow, or on slippery runways.
2. For dry or wet runways, use the following table to determine the amount to reduce the performance limited takeoff weight for each takeoff flap setting.

3. Determine takeoff V-speeds at actual takeoff weight. Use the following table to determine the amount to increase V1, VR and V2. Verify that adjusted V1 does not exceed VMBE.

Takeoff Flap Setting	Weight Adjustment	V1 Adjustment	VR Adjustment	V2 Adjustment
1	21,000 lb (9526 kg)	6	6	8
5	16,000 lb (7258 kg)	4	4	6
10	16,000 lb (7258 kg)	4	4	5
15	14,000 lb (6351 kg)	3	3	4
25	9,000 lb (4083 kg)	2	2	2

For Landing:

Do not use the Alternative Performance selection for Two Position Tail Skid in AFM-DPI.

32-22 Two-position Tail Skid

32-22-02 -900ER

32-22-02-01 Retraction Mechanism

32-22-02-01A Tail Skid Secured in Retracted Position

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Tail skid is secured in retracted position.

b. Appropriate performance adjustments are applied.

MAINTENANCE (M)

Secure the tail skid in the fully retracted position (AMM 32-00-01/201):

1. Remove the split rings and the REMOVE BEFORE FLIGHT streamer from the retractable tail skid lockout pin.
2. Open the stabilizer trim access door to get access to the tail skid assembly.
3. Do a general visual inspection of the tail skid hydraulic actuator for evidence of leaks or damage.
4. Do a general visual inspection of the tail skid linkage for evidence of corrosion or damage.

5. Install the retractable tail skid lockout pin, in the lock links for the tail skid.

   NOTE: When the tail skid is in the retracted position the lockout pin is installed from the right to the left from inside the aft unpressurized compartment.

6. Install the lockpin, part of the retractable tail skid lockout pin, through the end of the retractable tail skid lockout pin.
7. Make sure the lockpin is closed.
8. Close the access panel.

OPERATIONS (O)

Apply the following performance adjustments:

For takeoff:

No performance adjustments are required for takeoff.

For landing:

1. Use the following table to determine the amount to reduce the performance limited landing weight for each landing flap setting.
2. Determine landing VREF speeds. Use the following table to determine the amount to increase VREF.

Landing Flap Setting	Weight Adjustment	VREF Adjustment
15	Not Permitted	Not Permitted
30	14,000 lb (6351 kg)	9
40	17,000 lb (7712 kg)	11

32-22 Two-position Tail Skid

32-22-02 -900ER

32-22-02-01 Retraction Mechanism

32-22-02-01B Tail Skid Secured in Extended Position

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Tail skid is secured in extended position.

b. Appropriate performance adjustments are applied.

MAINTENANCE (M)

Secure the tail skid in the fully extended position (AMM 32-00-01/201):

1. Remove the split rings and the REMOVE BEFORE FLIGHT streamer from the retractable tail skid lockout pin.

2. Open the stabilizer trim access door to get access to the tail skid assembly.
3. Do a general visual inspection of the tail skid hydraulic actuator for evidence of leaks or damage.
4. Do a general visual inspection of the tail skid linkage for evidence of corrosion or damage.
5. Install the retractable tail skid lockout pin, in the lock links for the tail skid.

   NOTE: When the tail skid is in the extended position the lockout pin is installed from the left to the right by reaching between the drag lever skirt and the fairing.
6. Install the lockpin, part of the retractable tail skid lockout pin, through the end of the retractable tail skid lockout pin.
7. Make sure the lockpin is closed.
8. Close the access panel.

OPERATIONS (O)

Apply the following performance adjustments:

For takeoff:

1. Reduce the performance limited takeoff weight by 10,000 lb (4536 kg).
2. Determine takeoff V-speeds at actual takeoff weight. Increase V1, VR and V2 by 2 kts. Verify that adjusted V1 does not exceed VMBE.

For landing:

No performance adjustments are required for landing.

NOTE: Fuel consumption will increase by 0.3% with the tail skid locked in the extended (landing) position.

32-22 Two-position Tail Skid

32-22-02 -900ER

32-22-02-02 Cartridge Core Assembly

Interval	Installed	Required	Procedure
B	1	0	**(M) (O)**

May be inoperative provided:

a. Detailed AMM inspection reveals no internal and external structural damage.
b. Tail skid is secured in retracted position.
c. Appropriate performance adjustments are applied.

MAINTENANCE (M)

Do the detailed tail strike/skid inspection procedure if an airplane tail strike occurred when the airplane landed or during a takeoff (AMM 05-51-32/201).

NOTE: Dispatch is not allowed if internal or external damage is found.

Secure the tail skid in the fully retracted position (AMM 32-00-01/201):

1. Remove the split rings and the REMOVE BEFORE FLIGHT streamer from the retractable tail skid lockout pin.
2. Open the stabilizer trim access door to get access to the tail skid assembly.
3. Do a general visual inspection of the tail skid hydraulic actuator for evidence of leaks or damage.
4. Do a general visual inspection of the tail skid linkage for evidence of corrosion or damage.
5. Install the retractable tail skid lockout pin, in the lock links for the tail skid.

   NOTE: When the tail skid is in the retracted position the lockout pin is installed from the right to the left from inside the aft unpressurized compartment.
6. Install the lockpin, part of the retractable tail skid lockout pin, through the end of the retractable tail skid lockout pin.
7. Make sure the lockpin is closed.
8. Close the access panel.

OPERATIONS (O)

Apply the following performance adjustments:

For Takeoff:

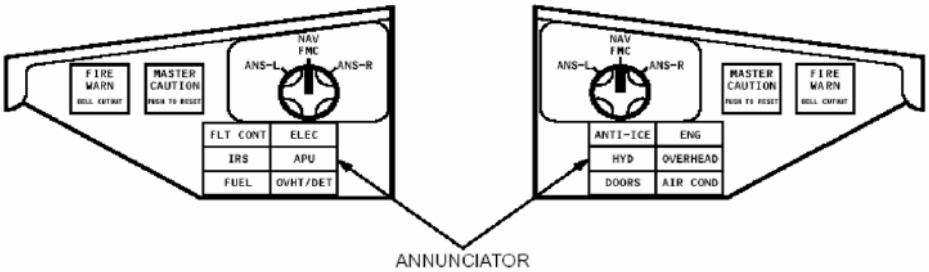
1. Do not operate on runways contaminated with standing water, slush or snow, or on slippery runways.
2. For dry or wet runways, use the following table to determine the amount to reduce the performance limited takeoff weight for each takeoff flap setting.
3. Determine takeoff V-speeds at actual takeoff weight. Use the following table to determine the amount to increase V1, VR and V2. Verify that adjusted V1 does not exceed VMBE.

Takeoff Flap Setting	Weight Adjustment	V1 Adjustment	VR Adjustment	V2 Adjustment
1	21,000 lb (9526 kg)	7	7	8
5	16,000 lb (7258 kg)	5	5	6
10	16,000 lb (7258 kg)	5	5	7
15	14,000 lb (6351 kg)	4	5	6
25	9,000 lb (4083 kg)	3	3	4

For Landing:

1. Use the following table to determine the amount to reduce the performance limited landing weight for each landing flap setting.
2. Determine landing VREF speeds. Use the following table to determine the amount to increase VREF.

Landing Flap Setting	Weight Adjustment	VREF Adjustment
15	Not Permitted	Not Permitted
30	14,000 lb (6351 kg)	9
40	17,000 lb (7712 kg)	11



PILOTS LIGHTSHIELD

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

Interval	Installed	Required	Procedure
C	-	-	

Individual lights may be inoperative provided remaining lights are:

a. Sufficient to clearly illuminate all required instruments, controls and other devices for which it is provided.

b. Positioned so that direct rays are shielded from flight crew's eyes.

c. Lighting configuration and intensity is acceptable to flight crew.

33-03 Passenger Lighted Information Signs and Notice System

33-03-01 "NO SMOKING / FASTEN SEAT BELT / RETURN TO SEAT" Lighted Signs

33-03-01A Passenger Seat/Lavatory NOT Occupied

Interval	Installed	Required	Procedure
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.

b. Associated seat or lavatory is blocked and placarded - DO NOT OCCUPY.

NOTE: These conditions are not intended to prohibit lavatory use or inspections by crewmembers.

MAINTENANCE (M)

1. If required, install tapes or ropes of conspicuous contrasting colors to block access to unusable seats prior to boarding passengers.
2. Conspicuous signs or placards shall be placed in appropriate locations to indicate seats which are not to be occupied.
3. For an individual sign inoperative, an observer with normal vision should sit in the passenger seat(s) which is normally serviced by the sign and determine if both a “NO SMOKING” and “FASTEN SEAT BELT” sign can be read from the seat(s). In tests conducted at Boeing for the FAA, a sign was considered “readily legible” if enough of the sign could be seen to identify it. Example: “NO SMOK” and “FASTEN SEAT B” would be considered readily legible.

33-03 Passenger Lighted Information Signs and Notice System

33-03-01 "NO SMOKING / FASTEN SEAT BELT / RETURN TO SEAT" Lighted Signs

33-03-01B PA System Operates Normally

Interval	Installed	Required	Procedure
C	-	-	**(O)**

May be inoperative and associated passenger seat or lavatory may be occupied provided:

a. PA system operates normally.

b. PA system is used to notify passengers and cabin crew when associated sign(s) are placed on or off.

OPERATIONS (O)

Each operator shall establish procedures for when the pilot in command shall notify passengers when seat belts must be fastened, smoking is prohibited and passengers should return to cabin from the lavatories.

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33-03 Passenger Lighted Information Signs and Notice System

33-03-03 Aural Tone System

Interval	Installed	Required	Procedure
C	1	0	

33-03 Passenger Lighted Information Signs and Notice System

33-03-04 Flight Deck Automatic Function

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided:

a. Manual control function operates normally.

b. Alternate procedures are established and used.

OPERATIONS (O)

Each operator shall establish procedures for when the pilot in command shall notify passengers when seat belts must be fastened, smoking is prohibited and passengers should return to cabin from the lavatories.

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

Interval	Installed	Required	Procedure
C	-	0	

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

33-04-01 Light Lens (-400/-500/-900)

Interval	Installed	Required	Procedure
C	-	0	

May be broken/missing provided associated light bulb is removed.

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

33-04-02 Light Lens (-600/-700/-800 prior to incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or Production Equivalent)

Interval	Installed	Required	Procedure
C	-	0	

May be broken/missing provided associated light bulb is removed.

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

33-04-03 Light Lens (-600/-700/-800 upon incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or Production Equivalent)

Interval	Installed	Required	Procedure
C	-	-	

Any number from rear lower cargo compartment and one from forward lower cargo compartment may be broken/missing provided associated light bulb is removed.

33-05 High Intensity or Strobe Lights System

33-05-01 All Models (Except Models with STC's ST01821LA, ST01873LA, and ST02015LA)

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Interval	Installed	Required	Procedure
C	1	0	

33-05 High Intensity or Strobe Lights System

33-05-02 Models with STC's ST01821LA, ST01873LA, and ST02015LA

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative for day operations.

33-06 Anti-Collision Beacons (Without Blended Winglet, -800/-900/-900ER Blended Winglet, and -700 Blended Winglet With Dual Glass Lens) (Except STC's ST01821LA and ST01873LA)

33-06A Day And Night Operations

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative for night operations provided wing tip and tail strobe lights are installed and operate normally.

NOTE: A minimum of one bulb illuminated is sufficient for the Grimes Rotating Beacon part number G-9325A to meet illumination and flash rate requirements for an operative beacon. Both bulbs must be illuminated for the Grimes Rotating Beacon Part Number 40-0173 to meet 14 CFR intensity requirements for an operative beacon.

33-06 Anti-Collision Beacons (Without Blended Winglet, -800/-900/-900ER Blended Winglet, and -700 Blended Winglet With Dual Glass Lens) (Except STC's ST01821LA and ST01873LA)

33-06B Day Operations

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative for day operations.

NOTE: A minimum of one bulb illuminated is sufficient for the Grimes Rotating Beacon part number G-9325A to meet illumination and flash rate requirements for an operative beacon. Both bulbs must be illuminated for the Grimes Rotating Beacon Part Number 40-0173 to meet 14 CFR intensity requirements for an operative beacon.

33-06 Anti-Collision Beacons (Without Blended Winglet, -800/-900/-900ER Blended Winglet, and -700 Blended Winglet With Dual Glass Lens) (Except STC's ST01821LA and ST01873LA)

33-06-01 Blended Winglet

33-06-01-03 --500 with STC ST01219SE and Winglet Strobe Lights

33-06-01-03A Day And Night Operations

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative for night operations provided winglet strobe lights operate normally.

NOTE: Tail strobe light may be inoperative.

NOTE: A minimum of one bulb illuminated is sufficient for the Grimes Rotating Beacon part number G-9325A to meet illumination and flash rate requirements for an operative beacon. Both bulbs must be illuminated for the Grimes Rotating Beacon Part Number 40-0173 to meet intensity requirements for an operative beacon.

33-06 Anti-Collision Beacons (Without Blended Winglet, -800/-900/-900ER Blended Winglet, and -700 Blended Winglet With Dual Glass Lens) (Except STC's ST01821LA and ST01873LA)

33-06-01 Blended Winglet

33-06-01-03 --500 with STC ST01219SE and Winglet Strobe Lights

33-06-01-03B Day Operations

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative for day operations.

NOTE: A minimum of one bulb illuminated is sufficient for the Grimes Rotating Beacon part number G-9325A to meet illumination and flash rate requirements for an operative beacon. Both bulbs must be illuminated for the Grimes Rotating Beacon Part Number 40-0173 to meet intensity requirements for an operative beacon.

33-06 Anti-Collision Beacons (Without Blended Winglet, -800/-900/-900ER Blended Winglet, and -700 Blended Winglet With Dual Glass Lens) (Except STC's ST01821LA and ST01873LA)

33-06-02 STC's ST01821LA and ST01873LA

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative for day operations.

NOTE: A minimum of one bulb illuminated is sufficient for the Grimes Rotating Beacon part number G-9325A to meet illumination and flash rate requirements for an operative beacon. Both bulbs must be illuminated for the Grimes Rotating Beacon Part Number 40-0173 to meet intensity requirements for an operative beacon.

33-07 Wing Illumination Lights

Interval	Installed	Required	Procedure
C	2	0	**(O)**

May be inoperative provided ground de-icing procedures do not require their use.

OPERATIONS (O)

Lighting requirements for wing illumination during ground de-icing must be established by each operator.

33-07 Wing Illumination Lights

33-07-01 Overwing Ice Lights (Grimes Aerospace STC ST500CH)

***

Interval	Installed	Required	Procedure
C	2	0	

33-08 Landing Lights

33-08A One Inoperative Per Side

Interval	Installed	Required	Procedure
C	4	2	

One may be inoperative on each side provided one of two operating lights is in fixed position.

33-08 Landing Lights

33-08B Day Operations

Interval	Installed	Required	Procedure
C	4	0	

May be inoperative for day operations.

33-08 Landing Lights

33-08-01 Retractable Light Extend/Retract Motors

33-08-01A Light Illuminates Normally in Extended Position

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative provided:

a. Light is in extended position.
b. Light illuminates normally.
c. Appropriate performance adjustments are applied.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
With the outboard landing light(s) extend/retract motor inoperative, compare the light position with the operative light's position or use AMM 33-42-11 Outboard Landing Lights - Adjustment/Test to determine if the light is extended in the proper position for the corresponding planned landing flap position. If light is not in the proper extended position, the light (lamp) is considered to be inoperative.

For -600/-700/-800/-900:
With the retractable landing light(s) extend/retract motor inoperative, compare the light position with the operative light's position or use AMM 33-42-02 Retractable Landing Light - Light Adjustment to determine if the light is in the extended position. If light is not in the extended position, the light (lamp) is considered to be inoperative.

OPERATIONS (O)

1. Reduce performance limited weights by the following for each extended light:
   For -100/-200/-300/-400/-500:
   A. Takeoff Performance Limited Weight 175 lb (80 kg).
   B. Enroute Climb Limited Weight 700 lb (318 kg).
   C. Approach Climb/Landing Climb Limited Weight 250 lb (114 kg).
   For -600/-700/-800/-900:
   D. Takeoff Performance Limited Weight 400 lb (182 kg).
   E. Enroute Climb Limited Weight 1500 lb (681 kg).
   F. Approach Climb/Landing Climb Limited Weight 400 lb (182 kg).
2. Increase fuel burn by 1.0 percent for each extended light.

33-08 Landing Lights

33-08-01 Retractable Light Extend/Retract Motors

33-08-01B Associated Light Considered Inoperative

Interval	Installed	Required	Procedure
C	2	0	**(O)**

May be inoperative provided:

a. Associated light is considered inoperative.

b. Appropriate performance adjustments are applied when the associated light is not in the fully retracted position.

OPERATIONS (O)

1. Reduce performance limited weights by the following for each light that is not in the fully retracted position:
   For -100/-200/-300/-400/-500:
   A. Takeoff Performance Limited Weight 175 lb (80 kg).
   B. Enroute Climb Limited Weight 700 lb (318 kg).
   C. Approach Climb/Landing Climb Limited Weight 250 lb (114 kg).
   For -600/-700/-800/-900:
   D. Takeoff Performance Limited Weight 400 lb (182 kg).
   E. Enroute Climb Limited Weight 1500 lb (681 kg).
   F. Approach Climb/Landing Climb Limited Weight 400 lb (182 kg).
2. Increase fuel burn by 1.0 percent for each extended light.

33-08 Landing Lights

33-08-02 Pulse Light System

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Interval	Installed	Required	Procedure
D	1	0	

33-09 Taxi Light
***

Interval	Installed	Required	Procedure
C	1	0	

33-10 Runway Turn Off Lights

Interval	Installed	Required	Procedure
C	2	0	

33-11 Wing Tip Position Lights

Interval	Installed	Required	Procedure
C	4	0	

May be inoperative for day operations.

33-11 Wing Tip Position Lights

33-11-01 Light Bulbs/Lamps (Without Blended Winglet, Blended Winglet with Dual Glass Lens, and -300/-500 with Blended Winglet)

Interval	Installed	Required	Procedure
C	-	4	

Any except following minimum may be inoperative for night operations:

a. One stationary red wing tip bulb.
b. One stationary green wing tip bulb.
c. One stationary white tail light bulb at each wing tip position.

33-11 Wing Tip Position Lights

33-11-02 Light Bulbs/Lamps (-700/-800 Blended Winglet with Single Plastic Lens)

33-11-02A Both Red Wing Tip Bulbs Operate Normally

Interval	Installed	Required	Procedure
C	-	5	

Any except following minimum may be inoperative for night operations:

a. Both stationary red wing tip bulbs.
b. One stationary green wing tip bulb.
c. One stationary white tail light bulb at each wing tip position.

33-11 Wing Tip Position Lights

33-11-02 Light Bulbs/Lamps (-700/-800 Blended Winglet with Single Plastic Lens)

33-11-02B One Red Wing Tip Bulb Operates Normally

Interval	Installed	Required	Procedure
B	-	4	

Any except following minimum may be inoperative for night operations:

a. One stationary red wing tip bulb.
b. One stationary green wing tip bulb.
c. One stationary white tail light bulb at each wing tip position

33-12 Door Locked Light (Flight Deck to Cabin)
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Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided locking function operates normally.

33-14 Exterior Emergency Lighting System

33-14A Day Operations

Interval	Installed	Required	Procedure
B	1	0	

May be inoperative for day operations.

33-15 Interior Emergency Exit Lighting System

33-15-02 Stowage Bin Bullnose Lights (-600/-700/-800/-900)

***

Interval	Installed	Required	Procedure
C	-	-	

Light assemblies installed above aisle (curved edge of stowage bins) may be inoperative provided no two adjacent (opposite side) light assemblies are inoperative.

33-15 Interior Emergency Exit Lighting System

33-15-03 Advance Technology Interior (ATI) Aisle Light Assemblies (-400/-500)

***

Interval	Installed	Required	Procedure
C	-	-	

Light assemblies installed above aisle (curved edge of stowage bins) may be inoperative provided no two adjacent (opposite side) light assemblies are inoperative.

33-15 Interior Emergency Exit Lighting System

33-15-04 Flight Deck Exit Light

***

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative for day operations.

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

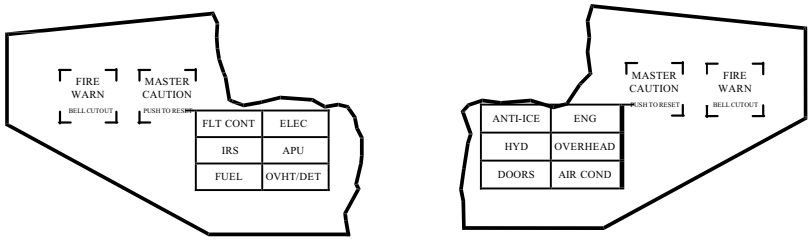
33-16A Light for Operative System

Interval	Installed	Required	Procedure
C	-	-	**(O)**

One light may be inoperative for an operating system.

OPERATIONS (O)

1. Check that associated system indicator light(s) on associated panel is operating normally.
2. If the MASTER CAUTION light illuminates with none of the annunciator lights illuminated, it can be assumed that the system with the placard LIGHT INOP is affected.
3. Just prior to descent, check the associated panel for any light indications associated with the inoperative system annunciator light(s).



MASTER CAUTION SYSTEM ANNUNCIATOR LIGHTS

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

33-16B Light for Inoperative System

Interval	Installed	Required	Procedure
C	-	-	

May be inoperative for an associated inoperative system.

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

Interval	Installed	Required	Procedure
C	-	-	**(O)**

May be inoperative provided intended function of associated light(s) is verified once each flight day.

OPERATIONS (O)

1. If master test feature fails to illuminate a light(s), press the affected light(s) and confirm push-to-test feature causes the bulb(s) to illuminate.
2. If individual push-to-test feature also fails to illuminate a light(s), perform an appropriate operational or system test and verify the affected light illuminated as intended.

33-18 Wheel Well Lights

33-18-01 Dome Lights

Interval	Installed	Required	Procedure
C	3	0	

NOTE: Refer to the Marker next to the inoperative light in the wheel well for identification.

33-18 Wheel Well Lights

33-18-02 Inspection Flood Lights

33-18-02-01 --400/-500

33-18-02-01A Day Operations

Interval	Installed	Required	Procedure
C	3	1	

Main gear lights may be inoperative for day operations only.

NOTE: Refer to the Marker next to the inoperative light in the wheel well for identification. The Inspection Flood Lights have Markers containing the word "INSPECTION".

33-18 Wheel Well Lights

33-18-02 Inspection Flood Lights

33-18-02-01 --400/-500

33-18-02-01B Alternate Landing Gear Indicating System Installed

Interval	Installed	Required	Procedure
D	3	0	

Lights may be inoperative provided a landing gear indicating system other than viewer system and independent of center panel is installed and operates normally.

NOTE: Refer to the Marker next to the inoperative light in the wheel well for identification. The Inspection Flood Lights have Markers containing the word "INSPECTION".

33-18 Wheel Well Lights

33-18-02 Inspection Flood Lights

33-18-02-02 -600/-700/-800/-900

Interval	Installed	Required	Procedure
D	2	0	

NOTE: Refer to the Marker next to the inoperative light in the wheel well for identification. The Inspection Flood Lights have Markers containing the word "INSPECTION".

33-19 Floor Proximity Emergency Escape Path Marking System (All models and STC's)

33-19-01 Incandescent Lighting System

Interval	Installed	Required	Procedure
C	-	-	

Individual lights may be inoperative provided minimum acceptable lighting levels specified in one of the following documents are complied with:

a. FAA engineering approval letter.

b. FAA approved report of Type Design holder.

c. Limitations and Conditions section of the applicable Supplemental Type Certificate (STC).

d. An FAA approved report incorporated in the Master Drawing List for the applicable STC.

OPERATIONS NOTE

NOTE 1: The documents referred to in MMEL provisos a through d are the design and test documents that were submitted to the FAA by either Boeing or the Emergency Escape Path Marking System vendor to show compliance The difference between a fully operative system and a system that just meets the minimum requirements of represents that part of the system that may be inoperative and dispatch permitted under this MMEL item. Operators do not need copies of the design and test documents for aircraft delivered with the Emergency Escape Path Marking System installed by Boeing.

NOTE 2: The number of floor mounted aisle marker lights may vary depending on the cabin configuration. Some configurations have lighted arrows in place of red or orange lenses at the mid cabin exits.

1. The following are the minimum dispatch requirements for the Boeing designed incandescent system:
   A. All floor aisle marker lights which indicate exit locations must be operative.
   B. The most forward and farthest aft floor aisle marker lights must be operative.
   C. Every other floor aisle marker light must be operative (no two adjacent marker lights may be inoperative).
   D. Sidewall exit indicators must have two of the five lamps operating.
2. For systems not designed by Boeing, the operator is responsible for publishing the appropriate dispatch relief.

33-19 Floor Proximity Emergency Escape Path Marking System (All models and STC's)

33-19-02 Photoluminescent Lighting System

Interval	Installed	Required	Procedure
C	-	-	

Components may be inoperative provided minimum acceptable lighting levels specified in one of the following documents are complied with:

a. FAA engineering approval letter.

b. FAA approved report of Type Design holder.

c. Limitations and Conditions section of the applicable Supplemental Type Certificate (STC).

d. An FAA approved report incorporated in the Master Drawing List for the applicable STC.

OPERATIONS NOTE

NOTE: The documents referred to in MMEL provisos a through d are the design and test documents that were submitted to the FAA by either Boeing or the Emergency Escape Path Marking System vendor to show compliance . The difference between a fully operative system and a system that just meets the minimum requirements of represents that part of the system that may be inoperative and dispatch permitted under this MMEL item. Operators do not need copies of the design and test documents for aircraft delivered with the Emergency Escape Path Marking System installed by Boeing except as indicated below.

1. Per the FAA approved test report, there is no MMEL relief for the "colored" photoluminescent escape path marking system installed by Boeing. The colored system is designated by part numbers SG9904-1-xxx where xxx indicates the color of the filter. All sections of the colored photoluminescent strips and all five lamps in the exit identifiers at all exits are required to be operational for dispatch.

2. The following are the minimum dispatch requirements for the Boeing-installed standard photoluminescent proximity lighting system for all 737 models except for the 737-900ER with the mid-exit door installed.

   A. Sidewall exit indicators must have three of the five lamps operating.

   B. A maximum of 5 inches of any 72-inch length of photoluminescent strip may be inoperative.

3. The following are the minimum dispatch requirements for the Boeing-installed standard photoluminescent proximity lighting system for the 737-900ER with the mid-exit door installed.
   A. At the mid-exit door locations, all exit indicators and the photoluminescent strips pointing toward the mid-exit doors (perpendicular to the main aisle) must operate normally.
   B. At locations other than at the mid-exit door:
      1) Sidewall exit indicators must have three of the five lamps operating.
      2) A maximum of 5 inches of any 72-inch length of photoluminescent strip may be inoperative.
4. For systems not designed by Boeing, the operator is responsible for publishing the appropriate dispatch relief.

33-20 LOGO Light System

***

Interval	Installed	Required	Procedure
D	1	0	

33-23 Master Dim System

Interval	Installed	Required	Procedure
B	1	0	

Dim function may be inoperative provided:

a. TEST and BRT functions operate normally.
b. Except during light test, switch is placed in BRT.
c. Light intensity is acceptable to flight crew.

33-24 Sterile Flight Compartment Light System
33-24A Alternate Procedures Required

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided alternate procedures are established and used.

OPERATIONS (O)

UTair operator established alternate procedures to notify cabin attendants when a sterile flight compartment condition exits.

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

33-25A Day And Night Operations

Interval	Installed	Required	Procedure
C	-	0	

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

33-25B Day Operations

Interval	Installed	Required	Procedure
D	-	0	

May be inoperative for day operations.

34-01 Mach/Airspeed Indications

34-01-01 Mach Indications

Interval	Installed	Required	Procedure
C	2	1	

One may be inoperative provided one Mach/Airspeed warning and Mach trim system operate normally.

34-01 Mach/Airspeed Indications

34-01-01 Mach Indications

34-01-01-01 --400/-500

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided:

a. Airplane remains at or below FL 230.

b. Airspeed remains at or below 320 KIAS.

34-01 Mach/Airspeed Indications

34-01-01 Mach Indications

34-01-01-02 -600/-700/-800/-900

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided:

a. Airplane remains at or below FL 280.

b. Airspeed remains at or below 320 KIAS.

34-01 Mach/Airspeed Indications

34-01-02 Airspeed Indicators (-400/-500)

Interval	Installed	Required	Procedure
C	2	1	

One may be inoperative provided:

a. EFIS Speed Tape displays are installed and operate normally. b. One Mach/Airspeed warning operates normally

34-01 Mach/Airspeed Indications

34-01-03 EFIS Speed Tape (-400/-500)

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided airspeed indicators are installed and operate normally at each pilot's station.

34-01 Mach/Airspeed Indications

34-01-04 Airspeed Cursor (-400/-500)

Interval	Installed	Required	Procedure
A	2	1	**(O)**

One may be inoperative provided:

a. Alternate procedures are established and used.

b. Repairs are made within three flight days.

OPERATIONS (O)

Airlines must establish and use procedures to ensure flight crew awareness of airspeed targets and limits.

34-01 Mach/Airspeed Indications

34-01-05 External Airspeed Markers (Bugs) -400/-500

Interval	Installed	Required	Procedure
C	-	0	**(O)**

May be inoperative or missing provided alternate procedures are established and used.

OPERATIONS (O)

Airlines must establish and use procedures to ensure flight crew awareness of airspeed targets and limits.

34-01 Mach/Airspeed Indications

34-01-06 Digital Airspeed Readout (-400/-500)

Interval	Installed	Required	Procedure
C	-	0	

34-02 Mach/Airspeed Warning Systems
34-02-01 Maximum Operating Speed Indication

Interval	Installed	Required	Procedure
C	2	1	

One may be inoperative provided clacker warning system operates normally and is independent from Mach Indicator.

34-02 Mach/Airspeed Warning Systems
34-02-02 Clacker
34-02-02-02 -400/-500/-600/-700/-800/-900
34-02-02-02A One Inoperative

Interval	Installed	Required	Procedure
C	2	1	

34-02 Mach/Airspeed Warning Systems
34-02-02 Clacker
34-02-02-02 --400/-500/-600/-700/-800/-900
34-02-02-02B Airspeed Limitations Are Observed

Interval	Installed	Required	Procedure
B	2	0	

Systems may be inoperative provided:

a. Both Mach indicators operate normally.
b. 330 KIAS /.76 Mach airspeed limitations are observed.
c. If overspeed warning occurs earlier than scheduled during flight, speed must remain below point at which the warning occurs.

34-02 Mach/Airspeed Warning Systems

34-02-02 Clacker

34-02-02-02 -400/-500/-600/-700/-800/-900

34-02-02-02C Airspeed Limitations Are Observed, Deactivate Systems

Interval	Installed	Required	Procedure
B	2	0	

Systems may be inoperative provided:

a. Both Mach indicators operate normally.

b. 330 KIAS /.76 Mach airspeed limitations are observed.

c. If overspeed warning occurs below .76 Mach, system must be deactivated by pulling associated circuit breaker and observe speed limits.

34-03 Altimeter Vibrators

34-03-01 Servo Pneumatic

Interval	Installed	Required	Procedure
C	2	1	

One may be inoperative provided associated air data computer operates normally.

34-03 Altimeter Vibrators

34-03-02 Pneumatic

Interval	Installed	Required	Procedure
C	2	1	

One may be inoperative provided VMC exist at departure and arrival airports.

34-03 Altimeter Vibrators

34-03-03 Pneumatic (With Electric/Electronic Altimeter)

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided VMC exist at departure and arrival airports.

34-03 Altimeter Vibrators

34-03-04 One Pneumatic and One Servo-Pneumatic

34-03-04A Servo-Pneumatic Inoperative

Interval	Installed	Required	Procedure
C	2	1	

Servo-Pneumatic may be inoperative provided associated air data computer operates normally.

34-03 Altimeter Vibrators

34-03-04 One Pneumatic and One Servo-Pneumatic

34-03-04B Pneumatic Inoperative

Interval	Installed	Required	Procedure
C	2	1	

Pneumatic may be inoperative provided VMC exist at departure and arrival airports.

34-03 Altimeter Vibrators

34-03-05 Standby Altimeter Vibrator (With Electric/Electronic Altimeter)

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided VMC exist at departure and arrival airports.

34-04 Static Air Temperature Indication

***

Interval	Installed	Required	Procedure
D	-	0	

34-05 Total Air Temperature Indication

Interval	Installed	Required	Procedure
C	-	0	

May be inoperative provided an alternate air temperature indication (e.g. PDCS, FMCS, RAT, SAT) operates normally.

OPERATIONS NOTE

With static air temperature available, the following table may be used to determine TAT:

TOTAL AIR TEMPERATURE (°C) vs STATIC AIR TEMPERATURE (°C)

SAT (°C)	TAT (°C)											
	M.50	M.60	M.68	M.70	M.72	M.74	M.76	M.78	M.80	M.82	M.84	M.86
40	56	62	69	70								
35	51	57	64	65	66	68	70					
30	45	52	58	59	61	63	65	67	68	70		
25	40	47	52	54	56	57	59	61	63	64	66	68
20	35	41	47	48	50	51	53	55	57	58	60	63
15	30	36	42	43	44	46	48	49	51	53	55	57
10	24	31	36	37	38	40	43	44	46	47	49	51
5	19	25	31	32	33	35	37	38	40	41	43	45
0	13	20	25	26	28	29	31	33	34	36	38	40
-5	8	14	20	21	22	24	26	27	29	30	32	34
-10	3	9	14	15	17	19	20	22	23	25	26	28
-15	-2	3	9	10	11	13	14	16	17	19	21	23
-20	-7	-2	3	4	6	7	9	10	12	13	15	17
-25	-12	-7	-3	-1	0	2	3	5	6	8	9	11
-30	-18	-12	-8	-7	-5	-4	-2	-1	1	2	4	6
-35	-23	-17	-13	-12	-10	-9	-8	-7	-5	-4	-2	0
-40	-28	-23	-18	-17	-16	-15	-13	-12	-11	-9	-7	-6
-45	-34	-29	-24	-23	-21	-20	-19	-17	-16	-14	-13	-11
-50	-39	-34	-29	-28	-27	-26	-24	-23	-21	-20	-19	-17
-55	-44	-39	-35	-34	-32	-31	-30	-28	-27	-26	-24	-23
-60	-49	-45	-40	-39	-38	-37	-35	-34	-33	-31	-30	-28
-65	-55	-50	-46	-45	-43	-42	-41	-40	-38	-37	-36	-34
-70	-60	-55	-51	-50	-49	-48	-47	-45	-44	-43	-41	-40

34-07 Standby Horizon Indicator

34-07-01 Standby Attitude Indicator

Interval	Installed	Required	Procedure
B	1	0	

May be inoperative provided:

a. Operations are conducted in Day VMC only.

b. Operations are not conducted into known or forecast over-the-top conditions.

34-07 Standby Horizon Indicator

34-07-02 ILS Indication

****

Interval	Installed	Required	Procedure
D	1	0	

34-08 Angle of Attack Indications

***

Interval	Installed	Required	Procedure
C	-	0	

34-09 Turn and Bank Indicators

34-09-01 Rate of Turn Indicators (-400/-500)

***

34-09-01A One Inoperative

Interval	Installed	Required	Procedure
C	2	1	

34-09 Turn and Bank Indicators

34-09-01 Rate of Turn Indicators (-400/-500)

***

34-09-01B Both Inoperative

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided Standby Horizon Indicator operates normally.

34-11 Non-Stabilized Magnetic Compass

34-11A Any Combination of 3 Gyro or INS(IRU) Compass Systems Operative

Interval	Installed	Required	Procedure
B	1	0	**(O)**

May be inoperative provided any combination of three gyro or INS (IRU) stabilized compass systems are operative.

OPERATIONS (O)

Flight crew must ensure that the planned routes comply with the MMEL limitations.

34-11 Non-Stabilized Magnetic Compass

34-11B Any Combination of 2 Gyro or INS(IRU) Compass Systems Operative

Interval	Installed	Required	Procedure
B	1	0	**(O)**

May be inoperative provided:

a. Any combination of two gyro or INS (IRU) stabilized compass systems are operative.
b. Airplane is operated with dual independent navigation capability and under positive radar control by ATC on enroute portion of flight.

OPERATIONS (O)

Flight crew must ensure that the planned routes comply with the MMEL limitations.

34-11 Non-Stabilized Magnetic Compass

34-11C Two Stabilized Directional Gyro Systems Operative

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative for flights that are entirely within areas of magnetic unreliability provided two stabilized directional gyro systems are installed, operative, and used in conjunction with free gyro navigation techniques.

OPERATIONS COl

Flight crew must ensure that the planned routes comply with the MMEL limitations.

34-12 Flight Director Systems

Interval	Installed	Required	Procedure
B	2	0	

May be inoperative provided approach minimums do not require its use.

34-13 Distance Measuring Equipment Systems

Interval	Installed	Required	Procedure
D	-	-	

Any in excess of those required. may be inoperative.

NOTE: Airlines must determine DME requirements dependent on their route system. See other appropriate regulations.

MAINTENANCE NOTE

For -300/-400/-500:

1. With FMC software Update 10.x, to prevent an inoperative DME from sending invalid position updates to the FMC, DME position updating can be inhibited by setting the DME UPDATE field on the FMC CDU NAV OPTIONS page 2/2 to OFF.
2. Alternatively the affected DME may be deactivated by opening and collaring the associated DME circuit breaker on the P6 or P18 panel.
3. With DME receivers that support agility tuning, the FMC will perform DME/DME position updates using a single operative DME.

For -600/-700/-800/-900:

1. To prevent an inoperative DME from sending invalid position updates to the FMC, DME position updating can be inhibited by setting the DME UPDATE field on the FMC CDU NAV OPTIONS page 2/2 to OFF.
2. Alternatively the affected DME may be deactivated by opening and collaring the associated DME circuit breaker on the P6 or P18 panel.
3. The FMC will perform DME/DME position updates using a single operative DME.

34-14 Marker Beacon Receiver System

Interval	Installed	Required	Procedure
C	-	0	

May be inoperative provided approach minimums do not require its use.

34-15 Weather Radar

34-15B One Required

Interval	Installed	Required	Procedure
B	-	1	

May be inoperative provided one remaining Radar System operates normally.

34-15 Weather Radar

34-15-01 Windshear Detection and Avoidance System (Predictive)

***

34-15-01A Alternate Procedures Required

Interval	Installed	Required	Procedure
B	-	0	**(O)**

May be inoperative provided alternate procedures are established and used.

NOTE: Operator's alternate procedures should include reviewing windshear avoidance and windshear recovery procedures.

OPERATIONS (O)

Airlines must use procedures to increase flight crew awareness of airplane configuration, altitude and flight path. This may include flight crew use of all airplane systems available (autopilot, autoland, ILS, FMCS) and flight crew review of Minimum Enroute Altitudes (MEA's) and altitude call outs.

34-15 Weather Radar

34-15-01 Windshear Detection and Avoidance System (Predictive)

34-15-01B Reactive Windshear Warning System Operates Normally

Interval	Installed	Required	Procedure
C	-	0	**(O)**

May be inoperative provided:

a. Alternate procedures are established and used.

b. Windshear Warning and Guidance System (Reactive) operates normally.

OPERATIONS (O)

Airlines must use procedures to increase flight crew awareness of airplane configuration, altitude and flight path. This may include flight crew use of all airplane systems available (autopilot, autoland, ILS, FMCS) and flight crew review of Minimum Enroute Altitudes (MEA's) and altitude call outs.

34-15 Weather Radar

34-15-02 Autotilt/Multiscan Function (Including STCs ST01843AT, ST01470LA-D)

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided manual tilt function operates normally.

34-15 Weather Radar

34-15-03 Stabilization Function

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided:

a. Manual tilt control operates normally.

b. Antenna is verified to scan in a horizontal plane with tilt at zero degrees.

MAINTENANCE CMI

Because of the equipment/installation differences, airlines must establish appropriate procedures for verifying the radar antenna scans in a horizontal plane with the tilt at zero degrees

34-16 Radio Compass Systems (ADF)

Interval	Installed	Required	Procedure
D	-	-	

Any in excess of those required . may be inoperative.

NOTE: Airlines must determine ADF requirements dependent on their route system. See other appropriate regulations.

34-17 VHF Navigation Systems (VOR/ILS)

34-17-01 --400/-500

Interval	Installed	Required	Procedure
C	-	-	

Any in excess of those required, and not powered by a Standby Bus, may be inoperative provided approach minimums do not require its use.

NOTE: Airlines must determine VOR/ILS requirements for their route system and/or approach minimums. See other appropriate regulations.

34-17 VHF Navigation Systems (VOR/ILS)

34-17-01 --400/-500

34-17-01-01 Auto Tune Function

Interval	Installed	Required	Procedure
C	-	0	**(O)**

May be inoperative provided:

a. Enroute or approach procedures do not require its use.
b. Manual tuning operates normally.

OPERATIONS (O)

Use manual tuning of VHF navigation radios.

34-17 VHF Navigation Systems (VOR/ILS)

34-17-02 --400/-500 (GNLU-920 MMR, STC ST00998LA-D)

Interval	Installed	Required	Procedure
C	-	-	

Any in excess of those required by, and not powered by a Standby Bus, may be inoperative provided approach minimums do not require its use.

NOTE: Airlines must determine VOR/ILS requirements for their route system and/or approach minimums. See other appropriate regulations.

34-17 VHF Navigation Systems (VOR/ILS)

34-17-02 --400/-500 (GNLU-920 MMR, STC ST00998LA-D)

34-17-02-01 Equipment Cooling Fan

Interval	Installed	Required	Procedure
B	2	0	

34-17 VHF Navigation Systems (VOR/ILS)

34-17-03 -600/-700/-800/-900

34-17-03-01 VOR Systems

Interval	Installed	Required	Procedure
C	2	-	

Any in excess of those required, and not powered by a Standby Bus, may be inoperative.

NOTE: Airlines must determine VOR/ILS requirements for their route system and/or approach minimums. See other appropriate regulations.

34-17 VHF Navigation Systems (VOR/ILS)

34-17-03 -600/-700/-800/-900

34-17-03-02 ILS Systems

Interval	Installed	Required	Procedure
C	2	-	

Any in excess of those required, and not powered by a Standby Bus, may be inoperative provided approach minimums do not require its use.

NOTE: Airlines must determine VOR/ILS requirements for their route system and/or approach minimums. See other appropriate regulations.

34-18 ATC Transponders and Automatic Altitude Reporting Systems

34-18A Operations Do Not Require Use

Interval	Installed	Required	Procedure
B	-	0	

May be inoperative provided:

a. Operations do not require its use.

b. Prior to flight, approval is obtained from ATC facilities having jurisdiction over planned route of flight.

NOTE: Airlines must determine their requirements. See other appropriate regulations.

34-18 ATC Transponders and Automatic Altitude Reporting Systems

34-18-01 Elementary and Enhanced Downlink Aircraft Reportable Parameters

Interval	Installed	Required	Procedure
A	-	0	

May be inoperative provided:

a. Operations do not require its use.

b. Repairs are made prior to completion of next heavy maintenance visit.

NOTE: Airlines must determine their requirements. See other appropriate regulations.

34-18 ATC Transponders and Automatic Altitude Reporting Systems

34-18-02 ADS-B Extended Squitter Transmissions

Interval	Installed	Required	Procedure
A	-	0	

May be inoperative provided:

a. Operations do not require its use.

b. Repairs are made prior to completion of next heavy maintenance visit.

NOTE: Airlines must determine their requirements. See other appropriate regulations.

34-18 ATC Transponders and Automatic Altitude Reporting Systems

34-18-02 ADS-B Extended Squitter Transmissions

***

Interval	Installed	Required	Procedure
A	-	0	

May be inoperative provided:

a. Operations do not require its use.

b. Repairs are made prior to completion of next heavy maintenance visit.

NOTE: Airlines must determine their requirements. See other appropriate regulations.

34-19 Instrument Comparator or Warning System (-400/-500, includes STC ST03355AT)

***

Interval	Installed	Required	Procedure
C	-	0	

May be inoperative provided approach minimums do not require its use.

34-20 Radio Altimeter Systems

34-20-01 Receiver/Transmitters

34-20-01-02 --400/-500

34-20-01-02A GPWS Operates Normally

Interval	Installed	Required	Procedure
C	2	1	**(M) (O)**

May be inoperative deactivated provided:

a. Approach minimums or operating procedures do not require its use.

b. Associated autopilot is not used for approach and landing.

c. Autothrottle is not used for approach and landing.

d. GPWS operates normally.

MAINTENANCE (M)

Open and collar associated P6-1/P18-1 panel Radio Altimeter circuit breaker to deactivate the inoperative radio altimeter.

OPERATIONS (O)

1. Ensure that weather minimums or operating procedures are not dependent upon its use.
2. With a radio altimeter inoperative, do not use the associated autopilot, flight director, or autothrottle for approach and landing.
3. If the remaining radio altimeter fails:
   A. AFDS (both sides) will limit the bank angle to a maximum of 8 degrees in all roll modes.
   B. Use of the Autopilot/Flight Director System (AFDS) is at the discretion of the flight crew. AFDS may not:
      1) Command sufficient bank angle to execute proper departure and/or approach maneuvers.
      2) Make enroute course changes within airspace limitations.

34-20 Radio Altimeter Systems

34-20-01 Receiver/Transmitters

34-20-01-02 --400/-500

34-20-01-02B Approach Minimums Do Not Require Its Use

Interval	Installed	Required	Procedure
A	2	1	**(M) (O)**

May be inoperative deactivated provided:

a. Approach minimums or operating procedures do not require its use.
b. Associated autopilot is not used for approach and landing.
c. Autothrottle is not used for approach and landing.
d. Repairs are made within two flight days.

MAINTENANCE (M)

Open and collar associated P6-1/P18-1 panel Radio Altimeter circuit breaker to deactivate the inoperative radio altimeter.

OPERATIONS (O)

1. For GPWS systems that receive data from only one radio altimeter, see MMEL Item 34-26 for GPWS inoperative limitations if the number 1 radio altimeter is inoperative.
2. Ensure that weather minimums or operating procedures are not dependent upon its use.
3. With radio altimeter(s) inoperative, do not use the associated autopilot, flight director, or autothrottle for approach and landing.
4. If the remaining radio altimeter fails:
   A. AFDS (both sides) will limit the bank angle to a maximum of 8 degrees in all roll modes.
   B. Use of the Autopilot/Flight Director System (AFDS) is at the discretion of the flight crew. AFDS may not:
      1) Command sufficient bank angle to execute proper departure and/or approach maneuvers.
      2) Make enroute course changes within airspace limitations.

34-20 Radio Altimeter Systems

34-20-01 Receiver/Transmitters

34-20-01-03 -600/-700/-800/-900

Interval	Installed	Required	Procedure
C	2	1	**(M) (O)**

May be inoperative deactivated provided:

a. Approach minimums or operating procedures do not require its use.

b. Associated autopilot is not used for approach and landing.

c. Autothrottle is not used for approach and landing.

MAINTENANCE (M)

Do these steps (AMM 34-00-00/901):

1. Open and collar associated P6-1/P18-1 panel Radio Altimeter circuit breaker to deactivate the inoperative radio altimeter.

   NOTE: With one radio altimeter deactivated, the SPEED BRAKE DO NOT ARM light will illuminate on the ground when speed brake handle is moved from the DOWN detent.

2. For airplanes without FCC Operational Program Software (OPS) 2212-HNP-03B-05 or later installed, re-initialize the Flight Control Computer (FCC) associated with the inoperative radio altimeter by momentarily opening and then closing the applicable P6-2/P18-1 panel FCC circuit breaker.

   NOTE: Rockwell Collins FCC Operational Program Software (OPS) part numbers are considered to be equivalent to Honeywell FCC OPS part number 2212-HNP-03B-05 and later.

3. Refer to MMEL Item 32-17. An invalid radio altimeter signal will generate a dispatchable PSEU fault.

OPERATIONS (O)

NOTE: For airplanes with -1, -2, or -3 SMYD, an invalid signal from radio altimeter number 1 will result in failure of both stick shakers to self test.

1. Ensure that weather minimums or operating procedures are not dependent upon its use.
2. With radio altimeter(s) inoperative, do not use the associated autopilot, flight director, or autothrottle for approach and landing.

3. For airplanes with FCC Operational Program Software (OPS) 2212-HNP-03B-05 or later installed, if the remaining radio altimeter fails:

   NOTE: Rockwell Collins FCC Operational Program Software (OPS) part numbers are considered to be equivalent to Honeywell FCC OPS part number 2212-HNP-03B-05 and later.

   A. AFDS (both sides) will limit the bank angle to a maximum of 8 degrees in all roll modes.

   B. Use of the Autopilot/Flight Director System (AFDS) is at the discretion of the flight crew. AFDS may not:

      1) Command sufficient bank angle to execute proper departure and/or approach maneuvers.

      2) Make enroute course changes within airspace limitations.

4. For airplanes without FCC Operational Program Software (OPS) 2212-HNP-03B-05 or later installed, dispatch with an inoperative radio altimeter:

   NOTE: Rockwell Collins FCC Operational Program Software (OPS) part numbers are considered to be equivalent to Honeywell FCC OPS part number 2212-HNP-03B-05 and later.

   A. Results in the same side Autopilot/Flight Director System (AFDS) limiting the bank angle to 8 degrees in LNAV mode.

   B. The opposite side AFDS (operative radio altimeter) is not affected.

   C. Failure of the remaining radio altimeter can result in:

      1) AFDS (both sides) limiting the bank angle to a maximum of 8 degrees (all roll modes) when flaps are extended, 8 degrees in LNAV with flaps retracted.

      2) Use of the Autopilot/Flight Director System (AFDS) is at the discretion of the flight crew. AFDS may not:

         a. Command sufficient bank angle to execute proper departure and/or approach maneuvers.

         b. Make enroute course changes within airspace limitations.

34-20 Radio Altimeter Systems

34-20-02 Indications

34-20-02A Radio Altimeters Operate Normally

Interval	Installed	Required	Procedure
C	-	2	

May be inoperative provided:

a. Independent radio altimeters operate normally for both flight crew members.

b. Approach minimums do not require their use.

34-20 Radio Altimeter Systems

34-20-02 Indications

34-20-02B Associated Receiver/Transmitter Verified To Operate Normally

Interval	Installed	Required	Procedure
C	-	0	**(M) (O)**

May be inoperative provided:

a. Associated receiver/transmitter is verified to operate normally.

b. Approach minimums or operating procedures do not require its use.

MAINTENANCE (M)

To verify that the associated receiver/transmitter is operating normally, refer to the Airplane Maintenance Manual for troubleshooting and system test procedures.

For -100/-200/-300/-400/-500:
Reference AMM 34-48-00.

For -600/-700/-800/-900:
Reference AMM 34-33-00.

OPERATIONS (O)

Ensure that weather minimums or operating procedures are not dependent upon its use.

34-23 True Airspeed Indication

***

Interval	Installed	Required	Procedure
C	-	0	

34-25 Altitude Alerting System

Interval	Installed	Required	Procedure
A	1	0	**(O)**

May be inoperative provided:

a. Autopilot with altitude hold, and altitude capture operates normally.
b. Enroute operation, i.e. RVSM, do not require its use.
c. Airplane does not depart from a designated airport (as listed in the operator's MEL) where repair or replacement can be made.
d. Repairs are made within three flight days.

OPERATIONS (O)

NOTE: An operative altitude alerting system is required for RVSM operations.

Airlines must establish procedures to increase flight crew awareness of altitude, which may include the following:

1. Determine that at least one autopilot is operating normally and that altitude hold and altitude capture are operating normally.
2. Use the autopilot and altitude hold for all operations for which it is appropriate.
3. Cross-check Captain's and First Officer's altitude displays upon reaching and departing assigned altitude. Periodically cross-check altitude indications when maintaining an assigned altitude.
4. Pilot not flying should call out approaching and departing assigned altitudes.
5. Flight deck crew must be aware that the usual alerts for altitude deviations will not occur.

34-25 Altitude Alerting System

34-25-01 Aural Alert

Interval	Installed	Required	Procedure
C	-	0	

May be inoperative provided:

a. Visual alert operates normally.
b. Auto-pilot with altitude hold and altitude capture operates normally.

34-25 Altitude Alerting System

34-25-02 Visual Alert

Interval	Installed	Required	Procedure
C	-	0	

May be inoperative provided:

a. Aural alert operates normally.

b. Auto-pilot with altitude hold and altitude capture operates normally.

34-26 Terrain Awareness and Warning System (TAWS) (Includes STC ST03355AT and ST03362AT)

34-26-01 Ground Proximity Warning System (GPWS)

Interval	Installed	Required	Procedure
A	1	0	**(O)**

May be inoperative provided:

a. Alternate procedures are established and used.

b. Repairs are made within two flight days.

OPERATIONS (O)

Airlines must use procedures to increase flight crew awareness of airplane configuration, altitude and flight path. This may include flight crew use of all airplane systems available (autopilot, autoland, ILS, FMCS) and flight crew review of Minimum Enroute Altitudes (MEA's) and altitude callouts.

34-26 Terrain Awareness and Warning System (TAWS) (Includes STC ST03355AT and ST03362AT)

34-26-01 Ground Proximity Warning System (GPWS)

34-26-01-01 Modes 1 thru 4

Interval	Installed	Required	Procedure
A	4	0	**(O)**

May be inoperative provided:

a. Alternate procedures are established and used.

b. Repairs are made within two flight days.

OPERATIONS (O)

Airlines must use procedures to increase flight crew awareness of airplane configuration, altitude and flight path. This may include flight crew use of all airplane systems available (autopilot, autoland, ILS, FMCS) and flight crew review of Minimum Enroute Altitudes (MEA's) and altitude callouts.

Use procedures to increase flight crew awareness of airplane configuration, altitude and flight path. This may include flight crew use of all airplane systems available (autopilot, autoland, ILS, FMCS) and flight crew review of Minimum Enroute Altitudes (MEA's) and altitude call outs.

34-26 Terrain Awareness and Warning System (TAWS) (Includes STC ST03355AT and ST03362AT)

34-26-01 Ground Proximity Warning System (GPWS)

34-26-01-02 Test Mode

Interval	Installed	Required	Procedure
A	1	0	

May be inoperative provided:

a. GPWS is considered inoperative.

b. Repairs are made within two flight days.

34-26 Terrain Awareness and Warning System (TAWS) (Includes STC ST03355AT and ST03362AT)

34-26-01 Ground Proximity Warning System (GPWS)

34-26-01-03 Glideslope Deviation(s) (Mode 5)

34-26-01-03A One Inoperative

Interval	Installed	Required	Procedure
C	2	1	

34-26 Terrain Awareness and Warning System (TAWS) (Includes STC ST03355AT and ST03362AT)

34-26-01 Ground Proximity Warning System (GPWS)

34-26-01-03 Glideslope Deviation(s) (Mode 5)

34-26-01-03B Both Inoperative

Interval	Installed	Required	Procedure
B	2	0	

34-26 Terrain Awareness and Warning System (TAWS) (Includes STC ST03355AT and ST03362AT)

34-26-01 Ground Proximity Warning System (GPWS)

34-26-01-04 Advisory Callouts

34-26-01-04A Alternate Procedures Required

Interval	Installed	Required	Procedure
B	-	0	**(O)**

May be inoperative provided alternate procedures are established and used.

OPERATIONS (O)

Airlines must use procedures to increase flight crew awareness of airplane configuration, altitude and flight path. This may include flight crew use of all airplane systems available (autopilot, autoland, ILS, FMCS) and flight crew review of Minimum Enroute Altitudes (MEA's) and altitude callouts.

34-26 Terrain Awareness and Warning System (TAWS) (Includes STC ST03355AT and ST03362AT)

34-26-01 Ground Proximity Warning System (GPWS)

34-26-01-05 Windshear Warning and Flight Guidance Mode (Reactive)

***

34-26-01-05A Alternate Procedures Required

Interval	Installed	Required	Procedure
B	1	0	**(O)**

May be inoperative provided alternate procedures are established and used.

NOTE: Operator's alternate procedures should include reviewing windshear avoidance and windshear recovery procedures.

OPERATIONS (O)

Airlines must use procedures to increase flight crew awareness of airplane configuration, altitude and flight path. This may include flight crew use of all airplane systems available (autopilot, autoland, ILS, FMCS) and flight crew review of Minimum Enroute Altitudes (MEA's) and altitude callouts.

34-26 Terrain Awareness and Warning System (TAWS) (Includes STC ST03355AT and ST03362AT)

34-26-01 Ground Proximity Warning System (GPWS)

34-26-01-05 Windshear Warning and Flight Guidance Mode (Reactive)

***

34-26-01-05B Predictive Windshear Warning System Operate Normally

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided:

a. Alternate procedures are established and used.

b. Windshear Detection and Avoidance System (Predictive) operates normally.

OPERATIONS (O)

Airlines must use procedures to increase flight crew awareness of airplane configuration, altitude and flight path. This may include flight crew use of all airplane systems available (autopilot, autoland, ILS, FMCS) and flight crew review of Minimum Enroute Altitudes (MEA's) and altitude callouts.

34-26 Terrain Awareness and Warning System (TAWS) (Includes STC ST03355AT and ST03362AT)

34-26-02 Terrain System - Forward Looking Terrain Avoidance (FLTA) and Premature Descent Alert (PDA) Functions

Interval	Installed	Required	Procedure
B	1	0	**(O)**

May be inoperative provided alternate procedures are established and used.

OPERATIONS (O)

Airlines must use procedures to increase flight crew awareness of airplane configuration, altitude and flight path. This may include flight crew use of all airplane systems available (autopilot, autoland, ILS, FMCS) and flight crew review of Minimum Enroute Altitudes (MEA's) and altitude callouts.

34-26 Terrain Awareness and Warning System (TAWS) (Includes STC ST03355AT and ST03362AT)

34-26-03 Terrain Displays

34-26-03A One Required

Interval	Installed	Required	Procedure
C	-	1	

34-26 Terrain Awareness and Warning System (TAWS) (Includes STC ST03355AT and ST03362AT)

34-26-03 Terrain Displays

34-26-03B All Inoperative

Interval	Installed	Required	Procedure
B	-	0	

34-26 Terrain Awareness and Warning System (TAWS) (Includes STC ST03355AT and ST03362AT)

34-26-03 Terrain Displays

34-26-03-01 Vision One (STC ST03355AT)
***

Interval	Installed	Required	Procedure
D	-	0	

34-26 Terrain Awareness and Warning System (TAWS) (Includes STC ST03355AT and ST03362AT)

34-26-04 Runway Awareness and Advisory System (RAAS)
***

Interval	Installed	Required	Procedure
C	1	0	

34-27 Long Range Navigation Systems (INS, Loran, Omega) ***

Interval	Installed	Required	Procedure
C	-	0	

As required.

NOTE: Airlines must determine specialized navigational equipment requirements dependent on their route system. See other appropriate regulations.

34-28 Performance Data Computer System (PDCS)

***

Interval	Installed	Required	Procedure
C	1	0	

34-29 Speed Command (Fast-Slow) Indicators (-400/-500)

***

Interval	Installed	Required	Procedure
C	2	0	

34-30 ADI Test (-400/-500)

***

Interval	Installed	Required	Procedure
C	2	0	

34-31 Speed Cursor Remote Drive

***

Interval	Installed	Required	Procedure
C	1	0	

34-32 Instrument Transfer Switching System

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided:

a. Associated instruments operate normally from isolated sources.

b. Inoperative switches are not moved during flight.

OPERATIONS (O)

Check that associated instruments function properly from isolated sources.

34-35 Inertial Reference Systems (IRS) (-400/-500/-600/-700/-800/-900)

Interval	Installed	Required	Procedure
B	2	1	**(O)**

Except for ER operations, one may be inoperative provided:

a. Remaining IRS operates normally and is used for both Attitude Indications and both HSI's.
b. Flight is restricted to day VMC.
c. Standby Magnetic Compass operates normally.
d. Standby Horizon Indicator or ISFD attitude display operates normally.
e. Both Vertical Speed Indications are switched to remaining IRS, if required.
f. Autopilots (any mode) are not used unless SB 737-22-1140 or equivalent is incorporated.

For -300/-400/-500:

NOTE 1: Dispatch relief includes the associated Digital/Analog Adapter (DAA). With an inoperative DAA, the FMC Autotune for the associated VHF Navigation Unit will not operate. With the left DAA inoperative, the yaw damper should be positioned OFF (roll attitude not available) and FMC VNAV will be inoperative (fuel summation for gross weight not available).

NOTE 2: Non-EFIS airplanes with the IRS generated vertical speed do not have capability to switch the VSI to the remaining IRS and relief is not allowed per the MMEL.

OPERATIONS (O)

For -300/-400/-500:

1. Place the IRS mode selector switch for the inoperative IRS to OFF.
2. For EFIS airplanes, use the remaining IRS for both attitude, heading and vertical speed indications.
3. Verify that remaining IRS is operating normally by observing attitude and heading flags are out of view on pilot's and copilot's ADI, HSI, VSI and RDMI.
4. Flight is restricted to day VMC.
5. Verify that Standby Magnetic Compass operates normally.
6. Verify Standby Horizon Indicator operates normally.
7. When dispatching with one IRU inoperative, do not use the autopilots in any mode.
8. Do not use TO/GA mode of Flight Director.
9. For non-scanning DME with a DAA inoperative, select AUTO on the VHF NAV control panel with the operative DAA for enroute FMC position updating using agility DME tuning.

10. With left DAA inoperative, operate with yaw damper OFF. Note that FMC VNAV will not be available.

For -600/-700/-800/-900:

1. Place the IRS mode selector switch for the inoperative IRS to OFF.
2. Use the remaining IRS for both attitude, heading and vertical speed indications.
3. Verify that remaining IRS is operating normally by observing attitude and heading flags are out of view on pilot's and copilot's ADI, HSI, VSI and RDMI.
4. Flight is restricted to day VMC.
5. Verify that Standby Magnetic Compass operates normally.
6. Verify Standby Horizon Indicator operates normally.
7. With one IRU inoperative, do not use the autopilots in any mode unless SB 737-22-1140 (-700IGW), 737-22-1150 (-700), or production equivalent is incorporated. With this modification incorporated, the autopilot opposite the failed IRU may be used for cruise operations only.
8. Do not use TO/GA mode of Flight Director.

34-35 Inertial Reference Systems (IRS) (-400/-500/-600/-700/-800/-900)

34-35-01 IRS Data Display (Aft Overhead Panel)

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided one FMCS CDU operates normally.

34-35 Inertial Reference Systems (IRS) (-400/-500/-600/-700/-800/-900)

34-35-02 IRS Ground Crew Call Horn

Interval	Installed	Required	Procedure
C	1	0	

34-36 Flight Management Computer System (FMCS)
34-36-02 --400/-500/-600/-700/-800/-900
34-36-02-01 FMC Alert Lights
34-36-02-01A One Inoperative

Interval	Installed	Required	Procedure
C	2	1	

One may be inoperative provided FMC is not used for autopilot guidance during approach.

34-36 Flight Management Computer System (FMCS)
34-36-02 --400/-500/-600/-700/-800/-900
34-36-02-01 FMC Alert Lights
34-36-02-01B Both Inoperative

Interval	Installed	Required	Procedure
A	2	0	

May be inoperative provided FMC is not used for autopilot guidance.

34-36 Flight Management Computer System (FMCS)
34-36-02 --400/-500/-600/-700/-800/-900
34-36-02-02 Computer

Interval	Installed	Required	Procedure
B	-	1	

May be inoperative provided it is not required to meet navigation requirements.

MAINTENANCE NOTE

An inoperative FMC may be deactivated by opening and collaring the FMCS CMPTR No. 1 or No. 2 circuit breaker on the P6 or P18 panel, as appropriate.

OPERATIONS NOTE

In order to conduct polar operations, the HDG REF switch must be installed, and one FMC, one CDU, and GPS-L must be operational for dispatch.

On airplanes with dual FMC's installed and one FMC inoperative, operating with the FMC Source Select Switch selected to the operational FMC (BOTH ON L or BOTH ON R) is required to accomplish all Flight Management Computing tasks. RNP RNAV operations up to a 10 minute duration can be accomplished with a single FMC. Long range navigation requires single FMC with dual MCDUs with Alternate Navigation capability.

34-36 Flight Management Computer System (FMCS)

34-36-02 --400/-500/-600/-700/-800/-900

34-36-02-02 Computer

34-36-02-01 -300/-400/-500

Interval	Installed	Required	Procedure
B	-	0	

Except for ER operations, may be inoperative provided:

a. IRS display unit (on aft overhead panel) operates normally.

b. EFIS speed tapes are not used as primary airspeed indicators.

MAINTENANCE NOTE

An inoperative FMC may be deactivated by opening and collaring the FMCS CMPTR No. 1 or No. 2 circuit breaker on the P6 or P18 panel, as appropriate.

OPERATIONS NOTE

In order to conduct polar operations, the HDG REF switch must be installed, and one FMC, one CDU, and GPS-L must be operational for dispatch.

On airplanes with dual FMC's installed and one FMC inoperative, operating with the FMC Source Select Switch selected to the operational FMC (BOTH ON L or BOTH ON R) is required to accomplish all Flight Management Computing tasks. RNP RNAV operations up to a 10 minute duration can be accomplished with a single FMC. Long range navigation requires single FMC with dual MCDUs with Alternate Navigation capability.

34-36 Flight Management Computer System (FMCS)

34-36-02 --400/-500/-600/-700/-800/-900

34-36-02-02 Computer

34-36-02-02-02 -600/-700/-800/-900

Interval	Installed	Required	Procedure
B	-	0	

Except for ER operations, may be inoperative provided:

a. IRS display unit (on aft overhead panel) operates normally

b. . b. Speed Reference Selector operates normally.

MAINTENANCE NOTE

An inoperative FMC may be deactivated by opening and collaring the FMCS CMPTR No. 1 or No. 2 circuit breaker on the P6 or P18 panel, as appropriate.

OPERATIONS NOTE

In order to conduct polar operations, the HDG REF switch must be installed, and one FMC, one CDU, and GPS-L must be operational for dispatch.

On airplanes with dual FMC's installed and one FMC inoperative, operating with the FMC Source Select Switch selected to the operational FMC (BOTH ON L or BOTH ON R) is required to accomplish all Flight Management Computing tasks. RNP RNAV operations up to a 10 minute duration can be accomplished with a single FMC. Long range navigation requires single FMC with dual MCDUs with Alternate Navigation capability.

34-36 Flight Management Computer System (FMCS)

34-36-02 --400/-500/-600/-700/-800/-900

34-36-02-03 CDU/MCDU

34-36-02-03A One Operates Normally

Interval	Installed	Required	Procedure
C	-	1	

May be inoperative provided enroute procedures do not require its use.

OPERATIONS NOTE

Operators must consult their Operations Specification for route flight management computing system requirements such as those required for Required Navigation Performance (RNP) routes.

34-36 Flight Management Computer System (FMCS)

34-36-02 --400/-500/-600/-700/-800/-900

34-36-02-03 CDU/MCDU

34-36-02-03B Except ER Operations

Interval	Installed	Required	Procedure
C	-	0	

Except for ER operations, may be inoperative provided:

a. IRS display unit (on aft overhead panel) operates normally.

b. Unit is not required to meet navigation requirements.

OPERATIONS NOTE

In order to conduct polar operations, the HDG REF switch must be installed, and one FMC, one CDU, and GPS-L must be operational for dispatch.

On airplanes with dual FMC's installed and one FMC inoperative, operating with the FMC Source Select Switch selected to the operational FMC (BOTH ON L or BOTH ON R) is required to accomplish all Flight Management Computing tasks. RNP RNAV operations up to a 10 minute duration can be accomplished with a single FMC. Long range navigation requires single FMC with dual MCDUs with Alternate Navigation capability.

34-36 Flight Management Computer System (FMCS)

34-36-02 --400/-500/-600/-700/-800/-900

34-36-02-04 Alternate Navigation Control Display Unit (ANCDU)

4-36-02-04-01 CRT ANCDU (-300/-400/-500)

Interval	Installed	Required	Procedure
C	-	0	

May be inoperative provided:

a. IRS data display (on aft overhead panel) operates normally.

b. Unit is not required to meet navigation requirements.

NOTE: Two independent navigation systems are required for operations beyond range of radio navigation aids. Requires dual ANCDU's, or ANCDU and CDU/Computer, or dual CDU/Computers.

OPERATIONS NOTE

In order to conduct polar operations, the HDG REF switch must be installed, and one FMC, one CDU, and GPS-L must be operational for dispatch.

On airplanes with dual FMC's installed and one FMC inoperative, operating with the FMC Source Select Switch selected to the operational FMC (BOTH ON L or BOTH ON R) is required to accomplish all Flight Management Computing tasks. RNP RNAV operations up to a 10 minute duration can be accomplished with a single FMC. Long range navigation requires single FMC with dual MCDUs with Alternate Navigation capability.

34-36 Flight Management Computer System (FMCS)

34-36-02 --400/-500/-600/-700/-800/-900

34-36-02-05 Navigation Databases

Interval	Installed	Required	Procedure
B	-	-	**(O)**

May be out of currency provided:

a. Current aeronautical charts are used to verify navigation fixes prior to dispatch.
b. Procedures are established and used to verify status and suitability of navigation facilities used to define route of flight.
c. Approach navigation radios are manually tuned and identified.

OPERATIONS (O)

Dispatch with inoperative or expired Navigation Database:

1. Enter flight plan into FMCS (waypoints, etc.) using standard FMCS procedures.
2. Cross check FMCS waypoints using current flight crew navigation charts.
3. Manually tune and identify approach navigation radios.

34-36 Flight Management Computer System (FMCS)

34-36-03 Universal Avionics UNS-1F (STC ST03356AT and ST03362AT)

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided it is not required to meet navigation requirements.

34-36 Flight Management Computer System (FMCS)

34-36-03 Universal Avionics UNS-1F (STC ST03356AT and ST03362AT)

34-36-03-01 Navigation Computer Unit (NCU)

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided it is not required to meet navigation requirements.

34-36 Flight Management Computer System (FMCS)

34-36-03 Universal Avionics UNS-1F (STC ST03356AT and ST03362AT)

***

34-36-03-03 Global Navigation Satellite System (GNSS)

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided all navigation is based on ILS/VOR/DME.

34-36 Flight Management Computer System (FMCS)

34-36-03 Universal Avionics UNS-1F (STC ST03356AT and ST03362AT)

***

34-36-03-06 Navigation Databases

Interval	Installed	Required	Procedure
B	-	-	**(O)**

May be out of currency provided:

a. Current aeronautical charts are used to verify navigation fixes prior to dispatch.

b. Procedures are established and used to verify status and suitability of navigation facilities used to define route of flight.

c. Approach navigation radios are manually tuned and identified.

NOTE: These STC's are not Boeing configurations. Information and/or procedures applicable to this installation are not provided.

34-37 Windshear Warning and Flight Guidance System (Reactive)

34-37A Alternate Procedures Required

Interval	Installed	Required	Procedure
B	1	0	**(O)**

May be inoperative provided alternate procedures are established and used.

NOTE: Operator's alternate procedures should include reviewing windshear avoidance and windshear recovery procedures.

OPERATIONS (O)

Airlines must use procedures to increase flight crew awareness of airplane configuration, altitude and flight path. This may include flight crew use of all airplane systems available (autopilot, autoland, ILS, FMCS) and flight crew review of Minimum Enroute Altitudes (MEA's) and altitude call outs.

34-37 Windshear Warning and Flight Guidance System (Reactive)

34-37B Predictive Windshear Warning System Operates Normally

Interval	Installed	Required	Procedure
C	-	0	**(O)**

May be inoperative provided:

a. Alternate procedures are established and used.

b. Windshear Detection and Avoidance System (Predictive) operates normally.

OPERATIONS (O)

Airlines must use procedures to increase flight crew awareness of airplane configuration, altitude and flight path. This may include flight crew use of all airplane systems available (autopilot, autoland, ILS, FMCS) and flight crew review of Minimum Enroute Altitudes (MEA's) and altitude call outs.

34-38 Pitch Limit Indication (PLI)

***

Interval	Installed	Required	Procedure
C	2	0	

34-40 Traffic Collision and Avoidance System (TCAS) (Includes STC ST03355AT and ST03362AT)

34-40A Required

Interval	Installed	Required	Procedure
B	-	0	**(M)**

May be inoperative provided:

a. System is deactivated and secured.

b. Enroute or approach procedures do not require its use.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

Deactivate and secure the system by opening and collaring the TCAS Circuit Breaker.

For -600/-700/-800/-900:

Deactivate and secure the system by opening and collaring the TCAS Circuit Breaker (AMM 34-00-00/901).

34-40 Traffic Collision and Avoidance System (TCAS) (Includes STC ST03355AT and ST03362AT)

34-40-01 Combined Traffic Alert (TA) and Resolution Advisory (RA) Dual Display

***

Interval	Installed	Required	Procedure
B	2	1	

May be inoperative on non-flying pilot side provided:

a. TA and RA visual display is operative on flying pilot side.

b. TA and RA audio function is operative on flying pilot side.

34-40 Traffic Collision and Avoidance System (TCAS) (Includes STC ST03355AT and ST03362AT)

34-40-02 Resolution Advisory (RA) Display System(s)

34-40-02A Inoperative For Non-Flying Pilot

Interval	Installed	Required	Procedure
C	2	1	

May be inoperative on non-flying pilot side.

34-40 Traffic Collision and Avoidance System (TCAS) (Includes STC ST03355AT and ST03362AT)

34-40-02 Resolution Advisory (RA) Display System(s)

34-40-02B Procedures Do Not Require Use

Interval	Installed	Required	Procedure
C	-	0	**(O)**

May be inoperative provided:

a. Traffic Alert (TA) visual display and audio functions are operative.
b. TA only mode is selected by crew.
c. Enroute or approach procedures do not require its use.

OPERATIONS (O)

Observe operative indications and advisories. Respond as appropriate.

34-40 Traffic Collision and Avoidance System (TCAS) (Includes STC ST03355AT and ST03362AT)

34-40-03 Traffic Alert (TA) Display System(s)

Interval	Installed	Required	Procedure
C	-	0	**(O)**

May be inoperative provided:

a. RA visual display and audio functions are operative.
b. Enroute or approach procedures do not require its use.

OPERATIONS (O)

Observe operative indications and advisories. Respond as appropriate.

34-40 Traffic Collision and Avoidance System (TCAS) (Includes STC ST03355AT and ST03362AT)

34-40-04 Audio Functions

Interval	Installed	Required	Procedure
B	1	0	

May be inoperative provided enroute or approach procedures do not require use of TCAS.

34-40 Traffic Collision and Avoidance System (TCAS) (Includes STC ST03355AT and ST03362AT)

34-40-05 Airspace Selection Function

***

Interval	Installed	Required	Procedure
C	-	0	

34-42 Radio Magnetic Indicators (RMI)

34-42-02 --400/-500

Interval	Installed	Required	Procedure
C	-	1	

34-42 Radio Magnetic Indicators (RMI)

34-42-03 -600/-700/-800/-900

34-42-03-01 EFIS/Map

Interval	Installed	Required	Procedure
C	3	1	

Two may be inoperative provided Captain's RMI or Standby RMI operates normally.

34-42 Radio Magnetic Indicators (RMI)

34-42-03 -600/-700/-800/-900

34-42-03-02 PFD/ND

***

Interval	Installed	Required	Procedure
C	1	0	

Standby RMI may be inoperative provided Captain's Inboard DU is connected to Standby Power.

34-43 Radio Height Alert

***

Interval	Installed	Required	Procedure
D	2	0	

34-44 Head-Up Display System (HUD)
***

Interval	Installed	Required	Procedure
D	-	0	

May be inoperative provided procedures do not require its use.

NOTE: Any mode which operates normally may be used.

34-45 Global Positioning System (GPS)
***

34-45A Alternate Procedures Required

Interval	Installed	Required	Procedure
C	-	0	

May be inoperative provided alternate procedures are established and used.

OPERATIONS NOTE

In order to conduct polar operations, the HDG REF switch must be installed, and one FMC, one CDU, and GPS-L must be operational for dispatch.

34-45 Global Positioning System (GPS)
***

34-45B Procedures Do Not Require Its Use

Interval	Installed	Required	Procedure
C	-	0	

May be inoperative provided procedures do not require its use.

OPERATIONS NOTE

In order to conduct polar operations, the HDG REF switch must be installed, and one FMC, one CDU, and GPS-L must be operational for dispatch.

34-46 Microwave Landing System (MLS)

***

Interval	Installed	Required	Procedure
D	-	0	

May be inoperative provided approach procedures do not require its use.

34-47 ILS Beam Deviation Lights

***

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided approach minimums do not require their use.

34-48 EFIS Control Panel
34-48-01 Map Switches (-400/-500)
***
34-48-01-01 VOR / ADF

Interval	Installed	Required	Procedure
C	2	1	

34-48 EFIS Control Panel
34-48-01 Map Switches (-400/-500)
***
34-48-01-02 NAV AID

Interval	Installed	Required	Procedure
C	2	1	

34-48 EFIS Control Panel
34-48-01 Map Switches (-400/-500)
***
34-48-01-03 ARPT

Interval	Installed	Required	Procedure
C	2	1	

34-48 EFIS Control Panel
34-48-01 Map Switches (-400/-500)
***
34-48-01-04 RTE DATA

Interval	Installed	Required	Procedure
C	2	1	

34-48 EFIS Control Panel

34-48-01 Map Switches (-400/-500)

***

34-48-01-05 WPT

Interval	Installed	Required	Procedure
C	2	1	

34-48 EFIS Control Panel

34-48-02 Decision Height Reference (DH REF) Indication (-400/-500)

***

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided:

a. Approach procedures do not require its use.

b. Decision height is displayed on both EADI's

34-48 EFIS Control Panel

34-48-03 Map Switches (-600/-700/-800/-900)

34-48-03-01 POS

Interval	Installed	Required	Procedure
C	2	1	

34-48 EFIS Control Panel

34-48-03 Map Switches (-600/-700/-800/-900)

34-48-03-02 STA

Interval	Installed	Required	Procedure
C	2	1	

34-48 EFIS Control Panel
34-48-03 Map Switches (-600/-700/-800/-900)
34-48-03-03 ARPT

Interval	Installed	Required	Procedure
C	2	1	

34-48 EFIS Control Panel
34-48-03 Map Switches (-600/-700/-800/-900)
34-48-03-04 DATA

Interval	Installed	Required	Procedure
C	2	1	

34-48 EFIS Control Panel
34-48-03 Map Switches (-600/-700/-800/-900)
34-48-03-05 WPT

Interval	Installed	Required	Procedure
C	2	1	

34-49 Right IRS DC Power Supply System (-400/-500/-600/-700/-800/-900)

Interval	Installed	Required	Procedure
B	1	0	**(O)**

May be inoperative provided:

a. Remaining IRS Mode Selector Unit lights are not illuminated.

b. Autopilot dual channel mode is not used during approach.

OPERATIONS (O)

If the left IRS DC FAIL light illuminates during flight, assume that both IRS DC FAIL lights are illuminated. Refer to the Flight Crew Operations Manual - IRS DC FAIL Non-Normal Checklist.

34-51 Metric Altimeter
***

Interval	Installed	Required	Procedure
D	-	0	

May be inoperative provided operations do not require its use.

34-52 Performance Management System (PMS) with Windshear Detection/Alerting System (STC SA2018NM)

***

Interval	Installed	Required	Procedure
C	-	0	**(O)**

May be inoperative provided:

a. TAT indicator operates normally.

b. PMS remains uncoupled from autopilot.

c. Autothrottle system is considered inoperative.

d. Windshear Detection and Guidance is considered inoperative.

NOTE: The Performance Management System with Windshear Detection/Alerting is not a Boeing system. Therefore, information applicable to this system is not provided.

34-53 Automatic Dependent Surveillance - Broadcast (ADS-B) System

***

Interval	Installed	Required	Procedure
D	-	0	

May be inoperative provided it is not required.

NOTE: If ADS-B is installed in lieu of or as a replacement required equipment, repair category in operator's MEL will be same as that required equipment

34-53 Automatic Dependent Surveillance - Broadcast (ADS-B) System

***

34-53-01 Cockpit Display and Traffic Information (CDTI)

Interval	Installed	Required	Procedure
D	-	0	

NOTE: Cockpit Display Traffic Information (CDTI) display of data from other aircraft systems may be used.

34-53 Automatic Dependent Surveillance - Broadcast (ADS-B) System

***

34-53-02 CDTI Control Panel

Interval	Installed	Required	Procedure
D	-	0	

May be inoperative provided:

a. Flight ID can be set.

b. Screen display is acceptable to flight crew.

34-53 Automatic Dependent Surveillance - Broadcast (ADS-B) System
34-53-03 Data Link Transmitter(s)

Interval	Installed	Required	Procedure
D	-	0	

NOTE: In some aircraft the Data Link Transmission is an integral part of the transponder and relief is provided in that section.

34-53 Automatic Dependent Surveillance - Broadcast (ADS-B) System
34-53-04 Data Link Receivers

Interval	Installed	Required	Procedure
D	-	0	

34-53 Automatic Dependent Surveillance - Broadcast (ADS-B) System
34-53-05 ADS-B Applications

Interval	Installed	Required	Procedure
D	-	0	

34-54 Integrated Standby Systems
***
34-54-01 Integrated Standby Flight Display (ISFD)
34-54-01-01 Attitude Display

Interval	Installed	Required	Procedure
B	1	0	

May be inoperative provided:

a. Operations are conducted in Day VMC only.
b. Operations are not conducted into known or forecast over-the-top conditions.

34-54 Integrated Standby Systems
***
34-54-01 Integrated Standby Flight Display (ISFD)
34-54-01-02 ILS Indication

Interval	Installed	Required	Procedure
D	1	0	

34-54 Integrated Standby Systems
***
34-54-01 Integrated Standby Flight Display (ISFD)
34-54-01-03 Heading Display

Interval	Installed	Required	Procedure
C	1	0	

34-54 Integrated Standby Systems
***
34-54-01 Integrated Standby Flight Display (ISFD)
34-54-01-04 Metric Altimeter Display

Interval	Installed	Required	Procedure
D	1	0	

May be inoperative provided operations do not require its use.

34-54 Integrated Standby Systems
****

34-54-01 Integrated Standby Flight Display (ISFD)

34-54-01-05 Dedicated Battery

Interval	Installed	Required	Procedure
C	1	0	

34-54 Integrated Standby Systems
****

34-54-02 Integrated Standby Instrument System (ISIS) (Boeing Service Bulletin 737-31-1435)

34-54-02-01 Attitude Display

Interval	Installed	Required	Procedure
B	1	0	

May be inoperative provided:

a. Operations are conducted in Day VMC only.

b. Operations are not conducted into known or forecast over-the-top conditions.

34-54 Integrated Standby Systems
****

34-54-02 Integrated Standby Instrument System (ISIS) (Boeing Service Bulletin 737-31-1435)

34-54-02-02 ILS Indication

Interval	Installed	Required	Procedure
D	1	0	

34-54 Integrated Standby Systems
***

34-54-02 Integrated Standby Instrument System (ISIS) (Boeing Service Bulletin 737-31-1435)

34-54-02-03 Heading Display

Interval	Installed	Required	Procedure
C	1	0	

34-54 Integrated Standby Systems
***

34-54-02 Integrated Standby Instrument System (ISIS) (Boeing Service Bulletin 737-31-1435)

34-54-02-04 Metric Altimeter Display

Interval	Installed	Required	Procedure
D	1	0	

May be inoperative provided operations do not require its use.

34-54 Integrated Standby Systems
***

34-54-02 Integrated Standby Instrument System (ISIS) (Boeing Service Bulletin 737-31-1435)

34-54-02-05 Dedicated Battery

Interval	Installed	Required	Procedure
C	1	0	

34-55 Vertical Situation Display (VSD) System (-600/-700/-800/-900)

***

34-55A Alternate Procedures Required

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided alternate procedures are established and used.

OPERATIONS (O)

Airlines must establish company policies for dispatch with the VSD system inoperative.

34-55 Vertical Situation Display (VSD) System (-600/-700/-800/-900)

***

34-55B Procedures Do Not Require Use

Interval	Installed	Required	Procedure
D	1	0	

May be inoperative provided procedures do not require its use.

34-56 Global Navigation Satellite Landing System (GLS) (-600/-700/-800/-900)

***

Interval	Installed	Required	Procedure
D	2	-	

May be inoperative provided approach minimums do not require its use.

34-57 Enhanced Vision System (EVS) STC ST00039MC
****

Interval	Installed	Required	Procedure
D	-	0	**(M)**

May be inoperative provided EVS is deactivated.

NOTE: For the EVS to be considered operative, the EVS Yoke Switch must be operative.

NOTE: The Enhanced Vision System (EVS) is not a Boeing configuration. Therefore, information and procedures applicable to this system are not provided.

34-57 Enhanced Vision System (EVS) STC ST00039MC
****

34-57-01 EVS Window Heat

Interval	Installed	Required	Procedure
D	-	0	**(O)**

Avoid icing conditions when EVS Window Heat is inoperative.

NOTE: The Enhanced Vision System (EVS) is not a Boeing configuration. Therefore, information and procedures applicable to this system are not provided.

34-57 Enhanced Vision System (EVS) STC ST00039MC
****

34-57-02 Secondary (non-HUD) EVS Display System

Interval	Installed	Required	Procedure
D	-	0	**(M)**

May be inoperative provided procedures do not require its use.

NOTE: The Enhanced Vision System (EVS) is not a Boeing configuration. Therefore, information and procedures applicable to this system are not provided.

35-02 Passenger Service Units (PSUs)

Interval	Installed	Required	Procedure
A	-	-	**(M)**

May be inoperative provided:

a. Associated seats are blocked and placarded to prevent occupancy.
b. Units operate normally for all usable lavatory and flight attendant locations.

MAINTENANCE (M)

1. Close the inoperative oxygen mask door and secure it using adhesive tape.
2. Block the seats with the inoperative units to prevent passenger use.
3. If inoperative unit is in a lavatory, secure the associated lavatory door closed to prevent passenger use.

35-02 Passenger Service Units (PSUs)

35-02-01 Automatic Presentation

Interval	Installed	Required	Procedure
B	1	0	**(M) (O)**

May be inoperative provided:

a. Alternate deployment system is verified to operate normally.
b. Airplane remains at or below FL 300.

MAINTENANCE (M)

Check passenger oxygen manual deploy system per AMM 35-21-00, A/T (bottle system) or 35-22-00, A/T (chemical oxygen).

OPERATIONS (O)

1. Be prepared to deploy passenger masks manually using the PASS OXYGEN Switch or Actuation/Reset Handle (if installed).
2. Flight altitude is limited to FL 300.

PLACARD

Placard the blocked off seats or lavatory
With the automatic deploy system inoperative, placard near PASS OXYGEN Switch MODE INOP"

35-02 Passenger Service Units (PSUs)

35-02-02 Door Latches

Interval	Installed	Required	Procedure
B	-	-	**(M)**

Automatic opening feature of door latch(es) may be inoperative unlatched, and taped closed provided:

a. PSU oxygen system operates normally.

b. Flight remains at or below FL 250.

c. Passenger(s) occupying seat(s) with inoperative door latch(es) are briefed on oxygen mask procedure.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Check masks in affected PSU and tape door closed.

For -600/-700/-800/-900:
Check masks in affected PSU and tape door closed (AMM 35-00-00/901).

For All Models:

1. For airplanes with bottle passenger oxygen:
   A. Tape all oxygen mask compartment doors closed.
   B. Pressurize system using an external source connected to the low pressure manifold via the test/vent connection or by switching the airplane passenger oxygen system on.
   C. Check masks in the affected PSU for oxygen flow.
   D. Replace valve actuating pins, pack masks in compartment, and tape door closed. Fashion the tape so that a non adhesive “handle”, approximately 4 inches long, is left pendant. This “handle” will be used in case of need by the passenger to strip the securing tape down, thus allowing the door to fall open.
   E. Disconnect oxygen source or reset aircraft system using reset handle (in cockpit floor aft of control stand).
   F. Remove tape from all operative oxygen mask compartment doors.
2. For airplanes with chemical passenger oxygen:
   A. Verify that related generator has not been expended. Color band will be black if generator has been expended and generator must be replaced.
   B. Tape door closed. Fashion the tape such that a non adhesive “handle”, approximately 4 inches long, is left pendant. This “handle” will be used in case of need by the passenger to strip the securing tape down, thus allowing the door to fall open

35-03 Oxygen Pressure Indicators

35-03-01 Flight Deck Crew Oxygen Indicator

Interval	Installed	Required	Procedure
B	1	0	**(M)**

May be inoperative provided an alternate procedure is used to verify that oxygen supply is above minimum requirements for dispatch.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Check oxygen cylinder pressure indicator and ensure oxygen supply is above minimum required for flight.

For -600/-700/-800/-900:
Check oxygen cylinder pressure indicator and ensure oxygen supply is above minimum required for flight (AMM 35-00-00/901).

For All Models:

1. Check crew oxygen cylinder pressure indicator prior to each takeoff.
2. Ensure supply is above minimum required for flight. See Boeing Flight Planning and Performance Manual, Flight Planning Section, for minimum dispatch bottle pressure.

35-03 Oxygen Pressure Indicators

35-03-02 External Service Panel Crew Oxygen Indicator

***

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided an alternate procedure is used to verify that oxygen supply is above minimum requirements for dispatch.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Check oxygen cylinder pressure indicator and ensure oxygen supply is above minimum required for flight.

For -600/-700/-800/-900:
Check oxygen cylinder pressure indicator and ensure oxygen supply is above minimum required for flight (AMM 35-00-00/901).

For All Models:

1. Check crew oxygen cylinder pressure indicator prior to each takeoff.
2. Ensure supply is above minimum required for flight. See Boeing Flight Planning and Performance Manual, Flight Planning Section, for minimum dispatch bottle pressure.

35-03 Oxygen Pressure Indicators

35-03-05 Overpressure Discharge Indication Disk

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be damaged or missing.

OPERATIONS COI

When dispatching with the overpressure discharge indication disk damaged or missing, verify that oxygen pressure is adequate for dispatch by observing system pressure using the flight deck crew and passenger (if installed) oxygen pressure indicator on the aft overhead panel or using the pressure indicator on the external service panel (if installed) or oxygen cylinder

35-04 Portable Oxygen Dispensing Units (Bottle and Mask)

Interval	Installed	Required	Procedure
C	-	-	**(M)**

Any in excess of those required by . 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.

MAINTENANCE (M)

1. Until it can be removed from the airplane at the next available maintenance base, stow out of service units in a location where they will not be used by mistake and remove or obscure locator placards for the inoperative units.
2. Ensure required distribution of serviceable units is maintained throughout the airplane.

OPERATIONS NOTE

Airlines must determine portable oxygen requirements dependent on their route system and number of airplane occupants. See other appropriate regulations.

35-05 Passenger Oxygen System

35-05A Passenger Operations

Interval	Installed	Required	Procedure
B	1	0	**(M) (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. Remaining components of pressurization system operate normally.
d. Airplane remains at or below FL 250.
e. Portable oxygen units are provided for 10% of passengers.
f. Passengers are appropriately briefed.

MAINTENANCE (M)

Ensure that there is portable oxygen units for at least 10 percent of the passengers.

OPERATIONS (O)

1. Plan flight over route with minimum enroute altitudes (MEA) 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.

35-05 Passenger Oxygen System

35-05C Operations at or below 10,000 feet MSL

Interval	Installed	Required	Procedure
B	1	0	

May be inoperative provided flight is conducted at or below 10,000 feet MSL

35-06 PBE Smoke Hoods

Interval	Installed	Required	Procedure
A	-	-	

Any in excess of those required .may be inoperative.

OPERATIONS NOTE

Airlines must determine portable oxygen requirements dependent on their seating, galley, and emergency equipment configurations. See other appropriate regulations.

35-07 External Service Panel, Oxygen Fill Station

***

Interval	Installed	Required	Procedure
C	1	0	**(M)**

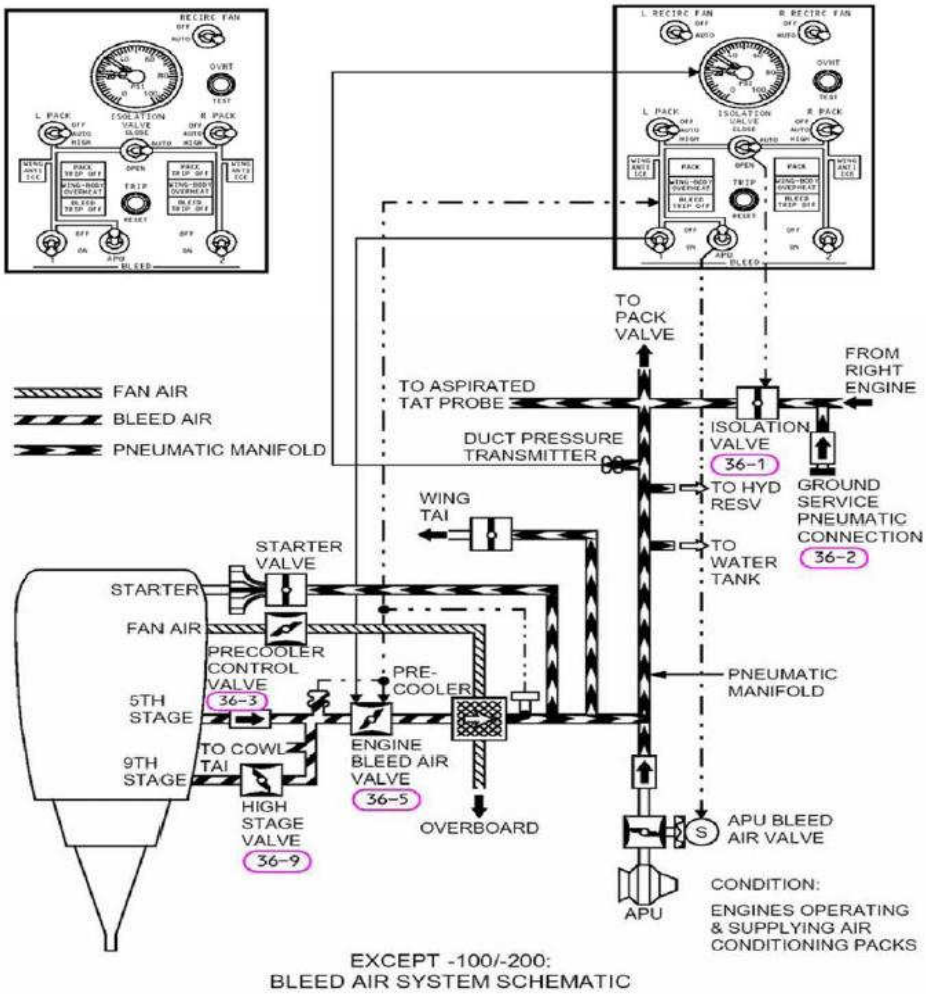
May be inoperative provided leak-tight integrity of oxygen supply system is not affected.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
To verify that the leak-tight integrity of the oxygen supply system is not affected:
For -600/-700/-800/-900:
To verify that the leak-tight integrity of the oxygen supply system is not affected (AMM 35-00-00/901):
For All Models:

1. Visually check high-pressure tubing to ensure that there are no open connections.
2. Ensure that crew and passenger oxygen system pressures (as applicable) indicated on applicable flight deck or cylinder pressure gauge(s) meet dispatch requirement pressures.
3. Monitor crew and passenger oxygen system pressure (as applicable) for 15 minutes to ensure there are no detectable leaks.

BLEED AIR CONTROLS AND INDICATORS



EXCEPT -100/-200:
BLEED AIR SYSTEM SCHEMATIC

36-01 Manifold Isolation Shutoff Valve

36-01-02 -400/-500

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided:

a. Modified Main Engine Controls or production equivalent have been installed. b. Valve remains closed except for engine start.

c. Airplane is not operated in known or forecast icing conditions.

MAINTENANCE (M)

NOTE: Modified Main Engine Controls (MEC's) must be installed on both engines for dispatch with the isolation valve inoperative closed. Modified MEC's are P/N 9368M57P12 and higher (P12 and up) on CFM56-3-B1 engines and P/N 9387M15P03 and higher (P03 and up) on CFM56-3B-2 engines. All CFM56-3C-1 engines have modified MEC's installed.

Deactivate the bleed air isolation valve.

1. Position both engine BLEED switches to OFF.
2. Position APU Bleed Air switch to OFF.
3. Position both PACK switches to OFF.
4. Open and collar the P6-4 panel circuit breaker BL AIR ISLN VALVE.
5. Remove, cap and stow the connector from bleed air isolation valve.

   NOTE: It may be necessary to temporarily remove the air conditioning duct segment located in front of keel beam access hole.
6. Manually move valve to the closed position using the manual override handle.

NOTE: The isolation valve must be manually opened for engine start and then manually closed after the engines are started.

36-01 Manifold Isolation Shutoff Valve

36-01-03 -600/-700/-800/-900

Interval	Installed	Required	Procedure
C	1	0	**(M)**

Except for ER operations beyond 120 minutes, may be inoperative provided:

a. Valve remains closed except for engine start.

b. Airplane is not operated in known or forecast icing conditions.

MAINTENANCE (M)

Deactivate the bleed air isolation valve (AMM 36-00-00/901).

1. Position both engine BLEED switches to OFF.
2. Position APU Bleed Air switch to OFF.
3. Position both PACK switches to OFF.
4. Open and collar the P6-4 panel circuit breaker AIR CONDITIONING BLEED AIR VALVE ISOLATION.
5. Remove, cap and stow the connector from bleed air isolation valve.

   NOTE: It may be necessary to temporarily remove the air conditioning duct segment located in front of keel beam access hole.
6. Manually move valve to the closed position using the manual override handle.

NOTE: The isolation valve must be manually opened for engine start and then manually closed after the engines are started.

36-02 Ground Pneumatic Connector Check Valve

36-02A Valve Inoperative Open

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

Except for ER operations beyond 120 minutes, may be inoperative open provided:

a. Right pneumatic manifold remains depressurized after starting right engine. b. Airplane is not operated in known or forecast icing conditions.

c. Altitude remains at or below FL 250.

MAINTENANCE (M)

For -100/-200/300/-400/-500:

Ground Pneumatic Connector Check valve inoperative open:

1. Use a ground pneumatic source for starting the right engine.
.
2. Prior to removing the ground pneumatic source, verify with flight crew that the right pneumatic duct is depressurized (right engine bleed OFF and isolation valve CLOSE).
3. Ground pneumatic source will be required at down line stations if right engine is shutdown.

For -600/-700/-800/-900:

Ground Pneumatic Connector Check valve inoperative open (AMM 36-00-00/901):

1. Use a ground pneumatic source for starting the right engine.
2. Prior to removing the ground pneumatic source, verify with flight crew that the right pneumatic duct is depressurized (right engine bleed OFF and isolation valve CLOSE).
3. Ground pneumatic source will be required at down line stations if right engine is shutdown.

OPERATIONS (O)

For -300/-400/-500/-600/-700/-800/-900:

NOTE: When dispatching with a single engine bleed on for takeoff (airplane pressurized), V1(MCG) should be determined based on AC packs OFF. Takeoff performance should be based on packs AUTO.

1. Following engine start, depressurize the right pneumatic duct prior to removing the ground pneumatic source. Operate airplane with:
   - Right bleed OFF
   - Right pack OFF
   - Isolation valve CLOSE
2. Operate the left pack using the left engine bleed or APU bleed with isolation valve CLOSE.

NOTE 1: At altitudes 17,000 feet and below, increased airflow will occur when flaps are extended (takeoff and landing) and the APU is used instead of engine bleed to supply bleed air to the operating pack. Refer to Boeing Operations Manual, NO ENGINE BLEED TAKEOFF AND LANDING Supplementary Procedure.

NOTE 2: With the PACK switch in AUTO, the pack will operate in the high flow mode when the APU is used as the bleed source.

3. Maximum altitude is FL 250.

36-02 Ground Pneumatic Connector Check Valve

36-02B Valve Inoperative Closed

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative closed.

NOTE: With the ground pneumatic connector check valve inoperative closed, engines cannot be started from ground source. Use APU as air source for starting engines.

36-03 Precooler Control Valves

36-03-02 -400/-500/-600/-700/-800/-900

Interval	Installed	Required	Procedure
C	2	0	**(O)**

Except for ER operations beyond 120 minutes, may be inoperative in any position provided:

a. Associated engine bleed shutoff valve remains closed.

b. Airplane is not operated in known or forecast icing conditions.

OPERATIONS (O)

NOTE 1: Use of the APU bleed air is limited to 17,000 feet. One air conditioning pack will be unusable when dispatching with: the left engine bleed unusable and flight altitude greater than 17,000 feet, the right engine bleed unusable, or both engine bleeds unusable.

NOTE 2: When dispatching with a single engine bleed on for takeoff (airplane pressurized), V1(MCG) should be determined based on AC packs OFF. Takeoff performance should be based on AC packs AUTO.

1. Do not dispatch into known or forecast icing conditions.
2. Position the associated engine BLEED switch to OFF.
3. For left engine bleed unusable:
   A. At altitudes 17,000 feet and below, operate the left pack using the APU bleed air, the right pack using the right engine bleed and the isolation valve CLOSE.
   B. At altitudes above 17,000 feet, operate with the APU bleed air OFF.
      1) Limit altitude to FL 250.
      2) Operate the left pack using the right engine bleed, the right pack OFF and isolation valve OPEN.
4. For right engine bleed unusable:
   A. Limit altitude to FL 250.
   B. Operate the left pack using the left engine bleed, right pack OFF, and isolation valve CLOSE.
      NOTE: At altitudes 17,000 feet and below, increased air flow will occur when flaps are extended (takeoff and landing) and the APU is used instead of engine bleed to supply bleed air to the operating pack. Refer to Boeing Operations Manual, NO ENGINE BLEED TAKEOFF AND LANDING PROCEDURE.
5. For both engine bleeds unusable:
   A. Limit altitude to 17,000 feet.
   B. Operate the left pack using APU bleed and isolation valve CLOSE. Refer to Boeing Operations Manual, NO ENGINE BLEED TAKEOFF AND LANDING PROCEDURE.

36-03 Precooler Control Valves

36-03-03 --400/-500

Interval	Installed	Required	Procedure
C	2	0	**(M)**

Except for ER operations beyond 120 minutes, may be inoperative full open provided airplane is not operated in known or forecast icing conditions.

MAINTENANCE (M)

Deactivate precooler control valve in full open position.

NOTE: Precooler control valve cannot be manually positioned.

1. Deactivate the leading edge slats in the retracted position (AMM 27-81-00/201).
2. Deactivate the associated thrust reverser (AMM 78-31-00/201).
3. Gain access to the precooler control valve by opening the appropriate fan cowl panel (AMM 71-11-02/201) and thrust reverser (AMM 78-31-00/201).
4. Disconnect the supply pressure tubing at the precooler control valve and at the “Tee” intersection from the 5th stage duct, and remove the supply pressure tubing.
5. Install a cap on both the valve side and at the “Tee” intersection.
6. Verify that visual position indicator on the valve indicates that the valve is in the full open position.
7. Close fan cowl panel (AMM 71-11-02/201) and thrust reverser (AMM 78-31-00/201).
8. Activate the thrust reverser (AMM 78-31-00/201).
9. Activate the leading edge slats (AMM 27-81-00/201).

36-04 Pneumatic Pressure Indication Systems

Interval	Installed	Required	Procedure
C	2	0	**(O)**

May be inoperative provided alternate procedures are established and used.

OPERATIONS (O)

1. The Flight Crew normally uses the Pneumatic Pressure Indication System to verify the following during engine starts:
   A. Minimum recommended pneumatic pressure for engine start.
   B. Closure of the engine start valve if START VALVE OPEN lights are not installed.
2. With an inoperative Pneumatic Pressure Indication System, confirmation of minimum recommended pneumatic pressure is not required for engine start.
3. For verification of start valve closure:
   A. On airplanes with START VALVE OPEN lights installed, the Flight Crew can verify that the engine start valve has closed by noting that the START VALVE OPEN lights have extinguished.
   B. On airplanes without START VALVE OPEN lights installed, the APU must be used for engine starts. The Flight Crew should monitor the APU EGT and note a pronounced drop at starter cutout.

36-05 Engine Bleed Air Shutoff Valves (PRSOV)

36-05-02 -400/-500/-600/-700/-800/-900

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

Except for ER operations beyond 120 minutes, may be inoperative provided:

a. Valve is secured closed before engine start.

b. Airplane is not operated in known or forecast icing conditions.

MAINTENANCE (M)

For -300/-400/-500:

Lock the associated engine bleed air valve in the closed position.

For -600/-700/-800/-900:

Lock the associated engine bleed air valve in the closed position (AMM 36-00-00/901).

For All Models:

1. Deactivate the leading edge slats in the retracted position (AMM 27-81-00/201).
2. Deactivate the associated thrust reverser (AMM 78-31-00/201).
3. Gain access to the engine bleed air valve by opening the appropriate fan cowl panel (AMM 71-11-02/201) and thrust reverser (AMM 78-31-00/201).
4. Lock the engine bleed air valve in the CLOSED position.
   A. Turn the override nut to align the position indicator with the CLOSED position.
   B. Loosen the lock screw/knob bolt and push in locking knob to lock valve in closed position.
   C. Retighten lock screw/knob bolt.
5. Close fan cowl panel (AMM 71-11-02/201) and thrust reverser (AMM 78-31-00/201).
6. Activate the thrust reverser (AMM 78-31-00/201).
7. Activate the leading edge slats (AMM 27-81-00/201).

OPERATIONS (O)

NOTE 1: Use of the APU bleed air is limited to 17,000 feet. One air conditioning pack will be unusable when dispatching with: (1) the right engine bleed inoperative, (2) the left engine bleed inoperative and flight altitude greater than 17,000 feet, or (3) both engine bleeds inoperative.

NOTE 2: When dispatching with a single engine bleed on for takeoff (airplane pressurized), V1(MCG) should be determined based on AC packs OFF. Takeoff performance should be based on AC packs AUTO.

1. Do not dispatch into known or forecast icing conditions.
2. Associated engine bleed switch is selected to the OFF position.
3. For left engine bleed inoperative:
   A. At altitudes 17,000 feet and below, operate the left pack using the APU bleed air, the right pack using the right engine bleed and the isolation valve CLOSE.
   B. At altitudes above 17,000 feet, operate with the APU bleed air OFF.
      1) Limit altitude to FL 250.
      2) Operate the left pack using the right engine bleed, the right pack OFF and isolation valve OPEN.
4. For right engine bleed inoperative: A. Limit altitude to FL 250.
   B. Operate the left pack using the left engine bleed, right pack OFF, and isolation valve CLOSE.

   NOTE: At altitudes 17,000 feet and below, increased air flow will occur when flaps are extended (takeoff and landing) and the APU is used instead of engine bleed to supply bleed air to the operating pack. Refer to Boeing Operations Manual, NO ENGINE BLEED TAKEOFF AND LANDING PROCEDURE.
5. For both engine bleeds inoperative:
   A. Limit altitude to 17,000 feet.
   B. Operate the left pack using APU bleed and isolation valve CLOSE. Refer to Boeing Operations Manual, NO ENGINE BLEED TAKEOFF AND LANDING PROCEDURE.

36-06 Dual Bleed Light System

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided:

a. APU bleed air is not used in flight.

b. APU bleed valve is closed before each departure.

OPERATIONS (O)

Prior to takeoff verify that the APU bleed valve is closed using the following procedure:

1. Place manifold isolation valve switch in CLOSE position.
2. With APU running, turn OFF left pack and engine bleed.
3. Turn OFF APU bleed.
4. Observe that left pneumatic duct pressure decreases to 10 PSI or less.

36-08 Engine Bleed Trip Off Lights

Interval	Installed	Required	Procedure
C	2	0	**(O)**

Except for ER operations beyond 120 minutes, may be inoperative provided:

a. Associated engine bleed is not used except for engine start.

b. Airplane is not operated in known or forecast icing conditions.

OPERATIONS (O)

NOTE 1: Use of the APU bleed air is limited to 17,000 feet. One air conditioning pack will be unusable when dispatching with; (1) the right engine bleed unusable, (2) the left engine bleed unusable and flight altitude greater than 17,000 feet, or (3) both engine bleeds unusable.

For -300/-400/-500/-600/-700/-800/-900:

NOTE 4: When dispatching with a single engine bleed on for takeoff (airplane pressurized), V1(MCG) should be determined based on AC packs OFF. Takeoff performance should be based on packs AUTO.

For All Models:

1. Do not dispatch into known or forecast icing conditions.
2. After engine start, position the associated engine BLEED switch to OFF.
3. For left engine bleed unusable:
   A. At altitudes 17,000 feet and below, operate the left pack using the APU bleed air, the right pack using the right engine bleed and the isolation valve CLOSE.
   B. At altitudes above 17,000 feet, operate with the APU bleed air OFF.
      Limit altitude to FL 250.
      For -300/-400/-500/-600/-700/-800/-900:
      NOTE: At altitudes 17,000 feet and below, increased air flow will occur when flaps are extended (takeoff and landing) and the APU is used instead of engine bleed to supply bleed air to the operating pack. Refer to Boeing Operations Manual, NO ENGINE BLEED TAKEOFF AND LANDING PROCEDURE.
5. For both engine bleeds unusable:
   A. Limit altitude to 17,000 feet.
   B. Operate the left pack using APU bleed and isolation valve CLOSE.
   Refer to Boeing Operations Manual,
   NO ENGINE BLEED TAKEOFF AND LANDING PROCEDURE

36-09 High Stage Valves (-400/-500/-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	2	1	**(M)**

One may be inoperative locked closed provided a minimum of 60% N1 is maintained on associated engine during flight in icing conditions.

MAINTENANCE (M)

For -300/-400/-500:

Lock the high stage valve closed.

For -600/-700/-800/-900:

Lock the high stage valve closed (AMM 36-00-00/901).

NOTE: Only one high stage valve may be locked in the closed position for dispatch. Dispatch with the opposite high stage valve locked closed under MMEL item 30-3 is not allowed.

For All Models:

1. Make sure each engine start lever is in the CUTOFF position.
2. Remove pressure from the pneumatic system.
3. Open fan cowl and thrust reverser (AMM 78-31-00).
4. Manually lock closed the high stage valve.
   A. Manually wrench the high stage valve to the CLOSE position.
   B. Loosen the position indicator screw.
   C. Slide the lock into the recess in the cover plate.
   D. Tighten the position indicator screw.
5. Close fan cowl and thrust reverser (AMM 78-31-00).

OPERATIONS NOTE

Apply the following fuel mileage decrement to account for flight in icing conditions which require a minimum of 60% N1 on the associated engine:

1. 2.0% for trip distances less than or equal to 1000 nautical miles.
2. 1.0% for trip distances greater than 1000 nautical miles.

38-01 Potable Water Systems

38-01A Components Deactivated or Isolated

Interval	Installed	Required	Procedure
C	-	-	**(M)**

Individual components may be inoperative provided:

a. Associated components are deactivated or isolated.

b. Associated system components are verified not to have leaks.

NOTE: Any portion of system which operates normally may be used.

MAINTENANCE (M)

1. Deactivate or isolate inoperative components.
2. Verify associated system components do not have leaks.

   NOTE: Due to the wide variety of galley, lavatory and drinking fountain installations and various component failure possibilities, operators must develop procedures tailored to their specific installations.

38-01 Potable Water Systems

38-01B System Drained

Interval	Installed	Required	Procedure
C	-	-	**(M)**

May be inoperative provided:

a. System is drained.

b. Procedures are established to ensure that system is not serviced.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

1. Drain potable water system (AMM 38-11-00/301).

For -600/-700/-800/-900:

2. Drain potable water system (AMM 12-14-01/301).
3. Establish procedures to ensure the potable water system is not serviced.

OPERATIONS NOTE

Each operator should establish alternate procedures for use in the event that the potable water system is inoperative and drained.

38-02 Lavatory Waste Systems (Including Wheelchair Accessible Lavatories)

38-02A Components Deactivated or Isolated

Interval	Installed	Required	Procedure
C	-	-	**(M)**

Individual components may be inoperative provided:

a. Associated components are deactivated or isolated.

b. Associated system components are verified not to have leaks.

NOTE: Any portion of system which operates normally may be used.

MAINTENANCE (M)

1. Deactivate or isolate inoperative components.
2. Verify associated system components do not have leaks.

   NOTE: Due to the wide variety of lavatory installations and various component failure possibilities, operators must develop procedures tailored to their specific installations.

38-02 Lavatory Waste Systems (Including Wheelchair Accessible Lavatories)

38-02B Lavatory Not Used

Interval	Installed	Required	Procedure
C	-	-	**(M)**

Associated lavatory system(s) may be inoperative provided:

a. Associated components are deactivated or isolated to prevent leaks.

b. Pilot-in-Command will determine if flight duration is acceptable with a forward lavatory unusable.

c. Associated lavatory door(s) is secured closed and placarded “INOPERATIVE - DO NOT ENTER”.

NOTE: These provisions are not intended to prohibit inspections by crewmembers.

MAINTENANCE (M)

1. Deactivate or isolate inoperative components.
2. Verify associated system components do not have leaks.

   NOTE: Due to the wide variety of lavatory installations and various component failure possibilities, operators must develop procedures tailored to their specific installations.
3. Secure the associated lavatory door closed.

46-01 Electronic Flight Bag (EFB) System
46-01-01 Class 3 EFB (Boeing)

46-01-01A One Inoperative

Interval	Installed	Required	Procedure
C	2	1	

46-01 Electronic Flight Bag (EFB) System
46-01-01 Class 3 EFB (Boeing)

46-01-01B Both Inoperative

Interval	Installed	Required	Procedure
C	2	0	**(O)**

May be inoperative provided alternate procedures are established and used.

NOTE: Any function, program or document which operates normally may be used.

OPERATIONS (O)

Each operator must develop appropriate procedures to be used when the EFB system is inoperative

46-01 Electronic Flight Bag (EFB) System
46-01-01 Class 3 EFB (Boeing)

46-01-01C Procedures Do Not Require Its Use

Interval	Installed	Required	Procedure
D	2	0	

May be inoperative provided procedures do not require its use.

46-01 Electronic Flight Bag (EFB) System
46-01-02 STC ST03165AT Only
46-01-02A Procedures Do Not Require Use

Interval	Installed	Required	Procedure
D	2	0	**(M)**

May be inoperative provided procedures do not require its use.

NOTE: STC ST103165AT is not a Boeing configuration. Procedural information applicable to this STC is not provided.

46-01 Electronic Flight Bag (EFB) System
46-01-02 STC ST03165AT Only
46-01-02B Alternate Procedures Required

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

May be inoperative provided alternate procedures are established and used.

NOTE: STC ST103165AT is not a Boeing configuration. Procedural information applicable to this STC is not provided.

46-01 Electronic Flight Bag (EFB) System
46-01-02 STC ST03165AT Only
46-01-02-01 Mounting Cradle

Interval	Installed	Required	Procedure
C	2	1	**(M) (O)**

May be inoperative provided alternate procedures are established and used.

NOTE: STC ST103165AT is not a Boeing configuration. Procedural information applicable to this STC is not provided.

46-01 Electronic Flight Bag (EFB) System
46-01-02 STC ST03165AT Only
46-01-02-02 Liquid Crystal Display

Interval	Installed	Required	Procedure
C	2	1	

One may be inoperative provided alternate source for required information is available and used.

NOTE: STC ST103165AT is not a Boeing configuration. Procedural information applicable to this STC is not provided.

46-01 Electronic Flight Bag (EFB) System
46-01-02 STC ST03165AT Only
46-01-02-03 Control Panel Module/Peripheral Connectivity Unit

Interval	Installed	Required	Procedure
C	2	1	

One may be inoperative provided alternate source for required information is available and used.

NOTE: STC ST103165AT is not a Boeing configuration. Procedural information applicable to this STC is not provided.

46-01 Electronic Flight Bag (EFB) System
46-01-02 STC ST03165AT Only
46-01-02-03 Control Panel Module/Peripheral Connectivity Unit
46-01-02-03-01 ON/OFF Switch

Interval	Installed	Required	Procedure
C	2	1	

One may be inoperative in ON position provided:

a. EFB Battery charging system operates normally.
b. Normal power to unit is available and operates normally.

NOTE: STC ST103165AT is not a Boeing configuration. Procedural information applicable to this STC is not provided.

46-01 Electronic Flight Bag (EFB) System
46-01-02 STC ST03165AT Only
46-01-02-04 Computer Processing Unit (CPU)

Interval	Installed	Required	Procedure
C	2	1	

One may be inoperative provided alternate source for required information is available and used.

NOTE: STC ST103165AT is not a Boeing configuration. Procedural information applicable to this STC is not provided.

46-01 Electronic Flight Bag (EFB) System
46-01-02 STC ST03165AT Only
46-01-02-04 Computer Processing Unit (CPU)
46-01-02-04-01 Back-Up Battery

Interval	Installed	Required	Procedure
C	2	1	

One may be inoperative provided normal power is available and operates normally.

NOTE: STC ST103165AT is not a Boeing configuration. Procedural information applicable to this STC is not provided.

46-01 Electronic Flight Bag (EFB) System
46-01-02 STC ST03165AT Only
46-01-02-05 Standby Button
46-01-02-05A Inoperative In Operational Mode

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative in operational mode.

NOTE: STC ST103165AT is not a Boeing configuration. Procedural information applicable to this STC is not provided.

46-01 Electronic Flight Bag (EFB) System
46-01-02 STC ST03165AT Only
46-01-02-05 Standby Button
46-01-02-05B Inoperative In Standby Mode

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative in Standby mode provided display is considered inoperative.

NOTE: STC ST103165AT is not a Boeing configuration. Procedural information applicable to this STC is not provided.

46-01 Electronic Flight Bag (EFB) System
46-01-03 Stowage/Charger Assembly (STC ST01118CH Only)
46-01-03-01 Class 1 EFB w/ All Battery Types

Interval	Installed	Required	Procedure
D	1	0	

May be inoperative provided procedures do not require its use.

46-01 Electronic Flight Bag (EFB) System
46-01-03 Stowage/Charger Assembly (STC ST01118CH Only)
46-01-03-02 Class 1 EFB w/ Lithium Ion Battery

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided alternate procedures are established and used.

NOTE: If a Class 1 EFB is to be used, alternate procedures must insure the battery is charged to a "sufficiently charged" state at appropriate time intervals.

NOTE: STC ST01118CH is not a Boeing configuration. Procedural information applicable to this STC is not provided.

47-01 Nitrogen Generation System (NGS) (All Models)
****
47-01-01 Serial Number (S/N) 34333 or 34450 (prior to incorporation of Boeing Service Bulletin 737-47-1006)

Interval	Installed	Required	Procedure
D	1	0	**(M)**

May be inoperative provided NGS shutoff valve is deactivated closed.

MAINTENANCE (M)

For either the amber INOPERATIVE - UNSERVICEABLE indicator light illuminated or for no operability indicator lights illuminated, deactivate the NGS shutoff valve in the closed position (AMM 47-00-00/901).

47-01 Nitrogen Generation System (NGS) (All Models)
****
47-01-01 Serial Number (S/N) 34333 or 34450 (prior to incorporation of Boeing Service Bulletin 737-47-1006)
47-01-01-01 Nitrogen Generation Degraded

Interval	Installed	Required	Procedure
D	1	0	

47-01 Nitrogen Generation System (NGS) (All Models)
****
47-01-02 All models upon incorporation of Boeing Service Bulletin 737-47-1002, 737-47-1003, 737-47-1004, 737-47-1005, 737-47-1006, 737-47-1007, 737-47-1008, or production equivalent

Interval	Installed	Required	Procedure
A	1	0	**(M)**

May be inoperative provided:

a. NGS shutoff valve is deactivated closed.
b. Repairs are made within ten flight days.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

For either the amber INOPERATIVE - UNSERVICEABLE indicator light illuminated or for no operability indicator lights illuminated, deactivate the NGS shutoff valve in the closed position.

For -600/-700/-800/-900:

For either the amber INOPERATIVE - UNSERVICEABLE indicator light illuminated or for no operability indicator lights illuminated, deactivate the NGS shutoff valve in the closed position (AMM 47-00-00/901).

47-01 Nitrogen Generation System (NGS) (All Models)
****

47-01-02 All models upon incorporation of Boeing Service Bulletin 737-47-1002, 737-47-1003, 737-47-1004, 737-47-1005, 737-47-1006, 737-47-1007, 737-47-1008, or production equivalent

47-01-02-01 Nitrogen Generation Degraded

Interval	Installed	Required	Procedure
C	1	0	

49-01 Auxiliary Power Unit

Interval	Installed	Required	Procedure
C	1	0	**(O)**

NOTE If temperature OAT below -20 C - +.above 30 **C - iterval B**

Except for ER operations, may be inoperative provided:

a. Procedures do not require its use.

b. Visual confirmation is made that no damage has occurred to APU exhaust area.

MAINTENANCE NOTE

For -100/-200/-300/-400/-500:
Aircraft may be operated with the APU removed (AMM 49-11-00, APU Power Plant - Maintenance Practices - requires APU Deletion Tool Kit C49001 or F80136).

For -600/-700/-800/-900:
Aircraft may be operated with the APU removed (AMM 49-11-02, APU Power Plant - Maintenance Practices - requires APU Deletion Tool Kit C49009-1).

OPERATIONS (O)

NOTE: Aircraft may be operated with the APU removed in accordance with the AMM provided the resulting changes in weight and balance are accounted for.

Perform a visual inspection of the tailcone area and adjacent control surfaces to confirm that there is no evidence of heat damage or delamination.

49-02 APU Annunciator LOW OIL PRESSURE and OVER SPEED Lights

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided APU Auto Shutdown System operates normally.

MAINTENANCE NOTE

APU Auto Shutdown may be checked by starting and shutting down the APU normally.

49-03 APU Auto Shutdown System (-400/-500)

Interval	Installed	Required	Procedure
C	1	0	**(M)**

Except for ER operations, may be inoperative provided:

a. APU is not used in flight.

b. APU annunciator lights operate normally.

c. APU is monitored continuously.

MAINTENANCE (M)

1. Verify that no abnormal annunciator lights illuminate when starting and shutting down the APU normally.
2. When using the APU for ground operations, monitor APU indications continuously. If APU Annunciator light (LOW OIL PRESSURE, HIGH OIL TEMP/FAULT or OVER SPEED) or Master Caution System Annunciator light (APU) illuminates, SHUTDOWN APU IMMEDIATELY.

49-04 APU Annunciator LOW OIL QUANTITY/MAINT Light

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative and APU used provided oil quantity is checked once each flight day.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

NOTE: On GTCP36-280 and APS-2000 model APU's, FADEC may be used to determine if a low oil quantity condition exists.

If the APU is to be used, check APU oil quantity once each flight day.

For -600/-700/-800/-900:

If the APU is to be used, check APU oil quantity once each flight day (AMM 49-00-00/901).

49-05 APU EGT Indicator

49-05-01 Model GTCP85-129

Interval	Installed	Required	Procedure
C	1	0	**(O)**

Except for ER operations, may be inoperative provided:

a. All warning and caution lights operate normally.
b. APU is used to supply electrical power and for starting one engine only.
c. Passengers are not permitted on board until APU has been shut down.

OPERATIONS (O)

1. Passengers may not be loaded until APU has been shutdown.
2. Electrical load on the APU should be limited to the minimum required for engine start.
3. Start No. 2 Engine only, using APU.
4. Shut down APU.
5. Load passengers.
6. Start No. 1 engine using cross bleed.

49-05 APU EGT Indicator

49-05-02 Model GTCP36-280, APS-2000 and AS 131-9B

Interval	Installed	Required	Procedure
C	1	0	

49-06 APU Inlet Door

49-06A APU is Used

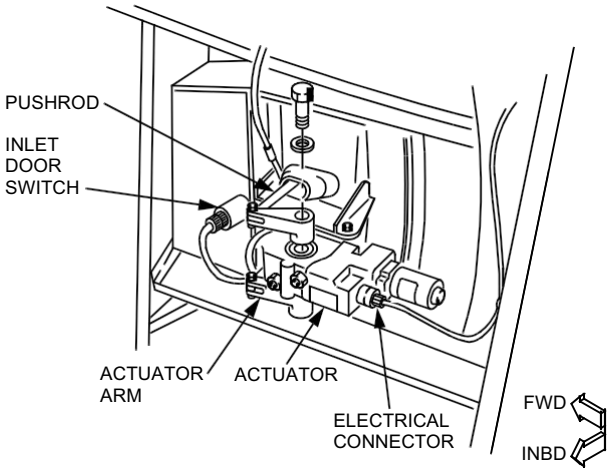
Interval	Installed	Required	Procedure
C	1	0	**(O)**

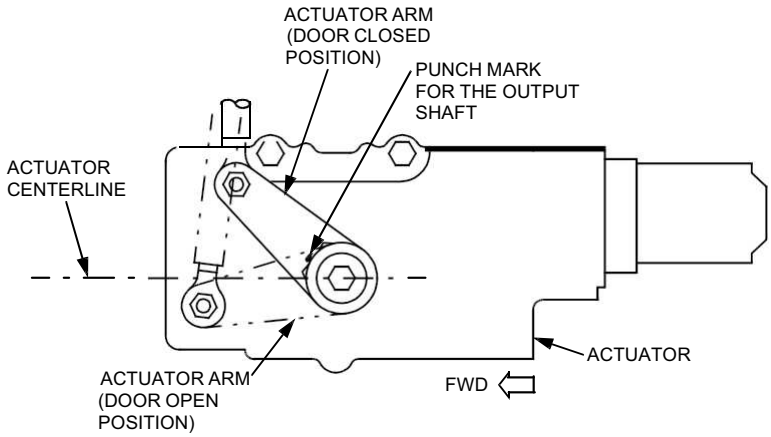
May be inoperative open.

MAINTENANCE NOTE

For -100/-200/-300/-400/-500:

1. The Model APS-2000 APU air inlet door must operate normally for using the APU.
2. If APU Models GTCP36-280 and GTCP85-129 air inlet door is not in the full open position and APU use is required, position air inlet door full open as follows:
   - A. Open stabilizer trim access door 3701 to gain access to the APU air inlet door actuator.
   - B. Deactivate air inlet door.
     - 1) Disconnect the electrical connector from inlet door actuator.
     - 2) Install a cap on the electrical connector.
     - 3) Attach the electrical harness together with cap chain to airplane structure using the braid.
     - 4) Install a cap on the actuator receptacle.
     - 5) Attach the cap chain to the receptacle attachment screw.
   - C. Open air inlet door.
     - 1) Disconnect the two pushrods from the actuator arms.
     - 2) For each actuator arm, do the following:
       - a. Remove the bolt and the washer from the actuator arm.
       - b. Remove the actuator arm.
       - c. Move the arm until it is in the full open position which is 12 degrees inboard from actuator centerline.





d. Install the arm on the shaft.

e. Install the bolt and the washer on the actuator arm.

3) Attach the two pushrods to the actuator arms.

4) If the door is not in the open position, adjust the door per AMM 49-15-00 APU Power Plant - Adjustment/Test.

3. Starting procedure for Model GTCP85-129 APU with air inlet door inoperative in the full open position:

A. Check that Battery Switch is ON.

B. Open stabilizer trim access door 3701 to gain access to the APU air inlet door switch.

C. Remove plug D1246 from the air inlet door switch S284 and jumper pins 1 and 2 of plug D1246.

D. Position APU Switch to START and release to ON.

E. Remove jumper from pins 1 and 2 of plug D1246.

F. Reconnect plug D1246 to switch S284 (APU will begin to start).

G. Close stabilizer trim access door.

For -600/-700/-800/-900:

1. Prepare the airplane for flight with the APU air inlet door inoperative

: A. Make sure the APU switch is off.

B. Open and collar the AUX POWER UNIT CONT and APU FIRE SW POWER circuit breakers.

C. Open the stabilizer trim access door.

D. Put the air inlet door in the fully open position.

E. Close the stabilizer trim access door.

F. Close the AUX POWER UNIT CONT and APU FIRE SW POWER circuit breakers.

OPERATIONS (O)

For -100/-200/-300/-400/-500:

Starting the Model GTCP85-129 APU requires maintenance action. Do not turn the APU off unless the APU is no longer required or unless maintenance personnel are available. The Model GTCP36-280 APU does not require maintenance action for starting.

The following performance penalties can be used to account for the increased drag resulting from the APU inlet door being inoperative in the open position (either fully or partially open) and the APU not running. Fuel burn will be increased by 2.8%.

MODEL	TAKEOFF & LANDING CLIMB	ENROUTE CLIMB
-100/-200/-300/-400/-500	560 lb (254 kg)	1,130 lb (513 kg)
-600/-700/-800	410 lb (186 kg)	830 lb (376 kg)
-900	500 lb (227 kg)	960 lb (435 kg)

49-06 APU Inlet Door

49-06B APU is Not Used

Interval	Installed	Required	Procedure
C	1	0	**(O)**

Except for ER operations, may be inoperative in any other position if APU is not used.

MAINTENANCE NOTE

For -100/-200/-300/-400/-500:

APU air inlet door inoperative closed:

1. Make sure the APU switch is off.
2. Open and collar the APU CONTROL UNIT and AUX PWR UNIT START circuit breakers.
3. Open the stabilizer trim access door.
4. Put the air inlet door in the closed position to avoid airplane performance penalties and fuel burn penalty described in the Operations Note below (AMM 49-15-00/501).
5. Close the stabilizer trim access door.

For -600/-700/-800/-900:

Prepare the airplane for flight with the APU air inlet door inoperative:

1. Make sure the APU switch is off.
2. Open and collar the AUX POWER UNIT CONT, AUX POWER UNIT SCU FAN POWER, APU FIRE SW POWER, and APU START CONV circuit breakers.
3. Open the stabilizer trim access door.
4. Put the air inlet door in the closed position to avoid airplane performance penalties and fuel burn penalty described in the Operations Note below.
5. Close the stabilizer trim access door.

OPERATIONS (O)

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

The following performance penalties can be used to account for the increased drag resulting from the APU inlet door being inoperative in the open position (either fully or partially open) and the APU not running. Fuel burn will be increased by 2.8%.

MODEL	TAKEOFF & LANDING CLIMB	ENROUTE CLIMB
-100/-200/-300/-400/-500	560 lb (254 kg)	1,130 lb (513 kg)
-600/-700/-800	410 lb (186 kg)	830 lb (376 kg)
-900	500 lb (227 kg)	960 lb (435 kg)

49-07 APU Bleed Air System

49-07A Bleed Air Valve Closed

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative closed.

NOTE: APU may be used to provide electrical power.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

1. For MODELS GTCP36-280, GTCP85-129 and APS-2000:
   A. Ensure valve is closed by using the following procedure:
      1) Start the APU and allow time for APU EGT to stabilize.
      2) One minute after EGT has stabilized, position the APU BLEED switch ON.
      3) Check duct pressure. No pressure (less than or equal to 10 psi) confirms the valve has failed closed.
      4) Position APU BLEED switch OFF.
      5) Disconnect and stow APU bleed air valve electrical connector D474.
      6) Shut down APU.

For -600/-700/-800/-900:

2. For MODEL AS 131-9B:
   A. Ensure valve is closed by using either the Input Monitoring page of APU BITE TEST or the following procedure (AMM 49-00-00/901):
      1) Make sure the APU BLEED switch on the P5 overhead panel is OFF.
      2) Gain access to the APU bleed air valve and check that the indication on the valve shows CLOSED.
      3) Close the APU cowl door.

49-07 APU Bleed Air System

49-07B APU Not Operated

Interval	Installed	Required	Procedure
C	1	0	**(O)**

Except for ER operations, may be inoperative provided:

a. APU bleed air check valve operates normally.
b. APU is not operated.

OPERATIONS COI

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

49-08 APU DC Fuel Boost Pump
****

Interval	Installed	Required	Procedure
D	1	0	

MAINTENANCE NOTE

Open/collar circuit breaker (P6-4 or P6-5 Panel) for the affected pump.

49-09 APU Surge Control System

49-09-01 Surge Bleed Valve (Models GTCP85-129 and APS-2000) (-400/-500)

49-09-01A Surge Bleed Valve Inoperative Open

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative in open position provided APU bleed air is not used for engine start on ground.

NOTE: Relief also applies to airplanes modified by STC SA5730NM or ST00131SE provided APU is not operating during approach.

NOTE: MMEL Item 49-09 is not applicable to the following APU's: (1) Model GTCP36-280, (2) APS2000 APIC Part No. 170101-106C and subsequent, (3) APS2000 with Surge Bleed Valve removed per APIC Service Bulletin 170101-49-69.

49-09 APU Surge Control System

49-09-01 Surge Bleed Valve (Models GTCP85-129 and APS-2000) (-400/-500)

49-09-01B Surge Bleed Valve Inoperative Closed

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative in closed position provided APU operation is limited to FL 250 or below.

NOTE: Relief also applies to airplanes modified by STC SA5730NM or ST00131SE.

NOTE 1: MMEL Item 49-09 is not applicable to the following APU's: (1) Model GTCP36-280, (2) APS2000 APIC Part No. 170101-106C and subsequent, (3) APS2000 with Surge Bleed Valve removed per APIC Service Bulletin 170101-49-69.

NOTE 2: FL250 restriction is not applicable to APS2000 Performance Improved (P.I.) APU's (APIC Part No. 170101-106B and subsequent or those that have equivalent performance improvement upgrades as identified in APIC SIL T-47C1-22).

MAINTENANCE NOTE

To configure Model APS-2000 APU Surge Bleed Valve closed, reference APIC SIL SPS 155.

49-09 APU Surge Control System

49-09-02 Surge Control Valve (Model AS 131-9B) (-600/-700/-800/-900)

49-09-02A Surge Control Valve Inoperative Open

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative in open position provided APU bleed air is not used.

NOTE: APU may be used to provide electrical power.

49-09 APU Surge Control System

49-09-02 Surge Control Valve (Model AS 131-9B) (-600/-700/-800/-900)

49-09-02B Surge Control Valve Inoperative Closed

Interval	Installed	Required	Procedure
C	1	0	**(O)**

Except for ER operations, may be inoperative in closed position provided APU is not used.

OPERATIONS (O)

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

49-10 APU Cockpit Hourmeter (-400/-500)
***

Interval	Installed	Required	Procedure
D	1	0	

49-11 APU Start Counter Meter (-400/-500)
***

Interval	Installed	Required	Procedure
D	1	0	

49-12 APU Annunciator HIGH OIL TEMP/FAULT Light

Interval	Installed	Required	Procedure
C	1	0	

49-13 APU Fuel Heater (-400/-500)
****

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided APU operates normally.

MAINTENANCE (M)

Verify APU operates normally by operating the APU under a loaded condition and observing that APU operates within defined limits (AMM 49-11-00 APU POWER PLANT - A/T, Test of APU Operation - LOADED CONDITION).

49-15 Start Power Unit (-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	1	0	**(M)**

Except for ER operations, may be inoperative provided procedures do not require use of APU.

MAINTENANCE (M)

Deactivate the start power unit (AMM 49-00-00/901):

1. Position the APU switch OFF.
2. Open and collar the following circuit breakers:
   A. P6-4 panel AUX POWER UNIT CONT
   B. P6-4 panel AUX POWER UNIT SCU FAN POWER
   C. P6-2 panel APU FIRE SW POWER
   D. P91 panel APU START CONV
3. Disconnect, cap and stow the battery type connector to the SPU, located on the E2-2 Shelf in EE Bay.

49-15 Start Power Unit (-600/-700/-800/-900)

49-15-01 AC/DC Start Systems

Interval	Installed	Required	Procedure
C	2	1	

49-16 Start Converter Unit (-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	1	0	**(M)**

Except for ER operations, may be inoperative provided procedures do not require use of APU.

MAINTENANCE (M)

Deactivate the start converter unit (AMM 52-00-00/901):

1. Position the APU switch OFF.
2. Open and collar the following circuit breakers:
   A. P6-4 panel AUX POWER UNIT CONT
   B. P6-4 panel AUX POWER UNIT SCU FAN POWER
   C. P6-2 panel APU FIRE SW POWER
   D. P91 panel APU START CONV

49-16 Start Converter Unit (-600/-700/-800/-900)

49-16-01 Voltage Regulator Function

Interval	Installed	Required	Procedure
C	1	0	

Except for ER operations, may be inoperative provided APU generator is not used for electrical power.

NOTE: APU may be used as a pneumatic source.

52-01 Forward Air Stair
****

Interval	Installed	Required	Procedure
D	1	0	

NOTE: Any mode that operates normally may be used.

52-03 Door Warning Light System

52-03-01 Entry/Service/Cargo/Equipment/Airstair

Interval	Installed	Required	Procedure
C	-	0	**(M)**

May be inoperative provided associated door is verified closed and locked.

NOTE: On -600/-700/-800/-900, if two or more entry/service door warning lights are inoperative due to failed door sensors, overwing exit flight lock system and mid exit flight lock system (-900ER) will not function properly. Refer to MMEL item 52-15.

MAINTENANCE (M)

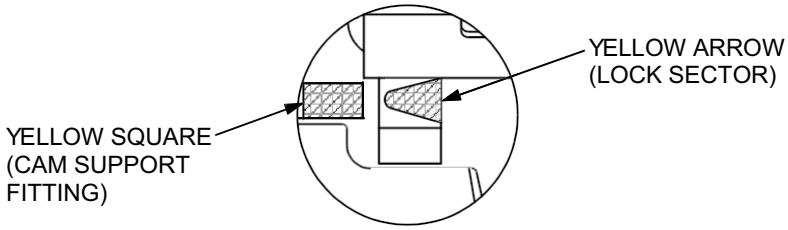
For -100/-200/-300/-400/-500:
Visually inspect the affected door(s) to ensure that door is closed and locked.

For -600/-700/-800/-900:
Visually inspect the affected door(s) to ensure that door is closed and locked (AMM 52-00-00/901).

For 737-700C Main Deck Cargo Door:
Visually inspect the Main Deck Cargo Door to ensure that door is closed and locked (AMM 52-00-00/901).

1. Verify the door is closed, latched and locked.
   - A. Close and latch the door using normal procedures.
   - B. Check that the outside skin of the door is aligned and faired with surrounding body skin.
   - C. Rotate the lock handle to the OPEN position.
   - D. Check that the vent door is open.
   - E. Rotate the lock handle back to the CLOSED position.
   - F. Check that the lock handle is fully closed and faired with the outside skin of the door.
   - G. Check that the lock handle release lever is faired with the lock handle and faired with the outside skin of the door.
   - H. Check that the vent panel is fully closed and faired with the outside skin of the door.
   - I. Check that the latches are in the fully latched position and that the locks are in the locked position by visual inspection through each witness port (total of 8) at the lower edge of the door. (Yellow arrow on lock sector must point to yellow square on cam support fitting as shown below).

2. Disable the Proximity Sensor Electronics Unit (PSEU) output to the Takeoff Configuration Warning System (TOCWS) by pushing the AURAL WARN DISABLE switch located on the Main Deck Cargo Door Control Panel.
3. Open and collar the MAIN DECK CARGO DOOR CTRL & IND circuit breaker located on the P6-11 panel.



737-700C MAIN DECK CARGO DOOR WITNESS PORT (8 PLACES)

52-03 Door Warning Light System

52-03-02 Overwing (-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	-	0	**(M)**

May be inoperative provided:

a. Associated door is verified closed and latched.
b. Associated flight lock is verified to operate normally.

MAINTENANCE (M)

Verify affected door is closed and latched, and the associated flight lock operates normally (AMM 52-00-00/901).

1. Verify that affected exit is closed and latched.
   A. Exit exterior flush with fuselage skin.
   B. Vent panel(s) closed and faired.
   C. Exit liner faired with cabin interior.
   D. Inside handle(s) rotated to the latched position.
   E. Handle covers installed.
2. Check PSEU BITE to verify that the associated flight lock is operating normally.

   NOTE: If flight lock failed open faults are present, dispatch is permitted under MMEL Item 52-15.

52-03 Door Warning Light System

52-03-03 Cabin Door Indication System (-800EF STC ST02000NY only)

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided associated doors are verified in accordance with following prior to taxi, takeoff, and landing:

a. Entry Area/Main Lounge is Open.
b. Private Bedroom is Closed.
c. Guest Lavatory is Closed.
d. Aft Lounge/Galley is Open.

NOTE: STC ST02000NY is not a Boeing system. The STC holder should be contacted for information and procedures pertaining to this item.

52-03 Door Warning Light System

52-03-04 Mid-Exit (-900ER)
****

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided associated door is verified closed and latched.

MAINTENANCE (M)

Verify that affected exit is closed and latched (AMM 52-00-00/901).

1. Exit exterior flush with fuselage skin.
2. Vent panel(s) closed and faired.
3. Exit liner faired with cabin interior.
4. Inside handle(s) rotated to the latched position, ensuring that the red indicator mark is flush with the handle seal.
5. Handle covers installed.

52-05 Left Main Cabin Door Pressure Stop Fittings

52-05-01 Aft Airstair Door and Forward Entry Door

52-05-01A Analog Cabin Pressure Control System

Interval	Installed	Required	Procedure
B	-	-	**(M) (O)**

One per door may be broken or missing provided:

a. There are no visible defects on other fittings for associated door.

b. Pressure differential does not exceed 6.0 psi.

c. Analog cabin pressure control system standby control mode operates normally and STBY is used.

NOTE: This item provides dispatch relief for only the forward main entry door and aft main entry door on the left side of the airplane. A door pressure stop consists of two mating stop fittings, one being attached to the door and the other attached to the fuselage. Either or both stop fittings may be broken or missing at a single door pressure stop location.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Visually inspect remaining fittings for possible defects on affected door(s), body frames and sills (if installed).

For -600/-700/-800/-900:
Visually inspect remaining fittings for possible defects on affected door(s), body frames and sills (if installed) (AMM 52-00-00/901).

OPERATIONS (O)

NOTE: Do not exceed the maximum pressure differential of 6.0 psi. Limit flight altitude to 27,000 feet or lower to maintain a cabin altitude of less than 8,000 feet.

1. Operate pressurization system in Standby (STBY) mode.
2. To ensure that maximum pressure differential is not exceeded, select cabin altitude in accordance with the Differential Pressure Schedule below.
3. Select actual landing airport altitude in the cabin altitude window after initiating descent. If required to hold during descent, it may be necessary to increase the landing altitude in accordance with the Differential Pressure Schedule below.
4. Lower cabin altitudes may be obtained by appropriate selection of flight altitude and cabin/landing altitude in accordance with the Differential Pressure Schedule below.

FLIGHT ALTITUDE (FT)	CABIN ALTITUDE (FT) (6.0 PSI PRESSURE DIFFERENTIAL)
14000	100
15000	800
16000	1400
17000	2000
18000	2700
19000	3300
20000	3900
21000	4500
22000	5000
23000	5600
24000	6200
25000	6700
26000	7300
27000	7800
28000	8300

52-05 Left Main Cabin Door Pressure Stop Fittings
52-05-01 Aft Airstair Door and Forward Entry Door
52-05-01B Digital Cabin Pressure Control System

Interval	Installed	Required	Procedure
B	-	-	**(M) (O)**

One per door may be broken or missing provided:

a. There are no visible defects on other fittings for associated door.

b. Pressure differential does not exceed 6.0 psi.

c. Digital cabin pressure control system AUTO or ALTN control mode operates normally.

d. Alternate procedures are established and used.

NOTE: This item provides dispatch relief for only the forward main entry door and aft main entry door on the left side of the airplane. A door pressure stop consists of two mating stop fittings, one being attached to the door and the other attached to the fuselage. Either or both stop fittings may be broken or missing at a single door pressure stop location.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Visually inspect remaining fittings for possible defects on affected door(s), body frames and sills (if installed).
For -600/-700/-800/-900:
Visually inspect remaining fittings for possible defects on affected door(s), body frames and sills (if installed) (AMM 52-00-00/901).

OPERATIONS (O)

NOTE: Do not exceed the maximum pressure differential of 6.0 psi. Limit flight altitude to 27,000 feet or lower to maintain a cabin altitude of less than 8,000 feet.

1. Select a landing altitude of 8,000 ft. MSL on the cabin pressure control panel. Cabin altitude will ascend to slightly less than 8,000 ft. during climb to cruise altitude.

   NOTE: Actual landing airport altitude may be selected if flight altitude is limited to 13,000 feet.

2. Monitor differential pressure indicator during climb to ensure maximum pressure differential of 6.0 psi is not exceeded.
3. Select actual landing airport altitude after initiating descent. If required to hold during descent, it may be necessary to increase the landing altitude in accordance with the Differential Pressure Schedule below.
4. Lower cabin altitudes may be obtained by appropriate selection of flight altitude and cabin/landing altitude in accordance with the Differential Pressure Schedule below.

FLIGHT ALTITUDE (FT)	CABIN ALTITUDE (FT) (6.0 PSI PRESSURE DIFFERENTIAL)
14000	100
15000	800
16000	1400
17000	2000
18000	2700
19000	3300
20000	3900
21000	4500
22000	5000
23000	5600
24000	6200
25000	6700
26000	7300
27000	7800
28000	8300

52-05 Left Main Cabin Door Pressure Stop Fittings

52-05-02 Aft Door Without Airstairs

52-05-02A Analog Cabin Pressure Control System

Interval	Installed	Required	Procedure
B	-	-	**(M) (O)**

One per door may be broken or missing provided:

a. There are no visible defects on other fittings for associated door.

b. Pressure differential does not exceed 3.4 psi.

c. Analog cabin pressure control system standby control mode operates normally and STBY is used.

NOTE: This item provides dispatch relief for only the aft main entry door on the left side of the airplane. A door pressure stop consists of two mating stop fittings, one being attached to the door and the other attached to the fuselage. Either or both stop fittings may be broken or missing at a single door pressure stop location.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Visually inspect remaining fittings for possible defects on affected door, body frames and sills (if installed).

For -600/-700/-800/-900:
Visually inspect remaining fittings for possible defects on affected door, body frames and sills (if installed) (AMM 52-00-00/901).

OPERATIONS (O)

NOTE: Do not exceed the maximum pressure differential of 3.4 psi. Limit flight altitude to 17,000 feet or lower to maintain a cabin altitude of less than 8,000 feet.

1. Operate pressurization system in Standby (STBY) mode.
2. To ensure that maximum pressure differential is not exceeded, select cabin altitude in accordance with the Differential Pressure Schedule below.
3. Select actual landing airport altitude in the cabin altitude window after initiating descent. If required to hold during descent, it may be necessary to increase the landing altitude in accordance with the Differential Pressure Schedule below.
4. Lower cabin altitudes may be obtained by appropriate selection of flight altitude and cabin/landing altitude in accordance with the Differential Pressure Schedule below.

FLIGHT ALTITUDE (FT)	CABIN ALTITUDE (FT) (3.4 PSI PRESSURE DIFFERENTIAL)
7000	0
8000	800
9000	1600
10000	2400
11000	3200
12000	4000
13000	4700
14000	5400
15000	6100
16000	7000
17000	7700
18000	8300

52-05 Left Main Cabin Door Pressure Stop Fittings

52-05-02 Aft Door Without Airstairs

52-05-02B Digital Cabin Pressure Control System

Interval	Installed	Required	Procedure
B	-	-	**(M) (O)**

One per door may be broken or missing provided:

a. There are no visible defects on other fittings for associated door.

b. Pressure differential does not exceed 3.4 psi.

c. Digital cabin pressure control system AUTO or ALTN control mode operates normally.

d. Alternate procedures are established and used.

NOTE: This item provides dispatch relief for only the aft main entry door on the left side of the airplane. A door pressure stop consists of two mating stop fittings, one being attached to the door and the other attached to the fuselage. Either or both stop fittings may be broken or missing at a single door pressure stop location.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Visually inspect remaining fittings for possible defects on affected door, body frames and sills (if installed).

For -600/-700/-800/-900:
Visually inspect remaining fittings for possible defects on affected door, body frames and sills (if installed) (AMM 52-00-00/901).

OPERATIONS (O)

NOTE: Do not exceed the maximum pressure differential of 3.4 psi. Limit flight altitude to 17,000 feet or lower to maintain a cabin altitude of less than 8,000 feet.

1. Select a landing altitude of 8,000 ft. MSL on the cabin pressure control panel. Cabin altitude will ascend to slightly less than 8,000 ft. during climb to cruise altitude.

   NOTE: Actual landing airport altitude may be selected if flight altitude is limited to 7,000 feet.

2. Monitor differential pressure indicator during climb to ensure maximum pressure differential of 3.4 psi is not exceeded.

3. Select actual landing airport altitude after initiating descent. If required to hold during descent, it may be necessary to increase the landing altitude in accordance with the Differential Pressure Schedule below.

4. Lower cabin altitudes may be obtained by appropriate selection of flight altitude and cabin/landing altitude in accordance with the Differential Pressure Schedule below.

FLIGHT ALTITUDE (FT)	CABIN ALTITUDE (FT) (3.4 PSI PRESSURE DIFFERENTIAL)
7000	0
8000	800
9000	1600
10000	2400
11000	3200
12000	4000
13000	4700
14000	5400
15000	6100
16000	7000
17000	7700
18000	8300

52-06 Lower Cargo Doors Pressure Stop Fittings
52-06-01 All models

Interval	Installed	Required	Procedure
A	24	22	**(M)**

Any one may be broken or missing on each door or frame provided:

a. No defects are visible on other fittings for associated door.
b. Cabin pressure controller AUTO mode operates normally.
c. Adjacent stop fittings are inspected within 25 flights.
d. Not more than 50 flights are made before completion of repairs or replacements.

NOTE: A door pressure stop consists of two mating stop fittings, one being attached to the door and the other attached to the fuselage. The number installed shown above is the number of stop locations. For pressurized flight, either or both stop fittings may be broken or missing at a single door pressure stop location.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Visually inspect remaining fittings for possible defects on affected door, body frames and sills.
For -600/-700/-800/-900:
Visually inspect remaining fittings for possible defects on affected door, body frames and sills (AMM 52-00-00/901).
For All Models:

1. Inspection is repeated within 25 flights.
2. Repairs are completed within 50 flights.

52-06 Lower Cargo Doors Pressure Stop Fittings
52-06-02 -400/-500/-900

Interval	Installed	Required	Procedure
C	24	20	**(M) (O)**

Two may be broken or missing on each door or frame provided airplane is operated in an unpressurized configuration only.

NOTE: A door pressure stop consists of two mating stop fittings, one being attached to the door and the other attached to the fuselage. The number installed shown above is the number of stop locations. For unpressurized flight, either or both stop fittings may be missing at two door pressure stop locations.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

Configure airplane for unpressurized flight by using the manual mode of the Cabin Pressure Control System to position the outflow valve to the full open position. Hold outflow valve toggle switch in the OPEN position for 10 seconds (Analog System) or 30 seconds (Digital System).

For -900:

Configure airplane for unpressurized flight by using the manual mode of the Cabin Pressure Control System to position the outflow valve to the full open position. Hold outflow valve toggle switch in the OPEN position for 10 seconds (Analog System) or 30 seconds (Digital System).

OPERATIONS (O)

For unpressurized flight, use MMEL Item 21-15 Operations Procedures.

52-06 Lower Cargo Doors Pressure Stop Fittings

52-06-03 -600/-700/-800 prior to incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or production equivalent

Interval	Installed	Required	Procedure
C	24	20	**(M) (O)**

Two may be broken or missing on each door or frame provided airplane is operated in an unpressurized configuration only.

NOTE: A door pressure stop consists of two mating stop fittings, one being attached to the door and the other attached to the fuselage. The number installed shown above is the number of stop locations. For unpressurized flight, either or both stop fittings may be missing at two door pressure stop locations.

MAINTENANCE (M)

Configure airplane for unpressurized flight by using the manual mode of the Cabin Pressure Control System to position the outflow valve to the full open position. Hold outflow valve toggle switch in the OPEN position for 10 seconds (Analog System) or 30 seconds (Digital System).

OPERATIONS (O)

For unpressurized flight, use MMEL Item 21-15 Operations Procedures.

52-06 Lower Cargo Doors Pressure Stop Fittings

52-06-04 -600/-700/-800 upon incorporation of Boeing Service Bulletins 737-21-1135, 737-26-1121 and 737-26-1122, or production equivalent

Interval	Installed	Required	Procedure
C	24	20	**(M) (O)**

Two may be broken or missing on each door or frame provided:

a. Flight is conducted in an unpressurized configuration.

b. Procedures are established and used to ensure lower forward cargo compartment remains empty, or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or Fly Away Kits.

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

NOTE: A door pressure stop consists of two mating stop fittings, one being attached to the door and the other attached to the fuselage. The number installed shown above is the number of stop locations. For unpressurized flight, either or both stop fittings may be missing at two door pressure stop locations.

MAINTENANCE (M)

Configure airplane for unpressurized flight by using the manual mode of the Cabin Pressure Control System to position the outflow valve to the full open position. Hold outflow valve toggle switch in the OPEN position for 10 seconds (Analog System) or 30 seconds (Digital System).

OPERATIONS (O)

For unpressurized flight, use MMEL Item 21-15 Operations Procedures.

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

Interval	Installed	Required	Procedure
C	-	0	

May be inoperative for all-cargo operations.

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

52-07-01 Latch Release Lever

Interval	Installed	Required	Procedure
C	-	0	

MAINTENANCE NOTE

Operators should select an appropriate procedure/tool to release the hold open latch that meets their operating requirements.

52-08 Flight Deck Door Lock System Compliant)

52-08A Door Lock Solenoid Deactivated

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided:

a. Door lock solenoid is deactivated in locked position.

b. Door is verified to lock and unlock manually.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

Deactivate flight deck door lock solenoid:

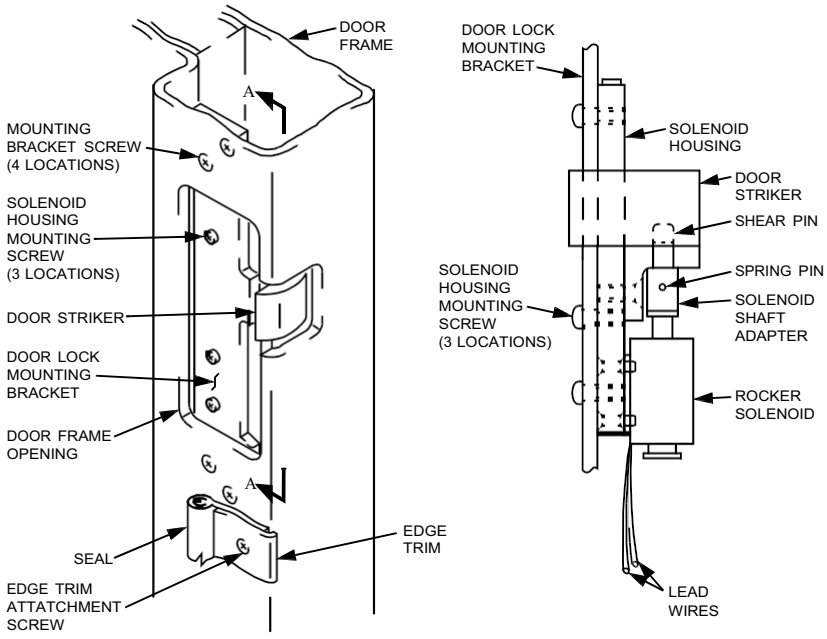
1. Open and collar P6 Panel FLIGHT DECK DOOR LOCK circuit breaker.
2. Remove edge trim and seal adjacent to door strike.
3. Remove door lock mounting bracket screws and remove bracket and attached door lock assembly from door frame.
4. For Electric Strike with Shear Pin:
   A. Remove spring pin from solenoid shaft adapter, raise shear pin as far as possible into door strike, then re-insert spring pin into solenoid shaft adapter and lower shear pin so as to rest on spring pin.
   OR
   B. Raise shear pin as far as possible into door strike and install a tie-wrap or lockwire to hold the shear pin/solenoid shaft adapter so as to maintain engagement with door strike.
   C. Subsequent to performing either Step 4A or 4B, verify that door strike does not rotate.
5. For Electric Strike with Resettable Strike (Line Number 2499 & on):
   A. For inoperative solenoid:
      1) Raise the solenoid pin as far as possible to engage the roller.
      2) Install a strap or lockwire to hold the solenoid pin engaged with the roller.
   B. For unserviceable solenoid pin or roller:
      1) Remove the nut from the door strike spring retainer.
      2) Install a solid spacer or add washers under spring to coil bind spring (fully compressed) to prevent the strike from moving away from the mounting plate.
      3) Re-install spring retainer nut.
6. Install mounting bracket into door frame and install mounting screws.

7. Position edge trim and seal on door frame and secure with attachment screws.
8. Close flight deck door from inside the cockpit.
9. Check that door will not open when pulled by door handle (without rotating).

NOTE: ELECTRIC STRIKE WITH A SHEAR PIN: Take care not to pull door handle with enough force to break the shear pin.

CAUTION: BEFORE CLOSING FLIGHT DECK DOOR WITH THE DOOR LOCK IN THE ABOVE CONFIGURATION, ENSURE THAT A KEY FOR THE DOOR LOCK IS AVAILABLE, OR THAT A PERSON IS IN THE COCKPIT.

For -100/-200/-300/-400/-500:



DOOR LOCK

ELECTRIC STRIKE WITH A SHEAR PIN

For -600/-700/-800/-900:

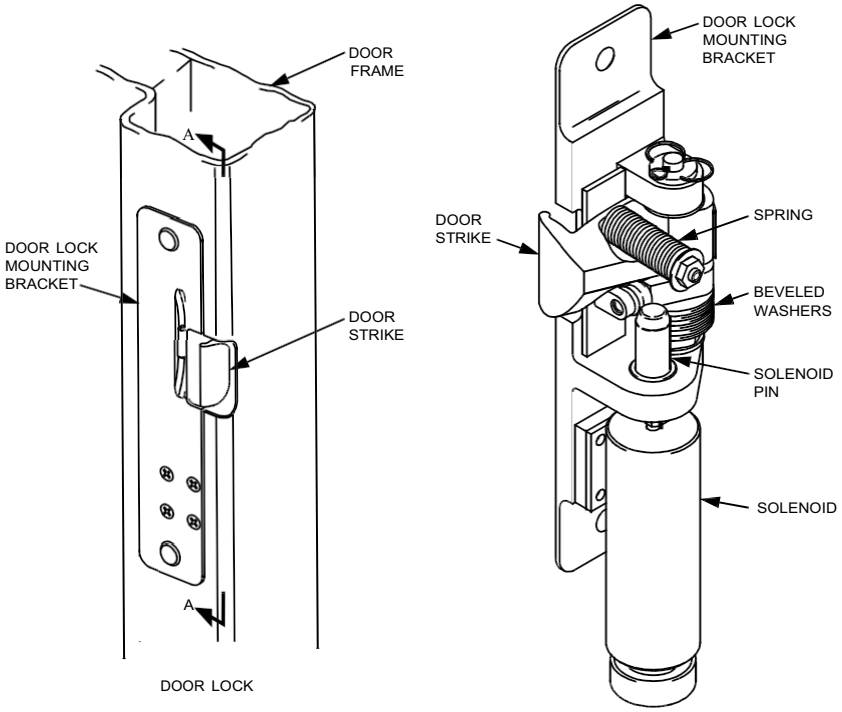
Deactivate flight deck door lock solenoid (AMM 52-00-00/901):

1. Open and collar P6 Panel FLIGHT DECK DOOR LOCK circuit breaker.
2. Remove edge trim and seal adjacent to door strike.
3. Remove door lock mounting bracket screws and remove bracket and attached door lock assembly from door frame.

4. For Electric Strike with Resettable Strike:
   A. For inoperative solenoid:
      1) Raise the solenoid pin as far as possible to engage the roller.
      2) Install a strap or lockwire to hold the solenoid pin engaged with the roller.
   B. For unserviceable solenoid pin or roller:
      1) Remove the nut from the door strike spring retainer.
      2) Install a solid spacer or add washers under spring to coil bind spring (fully compressed) to prevent the strike from moving away from the mounting plate.
      3) Re-install spring retainer nut.
5. Install mounting bracket into door frame and install mounting screws.
6. Position edge trim and seal on door frame and secure with attachment screws.
7. Close flight deck door from inside the cockpit.
8. Check that door will not open when pulled by door handle (without rotating).

CAUTION: BEFORE CLOSING FLIGHT DECK DOOR WITH THE DOOR LOCK IN THE ABOVE CONFIGURATION, ENSURE THAT A KEY FOR THE DOOR LOCK IS AVAILABLE, OR THAT A PERSON IS IN THE COCKPIT.

For -600/-700/-800/-900:



ELECTRIC STRIKE WITH A RESETTABLE STRIKE

52-08 Flight Deck Door Lock System Compliant)

***

52-08B Supplemental Lock Installed

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided supplemental flight deck door security device is installed and operates normally.

52-09 Lower Cargo Doors Door Balance Mechanism

Interval	Installed	Required	Procedure
C	2	0	**(M)**

May be inoperative provided a safety hold open device is used when door is in open position.

MAINTENANCE (M)

Operators should select an appropriate procedure/tool to hold the cargo door open.

52-14 Lower Cargo Doors Hold Open Mechanism/Device
****

52-14A Door Balance Mechanism Operates Normally

Interval	Installed	Required	Procedure
C	2	0	**(M)**

May be inoperative provided Door Balance Mechanism operates normally.

MAINTENANCE (M)

Operators should select an appropriate procedure/tool to hold the cargo door open.

52-14 Lower Cargo Doors Hold Open Mechanism/Device
****

52-14B Cargo Compartment Remains Empty

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided cargo compartment remains empty.

52-15 Flight Lock System

52-15-01 Overwing Exit (-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	-	0	**(M) (O)**

May be inoperative provided:

a. Each affected exit is verified to be capable of being unlatched and opened before each departure.

b. A person employed by operator is designated to remain seated in passenger seat nearest affected exit when cabin differential pressure is less than 4.0 psi.

MAINTENANCE (M)

Verify the associated exit is capable of being unlatched and opened, and the flight lock including the input to the Master Caution System is deactivated (AMM 52-00-00/901).

1. Verify the associated exit is capable of being unlatched and opened.
2. Deactivate the flight lock including input to Master Caution System. Disconnect, cap and stow the associated PSEU connector wire and then jumper the PSEU connector as indicated in the table below.

MODEL	AFFECTED OVERWING EXIT	ASSOCIATED CONNECTOR	REMOVE WIRE (CAP & STOW) FROM PIN NUMBER	PIN NUMBERS TO BE JUMPERED
-600/-700	Left	D10986	Pin 20	Pin 40 to Pin 20
-600/-700	Right	D10988	Pin 02	Pin 53 to Pin 02
-800/-900	Left Aft	D10986	Pin 20	Pin 40 to Pin 20
-800/-900	Left Forward	D10986	Pin 53	Pin 40 to Pin 53
-800/-900	Right Aft	D10988	Pin 02	Pin 53 to Pin 02
-800/-900	Right Forward	D10988	Pin 52	Pin 53 to Pin 52

NOTE: Use 20 AWG wire gauge for the jumpers installed in Step 2.

3. Verify that the flight lock input to Master Caution is deactivated.

CAUTION: DO NOT PERFORM THIS TEST WITH ENGINES RUNNING.

A. Establish electrical power to airplane.

B. Open P6-2 Panel circuit breakers OVERWING FLIGHT LOCK LEFT and OVERWING FLIGHT LOCK RIGHT.

C. Open P6-3 Panel circuit breakers FUEL SPAR VALVE ENG 1 and FUEL SPAR VALVE ENG 2.
D. Open P6-1 Panel circuit breaker WEATHER RADAR RT.
E. Verify that both engine start switches are in the OFF position.
F. Position both engine start levers to IDLE position.

NOTE: Start levers must be in IDLE position for at least 5 minutes prior to advancing thrust levers (Step 3I).

G. Verify that at least 3 of the 4 Entry/Service Doors are closed.
H. Verify that all of the Overwing Exit Doors are closed.
I. Advance fully both thrust levers.
J. Verify that the overhead panel Overwing Light(s) associated with the inoperative flight lock(s) is extinguished.
K. Retard fully both thrust levers.
L. Close P6-2 Panel circuit breakers OVERWING FLIGHT LOCK LEFT and OVERWING FLIGHT LOCK RIGHT.
M. Advance fully both thrust levers.
N. Verify that the all overhead panel Overwing Lights are extinguished.
O. Press Master Caution recall.
P. Verify that the PSEU Light is extinguished.
Q. Retard fully both thrust levers.
R. Position both engine start levers to CUTOFF position.
S. Close P6-3 Panel circuit breakers FUEL SPAR VALVE ENG 1 and FUEL SPAR VALVE ENG 2.
T. Close P6-1 Panel circuit breaker WEATHER RADAR RT.

OPERATIONS (O)

1. When cabin differential pressure is less than 4.0 psi, each affected door must be monitored by a designated employee, such as a flight attendant, pilot or mechanic, to ensure door handle is not operated by passengers.
2. Flight crew is to inform cabin crew when monitoring is required.

52-15 Flight Lock System

52-15-02 Mid Exit (-900ER)

****

Interval	Installed	Required	Procedure
C	-	0	**(M) (O)**

May be inoperative provided:

a. Each affected exit is verified to be capable of being unlatched and opened before each departure.

b. A person employed by operator is designated to remain seated in passenger seat nearest affected exit when cabin differential pressure is less than 4.0 psi.

MAINTENANCE (M)

Verify associated exit is capable of being unlatched and opened, and the flight lock including the input to the Master Caution System is deactivated (AMM 52-00-00/901).

1. Verify associated exit is capable of being unlatched and opened.
2. Deactivate the flight lock including input to Master Caution System. The D44980 is an intermediate ship connector, some configurations may vary (jumper is between the mid exit flightlock and mid exit FL relay). Check Wiring Diagram Manual, connection for the left flightlock (SPSEU 1) D44980 pin 9 to D13988 pin D15, D44980 pin 11 to D13988 pin D26; connection for right flightlock (SPSEU 2) D44980 pin 20 to D14110 pin D15, D44980 pin 22 to D14110 pin D26. Disconnect, cap and stow the associated SPSEU connector wire and then jumper the SPSEU connector as indicated in the table below.

MODEL	AFFECTED MID-EXIT DOOR	ASSOCIATED CONNECTOR	REMOVE WIRE (CAP & STOW) FROM PIN NUMBER	PIN NUMBERS TO BE JUMPERED
-900ER	Left	D44980P	Pin 9, Pin 11	Pin 9 to Pin 11
-900ER	Right	D44980P	Pin 20, Pin 22	Pin 20 to Pin 22

NOTE: Use 20 AWG wire gauge for the jumpers installed in Step 2.

3. Verify that the Mid-Exit Door flightlock does not illuminate the SPSEU light.
   A. Establish electrical power to airplane.

B. Open P6-3 Panel circuit breakers FUEL SPAR VALVE ENG 1 and FUEL SPAR VALVE ENG 2.
C. Open P6-1 Panel circuit breaker WEATHER RADAR RT.
D. Position both engine start levers to IDLE position.

NOTE: Start levers must be in IDLE position for at least 5 minutes prior to advancing thrust levers (Step 3G).

E. Verify that at least 3 of the 4 Entry/Service Doors are closed.
F. Verify that all of the Mid-Exit Doors are closed.
G. Advance fully both thrust levers.
H. Verify that the overhead panel SPSEU Light is extinguished.
I. Press Master Caution recall.
J. Verify that the Master Caution lights and OVERHEAD light on the Right Master Caution annunciator are extinguished.
K. Retard fully both thrust levers.
L. Press Master Caution recall.
M. Verify that the overhead panel SPSEU light is extinguished.
N. Verify that the Master Caution lights and OVERHEAD light on the Right Master Caution annunciator are extinguished.
O. Position both engine start levers to CUTOFF position.
P. Close P6-3 Panel circuit breakers FUEL SPAR VALVE ENG 1 and FUEL SPAR VALVE ENG 2.
Q. Close P6-1 Panel circuit breaker WEATHER RADAR RT.

OPERATIONS (O)

1. When cabin differential pressure is less than 4.0 psi, each affected door must be monitored by a designated employee, such as a flight attendant, pilot or mechanic, to ensure door handle is not operated by passengers.
2. Flight crew is to inform cabin crew when monitoring is required.

L. Press Master Caution recall.
M. Verify that the overhead panel SPSEU light is extinguished.
N. Verify that the Master Caution lights and OVERHEAD light on the Right Master Caution annunciator are extinguished.
O. Position both engine start levers to CUTOFF position.
P. Close P6-3 Panel circuit breakers FUEL SPAR VALVE ENG 1 and FUEL SPAR VALVE ENG 2.
Q. Close P6-1 Panel circuit breaker WEATHER RADAR RT.

OPERATIONS (O)

1. When cabin differential pressure is less than 4.0 psi, each affected door must be monitored by a designated employee, such as a flight attendant, pilot or mechanic, to ensure door handle is not operated by passengers.
2. Flight crew is to inform cabin crew when monitoring is required.

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

***

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Automatic locking system is deactivated.

b. Door dead bolt operates normally and is used to lock door.

c. Alternate procedures are established and used for locking and unlocking door using dead bolt.

MAINTENANCE (M)

Position Flight Deck Access System switch OFF (guard extended) to deactivate the automatic locking system.

NOTE: LOCK FAIL light will remain illuminated when the Flight Deck Access System switch is in the OFF position (guard extended).

OPERATIONS (O)

Each operator must develop alternate procedures based on their security requirements for allowing and denying access to the flight deck when dispatching with the automatic locking system inoperative.

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

***

52-17-01 Flight Deck Access Panel System (Keypad, Door Chime)

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Keypad is deactivated.

b. Alternate procedures are established and used.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Deactivate the keypad:
For -600/-700/-800/-900:
Deactivate the keypad (AMM 52-00-00/901):

For All Models:

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).

OPERATIONS (O)

Each operator must develop alternate procedures based on their security requirements for allowing and denying access to the flight deck when dispatching with the keypad or door chime inoperative.

NOTE: When flight deck door is closed with the flight deck not occupied, make sure the Flight Deck Access System switch is in the OFF position (guard extended).

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

***

52-17-01 Flight Deck Access Panel System (Keypad, Door Chime)

52-17-01-01 LEDs

Interval	Installed	Required	Procedure
C	3	0	**(O)**

May be inoperative provided alternate procedures are established and used.

OPERATIONS (O)

Each operator must develop alternate procedures based on their security requirements for allowing and denying access to the flight deck when dispatching with the LEDs inoperative.

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

***

52-17-01 Flight Deck Access Panel System (Keypad, Door Chime)

52-17-01-02 Door Bell Mode

***

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided alternate procedures are established and used.

OPERATIONS (O)

Each operator must develop alternate procedures based on their security requirements for allowing and denying access to the flight deck when dispatching with the door bell mode inoperative.

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

***

52-17-01 Flight Deck Access Panel System (Keypad, Door Chime)

52-17-01-03 Switch Guard

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative or missing provided flight deck door LOCK FAIL light operates normally.

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

***

52-17-02 Flight Deck Door LOCK FAIL Light

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided automatic lock controls are verified to operate normally.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Verify automatic lock controls are operating normally:
For -600/-700/-800/-900:
Verify automatic lock controls are operating normally (AMM 52-00-00/901):
For All Models:

1. With the flight deck door open, supply electrical power on the airplane (AMM 24-22-00/201).
2. Position Flight Deck Access System switch NORM (guard closed).
3. Position the Flight Deck Door Lock selector AUTO.
4. Verify the electric strike is in the locked position (solenoid pin in the electric strike will be extended up such that you cannot rotate the strike).
5. Enter keypad access code and verify the door chime sounds.
6. Position the Flight Deck Door Lock selector DENY.
7. Before the DENY time delay has expired, enter the keypad access code and verify the door chime does not sound.
8. Position and hold Flight Deck Door Lock selector UNLKD.
9. Verify the electric strike is in the unlocked position (solenoid pin in the electric strike will retract down such that you can rotate the strike).
10. Position the Flight Deck Door Lock selector AUTO.
11. Verify the electric strike is in the locked position (solenoid pin in the electric strike will be extended up such that you cannot rotate the strike).

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

***

52-17-03 Flight Deck Door AUTO UNLK Light

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided:

a. Automatic lock controls are verified to operate normally.

b. Door chime operates normally.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Verify automatic lock controls are operating normally:

For -600/-700/-800/-900:
Verify automatic lock controls are operating normally (AMM 52-00-00/901):

For All Models:

1. With the flight deck door open, supply electrical power on the airplane (AMM 24-22-00/201).
2. Position Flight Deck Access System switch NORM (guard closed).
3. Position the Flight Deck Door Lock selector AUTO.
4. Verify the electric strike is in the locked position (solenoid pin in the electric strike will be extended up such that you cannot rotate the strike).
5. Enter keypad access code and verify the door chime sounds.
6. Position the Flight Deck Door Lock selector DENY.
7. Before the DENY time delay has expired, enter the keypad access code and verify the door chime does not sound.
8. Position and hold Flight Deck Door Lock selector UNLKD.
9. Verify the electric strike is in the unlocked position (solenoid pin in the electric strike will retract down such that you can rotate the strike).
10. Position the Flight Deck Door Lock selector AUTO.
11. Verify the electric strike is in the locked position (solenoid pin in the electric strike will be extended up such that you cannot rotate the strike).

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

***

52-17-04 Flight Deck Door Lock Control Selector

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Keypad is deactivated.

b. Automatic lock is verified to operate normally.

c. Alternate procedures are established and used.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

1. Deactivate the keypad:
   A. Open the circuit breaker for the flight deck door lock.
   B. Remove the keypad.
   C. Disconnect the electrical connector from the keypad.
   D. Install the keypad.
   E. Close the circuit breaker for the flight deck door lock.

   NOTE: When flight deck door is closed with the flight deck not occupied, make sure the Flight Deck Access System switch is in the OFF position (guard extended).

2. Verify the automatic lock is operating normally:
   A. With the flight deck door open, supply electrical power on the airplane (AMM 24-22-00/201).
   B. Position Flight Deck Access System switch NORM (guard closed).
   C. Verify the electric strike is in the locked position (solenoid pin in the electric strike will be extended up such that you cannot rotate the strike).
   D. Position Flight Deck Access System switch OFF (guard extended).
   E. Verify the electric strike is in the unlocked position (solenoid pin in the electric strike will retract down such that you can rotate the strike).
   F. Position Flight Deck Access System switch NORM (guard closed).
   G. Verify the electric strike is in the locked position (solenoid pin in the electric strike will be extended up such that you cannot rotate the strike).

For -600/-700/-800/-900:

1. Deactivate the keypad (AMM 52-00-00/901):

A. Open the circuit breaker for the flight deck door lock.
B. Remove the keypad.
C. Disconnect the electrical connector from the keypad.
D. Install the keypad.
E. Close the circuit breaker for the flight deck door lock.

NOTE: When flight deck door is closed with the flight deck not occupied, make sure the Flight Deck Access System switch is in the OFF position (guard extended).

2. Verify the automatic lock is operating normally (AMM 52-00-00/901):
   A. With the flight deck door open, supply electrical power on the airplane (AMM 24-22-00/201).
   B. Position Flight Deck Access System switch NORM (guard closed).
   C. Verify the electric strike is in the locked position (solenoid pin in the electric strike will be extended up such that you cannot rotate the strike).
   D. Position Flight Deck Access System switch OFF (guard extended).
   E. Verify the electric strike is in the unlocked position (solenoid pin in the electric strike will retract down such that you can rotate the strike).
   F. Position Flight Deck Access System switch NORM (guard closed).
   G. Verify the electric strike is in the locked position (solenoid pin in the electric strike will be extended up such that you cannot rotate the strike).

OPERATIONS (O)

Each operator must develop alternate procedures based on their security requirements for allowing and denying access to the flight deck when dispatching with the lock control selector inoperative.

NOTE: When flight deck door is closed with the flight deck not occupied, make sure the Flight Deck Access System switch is in the OFF position (guard extended).

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

***

Interval	Installed	Required	Procedure
C	1	0	

May be inoperative provided automatic lock controls operate normally.

52-19 JAMCO Flight Deck Security Door Automatic Locking System

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Automatic locking system is deactivated.

b. Mechanical Catch (Latch) Pin operates normally and is used to lock door.

c. Alternate procedures are established and used for locking and unlocking flight deck door using Mechanical Catch (Latch) Pin.

NOTE: This STC is not a Boeing system. The STC holder should be contacted for information and procedures pertaining to this item.

52-19 JAMCO Flight Deck Security Door Automatic Locking System
52-19-01 Door Automatic Locking Solenoid

Interval	Installed	Required	Procedure
C	2	1	**(M)**

One may be inoperative provided remaining locking solenoid operates normally.

NOTE: This STC is not a Boeing system. The STC holder should be contacted for information and procedures pertaining to this item.

52-19 JAMCO Flight Deck Security Door Automatic Locking System
52-19-02 Door Warning System
52-19-02-01 Speakers

Interval	Installed	Required	Procedure
C	2	1	**(M) (O)**

One may be inoperative provided remaining speaker is verified to operate normally once each flight day.

NOTE: This STC is not a Boeing system. The STC holder should be contacted for information and procedures pertaining to this item.

52-19 JAMCO Flight Deck Security Door Automatic Locking System

***

52-19-02 Door Warning System

52-19-02-02 LED (Green Indicator Light)

Interval	Installed	Required	Procedure
C	2	0	

NOTE: This STC is not a Boeing system. The STC holder should be contacted for information and procedures pertaining to this item.

52-19 JAMCO Flight Deck Security Door Automatic Locking System

***

52-19-02 Door Warning System

52-19-02-03 Aural Warning System

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. AUTO UNLK Light is verified to operate normally.

b. Alternate procedures are established and used.

NOTE: This STC is not a Boeing system. The STC holder should be contacted for information and procedures pertaining to this item.

52-19 JAMCO Flight Deck Security Door Automatic Locking System

***

52-19-03 Door Control Panel

52-19-03-01 Door LOCK FAIL Light

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative OFF provided automatic lock controls are verified to operate normally.

NOTE: This STC is not a Boeing system. The STC holder should be contacted for information and procedures pertaining to this item.

52-19 JAMCO Flight Deck Security Door Automatic Locking System

52-19-03 Door Control Panel

52-19-03-02 Door AUTO UNLK Light

***

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative OFF provided:

a. Automatic lock controls are verified to operate normally.

b. Aural warning system operates normally.

c. Alternate procedures are established and used.

NOTE: This STC is not a Boeing system. The STC holder should be contacted for information and procedures pertaining to this item.

52-19 JAMCO Flight Deck Security Door Automatic Locking System

***

52-19-03 Door Control Panel

52-19-03-03 Door HARD LOCK Light

***

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Automatic lock controls are verified to operate normally.

b. Alternate procedures are established and used.

NOTE: This STC is not a Boeing system. The STC holder should be contacted for information and procedures pertaining to this item.

52-19 JAMCO Flight Deck Security Door Automatic Locking System
52-19-03 Door Control Panel
52-19-03-04 Door UNLKD Switch/UNLK Switch Position

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Door can be opened manually from flight deck.
b. Remaining automatic lock controls are verified to operate normally.
c. Alternate procedures are established and used.

NOTE: This STC is not a Boeing system. The STC holder should be contacted for information and procedures pertaining to this item.

52-19 JAMCO Flight Deck Security Door Automatic Locking System
52-19-03 Door Control Panel
52-19-03-05 Door UNLKD Light

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided:

a. Automatic lock controls are verified to operate normally.
b. Aural warning system operates normally.

NOTE: This STC is not a Boeing system. The STC holder should be contacted for information and procedures pertaining to this item.

52-19 JAMCO Flight Deck Security Door Automatic Locking System
52-19-03 Door Control Panel
52-19-03-06 Door EMRG ENTRY ACTIVE Light

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided door aural warning system is verified to operate normally.

NOTE: This STC is not a Boeing system. The STC holder should be contacted for information and procedures pertaining to this item.

52-19 JAMCO Flight Deck Security Door Automatic Locking System

***

52-19-03 Door Control Panel

52-19-03-07 Door OPEN Light

Interval	Installed	Required	Procedure
C	1	0	**(M) (O)**

May be inoperative provided Automatic Lock controls are verified to operate normally.

NOTE: This STC is not a Boeing system. The STC holder should be contacted for information and procedures pertaining to this item.

52-19 JAMCO Flight Deck Security Door Automatic Locking System

***

52-19-04 FLIGHT DECK DOOR Warning/Caution Light

Interval	Installed	Required	Procedure
C	1	0	

NOTE: This STC is not a Boeing system. The STC holder should be contacted for information and procedures pertaining to this item.

52-19 JAMCO Flight Deck Security Door Automatic Locking System

***

52-19-05 Cabin Pushbutton Entry Pad/Keypad

***

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided alternate procedures are established and used.

NOTE: This STC is not a Boeing system. The STC holder should be contacted for information and procedures pertaining to this item.

52-19 JAMCO Flight Deck Security Door Automatic Locking System

***

52-19-05 Cabin Pushbutton Entry Pad/Keypad

***

52-19-05-01 Keypad Indicator Lights

Interval	Installed	Required	Procedure
C	3	0	**(M) (O)**

May be inoperative provided:

a. Keypad is verified to operate normally.

b. Alternate procedures are established and used.

NOTE: This STC is not a Boeing system. The STC holder should be contacted for information and procedures pertaining to this item.

52-20 Flight Deck Door Pressure Relief Panels

52-20-01 JAMCO Flight Deck Security Door Pressure Relief Latches

***

Interval	Installed	Required	Procedure
A	3	0	

May be inoperative in the latched position provided repairs are made within two flight days.

52-20 Flight Deck Door Pressure Relief Panels

52-20-02 Boeing/C&D Aerospace Enhanced Flight Deck Security Door

***

Interval	Installed	Required	Procedure
A	2	0	

May be inoperative provided:

a. Panels are in the latched position.

b. Repairs are made within two flight days.

52-21 JAMCO Flight Deck Security Door Mechanical Catch Pin Lock

***

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided automatic lock system is verified to operate normally.

NOTE: This STC is not a Boeing system. The STC holder should be contacted for information and procedures pertaining to this item.

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

***

Interval	Installed	Required	Procedure
D	1	0	

52-23 Flight Deck Door Viewing Port
52-23A Alternate Procedures Required

Interval	Installed	Required	Procedure
A	1	0	**(O)**

May be inoperative provided:

a. Alternate procedures are established and used.
b. Repairs are made within three flight days.

OPERATIONS (O)

Alternate procedures must be established and used to ensure the area outside the flight crew compartment door is secure.

52-23 Flight Deck Door Viewing Port
52-23B Electronic Flight Deck Door Visual Surveillance System Operates Normally

Interval	Installed	Required	Procedure
C	1	0	**(O)**

May be inoperative provided:

a. An electronic flight deck door visual surveillance system is installed and operates normally.
b. Alternate procedures are established and used.

OPERATIONS (O)

Alternate procedures must be established and use to ensure the area outside the flight crew compartment door is secured.

73-04 Fuel Filter Differential Pressure Warning Systems

73-04-02 --400/-500/-600/-700/-800/-900

Interval	Installed	Required	Procedure
C	2	1	**(M)**

One may be inoperative provided malfunction is verified to be in warning system.

MAINTENANCE (M)

For -300/-400/-500:

Verify that the malfunction is in the fuel filter bypass warning system:

1. If the FILTER BYPASS light illuminates with the engine not operating, the fuel filter bypass warning system is faulty. Proceed to step 3 below to replace the fuel filter.
2. If the FILTER BYPASS light does NOT illuminate with the engine not operating, do the Fuel Filter Bypass Warning System Test (AMM 73-34-00).
3. Replace fuel filter with a new filter (AMM 73-11-02).

   NOTE: Except for ER operations, one flight is permitted prior to filter replacement provided that fuel drained from filter housing drain plug is free of visible, gross contamination.

For -600/-700/-800/-900:

Verify that the malfunction is in the fuel filter bypass warning system (AMM 73-00-00/901):

1. If the FILTER BYPASS light illuminates with the engine not operating, the fuel filter bypass warning system is faulty. Proceed to step 3 below to replace the fuel filter.

   NOTE: To energize the system with the engine not operating, position the Engine START Switch to CONT.
2. If the FILTER BYPASS light does NOT illuminate with the engine not operating, perform the following:
   A. If Fuel FILTER BYPASS light was ON prior to engine shutdown, check EEC BITE-RECENT FAULTS for a "FUEL FILTER SIGNALS DISAGREE" fault message (AMM 73-21-00). If this fault message is present, proceed to step 3 below to replace the fuel filter. If the fault message is not present use FIM 73-05 Task 801 - Fuel FILTER BYPASS Light is ON, to identify if there is a malfunction in the fuel filter bypass warning system.
   B. If Fuel FILTER BYPASS light is inoperative OFF, do EEC TEST, AMM task 73-21-00-700-804-F00.

NOTE: Remaining indication lights in the EEC test should illuminate normally.

3. Replace fuel filter with a new filter (AMM 73-11-02).

NOTE: Except for ER operations, one flight is permitted prior to filter replacement provided that fuel drained from filter housing drain plug is free of visible, gross contamination.

OPERATIONS NOTE

If the remaining FILTER BYPASS light illuminates, assume both engine fuel filters have an impending bypass condition.

73-05 Fuel Flow Indication Systems

Interval	Installed	Required	Procedure
C	2	1	

One may be inoperative provided:

a. N1, N2 for associated engine operate normally.

b. Both main tank fuel quantity indicators operate normally.

73-06 Fuel Used Indicators
***

Interval	Installed	Required	Procedure
C	2	0	

73-07 Power Management Control (PMC) Systems (-400/-500)

Interval	Installed	Required	Procedure
C	2	0	**(O)**

May be inoperative provided:

a. Both PMC's remain OFF.

b. AFM Appendix performance adjustments are applied.

NOTE: Operation with the PMC OFF or inoperative is prohibited on CFM56-3C-1 engines (all thrust ratings) with the Turbine Clearance Control (TCC) Timers deactivated.

OPERATIONS (O)

1. Apply PMC OFF performance adjustments.
2. Operate airplane with both PMC's OFF.
3. Do not use the assumed temperature method for reduced takeoff thrust.
4. For the CFM56-3B-2 engine:
   A. FMC computed takeoff N1 settings will be invalid under certain conditions of temperature and pressure altitude.
   B. Refer to the Flight Crew Operations Manual - Supplementary Procedures (Engines, APU) - PMC OFF TAKEOFF AND CLIMB to determine correct FMC N1 power settings.

73-08 Power Management Control (PMC) INOP Lights (-400/-500)

Interval	Installed	Required	Procedure
C	2	0	**(O)**

May be inoperative provided:

a. Both PMC's remain OFF.

b. AFM Appendix performance adjustments are applied.

NOTE: Operation with the PMC OFF or inoperative is prohibited on CFM56-3C-1 engines (all thrust ratings) with the Turbine Clearance Control (TCC) Timers deactivated.

OPERATIONS (O)

1. Apply PMC OFF performance adjustments.
2. Operate airplane with both PMC's OFF.
3. Do not use the assumed temperature method for reduced takeoff thrust.
4. For the CFM56-3B-2 engine:
   A. FMC computed takeoff N1 settings will be invalid under certain conditions of temperature and pressure altitude.
   B. Refer to the Flight Crew Operations Manual - Supplementary Procedures (Engines, APU) - PMC OFF TAKEOFF AND CLIMB to determine correct FMC N1 power settings.

73-10 Fuel Control ENG VALVE CLOSED Indicating System (-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	2	0	**(M)**

May be inoperative provided associated valve is verified to operate normally.

MAINTENANCE (M)

Verify associated fuel shutoff valve operates normally (AMM 73-00-00/901).

1. Open and collar the P6-3 Panel ENGINE FUEL ENGINE (1/2) HPSOV IND circuit breaker
2. Start engine and allow it to stabilize.
3. Open the associated engine P6-3 Panel SPAR VALVE ENG circuit breaker.

   CAUTION: DO NOT ROTATE THE FIRE HANDLE. IF THE HANDLE IS ROTATED, A FIRE EXTINGUISHING BOTTLE WILL DISCHARGE.

4. Push the fire handle release button under the fire handle for the applicable engine.
5. Without rotating the fire handle, pull the fire handle up for the applicable engine.
6. Verify that the engine immediately decelerates.
7. Position engine start lever to CUTOFF.
8. Push the fire handle for the applicable engine down.
9. Close the P6-3 Panel SPAR VALVE ENG circuit breaker.

73-11 Electronic Engine Control (EEC) (-600/-700/-800/-900)

73-11-01 Normal (ON) Mode

Interval	Installed	Required	Procedure
C	2	0	**(O)**

May be inoperative provided:

a. Both engines are operated in ALTERNATE mode.

b. Strut/wing leading edge over-braided wire bundles are installed per Boeing Service Bulletin or production equivalent.

c. Applicable AFM performance adjustments are applied.

NOTE 1: Dispatch is not allowed with ENGINE CONTROL light(s) illuminated or inoperative.

NOTE 2: Operation with Electronic Engine Controls (EEC's) in Alternate (ALTN) mode requires that one of the following Boeing Service Bulletins (or production equivalent) is installed on 737-600/-700/-800 airplanes prior to line number 147: SB 737-73-1013 (-600), SB 737-73-1012 (-700), SB 737-73-1014 (-700IGW) or SB 737-73-1015 (-800).

OPERATIONS (O)

NOTE: Maximum rated thrust may be reached at a reduced thrust lever position.

1. Position both EEC Mode switches to ALTN.
2. For 18K through 24K thrust ratings, use full rated takeoff thrust (derated and/or assumed temperature method reduced thrust takeoffs are not allowed).
3. For 26K or 27K thrust ratings takeoff thrust derates utilizing thrust levels down to and including 24K are permissible only for the -700 (assumed temperature method reduced thrust takeoffs are not allowed).
4. For -700's with 27k thrust rating: (1) 26K or 24K thrust derate must be used for takeoff when gross weight is less than 130,000 lb (58,967 kg), (2) 24K thrust derate must be used for takeoff when gross weight is less than 125,000 lb (56,699 kg).
5. For -700's with 26K thrust rating: 24K thrust derate must be used for takeoff when takeoff weight is less than 125,000 lb (56,699 kg).
6. For takeoff at the 26K or 27K thrust levels: Do not use FMC-computed V-speeds or takeoff thrust N1 values. Refer to AFM-DPI for appropriate takeoff performance adjustments, V-speeds and takeoff thrust N1 values (use manual takeoff thrust setting procedures).

73-12 Electronic Engine Control (EEC) Alternate Power Supply System (-600/-700/-800/-900)

Interval	Installed	Required	Procedure
A	4	3	**(M)**

May be inoperative deactivated provided repairs are made in accordance with the times established in Boeing Maintenance Planning Data document D626A001, Section 1, Items 73-020-01 and 73-020-02.

NOTE: Dispatch is not allowed with ENGINE CONTROL light(s) illuminated or inoperative.

MAINTENANCE (M)

Deactivate inoperative EEC Alternate Power Supply System (AMM 73-00-00/901)

1. For number 1 engine:
   A. Open and collar the P18-2 panel circuit breaker ENG 1 ALTN PWR CHAN A or ENG 1 ALTN PWR CHAN B, as appropriate.
2. For number 2 engine:
   A. Open and collar the P6-2 panel circuit breaker ENG 2 ALTN PWR CHAN A or ENG 2 ALTN PWR CHAN B, as appropriate.

74-01 Ignition Systems
74-01-02 --400/-500/-600/-700/-800/-900
74-01-02-01 Left Ignition Systems
74-01-02-01A ER Operations Allowed

Interval	Installed	Required	Procedure
B	2	1	

One may be inoperative provided:

a. Ignition Select Switch remains in BOTH position.
b. Right ignition systems operate normally.

74-01 Ignition Systems
74-01-02 -400/-500/-600/-700/-800/-900
74-01-02-01 Left Ignition Systems
74-01-02-01B Except ER Operations

Interval	Installed	Required	Procedure
C	2	0	**(O)**

Except for ER operations, may be inoperative provided:

a. Ignition Select Switch remains in BOTH position.
b. Associated engine right ignition system operates normally.

OPERATIONS (O)

Normal operation of the operable ignition system may be confirmed as follows:

1. Set Ignition Select switch to IGN R for starting the associated engine.
2. After engine start, set Ignition Select switch to BOTH.

74-01 Ignition Systems

74-01-02 --400/-500/-600/-700/-800/-900

74-01-02-02 Right Ignition Systems

74-01-02-02A ER Operations Allowed

Interval	Installed	Required	Procedure
B	2	1	**(M) (O)**

One may be inoperative provided:

a. Ignition Select Switch remains in BOTH position.

b. Left ignition systems operate normally.

c. Associated engine left igniter is connected to AC Standby Bus by an acceptable configuration.

For-600/-700/-800/-900:

NOTE: Dispatch is not permitted if the ignition failure is due to an EEC right igniter fault (AMM 74-00-00, EEC BITE Igniters Test).

MAINTENANCE (M)

For -300/-400/-500:

With Boeing Service Bulletin SB 737-74-1001 and subsequent incorporated:

1. These steps can be used to connect the LEFT igniter to the AC Standby Bus.
   A. Open fan cowl on associated engine.
   B. Remove cap from dummy storage receptacle.
   C. Remove power supply connector from left hand ignition exciter (upper unit) and install it on the dummy stowage receptacle.
   D. Remove power supply connector from engine right hand exciter (lower unit) and install it on the engine left hand exciter (upper unit).
   E. Install cap from dummy stowage receptacle on the engine right hand (lower unit) power supply connector port.
   F. Close fan cowl.

Without Boeing Service Bulletin SB 737-74-1001 and subsequent incorporated:

1. Operator must establish an approved alternate configuration that connects the LEFT igniter to the AC Standby Bus.
   NOTE: Changes made to connect the left igniter to the AC Standby Bus must meet the requirements of AMM Chapter 20 - Standard Practices.

For -600/-700/-800/-900:
Right Ignition System(s), connect the LEFT igniter to AC Standby Bus (AMM 74-00-00/901):

1. Open applicable P18-2/P6-2 Panel circuit breakers:
   A. Engine No. 1 - ENGINE 1 IGNITION RIGHT and ENGINE 1 IGNITION LEFT
   B. Engine No. 2 - ENGINE 2 IGNITION RIGHT and ENGINE 2 IGNITION LEFT
2. Verify that start levers are in the CUTOFF position and start switch is in the OFF position.
3. Open fan cowl on the associated engine.

WARNING: MAKE SURE THE IGNITION EXCITERS ARE DE-ENERGIZED BEFORE WORKING ON THE IGNITION SYSTEM. WAIT FOR A MINIMUM OF FIVE MINUTES TO RELEASE THE HIGH VOLTAGE FROM IGNITION EXCITER.

4. Disconnect LEFT/RIGHT power supply cables from the LEFT/RIGHT ignition exciter.
5. Connect cables as follows:
   A. LEFT power supply cable to RIGHT exciter.
   B. RIGHT power supply cable to LEFT exciter.
6. Close the circuit breakers opened in Step 1.
7. Perform Audible Test of Ignition System - EEC BITE.
8. Close fan cowl on the associated engine.

OPERATIONS (O)

Normal operation of the operable ignition system may be confirmed as follows:

1. Set the Ignition Select switch to IGN R for starting the associated engine.
2. After engine start, set the Ignition Select switch to BOTH.

74-01 Ignition Systems

74-01-02 --400/-500/-600/-700/-800/-900

74-01-02-02 Right Ignition Systems

74-01-02-02B Except ER Operations

Interval	Installed	Required	Procedure
C	2	0	**(M) (O)**

Except for ER operations, may be inoperative provided:

a. Ignition Select Switch remains in BOTH position.

b. Associated engine left ignition system operates normally.

c. Associated engine left igniter is connected to AC Standby Bus by an acceptable configuration.

For -600/-700/-800/-900:

NOTE: Dispatch is not permitted if the ignition failure is due to an EEC right igniter fault (AMM 74-00-00, EEC BITE Igniters Test).

MAINTENANCE (M)

For -300/-400/-500:

With Boeing Service Bulletin SB 737-74-1001 and subsequent incorporated:

1. These steps can be used to connect the LEFT igniter to the AC Standby Bus.
   A. Open fan cowl on associated engine.
   B. Remove cap from dummy storage receptacle.
   C. Remove power supply connector from left hand ignition exciter (upper unit) and install it on the dummy stowage receptacle.
   D. Remove power supply connector from engine right hand exciter (lower unit) and install it on the engine left hand exciter (upper unit).
   E. Install cap from dummy stowage receptacle on the engine right hand (lower unit) power supply connector port.
   F. Close fan cowl.

Without Boeing Service Bulletin SB 737-74-1001 and subsequent incorporated:

1. Operator must establish an approved alternate configuration that connects the LEFT igniter to the AC Standby Bus.

   NOTE: Changes made to connect the left igniter to the AC Standby Bus must meet the requirements of AMM Chapter 20 - Standard Practices.

For -600/-700/-800/-900:
Right Ignition System(s), connect the LEFT igniter to AC Standby Bus (AMM 74-00-00/901):

1. Open applicable P18-2/P6-2 Panel circuit breakers:
   A. Engine No. 1 - ENGINE 1 IGNITION RIGHT and ENGINE 1 IGNITION LEFT
   B. Engine No. 2 - ENGINE 2 IGNITION RIGHT and ENGINE 2 IGNITION LEFT
2. Verify that start levers are in the CUTOFF position and start switch is in the OFF position.
3. Open fan cowl on the associated engine.

WARNING: MAKE SURE THE IGNITION EXCITERS ARE DE-ENERGIZED BEFORE WORKING ON THE IGNITION SYSTEM. WAIT FOR A MINIMUM OF FIVE MINUTES TO RELEASE THE HIGH VOLTAGE FROM IGNITION EXCITER.

4. Disconnect LEFT/RIGHT power supply cables from the LEFT/RIGHT ignition exciter.
5. Connect cables as follows:
   A. LEFT power supply cable to RIGHT exciter.
   B. RIGHT power supply cable to LEFT exciter.
6. Close the circuit breakers opened in Step 1.
7. Perform Audible Test of Ignition System - EEC BITE.
8. Close fan cowl on the associated engine.

OPERATIONS (O)

Normal operation of the operable ignition system may be confirmed as follows:

1. Set the Ignition Select switch to IGN R for starting the associated engine.
2. After engine start, set the Ignition Select switch to BOTH.

75-02 High Pressure Turbine Clearance Control (HPTCC) Timer(s) (-400/-500)

***

Interval	Installed	Required	Procedure
C	2	0	**(M)**

May be inoperative provided system(s) are deactivated.

NOTE: Operation of CFM56-3C-1 engines at the 23.5K thrust rating with the HPTCC Timer inoperative is prohibited.

MAINTENANCE (M)

Deactivate HPTCC Timer per CFMI SB 72-574.

OPERATIONS NOTE

Refer to MMEL Item 73-7 for operations with the HPTCC Timer inoperative or deactivated and the Power Management Control (PMC) selected off.

77-02 N1 Tachometers

77-02-02 --400/-500/-600/-700/-800/-900

77-02-02-01 Digital Counters

Interval	Installed	Required	Procedure
B	2	0	**(O)**

Except for EIS/CDS equipped airplanes, may be inoperative provided autothrottle is used for takeoff thrust setting.

NOTE: An indicator with an operating pointer is considered to operate normally.

OPERATIONS (O)

For non-EIS equipped airplanes with actual digital counter(s) inoperative, use the autothrottle system to set and maintain takeoff thrust.

77-02 N1 Tachometers
77-02-02 --400/-500/-600/-700/-800/-900
77-02-02-02 Reference N1 Bugs

Interval	Installed	Required	Procedure
C	2	1	

77-02 N1 Tachometers
77-02-02 --400/-500/-600/-700/-800/-900
77-02-02-03 Manual Set Indication

Interval	Installed	Required	Procedure
C	2	0	

77-02 N1 Tachometers
77-02-03 N1 Warning Lights (-100/-200/-300/-400/-500)
****

Interval	Installed	Required	Procedure
B	2	0	

May be inoperative provided associated N1 pointer operates normally.

77-03 N2 Tachometers

77-03-02 --400/-500

Interval	Installed	Required	Procedure
B	2	1	**(O)**

One may be inoperative provided:

a. N1 and fuel flow indicators for associated engine operate normally.

b. An alternate starting procedure is established and used.

c. Engine #1 N2 tach generator operates normally.

NOTE 1: The N2 tachometer generator for the number 1 engine must operate normally for dispatch because it provides a signal to the landing gear transfer valve to identify when the number 1 engine has lost power. Verification that the N2 tachometer generator is operating normally (when N2 tachometer indicator is inoperative) can be done by; (1) checking the AVM Analyzer (M1240) for corresponding fault code regarding N2 Tach signal loss or (2) observing that the engine start switch automatically moves to OFF during the engine start. If the number 1 engine tachometer generator is inoperative, it must be replaced or switched with an operative tachometer generator prior to dispatch.

NOTE 2: N2 indication failures may also affect engine starter auto cutout. Refer to MMEL item 80-2.

OPERATIONS (O)

1. GROUND STARTING:

   NOTE: This procedure is based on the use of the same air source to start both engines. While starting the engine with the inoperative N2, position the engine BLEED air switch for the engine with the operative N2 to OFF. After engine start check that both engine BLEED air switches are in the ON position.

   A. Start the engine with the operative N2 indicator first.

   B. Note the time required to attain N2 RPM for moving the start lever to IDLE and N1 RPM at that time.

   C. Note N1 RPM at starter cutout.

   D. Start the engine with the inoperative N2 indicator.

      1) Check that approximately the same N1 RPM is attained in the same length of time as on the first engine. If N1 RPM is significantly lower, allow N1 RPM to stabilize.

      2) Move the start lever to IDLE.

      3) If tachometer generator is inoperative, manually move the start switch to OFF at N1 RPM noted for first engine starter cutout.

      4) If tachometer generator is operative, check that starter cutout occurs at approximately the same N1 RPM noted for first engine starter cutout.

E. Monitor N1, fuel flow, EGT and oil pressure for normal indications and limitations.

2. ABORTED START:

Use existing procedure with N1 RPM except when re-engaging the starter. Allow N1 RPM to decrease to 4% N1 before moving the start switch to GRD.

3. INFLIGHT STARTING:

A. When a windmilling engine start is to be made, use existing procedure.

B. When an inflight start requires a starter assist, use existing procedure except:

NOTE: Do not use starter assist unless the engine has been shut down at least 45 seconds.

1) At 15% N1 move the start lever to IDLE (or 10 seconds after start switch is positioned to GRD).

2) At 25% N1 move the start switch to OFF.

C. Monitor N1, fuel flow, EGT and oil pressure for normal indications and limitations.

77-03 N2 Tachometers

77-03-03 Digital Counters

****

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative except for EIS/CDS equipped airplanes.

NOTE: An indicator with an operating pointer is considered to operate normally.

NOTE: N2 indication failures may also affect engine starter auto cutout. Refer to MMEL item 80-2.

77-03 N2 Tachometers

77-03-04 N2 Warning Lights (-400/-500)

****

Interval	Installed	Required	Procedure
B	2	0	

77-05 Vibration Indicating Systems

77-05-02 --400/-500/-600/-700/-800/-900

Interval	Installed	Required	Procedure
C	2	1	

For -600/-700/-800/-900:

NOTE: Operating the airplane with one number 1 bearing vibration sensor deactivated per AMM 77-31-05/201 meets all design flight deck engine vibration Indication and 14 CFR Part 25 requirements (refer to Boeing Service Letter 737-SL-77-016), and therefore MMEL relief is not required.

77-06 EGT Indications

77-06-01 Digital Counters

***

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative except for EIS/CDS equipped airplanes.

77-06 EGT Indications

77-06-02 EGT Warning Lights (-400/-500)

***

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided associated EGT pointer operates normally.

77-09 Abnormal Start Indication Systems (-400/-500/-600/-700/-800/-900)

***

Interval	Installed	Required	Procedure
C	2	0	

77-10 LOW IDLE Light (-400/-500)

Interval	Installed	Required	Procedure
B	1	0	**(M)**

May be inoperative provided:

a. Engine idle control system is verified to operate normally.

b. Both engines installed are “modified” engines (Boeing SB 737-77-1031 or production equivalent).

MAINTENANCE (M)

Verify the idle control system operates normally.

1. Check that the ENGINE IDLE CONTROL circuit breaker C794 (P6 panel) is closed.
2. Start both engines and allow them to stabilize for two minutes.
3. Push and hold the ground sensing switch S2 on the E11 landing gear logic shelf. Verify that the speed of both engines increases to high idle (approximately 28% N1).
4. Release the ground sensing switch S2 on the E11 landing gear logic shelf. Verify that the speed of both engines decreases after approximately four seconds.
5. Shut down both engines.
6. If erroneous indications persist, the LOW IDLE Light may be deactivated.
   A. Remove wire W036-091-22 (-300) or W036-792-22 (-400/-500) from pin 8 of connector D2952 (P5-65 Engine Module).
   B. Cap and stow the removed wire.

78-01 Thrust Reverser Systems

78-01-02 --400/-500

Interval	Installed	Required	Procedure
C	2	1	**(M) (O)**

One may be inoperative provided thrust reverser is locked in forward thrust position.

MAINTENANCE (M)

1. Deactivate and secure the associated thrust reverser (AMM 78-00-00/901).

   NOTE: Opening THRUST REVERSER CONT circuit breaker per AMM will prevent the Flight Data Recorder from receiving oil pressure signal (engine operating) from affected engine. With the thrust reverser secured closed, one or both sync locks may be inoperative provided the sync lock is verified to be in the locked position.

2. Prevent movement of the reverse thrust handle by any appropriate means (e.g. lockwire the thrust reverser handle to the appropriate forward thrust lever).

OPERATIONS (O)

NOTE: Thrust reverser deactivation per AMM can result in the illumination of the MASTER CAUTION and ENG annunciation when performing a Master Caution recall.

Use of reverse thrust is left to the discretion of each carrier. Techniques for controlling the aircraft with unsymmetrical reverse thrust should be developed and used in training.

78-01 Thrust Reverser Systems

78-01-03 -600/-700/-800/-900

Interval	Installed	Required	Procedure
C	2	1	**(M) (O)**

One may be inoperative provided:

a. Thrust reverser is locked in forward thrust position.

b. Appropriate performance adjustments are applied.

MAINTENANCE (M)

1. Deactivate and secure the associated thrust reverser (AMM 78-00-00/901).

   NOTE: With the thrust reverser secured closed, one or both sync locks may be inoperative provided the sync lock is verified to be in the locked position.

2. Prevent movement of the reverse thrust handle by any appropriate means (e.g. lockwire the thrust reverser handle to the appropriate forward thrust lever).

OPERATIONS (O)

NOTE: Thrust reverser deactivation per AMM can result in the illumination of the MASTER CAUTION and ENG annunciation when performing a Master Caution recall.

1. Use of reverse thrust is left to the discretion of each carrier. Techniques for controlling the aircraft with unsymmetrical reverse thrust should be developed and used in training.

2. The wet runway/obstacle limited weight and associated V1 must be reduced to account for the inoperative thrust reverser. Refer to the Takeoff and Landing Section of the Flight Planning and Performance Manual for the appropriate penalties.

78-02 REVERSER UNLOCKED Lights (-400/-500)

Interval	Installed	Required	Procedure
C	2	1	**(M)**

One may be inoperative provided reverser is locked in closed (forward thrust) position.

NOTE: Relief also applies to airplanes modified by STC SA5730NM or ST00131SE.

MAINTENANCE (M)

For -300/-400/-500:

Deactivate and secure the associated thrust reverser (see DDG Item 78-01-02 Maintenance procedure).

78-07 REVERSER Lights (Aft Overhead Panel) (-400/-500/-600/-700/-800/-900)

Interval	Installed	Required	Procedure
C	2	1	**(M)**

One may be inoperative provided associated reverser is locked in closed (forward thrust) position.

MAINTENANCE (M)

Deactivate and secure the affected thrust reverser (see DDG Item 78-01 Maintenance procedure).

OPERATIONS NOTE

Use DDG Item 78-01 Operations procedure.

79-01 Oil Quantity Indication Systems

Interval	Installed	Required	Procedure
B	2	1	**(M)**

Except for ER operations, one may be inoperative provided:

a. Oil tank is filled to maximum recommended capacity at each refueling.
b. There is no evidence of above normal oil consumption or leakage.
c. Associated low oil pressure warning system operates normally.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:
Service affected oil system and verify that there is no evidence of oil leakage or above normal consumption.

For -600/-700/-800/-900:
Service affected oil system and verify that there is no evidence of oil leakage or above normal consumption (AMM 79-00-00/901).

For All Models:

1. Within 30 minutes of engine shutdown, replenish engine oil if necessary per AMM 12-13-11.
2. Check airplane flight log and maintenance records to make sure oil consumption is within limits.

79-01 Oil Quantity Indication Systems

79-01-01 Oil Quantity Indicator Test Switch (-400/-500)

***

Interval	Installed	Required	Procedure
C	1	0	**(M)**

May be inoperative provided:

a. Oil Tanks are filled to maximum recommended capacity at each refueling.

b. There is no evidence of above normal oil consumption or leakage.

c. Engine low oil pressure warning lights operate normally.

MAINTENANCE (M)

Service affected oil system and verify that there is no evidence of oil leakage or above normal consumption.

1. Within 30 minutes of engine shutdown, replenish engine oil if necessary per AMM 12-13-11.
2. Check airplane flight log and maintenance records to make sure oil consumption is within limits.

79-02 Oil Filter Bypass Warning Systems

Interval	Installed	Required	Procedure
C	2	1	**(M)**

One may be inoperative provided:

a. Malfunction is in warning system.

b. Oil filter is inspected for presence of contaminants once each flight day.

MAINTENANCE (M)

For -100/-200/-300/-400/-500:

Verify the cause of malfunction and inspect oil filter for contamination.

For -300/-400/-500:

2. Verify that clogging indicator (red pop-up) on scavenge oil filter is not visible.
3. Check of the scavenge oil filter clogging indicator once each flight day.

For -600/-700/-800/-900:

Verify the cause of malfunction and inspect oil filter for contamination (AMM 79-00-00/901).

1. Remove the scavenge oil filter element (AMM 79-21-06/401).
2. Visually inspect the scavenge oil filter element. If the filter element is not contaminated, the malfunction is in the bypass warning system.
3. Visually inspect the scavenge oil filter element for contaminants once each flight day.

79-04 Oil Low Pressure Warning Systems

Interval	Installed	Required	Procedure
B	2	0	

May be inoperative provided associated oil quantity indication operates normally.

80-01 Starter Valve Open Indications

80-01-02 --400/-500/-600-700/-800/-900

Interval	Installed	Required	Procedure
C	2	1	**(O)**

One may be inoperative provided it is checked after engine start that associated valve is closed.

For -400/-500/-600/-700/-800/-900:

NOTE 2: The associated PRSOV will be commanded closed when the START VALVE OPEN light is inoperative ON. This will result in loss of the associated engine bleed. MMEL Item 36-5 restrictions for PRSOV inoperative closed must be observed.

OPERATIONS (O)

Check that the associated start valve is closed after engine start.

1. Use normal start procedures except for the following:
   A. Prior to selecting ENGINE START switch to GRD position note the duct pressure.
   B. For airplanes without automatic ignition, as ENGINE START switch moves to OFF, verify that duct pressure returns to the pre-start value or higher.

   For -600/-700/-800/-900:

   C. For airplanes with automatic ignition, as ENGINE START switch moves to AUTO, verify that duct pressure returns to the pre-start value or higher.
2. If duct pressure does not return to the prestart value or higher, dispatch is not allowed. In this case, shutdown the affected engine as follows:
   A. Position the affected engine start lever to CUTOFF.
   B. Position the ISOLATION VALVE switch to CLOSE.
   C. Position the affected engined BLEED air switch to OFF.
   D. If the affected engine is the left engine and APU bleed air is being used, position the APU BLEED air switch to OFF.

E. Remove ground air source, if being used

80-02 Engine Starter Auto Cutout
****

80-02-02 --400/-500

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided flight crew manually selects Start Switch OFF at 46% N2.

NOTE: This item provides relief for the ENGINE START switch holding solenoid not releasing at the N2 cutout speed and/or the solenoid not holding the ENGINE START switch in the GRD position.

OPERATIONS NOTE

1. Position ENGINE START switch to GRD and hold if required.
2. Position ENGINE START switch to OFF at 46% N2 RPM.

80-02 Engine Starter Auto Cutout
****

80-02-03 -600/-700/-800/-900

Interval	Installed	Required	Procedure
C	2	0	

May be inoperative provided flight crew manually selects Start Switch to OFF or AUTO at 55% N2.

NOTE: This item provides relief for the ENGINE START switch holding solenoid not releasing at the N2 cutout speed and/or the solenoid not holding the ENGINE START switch in the GRD position.

OPERATIONS NOTE

1. Position ENGINE START switch to GRD and hold if required.
2. Without automatic ignition:
   Position ENGINE START switch to OFF at 55% N2 RPM.
3. With automatic ignition:
   Position ENGINE START switch to AUTO at 55% N2 RPM.

80-03 Starter Valves

80-03-02 --400/-500

Interval	Installed	Required	Procedure
C	2	1	**(M) (O)**

One may be inoperative provided:

a. Modified Main Engine Controls or production equivalent have been incorporated.

b. Associated start valve light operates normally.

c. Manual override start procedures are used.

MAINTENANCE (M)

Observe engine ground safety precautions and use Start the Engine Procedure (Manual Override of the Starter Air Valve) (AMM 71-00-00).

NOTE: Modified Main Engine Controls (MEC's) must be installed on both engines for dispatch with the start valve inoperative. Modified MEC's are P/N 9368M57P12 and higher (P12 and up) on CFM56-3-B1 engines and P/N 9387M15P03 and higher (P03 and up) on CFM56-3B-2 engines. All CFM56-3C-1 engines have modified MEC's installed.

OPERATIONS (O)

1. Perform normal start procedure with following additions:
   - A. When positioning associated ENGINE START switch to GRD position, instruct ground crew to open start valve.
   - B. Inform ground crew when N2 is rotating.
   - C. Instruct ground crew to close the start valve when indication is 46% N2 RPM.
   - D. Verify that ENGINE START switch moves to OFF.
   - E. Verify that duct pressure increases to the pre-start value.

NOTE: If an inflight engine start is necessary, a crossbleed start will not be available on the associated

80-03 Starter Valves

80-03-03 -600/-700/-800/-900

Interval	Installed	Required	Procedure
C	2	1	**(M) (O)**

Except for ER operations, one may be inoperative provided:

a. Associated start valve indication operates normally.

b. Manual override start procedures are used.

MAINTENANCE (M)

Observe engine ground safety precautions and use Start the Engine Procedure (Manual Override of the Starter Air Valve) (AMM 71-00-00).

OPERATIONS (O)

NOTE: Inflight Engine Start: For engines shut down more than one hour, a windmill start may not be possible.

1. Perform normal start procedure with following additions:
   A. When positioning associated ENGINE START switch to GRD position, instruct ground crew to open start valve.
   B. Inform ground crew when N2 is rotating.
   C. Instruct ground crew to close the start valve when indication is 56% N2 RPM.
   D. Without automatic ignition:
      Verify that the ENGINE START switch moves to OFF.
   E. With automatic ignition:
      Verify that the ENGINE START switch moves to AUTO.

   NOTE: If an inflight engine start is necessary, a crossbleed start will not be available on the associated engine. Ensure that airspeed is sufficient for a windmill start.

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General Notes

This section contains locations, illustrations and performance information for all of the CDL items from the 737 Airplane Flight Manual (AFM) Appendix Configuration Deviation List (CDL) Revision 39.

Limitations

The associated limitations must be listed on a placard affixed in the cockpit in clear view of the pilot-in-command and other appropriate crew members.

Operation with those missing parts requiring a reduction of VMO/MMO is permitted only when the airplane has the maximum airspeed limit indication and the Mach airspeed warning system programmed for the altitude/speed schedule specified for the applicable missing part.

The pilot in command will be notified of each operation with a missing parts by listing the missing parts in the flight or dispatch release.

The operator will list in the aircraft logbook an appropriate notation covering the missing parts on each flight.

If an additional part is lost in flight the airplane may not depart the airport at which it landed following this event until it again complies with CDL limitations. This, does not preclude the issuance of a ferry permit to allow the airplane to be flown to a point where the necessary repairs or replacements can be made.

No more than one part for any one sub-system in the CDL may be missing unless specifically designated combinations are indicated. Unless otherwise specified, parts from different sub-systems may be missing.

The CDL does not provide information regarding dispatch with missing fasteners. Refer to Structural Repair Manual (SRM) Section 51-10-05 for conditions and limitations which permit operations with fasteners.

Weight Reductions

The performance penalties are cumulative unless specifically designated penalties for combination of missing parts are indicated. Where performance penalties are listed as negligible, no more than three negligible items may be missing without taking further penalty. For each missing item more than three, reduce the takeoff, landing and enroute climb limits by 100 pounds (46 kilograms). Where performance penalties are listed as no penalty, any accumulative number of items listed as no penalty may be missing without further penalty.

Enroute Diversion Speed Effects

The enroute climb weight penalties listed are based on operating speeds that approximate the maximum lift-to-drag ratio speed. To account for the difference in level off altitude when operating at other speeds, multiply the enroute climb weight penalty listed by the following appropriate factor:

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

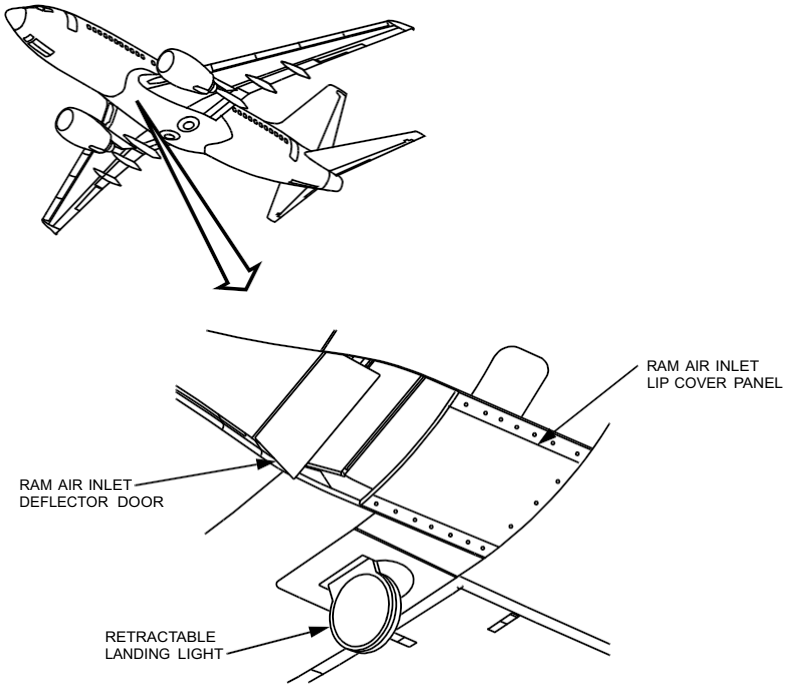
Enroute Fuel Mileage Effects

The drag effects of many 737 CDL items are so small that the changes in flight planning fuel are negligible. For items that have enroute climb weight penalties listed, an increase in flight planning fuel of 0.25% per 100 lb (46 kg) of enroute climb weight penalty (non-factored penalty) may be used to account for the drag increase.

21-51-01 Ram Air Inlet Lip Cover Panel

For -600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following for each missing panel:

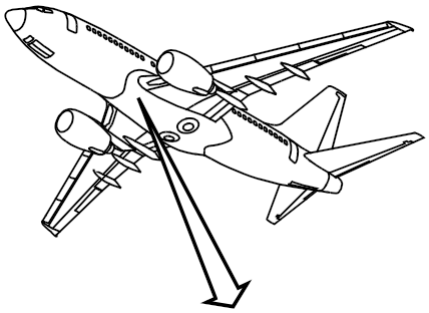
Number Installed	Takeoff & Landing	Enroute Climb
One or both may be missing.		
2	Negligible penalty	Negligible penalty

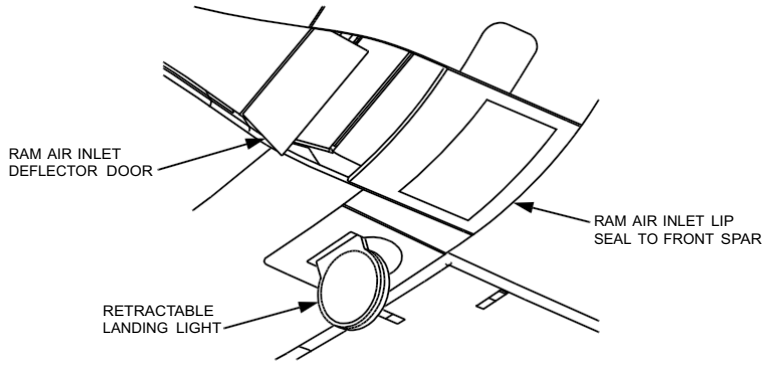


21-51-02 Ram Air Inlet Lip Seal To Front Spar

For -600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following for each missing seal:

Number Installed	Takeoff & Landing	Enroute Climb
One or both may be missing.		
2	Negligible penalty	Negligible penalty





23-60-01 Static Dischargers

Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb

All Models Without Winglets:

A maximum of 6 static dischargers may be missing. At least two dischargers are required on each wing and horizontal stabilizer and one is required on the vertical stabilizer. Where there are only two on a given surface, one of the two must be in the tip position or in the outermost trailing position.

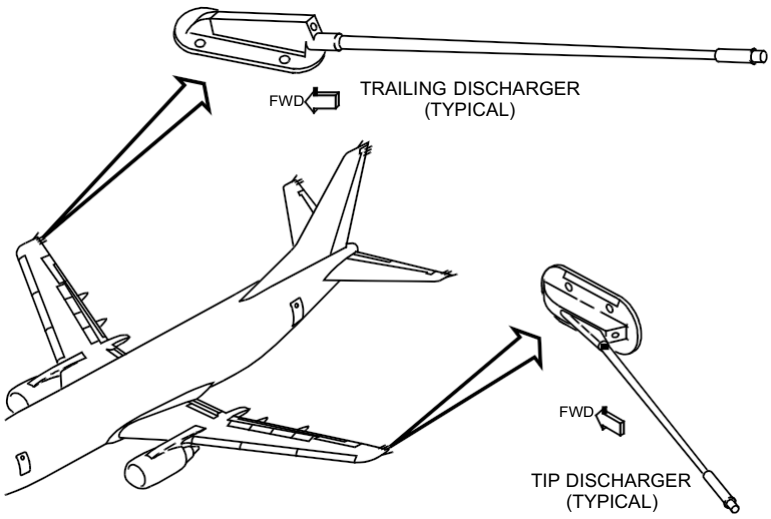
18	No penalty	No penalty

For -600/-700/-800/-900/-900ER With Winglets:

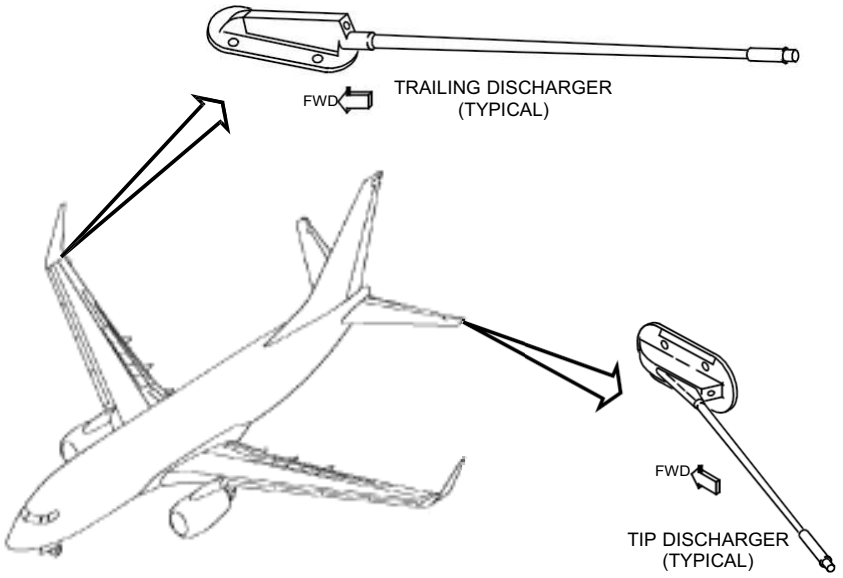
A maximum of 2 dischargers may be missing. At least one discharger is required on each wing. Where there is only one discharger on a wing, it must be in the outermost trailing position. At least 2 dischargers are required on each horizontal stabilizer. Where there are only two dischargers on a horizontal stabilizer, one of the two must be in the tip position or in the outermost trailing position. At least two dischargers are required on the vertical fin. Where there are only two dischargers on the vertical fin, one must be in the top-most position

14	No penalty	No penalty

All Models Without Winglets:



For -600/-700/-800/-900/-900ER With Winglets:



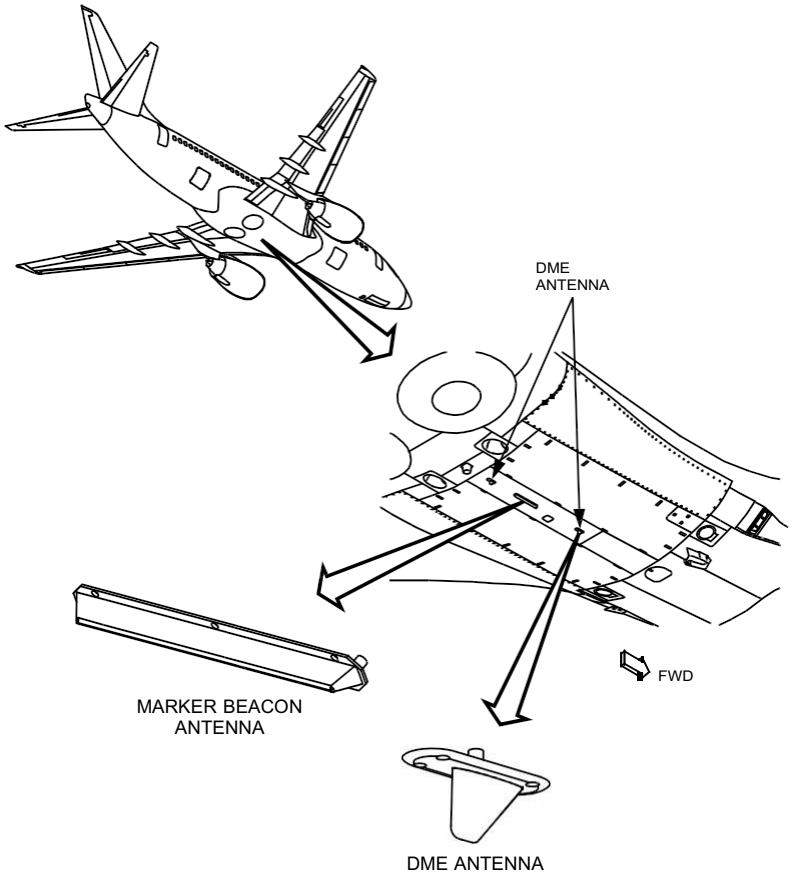
23-61-01 DME and Marker Beacon Antennas

For -600/-700/-800/-900/-900ER:

NOTE: For a missing Distance Measuring Equipment Antenna, dispatch under MMEL item 34-13, DME Systems. For a missing Marker Beacon antenna, dispatch under MMEL item 34-14, Marker Beacon Receiver System.

Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
Any number may be missing.		
3	No penalty	No penalty

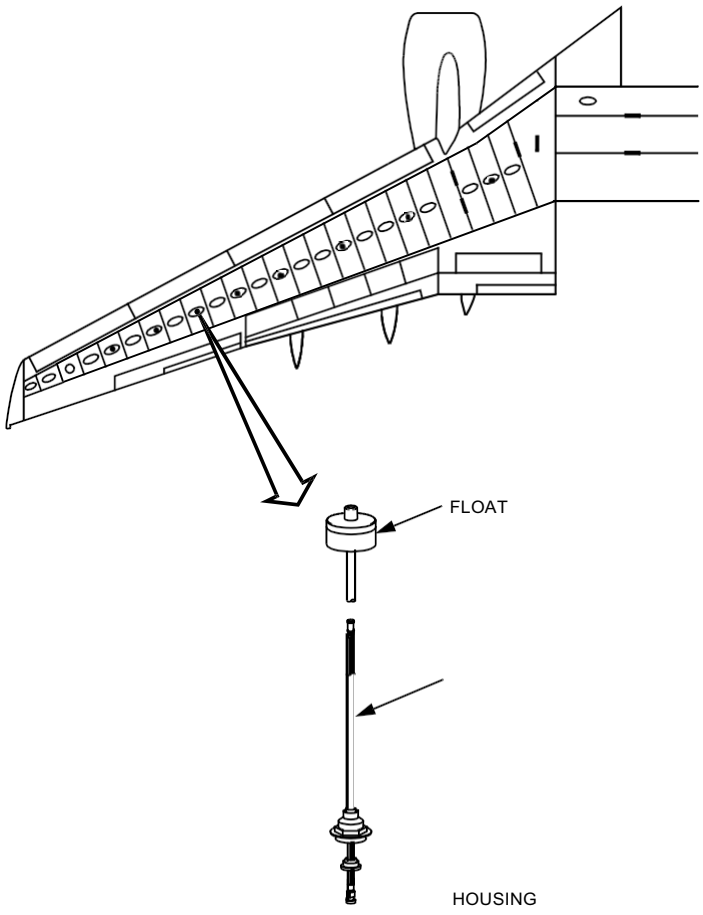


28-16-01 Fuel Quantity Measuring Stick

For -600/-700/-800/-900/-900ER:
NOTE: Reference MMEL Item 28-16.

Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
Any number may be missing.		
16	No penalty	No penalty

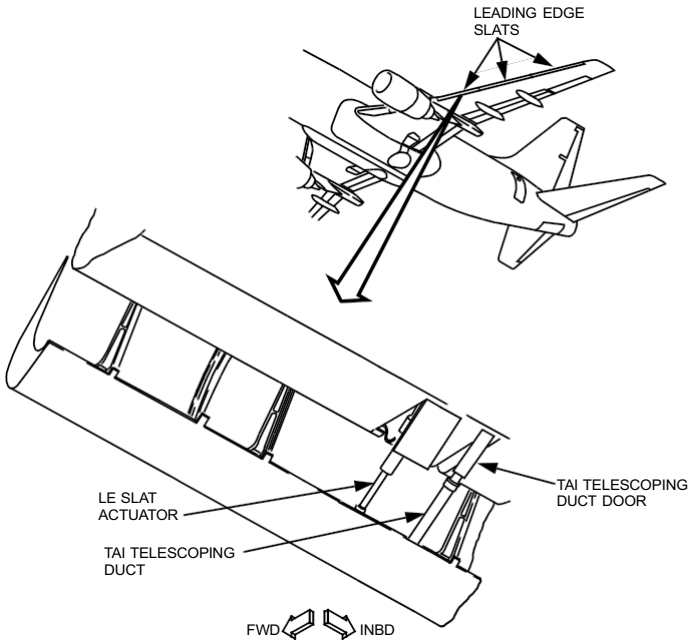


FUEL QUANTITY MEASURING STICK

30-10-01 TAI Telescoping Duct Door (Trombone Fairing Panel)

Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
For -100/-200/-300/-400/-500: Any number may be missing.		
6	No penalty	200 lb
For -100/-200/-300/-400/-500: Any number may be missing.		
6	No penalty	91 kg
For -600/-700/-800/-900/-900ER: May be missing from slats 2, 3, 6 and 7. Performance penalty is for each missing item.		
6	Negligible penalty	Negligible penalty

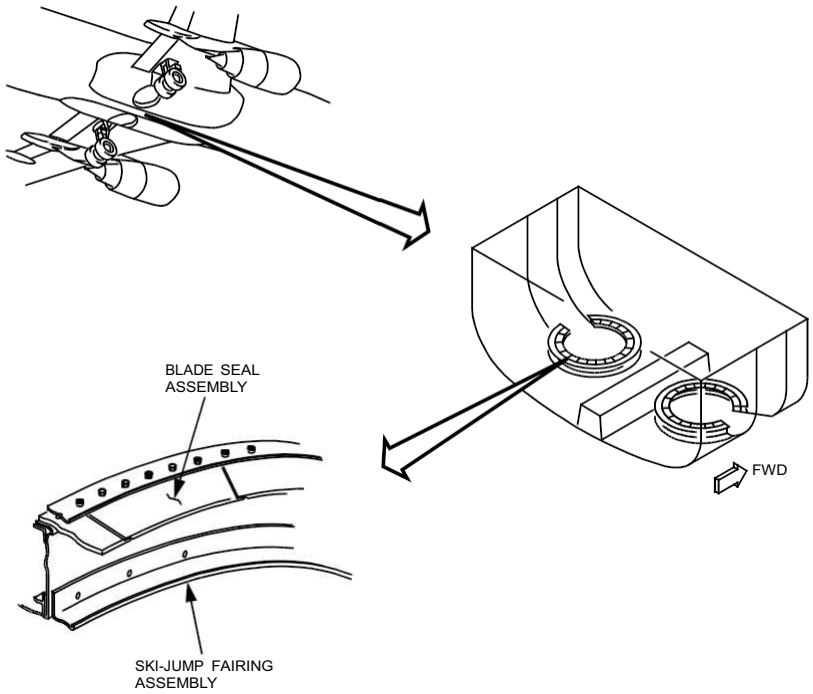


32-10-01 Main Gear Wheel Well Blade Seal Assembly and/or Main Gear Wheel Well Ski-Jump Fairing Assembly

For -100/-200/-300/-400/-500:

Performance limited weights are reduced by the following for each wheel well affected:

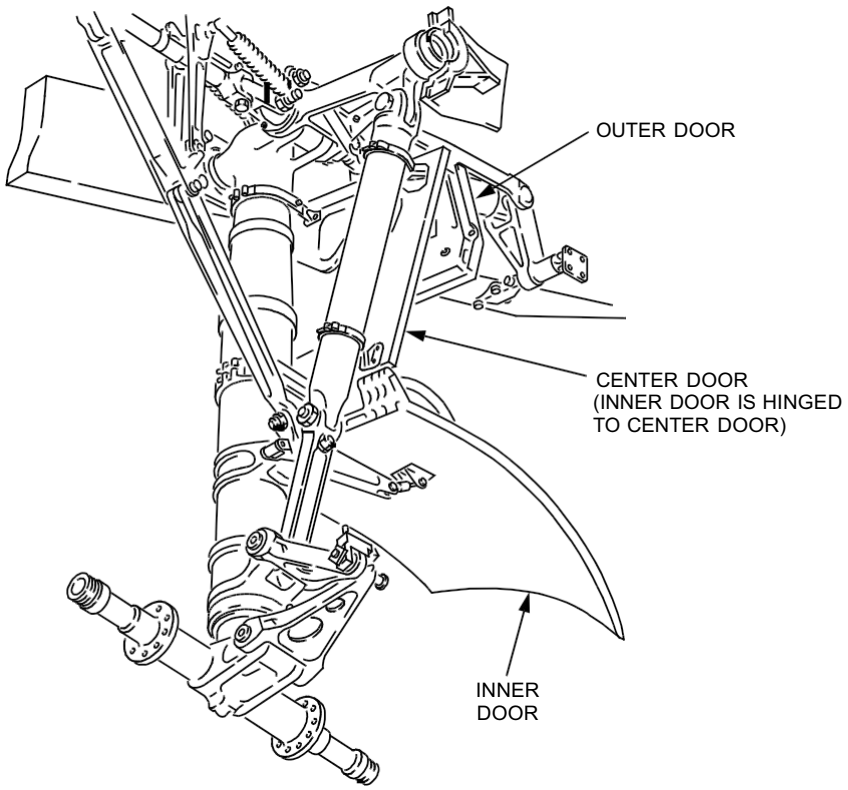
Number Installed	Takeoff & Landing	Enroute Climb
Any combination of parts from one or both assemblies may be missing.		
2	210 lb	410 lb
Any combination of parts from one or both assemblies may be missing.		
2	95 kg	186 kg



32-10-02 Main Gear Doors - Outer

Performance limited weights are reduced by the following for each missing item:

Number Installed	Takeoff & Landing	Enroute Climb
For -100/-200/-300/-400/-500: One or both may be missing.		
2	Negligible penalty	125 lb
For -100/-200/-300/-400/-500: One or both may be missing.		
2	Negligible penalty	57 kg
For -600/-700/-800/-900: One or both may be missing.		
2	Negligible penalty	Negligible penalty
For -900ER: One or both may be missing.		
2	Negligible penalty	120 lb
For -900ER: One or both may be missing.		
2	Negligible penalty	55 kg


OUTER DOOR
CENTER DOOR
(INNER DOOR IS HINGED
TO CENTER DOOR)
INNER
DOOR

32-10-03 Main Gear Doors - Center and Inner

For -300/-400/-500:

NOTE: When the right main gear inner door is removed, apply grease to the fuel crossfeed valve actuator shaft per AMM 28-22-21/201. Remove and reapply grease daily until the door is reinstalled.

Performance limited weights are reduced by the following for each combination:

Number Installed	Takeoff & Landing	Enroute Climb

For -100/-200/-300/-400/-500:
One or both combinations of center and inner doors may be missing.

4	175 lb	350 lb

For -100/-200/-300/-400/-500:
One or both combinations of center and inner doors may be missing.

4	80 kg	160 kg

For -600/-700/-800/-900:
One or both combinations of center and inner doors may be missing.

4	155 lb	309 lb

For -600/-700/-800/-900:
One or both combinations of center and inner doors may be missing.

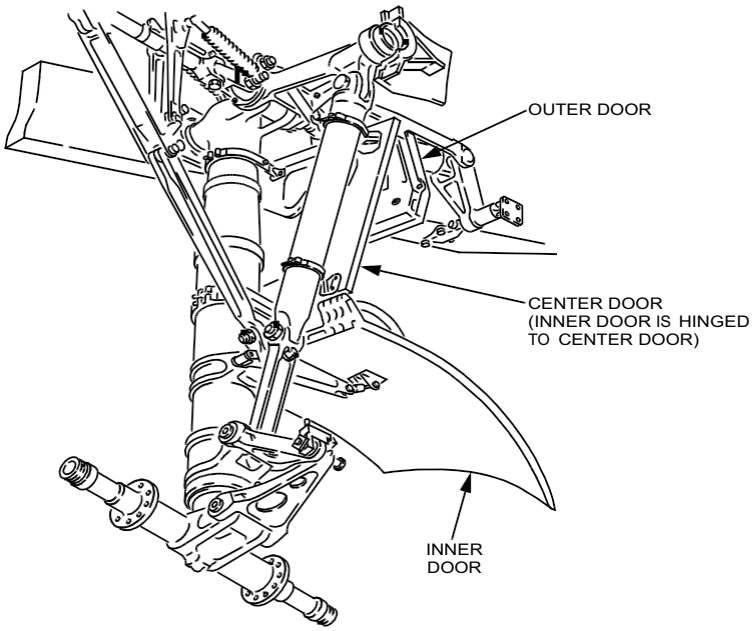
4	70 kg	140 kg

For -900ER:
One or both combinations of center and inner doors may be missing.

4	210 lb	400 lb

For -900ER:
One or both combinations of center and inner doors may be missing.

4	96 kg	182 kg


OUTER DOOR
CENTER DOOR
(INNER DOOR IS HINGED
TO CENTER DOOR)
INNER
DOOR

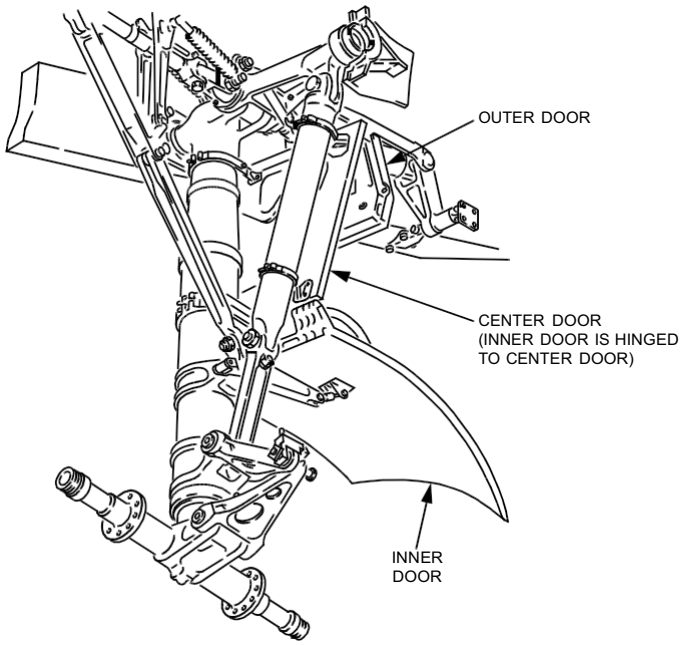
32-10-04 Main Gear Doors - Inner

For -300/-400/-500:

NOTE: When the right main gear inner door is removed, apply grease to the fuel crossfeed valve actuator shaft per AMM 28-22-21/201. Remove and reapply grease daily until the door is reinstalled.

Performance limited weights are reduced by the following for each missing item:

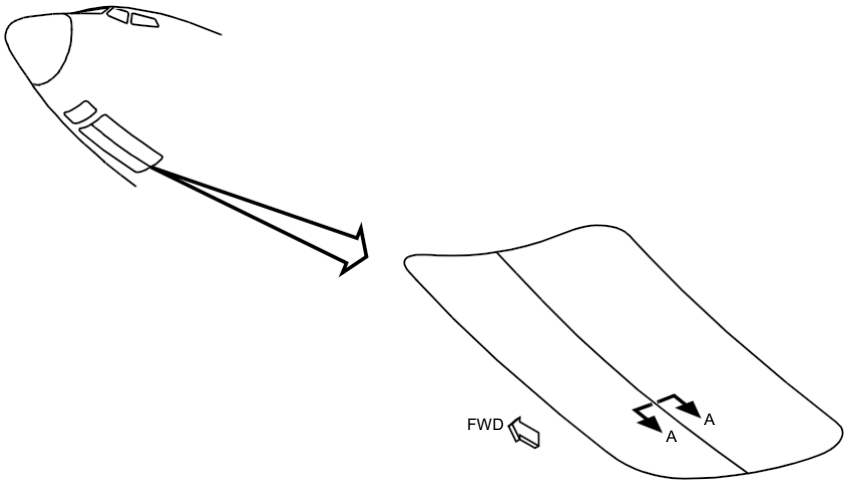
Number Installed	Takeoff & Landing	Enroute Climb
For -100/-200/-300/-400/-500: One or both may be missing.		
2	100 lb	200 lb
For -100/-200/-300/-400/-500: One or both may be missing.		
2	45 kg	91 kg
For -600/-700/-800/-900: One or both may be missing.		
2	Negligible penalty	130 lb
For -600/-700/-800/-900: One or both may be missing.		
2	Negligible penalty	58 kg
For -900ER: One or both may be missing.		
2	Negligible penalty	170 lb
For -900ER: One or both may be missing.		
2	Negligible penalty	77 kg

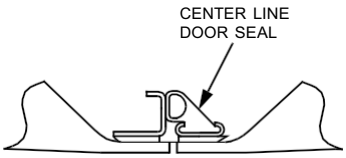

OUTER DOOR
CENTER DOOR
(INNER DOOR IS HINGED
TO CENTER DOOR)
INNER
DOOR

32-10-05 Nose Gear Door Seal

For -600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
Center line seal may be missing.		
1	Negligible penalty	Negligible penalty



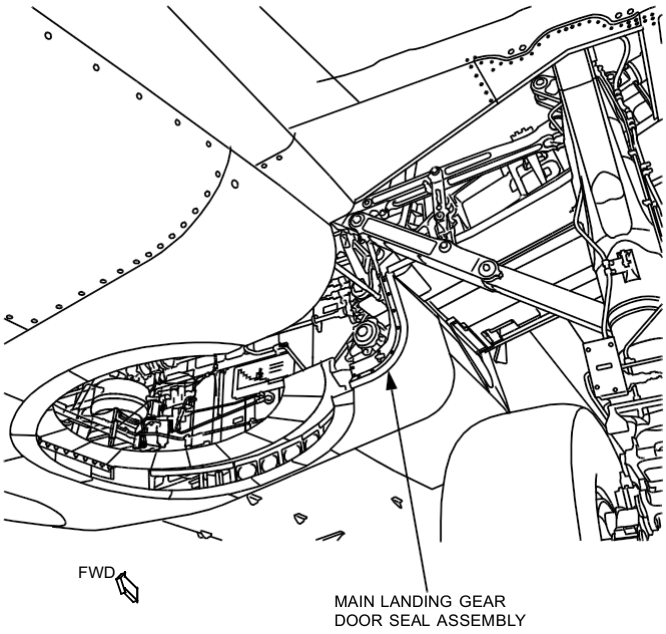


VIEW A-A

32-10-06 MLG Door Seal Assembly on Wheel Well

For -600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following:

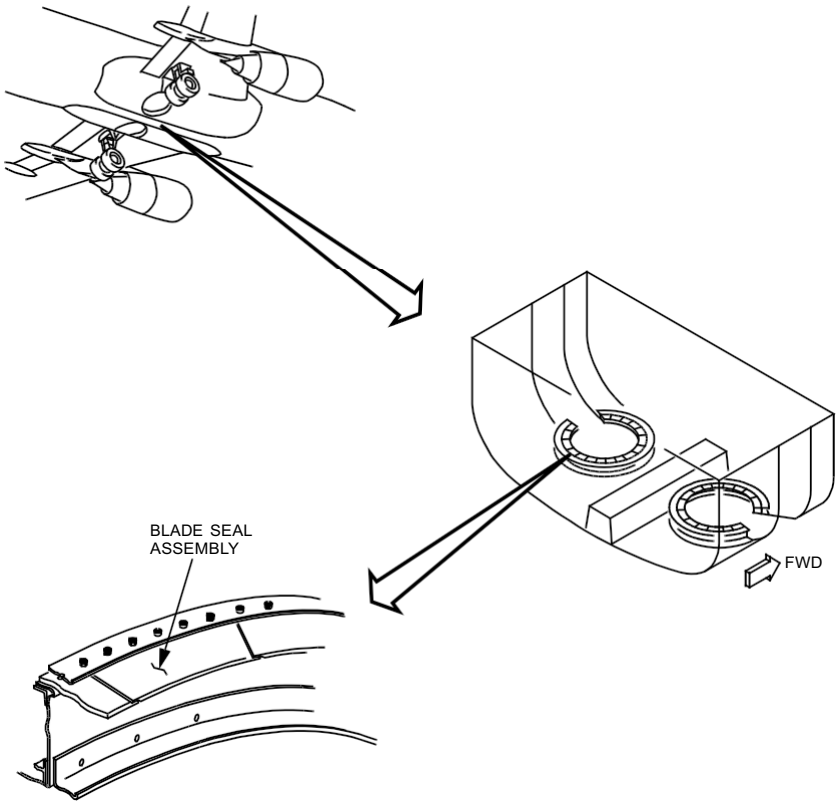
Number Installed	Takeoff & Landing	Enroute Climb
For -600/-700/-800/-900: Any combination of seals and retainers may be missing.		
4	270 lb	541 lb
For -600/-700/-800/-900: Any combination of seals and retainers may be missing.		
4	122 kg	245 kg
For -900ER: Any combination of seals and retainers may be missing.		
4	360 lb	710 lb
For -900ER: Any combination of seals and retainers may be missing.		
4	164 kg	320 kg



32-10-07 Main Gear Wheel Well Blade Seal Assemblies

For -600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following for each missing seal segment:

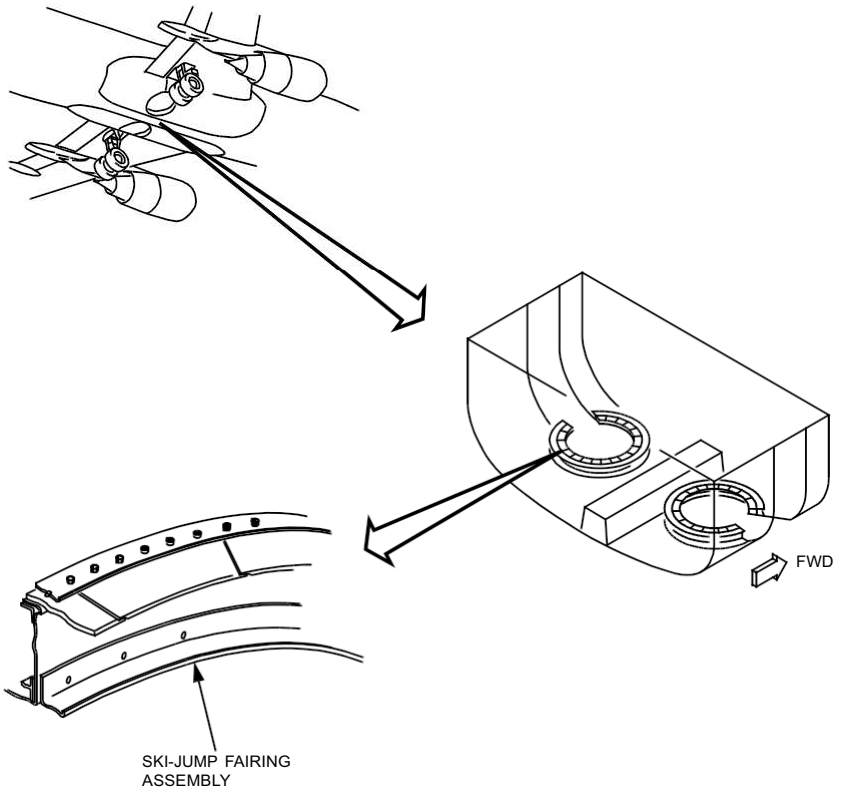
Number Installed	Takeoff & Landing	Enroute Climb
Any number of seals may be missing.		
32	Negligible penalty	Negligible penalty



32-10-08 Main Gear Wheel Well Ski Jump Fairings

For -600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following for each missing fairing segment:

Number Installed	Takeoff & Landing	Enroute Climb
Any number of fairing segments may be missing.		
16	Negligible penalty	Negligible penalty



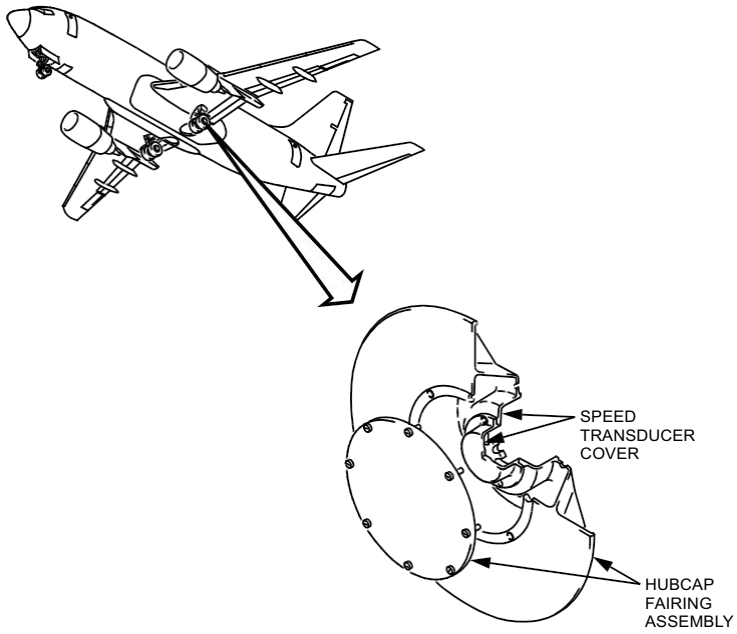
32-41-01 Main Gear Outboard Wheel Speed Transducer Cover and Hubcap Fairing Assembly

For -100/-200/-300/-400/-500:

NOTE: For a speed transducer cover missing, dispatch using this item. With damaged hubcap fairing and a speed transducer cover installed or replaced with an inboard wheel speed transducer cover, dispatch under 3-32-41-02.

Antiskid inoperative performance limited weights are reduced by the following for each missing item:

Number Installed	Takeoff & Landing	Enroute Climb
One or both may be missing. Associated outboard wheel antiskid will be inoperative. Outboard antiskid channel must be deactivated (refer to DDG Item 2-32-02). Antiskid inoperative performance and procedures must be used.		
2	75 lb	150 lb
One or both may be missing. Associated outboard wheel antiskid will be inoperative. Outboard antiskid channel must be deactivated (refer to DDG Item 2-32-02). Antiskid inoperative performance and procedures must be used.		
2	34 kg	68 kg



SPEED TRANSDUCER COVER
AND HUBCAP FAIRING ASSEMBLY

32-41-02 Main Gear Outboard Wheel Hubcap Fairing Assembly

For -100/-200/-300/-400/-500:

NOTE 1: Respective wheel speed transducer covers must be installed. The outboard wheel speed transducer cover may be bonded to the outboard wheel hubcap fairing assembly, and in that case, the outboard wheel speed transducer cover could be salvaged from a damaged assembly or replaced with an interchangeable inboard wheel speed transducer cover.

NOTE 2: With damaged hubcap fairing and a speed transducer cover installed or replaced with an inboard wheel speed transducer cover, dispatch using this item. For a speed transducer cover missing, dispatch using item 3-32-41-01.

For -600/-700/-800/-900/-900ER:

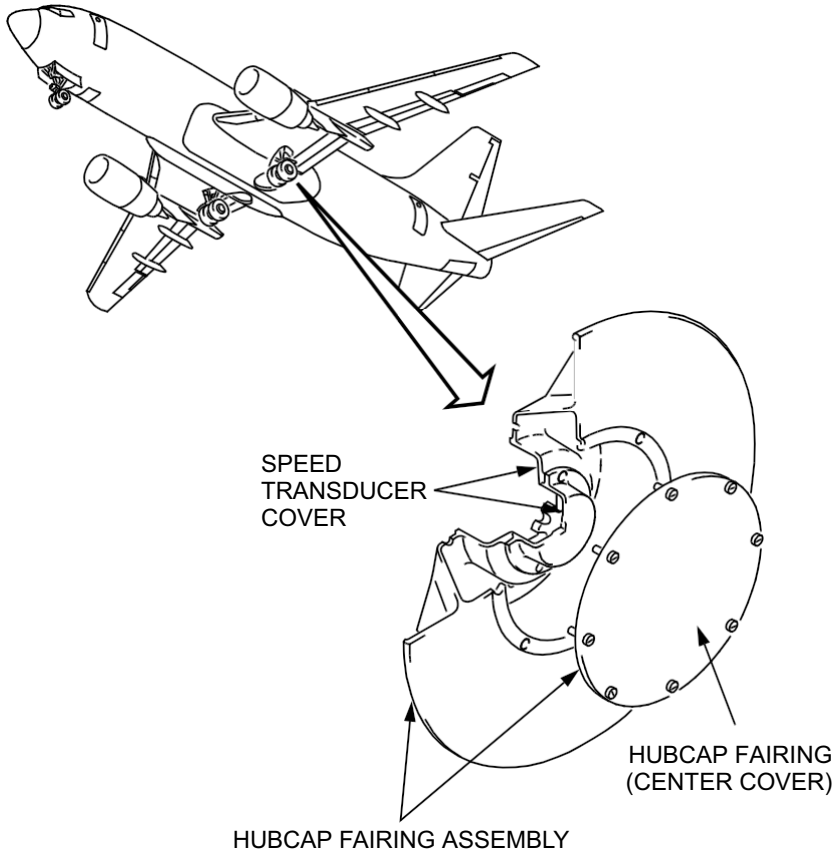
NOTE 3: Outboard antiskid will be inoperative when respective wheel speed transducer is uncovered (hubcap assembly missing.) Outboard antiskid channel must be deactivated (refer to DDG Item 2-32-02). Antiskid inoperative performance and procedures must be used. The outboard wheel speed transducer cover is bonded to the outboard wheel hubcap fairing assembly. However, the outboard wheel speed transducer cover could be salvaged from a damaged assembly. If available, an inboard hubcap assembly may be used in place of the outboard wheel hubcap. Performance penalties for missing outboard hubcap assembly would still apply. However, antiskid would continue to be operative.

Performance limited weights are reduced by the following for each missing item:

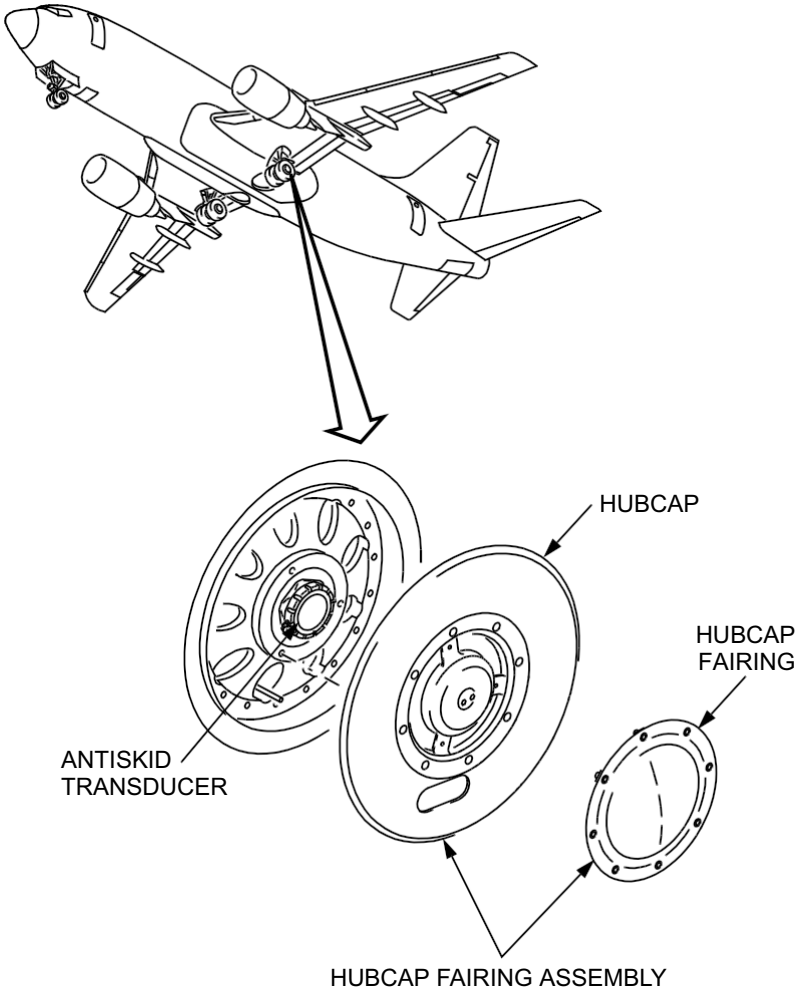
Number Installed	Takeoff & Landing	Enroute Climb
For -100/-200/-300/-400/-500: One or both may be missing.		
2	75 lb	150 lb
For -100/-200/-300/-400/-500: One or both may be missing.		
2	34 kg	68 kg
For -600/-700/-800/-900: One or both may be missing.		
2	Negligible penalty	115 lb
For -600/-700/-800/-900: One or both may be missing.		
2	Negligible penalty	52 kg

Number Installed	Takeoff & Landing	Enroute Climb
For -900ER: One or both may be missing.		
2	Negligible penalty	150 lb
For -900ER: One or both may be missing.		
2	Negligible penalty	67 kg

For-100/-200/-300/-400/-500:



For -600/-700/-800/-900/-900ER:

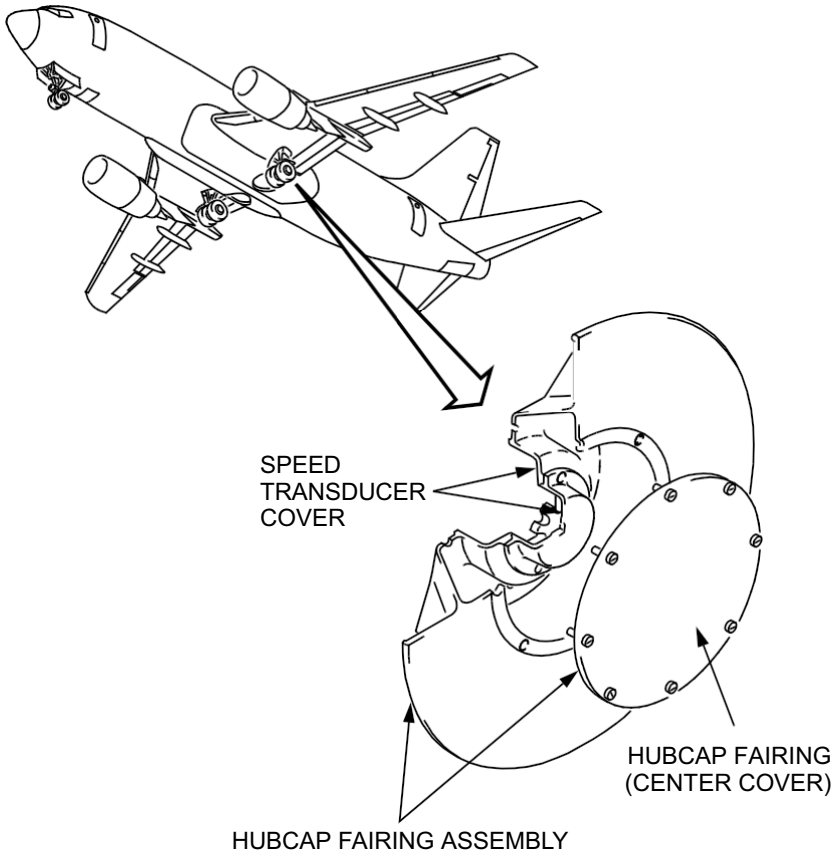


32-41-03 Main Gear Outboard Wheel Hubcap Center Cover Assemblies

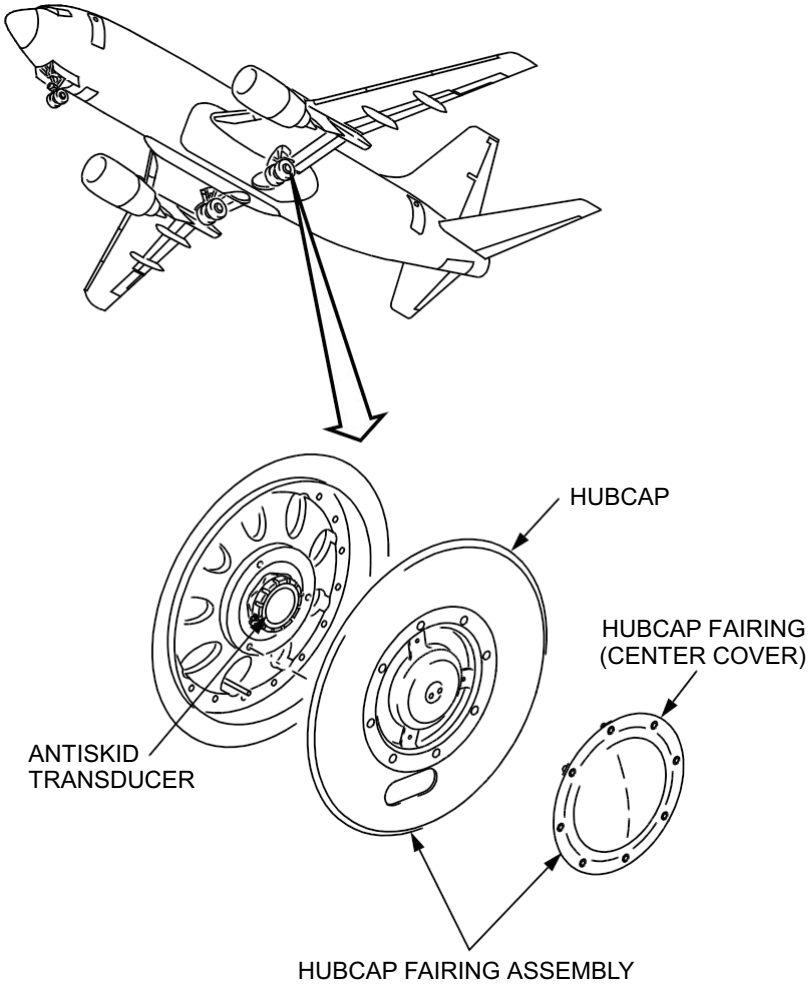
Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
For -100/-200/-300/-400/-500: One or both may be missing. Applicable to 40X14-16, C40X18-17 and H40X14.5-19 Wheels.		
2	75 lb	150 lb
For -100/-200/-300/-400/-500: One or both may be missing. Applicable to 40X14-16, C40X18-17 and H40X14.5-19 Wheels.		
2	34 kg	68 kg
For -600/-700/-800/-900/-900ER: One or both may be missing. Performance penalty is for each missing item.		
2	Negligible penalty	Negligible penalty

For-100/-200/-300/-400/-500:



For -600/-700/-800/-900/-900ER:



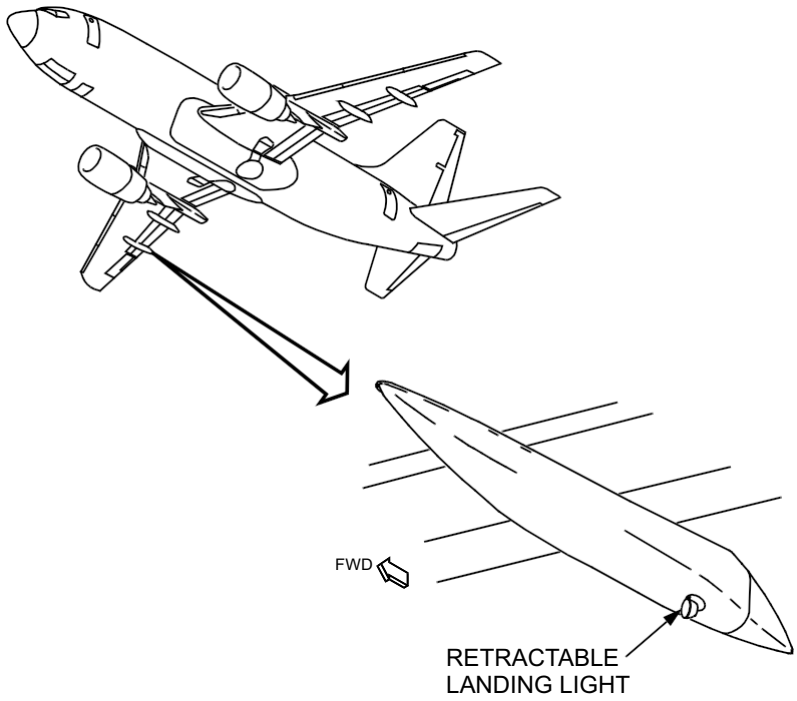
33-40-01 Retractable Landing Light

NOTE: Light housing must remain intact. The retractable landing light(s) may be inoperative in the extended position (Reference MMEL Item 33-8). Fuel burn increase is 1.0 percent for each extended light.

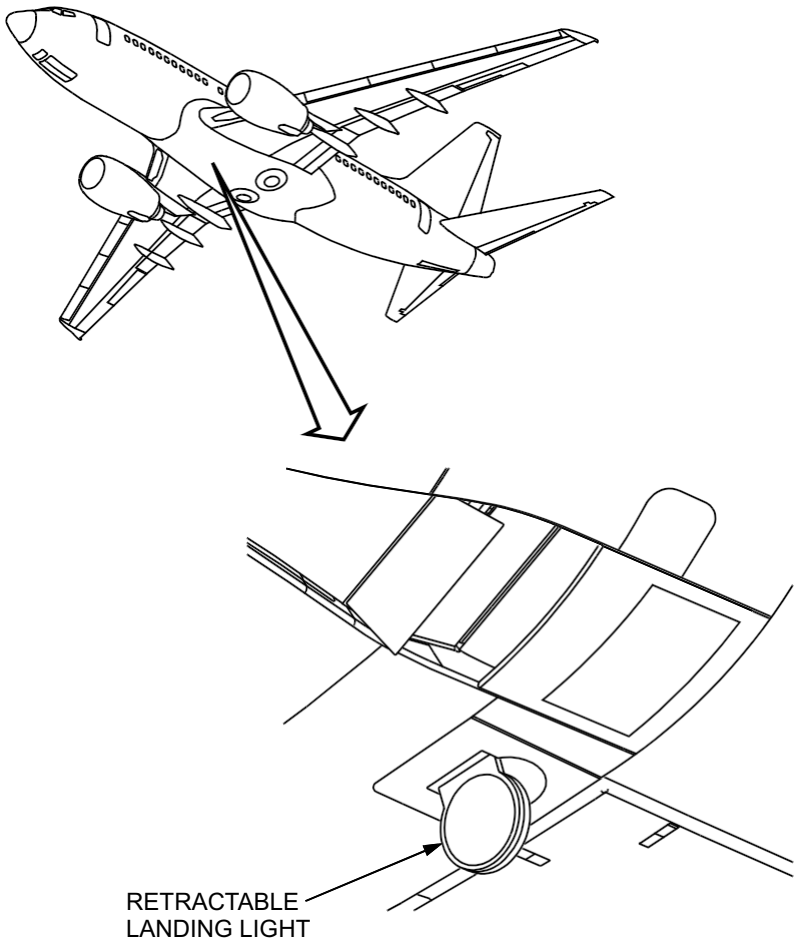
Performance limited weights are reduced by the following for each missing item.

Number Installed	Takeoff & Landing	Enroute Climb
One or both lenses or bulbs may be missing.		
2	Negligible penalty	Negligible penalty

For -100/-200/-300/-400/-500:



For -600/-700/-800/-900/-900ER:

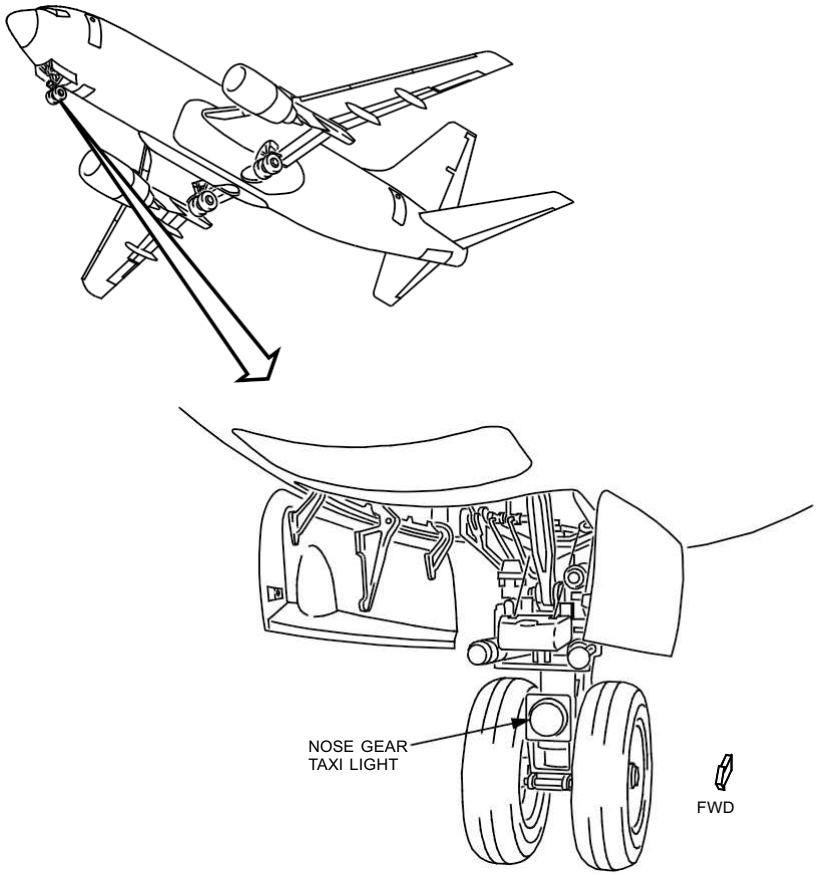


33-40-02 Nose Gear Taxi Light

NOTE: For nose gear taxi light inoperative, refer to MMEL Item 33-9.

Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
May be missing with no penalty.		
1	No penalty	No penalty

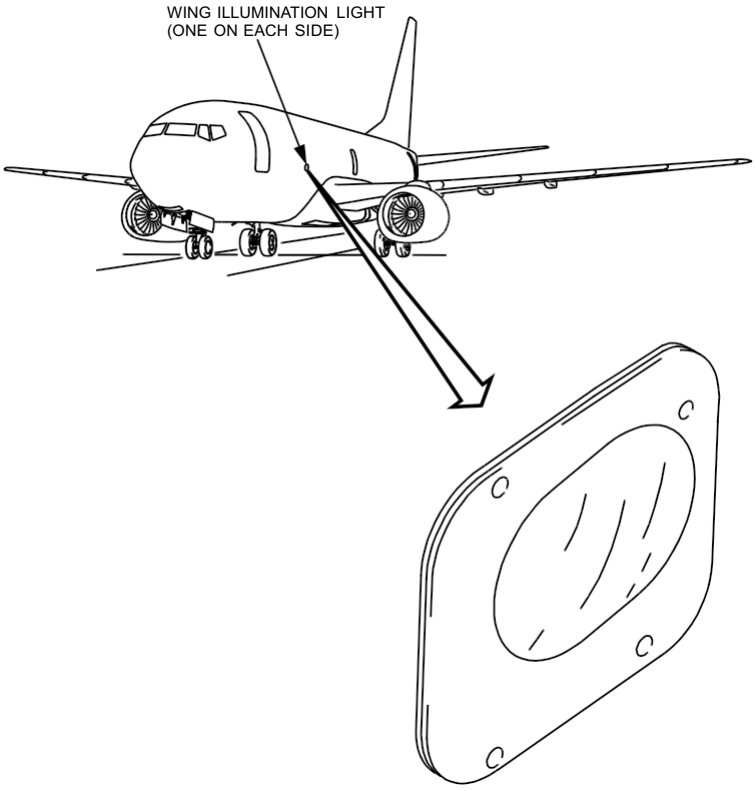


33-40-03 Wing Illumination Light Covers

NOTE: Refer to MMEL Item 33-07 for inoperative wing illumination lights.

Performance limited weights are reduced by the following for each missing item:

Number Installed	Takeoff & Landing	Enroute Climb
Any number or combination of items 33-40-3, -4 may be missing.		
2	Negligible penalty	Negligible penalty



WING ILLUMINATION
LIGHT COVER

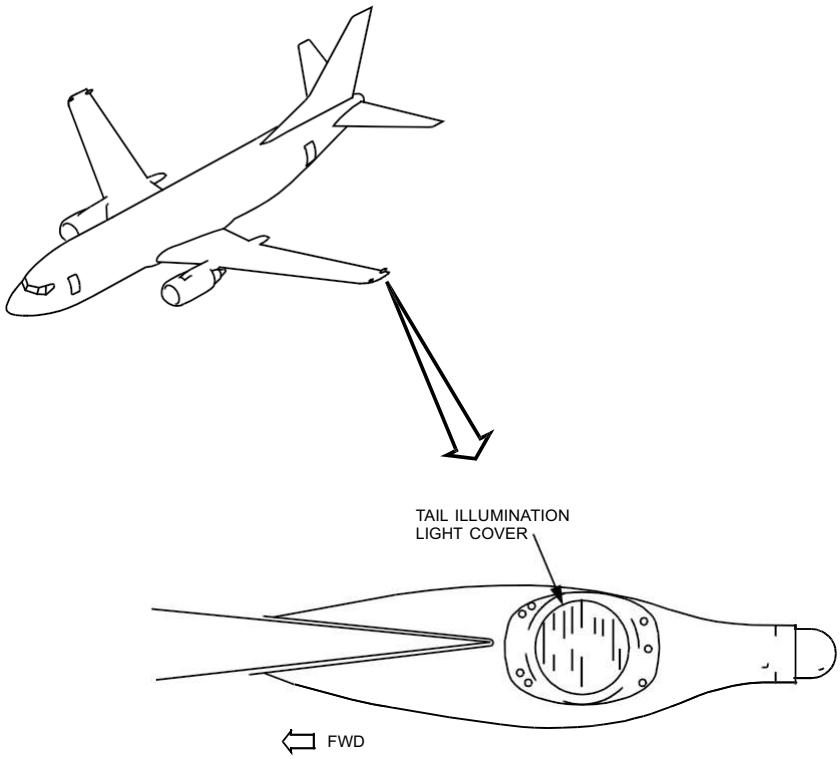
33-40-04 Tail Illumination Light Covers (Logo Lights)

For -100/-200/-300/-400/-500:

NOTE: Refer to MMEL Item 33-20 for inoperative logo lights.

Performance limited weights are reduced by the following for each missing item:

Number Installed	Takeoff & Landing	Enroute Climb
Any number or combination of items 33-40-03, -04 may be missing.		
2	Negligible penalty	Negligible penalty



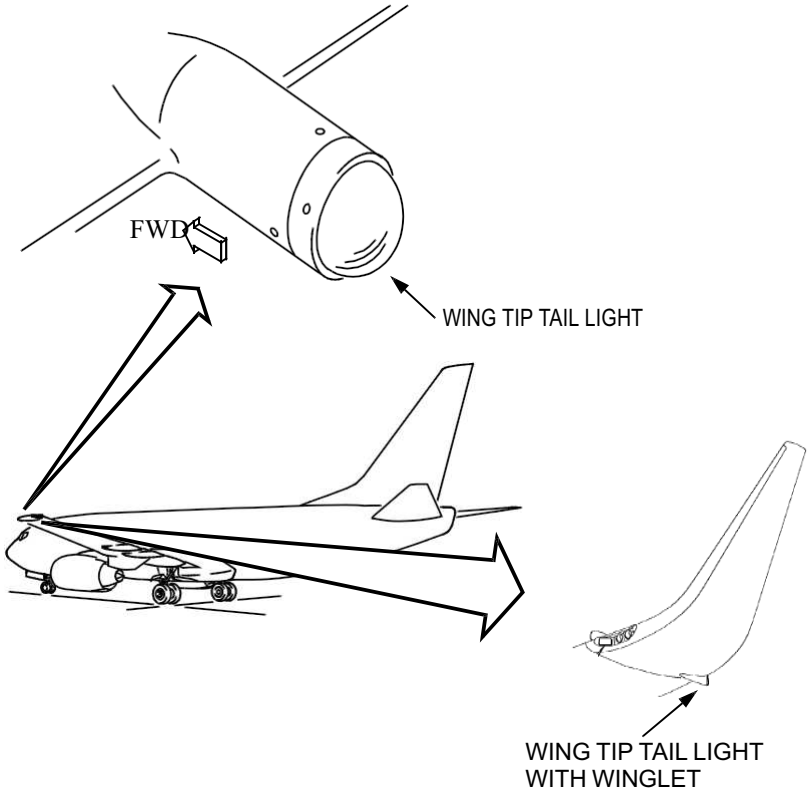
33-43-01 Wing Tip Tail Light Lenses

NOTE: Refer to MMEL item 33-11 for inoperative wing tip position lights

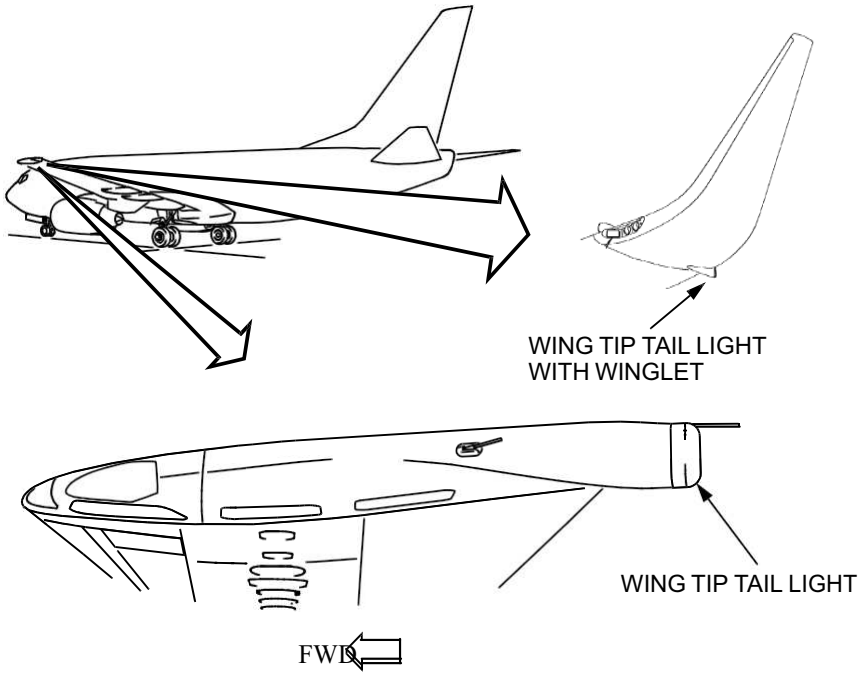
Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
Any number or combination of items 33-43-01, -02, -03 may be missing.		
2	No penalty	No penalty

For-100/-200/-300/-400/-500:



For -600/-700/-800/-900/-900ER:



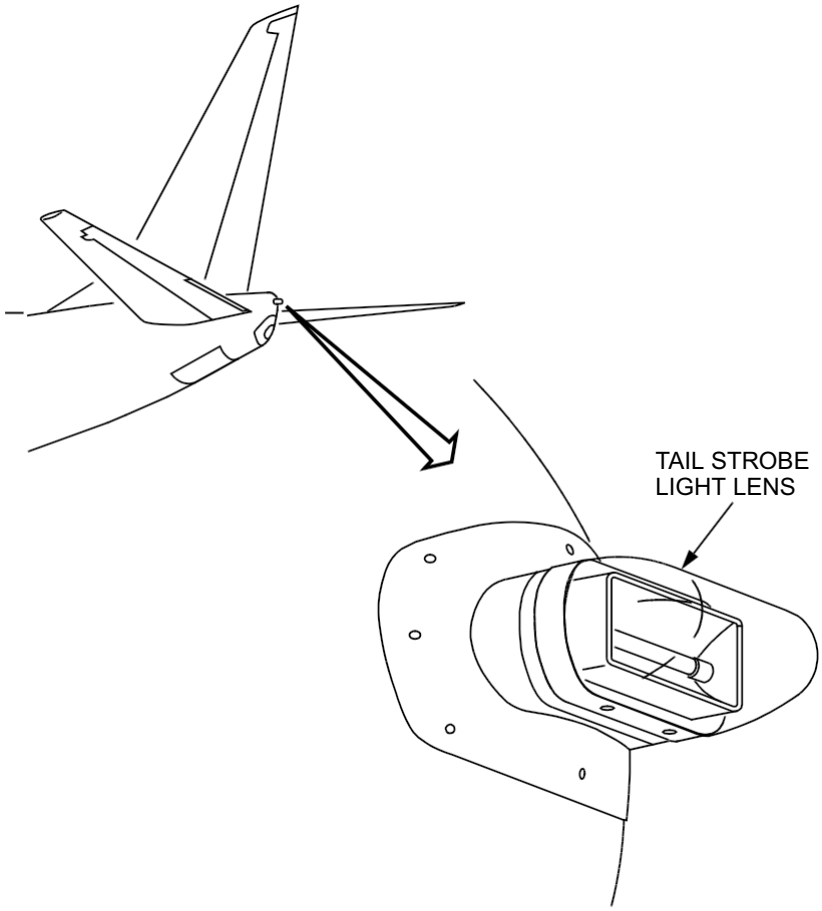
33-43-02 Tail Strobe Light Lens

NOTE 1: When the Tail Strobe Light Lens is missing, the flash tube (lamp), if intact, may be damaged during subsequent flights from air forces.

NOTE 2: Refer to MMEL item 33-05 for inoperative strobe lights.

Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
Any number or combination of items 33-43-01, -02, -03 may be missing.		
1	No penalty	No penalty



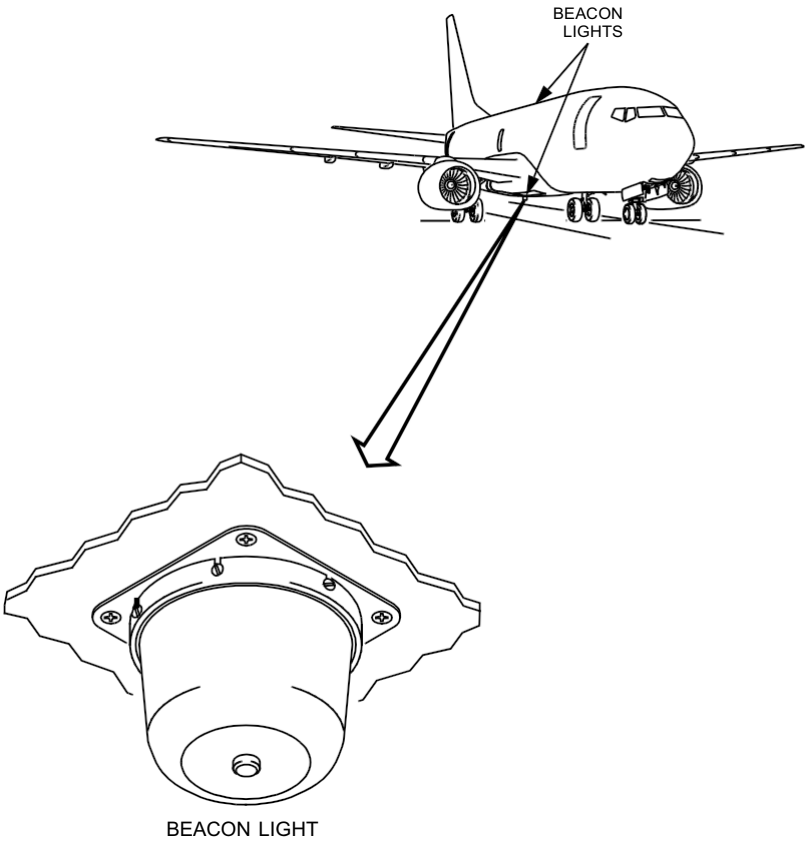
33-43-03 Beacon Lights (Upper and Lower)

NOTE 1: When the Beacon Light Lens is missing, the flash tube (lamp), if intact, may be damaged during subsequent flights from air forces.

NOTE 2: Refer to MMEL item 33-06 for inoperative anti-collision beacon lights.

Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
Any number or combination of items 33-43-01, -02, -03 may be missing.		
2	No penalty	No penalty

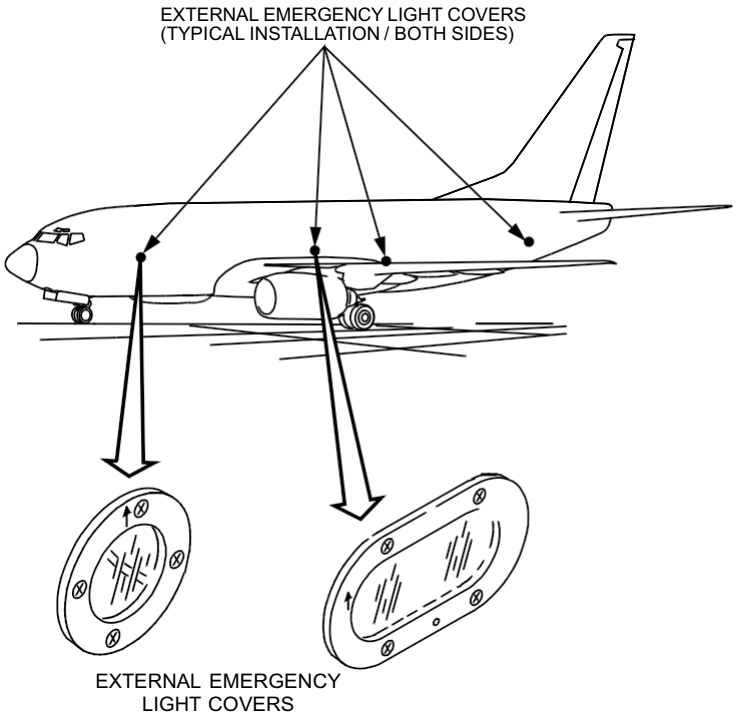


33-51-01 External Emergency Light Covers

NOTE: Refer to MMEL item 33-14 for inoperative exterior emergency lights.

Performance limited weights are reduced by the following for each missing item:

Number Installed	Takeoff & Landing	Enroute Climb
For -100/-200/-300/-500: Any number may be missing.		
8	Negligible penalty	Negligible penalty
For -400: Any number may be missing.		
10	Negligible penalty	Negligible penalty
For -600/-700/-800/-900/-900ER: Any number may be missing.		
6	Negligible penalty	Negligible penalty

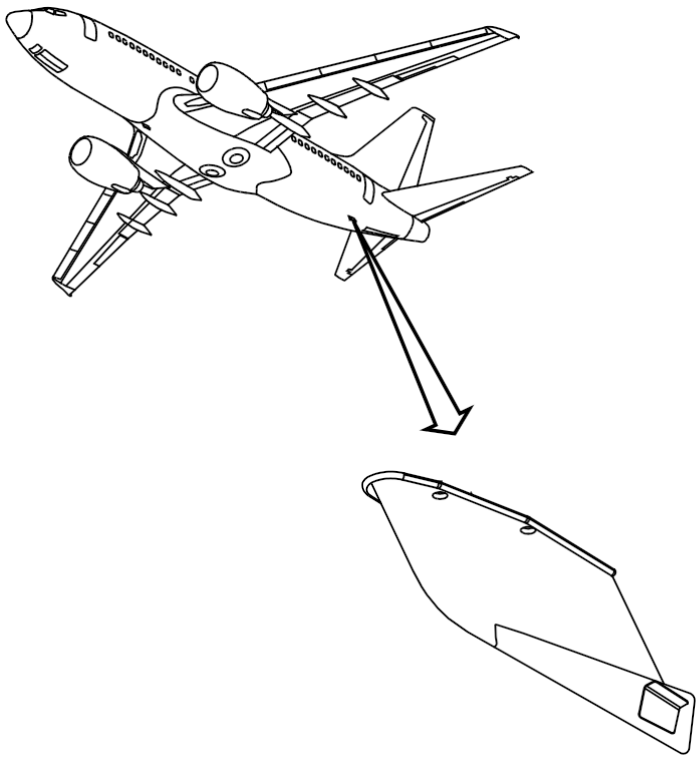


38-17-01 Aft Gray Water Drain Mast

NOTE: MMEL item 30-19, Drain Mast Heater, may also be affected.

Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
May be missing.		
1	No penalty	No penalty



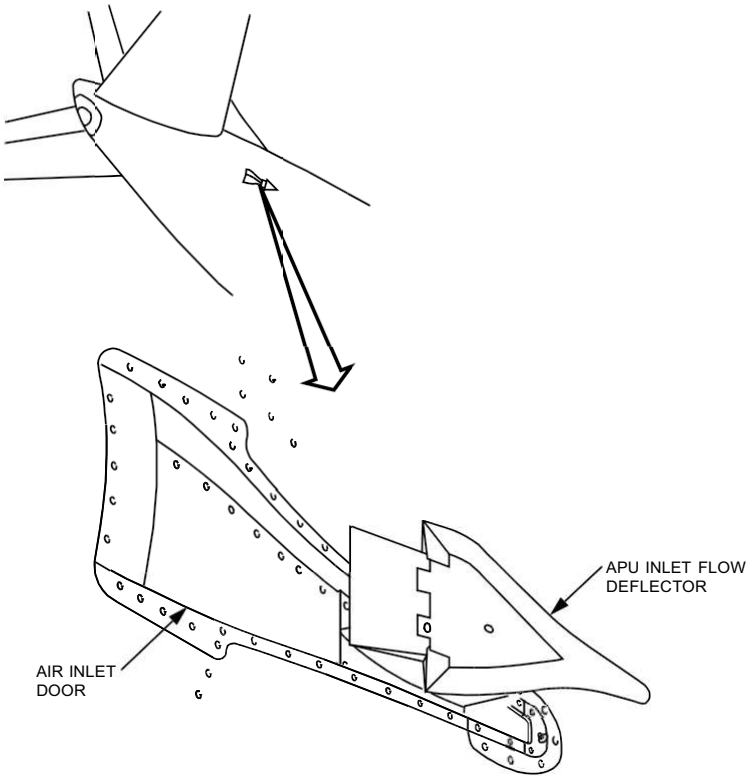
AFT GRAY WATER
DRAIN MAST

49-15-01 APU Inlet Flow Deflector

NOTE: Due to degraded inflight starting and operating capability of the APU at high altitudes, operations predicated on the use of the APU should not be conducted above 25,000 feet.

Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
For -300/-400/-500/-600/-700/-800/-900/-900ER: May be missing.		
1	No penalty	No penalty



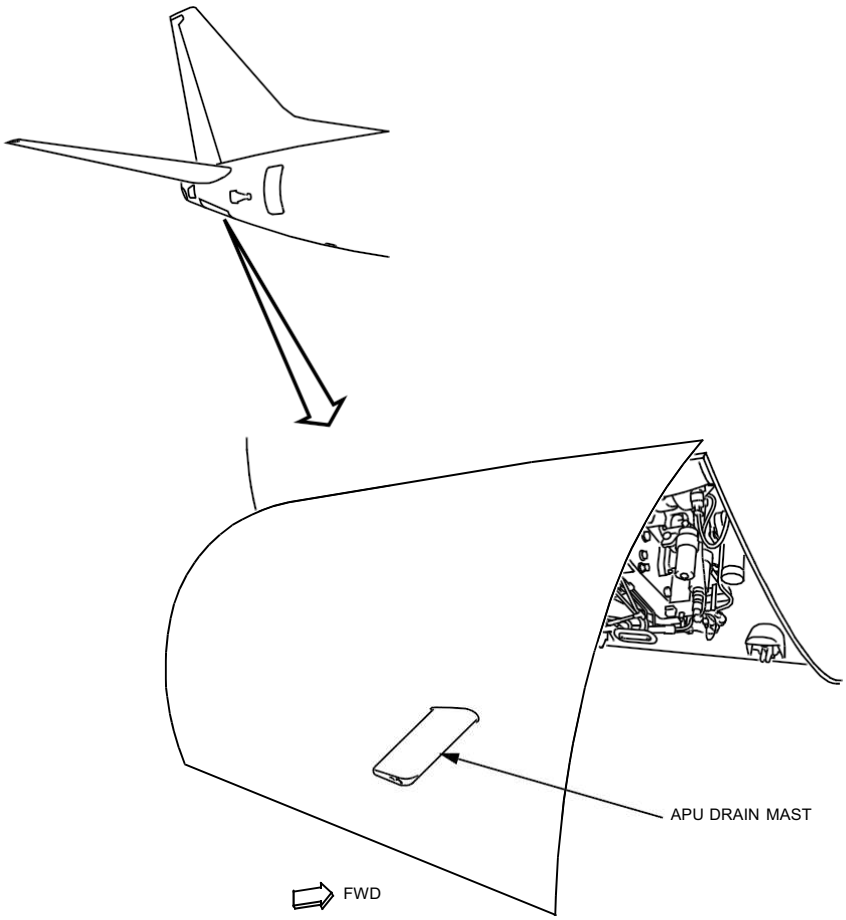
49-16-01 APU Drain Mast

For -100/-200/-300/-400/-500:

NOTE: The APU is to be placarded inoperative (dispatch using MMEL Item 49-01).

Performance limited weights are reduced by the following:

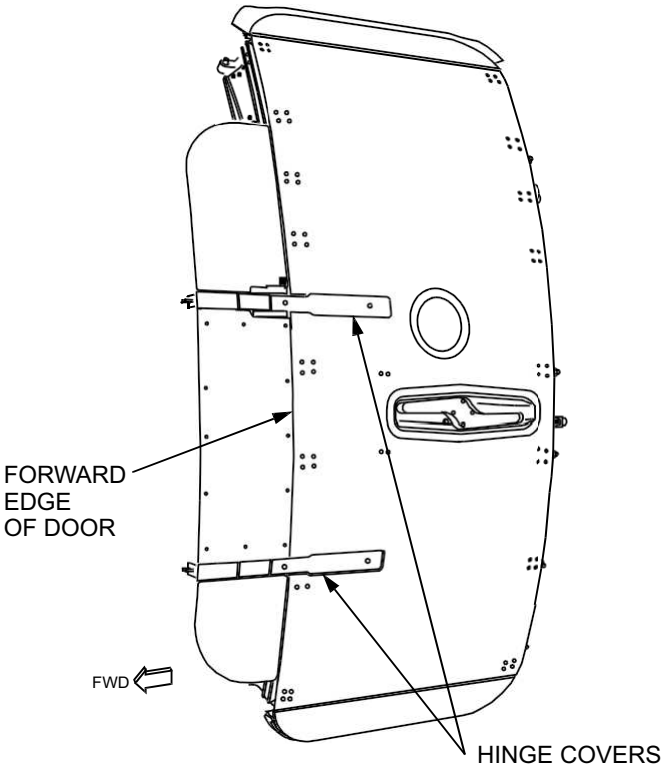
Number Installed	Takeoff & Landing	Enroute Climb
May be missing.		
1	No penalty	No penalty



52-10-01 Entry Door Hinge Covers

Performance limited weights are reduced by the following for each missing item:

Number Installed	Takeoff & Landing	Enroute Climb
Any number may be missing.		
4	Negligible penalty	Negligible penalty

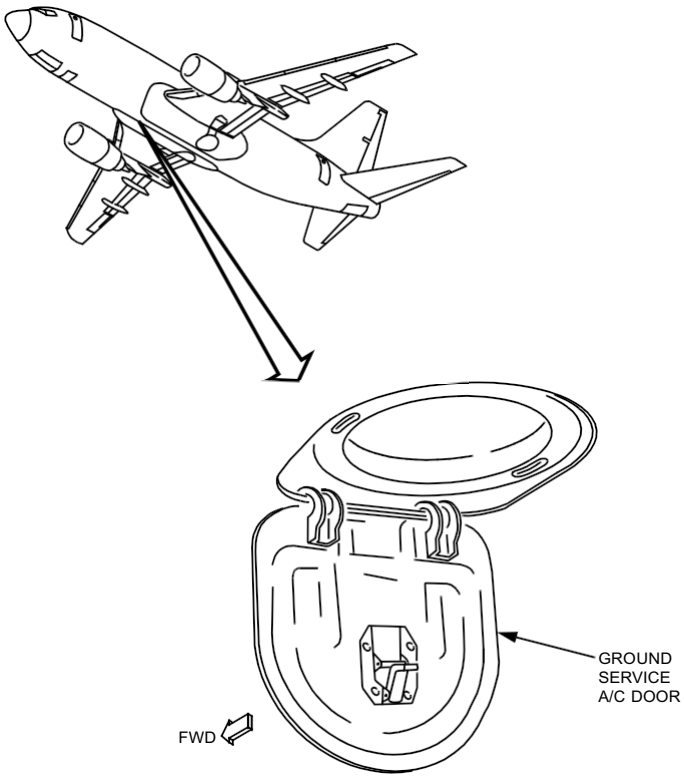


ENTRY DOOR
(LEFT SIDE)

52-40-01 Ground Service A/C Door

For -100/-200/-300/-400/-500:
Performance limited weights are reduced by the following:

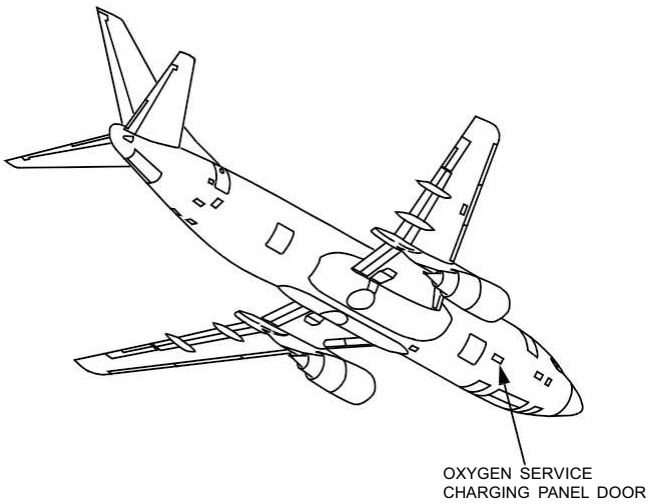
Number Installed	Takeoff & Landing	Enroute Climb
Any number or combination of items 52-40-01, -02, -03, -04, -05 may be missing.		
1	150 lb	250 lb
Any number or combination of items 52-40-01, -02, -03, -04, -05 may be missing.		
1	68 kg	113 kg



52-40-02 Oxygen Service Charging Panel Door

For -100/-200/-300/-400/-500 (Optional):
Performance limited weights are reduced by the following:

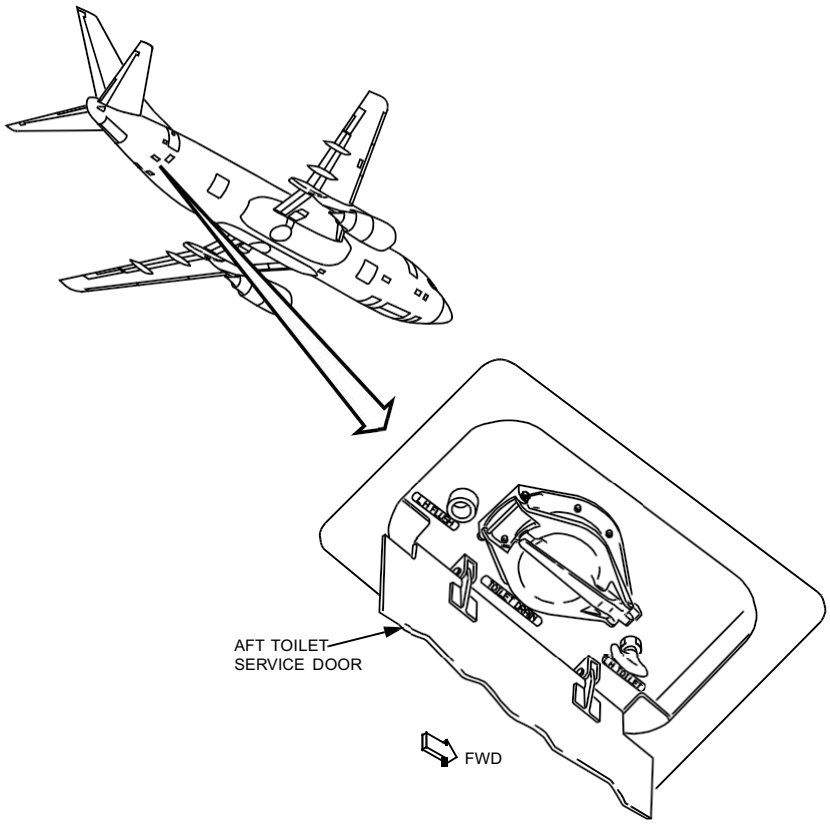
Number Installed	Takeoff & Landing	Enroute Climb
Any number or combination of items 52-40-01, -02, -03, -04, -05 may be missing.		
1	150 lb	250 lb
Any number or combination of items 52-40-01, -02, -03, -04, -05 may be missing.		
1	68 kg	113 kg



52-40-03 Aft Toilet Service Door

For -100/-200/-300/-400/-500:
Performance limited weights are reduced by the following:

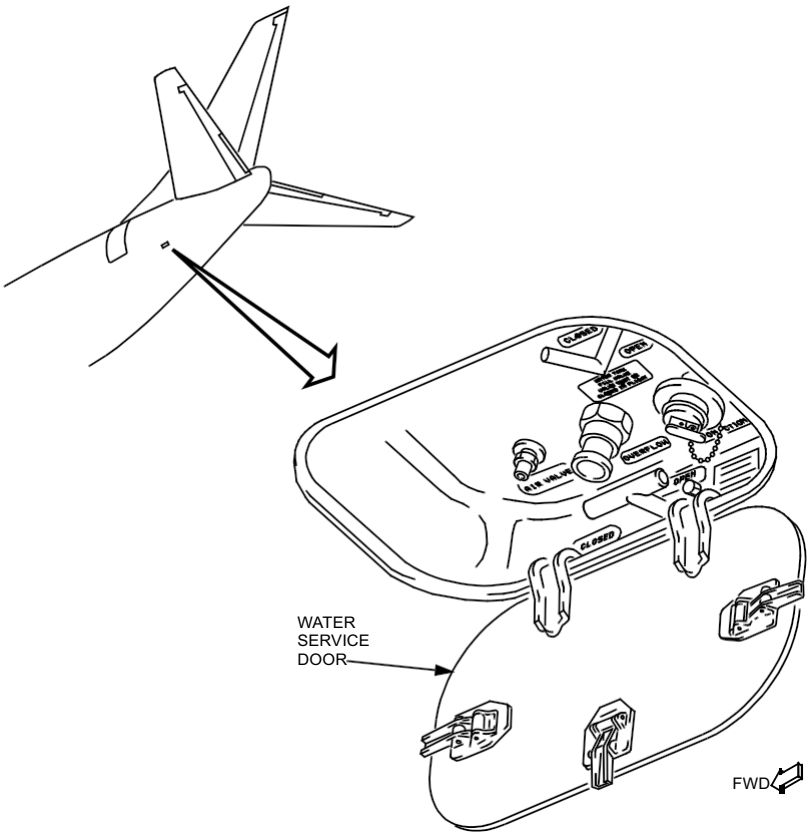
Number Installed	Takeoff & Landing	Enroute Climb
Any number or combination of items 52-40-01, -02, -03, -04, -05 may be missing.		
1	150 lb	250 lb
Any number or combination of items 52-40-01, -02, -03, -04, -05 may be missing.		
1	68 kg	113 kg



52-40-04 Water Service Door

For -100/-200/-300/-400/-500:
Performance limited weights are reduced by the following:

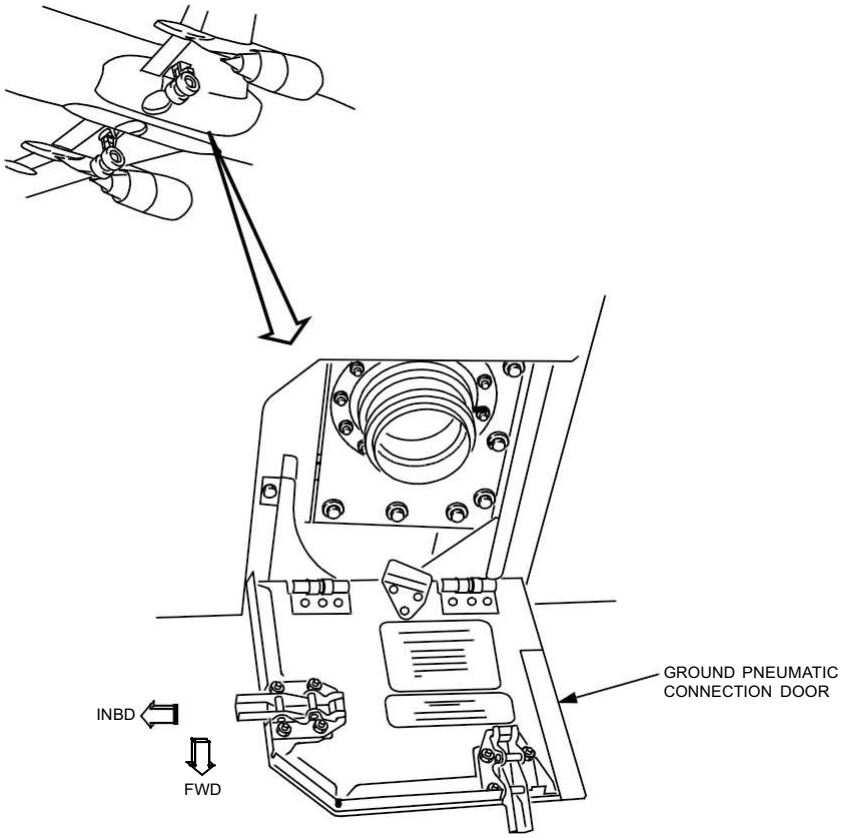
Number Installed	Takeoff & Landing	Enroute Climb
Any number or combination of items 52-40-01, -02, -03, -04, -05 may be missing.		
1	150 lb	250 lb
Any number or combination of items 52-40-01, -02, -03, -04, -05 may be missing.		
1	68 kg	113 kg



52-40-05 Ground Pneumatic Connection Door

For -100/-200/-300/-400/-500:
Performance limited weights are reduced by the following:

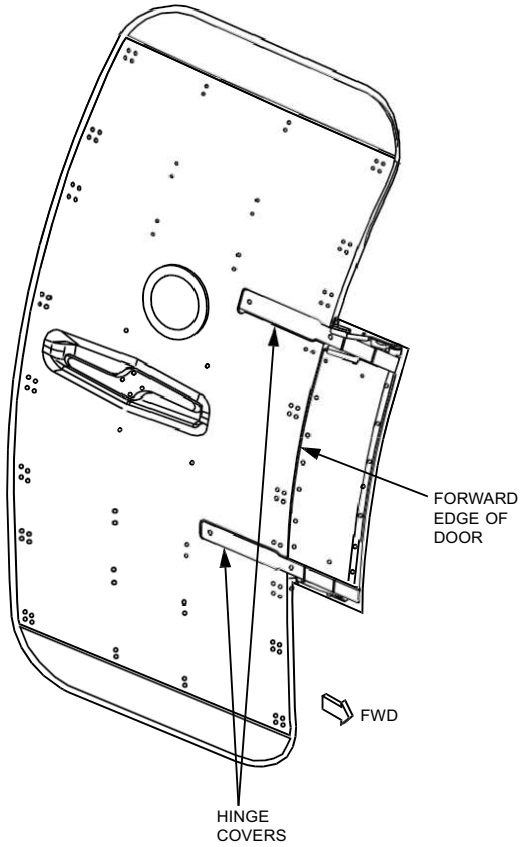
Number Installed	Takeoff & Landing	Enroute Climb
Any number or combination of items 52-40-01, -02, -03, -04, -05 may be missing.		
1	150 lb	250 lb
Any number or combination of items 52-40-01, -02, -03, -04, -05 may be missing.		
1	68 kg	113 kg



52-40-06 Galley Door Hinge Covers

Performance limited weights are reduced by the following for each missing item:

Number Installed	Takeoff & Landing	Enroute Climb
Any number or combination of items 52-40-06 and 52-40-07 may be missing.		
4	Negligible penalty	Negligible penalty

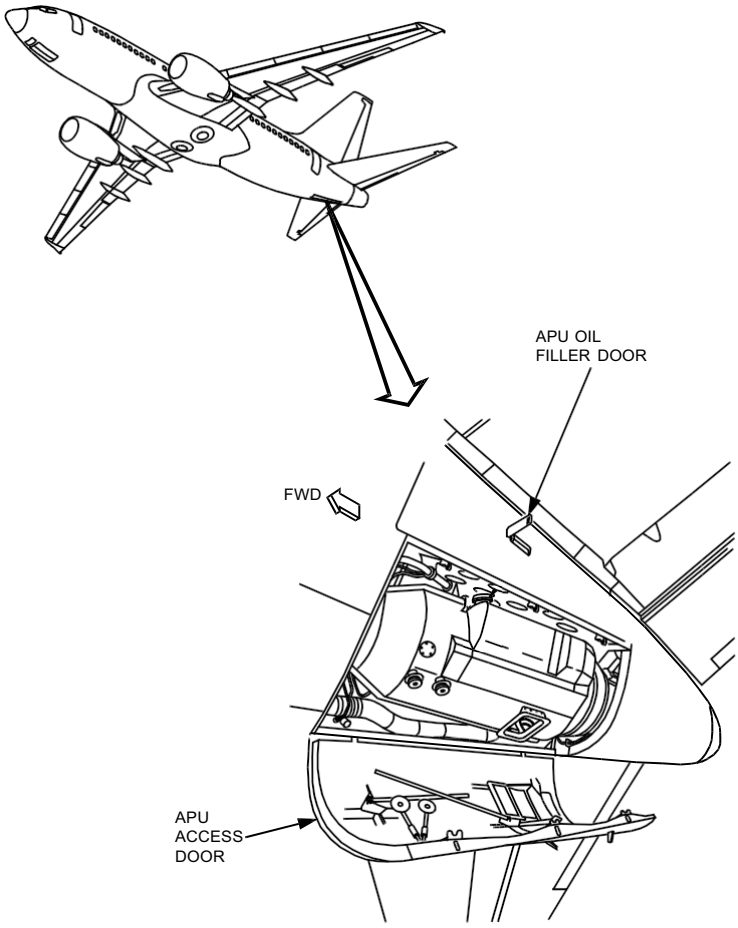


GALLEY SERVICE DOOR
(RIGHT SIDE)

52-40-07 APU Oil Filler Door

For -100/-200/-300/-400/-500:
Performance limited weights are reduced by the following for each missing item:

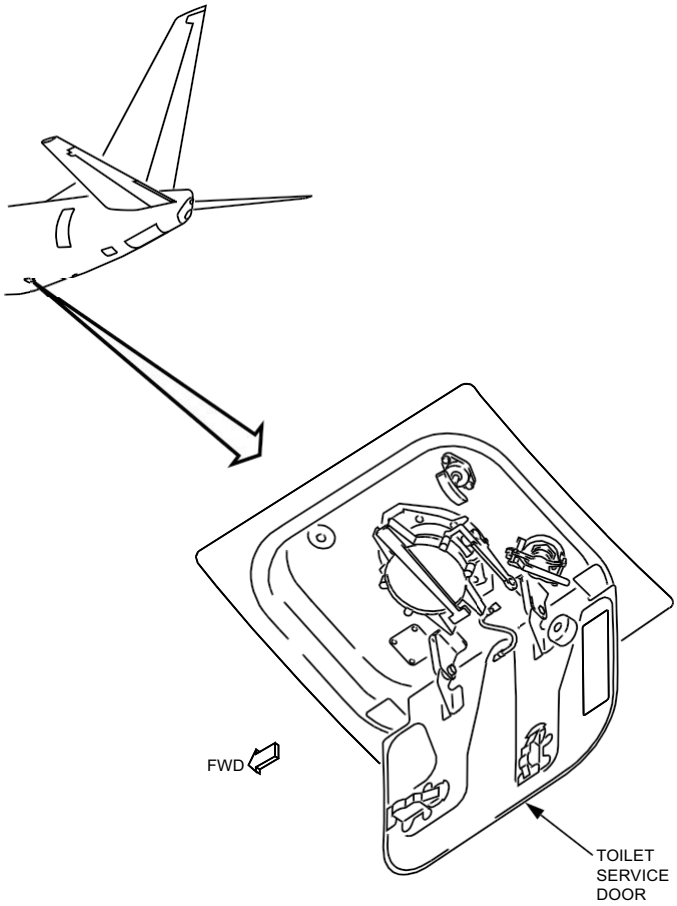
Number Installed	Takeoff & Landing	Enroute Climb
Any number or combination of items 52-40-06 and 52-40-07 may be missing.		
1	Negligible penalty	Negligible penalty



52-40-08 Toilet Service Door

For -600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following for each missing item:

Number Installed	Takeoff & Landing	Enroute Climb
Any number or combination of items 52-40-08 and -09 may be missing.		
1	Negligible penalty	Negligible penalty



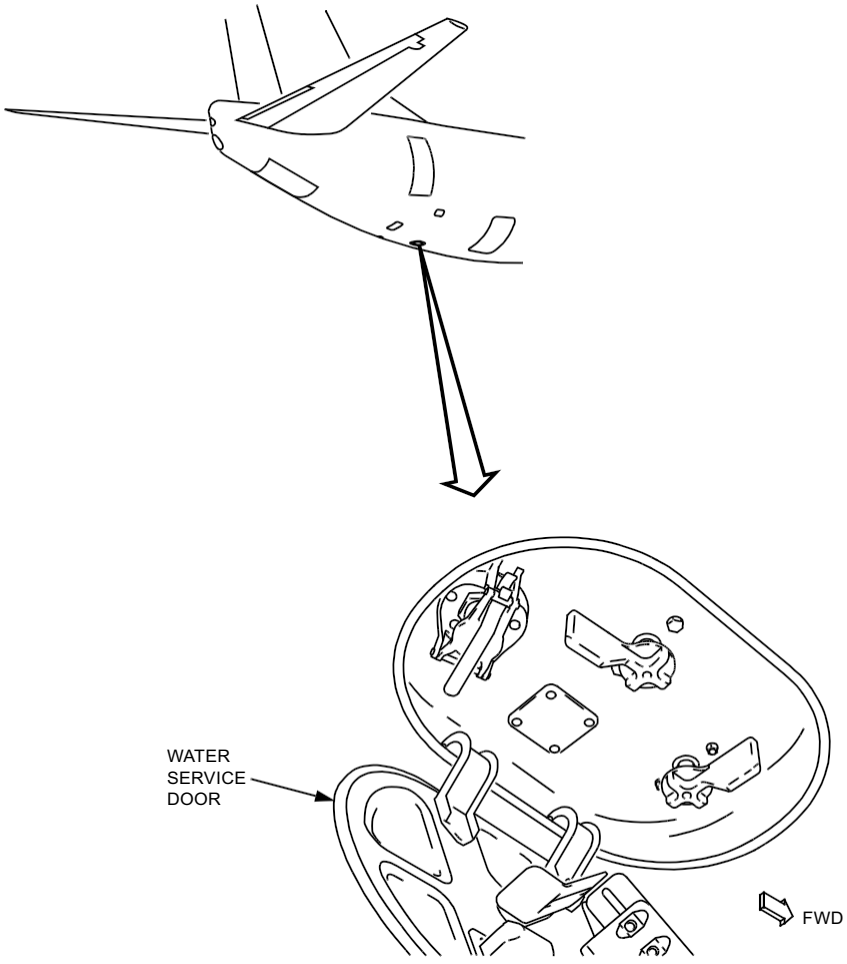
52-40-09 Water Service Door

For -600/-700/-800/-900/-900ER:

NOTE: With the water service door missing, the water tank compressor will not operate. Refer to MMEL item 38-01.

Performance limited weights are reduced by the following for each missing item:

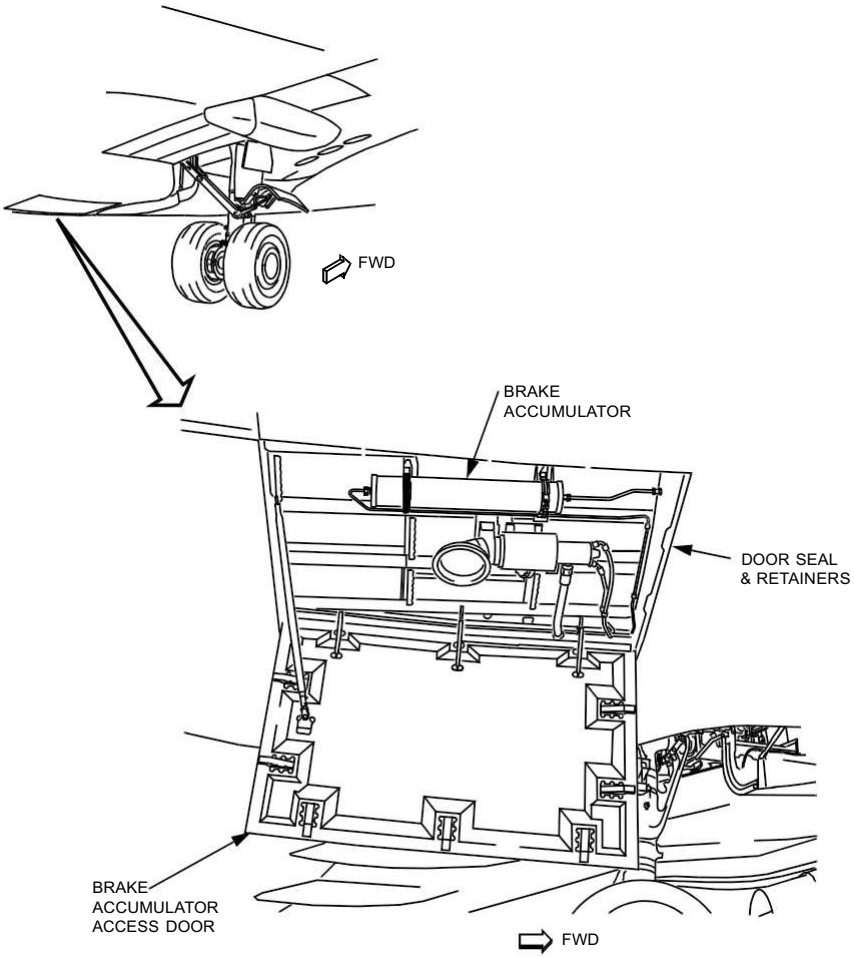
Number Installed	Takeoff & Landing	Enroute Climb
Any number or combination of items 52-40-08 and -09 may be missing.		
1	Negligible penalty	Negligible penalty



52-40-10 Brake Accumulator Access Door Seals and Retainers

For -600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following for each missing seal:

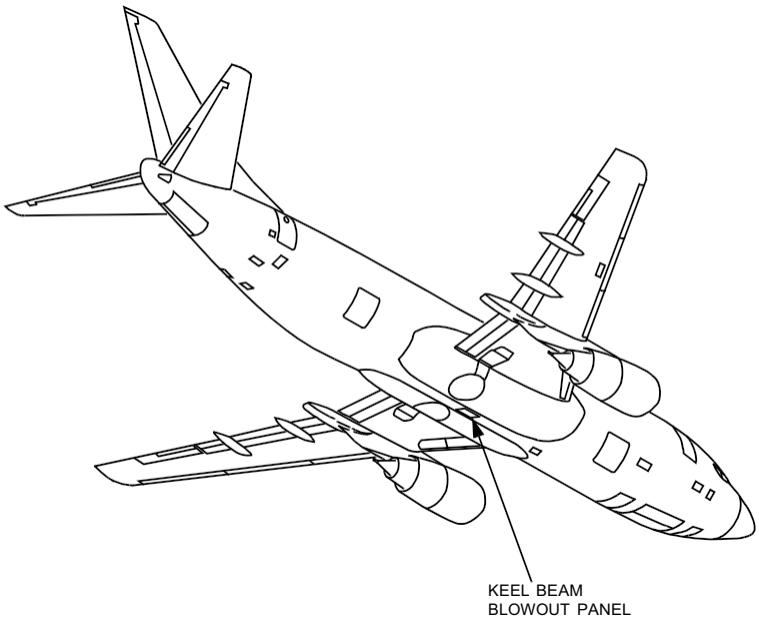
Number Installed	Takeoff & Landing	Enroute Climb
Any number of seals and retainers may be missing.		
4	Negligible penalty	Negligible penalty



53-10-01 Keel Beam Blowout Panel

For -100/-200/-300/-400/-500:
Performance limited weights are reduced by the following:

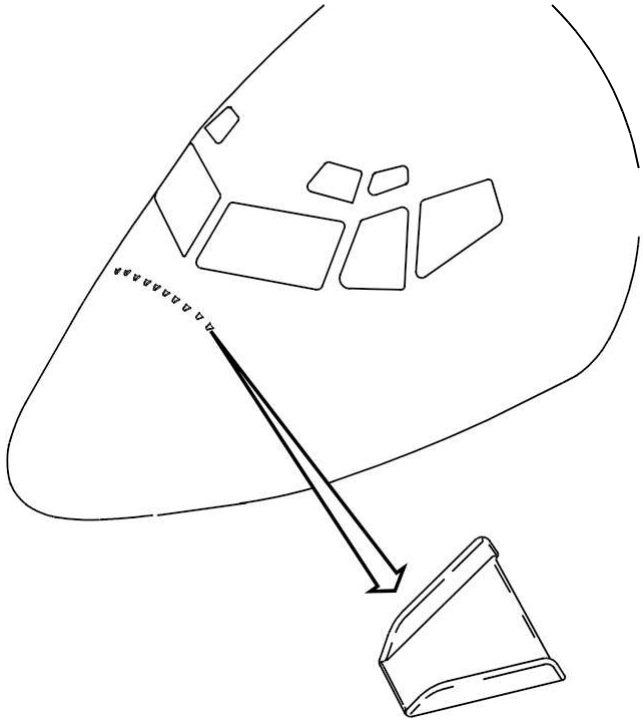
Number Installed	Takeoff & Landing	Enroute Climb
Any number or combination of items 53-10-01, 53-30-01 and 53-50-01 may be missing.		
1	150 lb	250 lb
Any number or combination of items 53-10-01, 53-30-01 and 53-50-01 may be missing.		
1	68 kg	113 kg



53-11-01 Cab Vortex Generators

For -600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following for each missing item:

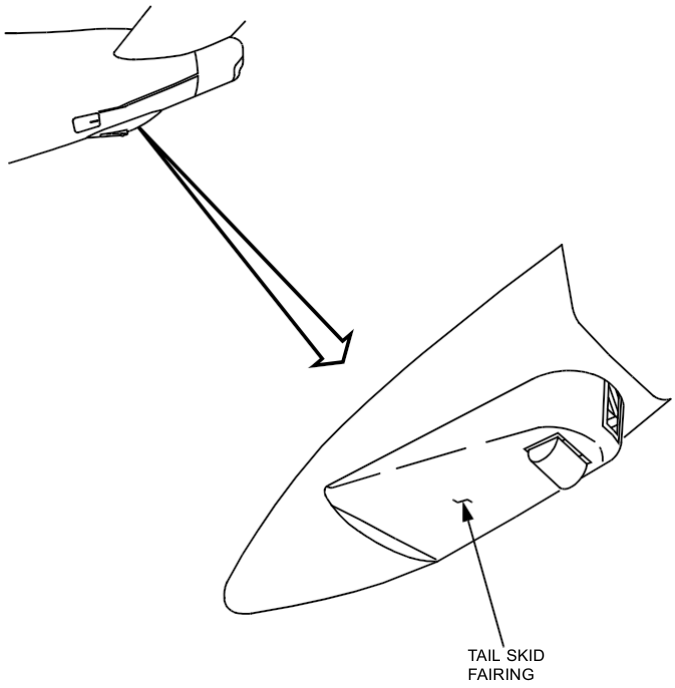
Number Installed	Takeoff & Landing	Enroute Climb
Any number may be missing.		
10	No penalty	No penalty



53-80-01 Tailskid Fairing

For -400:
Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
May be missing.		
1	240 lb	480 lb
May be missing.		
1	109 kg	218 kg

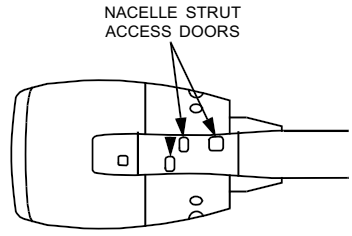


54-20-01 Nacelle Strut Access Door

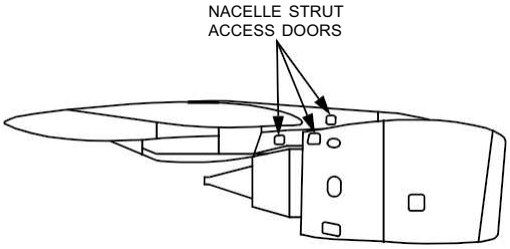
For -300/-400/-500:

Performance limited weights are reduced by the following for each affected nacelle strut:

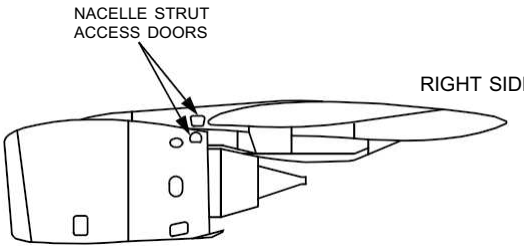
Number Installed	Takeoff & Landing	Enroute Climb
One door missing per nacelle strut. Any number or combination of items 54-20-01 and 54-20-02 up to a maximum of 4 items per strut may be missing.		
16	Negligible	Negligible
More than one door missing per nacelle strut. Any number or combination of items 54-20-01 and 54-20-02 up to a maximum of 4 items per strut may be missing.		
16	675 lb	1350 lb
More than one door missing per nacelle strut: Any number or combination of items 54-20-01 and 54-20-02 up to a maximum of 4 items per strut may be missing.		
16	306 kg	638 kg



TOP VIEW ENGINE NO. 1 AND 2



RIGHT SIDE VIEW ENGINE NO. 1 AND 2



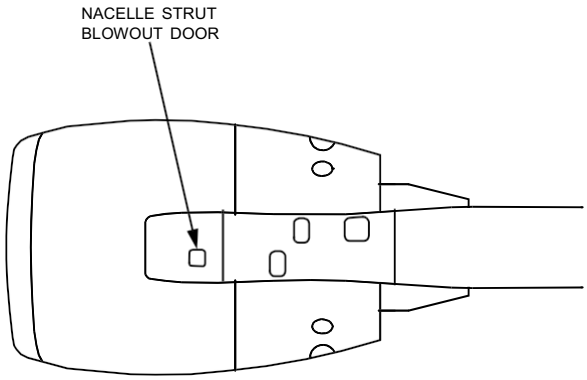
LEFT SIDE VIEW ENGINE NO. 1 AND 2

54-20-02 Nacelle Strut Blowout Door

For -300/-400/-500:

Performance limited weights are reduced by the following for each affected nacelle strut:

Number Installed	Takeoff & Landing	Enroute Climb
One door missing per nacelle strut. Any number or combination of items 54-20-01 and 54-20-02 up to a maximum of 4 items per strut may be missing.		
2	Negligible	Negligible
More than one door missing per nacelle strut. Any number or combination of items 54-20-01 and 54-20-02 up to a maximum of 4 items per strut may be missing.		
2	675 lb	1350 lb
More than one door missing per nacelle strut. Any number or combination of items 54-20-01 and 54-20-02 up to a maximum of 4 items per strut may be missing.		
2	306 kg	638 kg



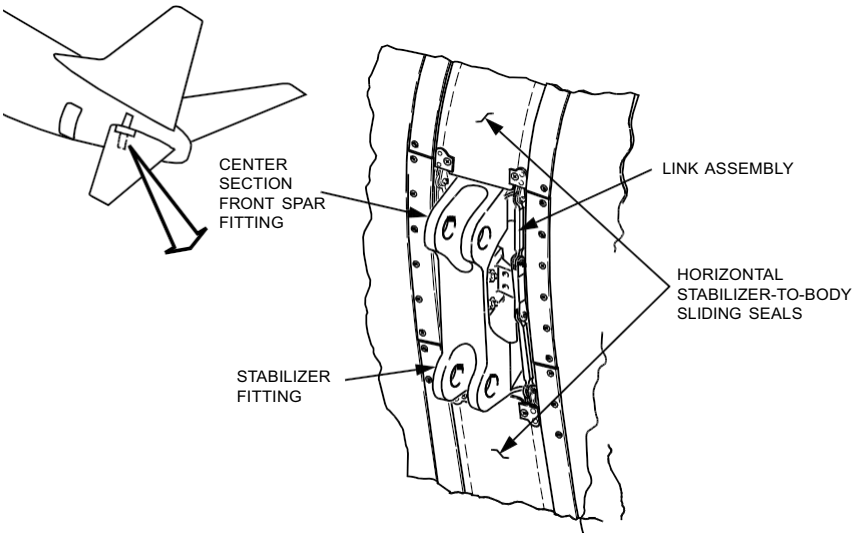
TOP VIEW ENGINE NO. 1 AND 2

55-10-01 Horizontal Stabilizer-to-Body Sliding Seals

NOTE: Remove link assembly associated with missing seal to prevent wear damage.

Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
For -100/-200/-300/-400/-500: Any number may be missing.		
4	150 lb	300 lb
For -100/-200/-300/-400/-500: Any number may be missing.		
4	68 kg	136 kg
For -600/-700/-800/-900: Any number may be missing. Performance limited weights are reduced by the following for each missing seal:		
4	275 lb	550 lb
For -600/-700/-800/-900: Any number may be missing. Performance limited weights are reduced by the following for each missing seal:		
4	125 kg	249 kg
For -900ER: Any number may be missing. Performance limited weights are reduced by the following for each missing seal:		
4	370 lb	720 lb
For -900ER: Any number may be missing. Performance limited weights are reduced by the following for each missing seal:		
4	169 kg	328 kg


CENTER
SECTION
FRONT SPAR
FITTING
LINK ASSEMBLY
HORIZONTAL
STABILIZER-TO-BODY
SLIDING SEALS
STABILIZER
FITTING

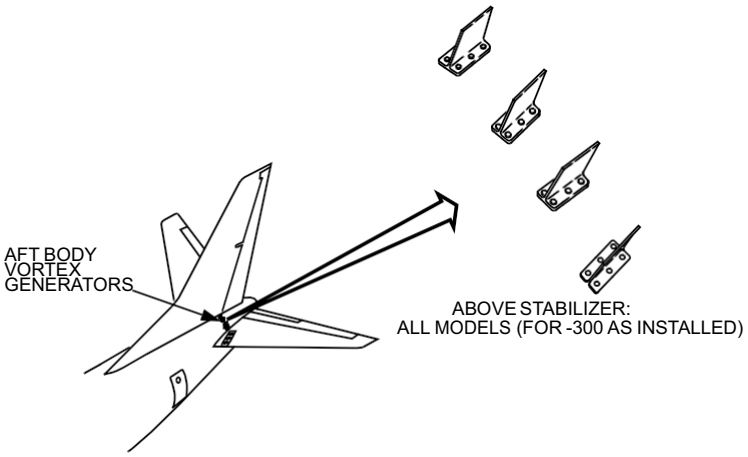
55-30-01 Aft Body Vortex Generators

NOTE: During cruise flight with one or more vortex generators missing, occasional vertical motions may be felt which appear to be light turbulence. These motions are characteristic of this airplane and should not be construed to be associated with Mach buffet.

Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
For -400/-500/-600/-700/-800/-900/-900ER: Up to one side may be missing.		
8	No penalty	No penalty

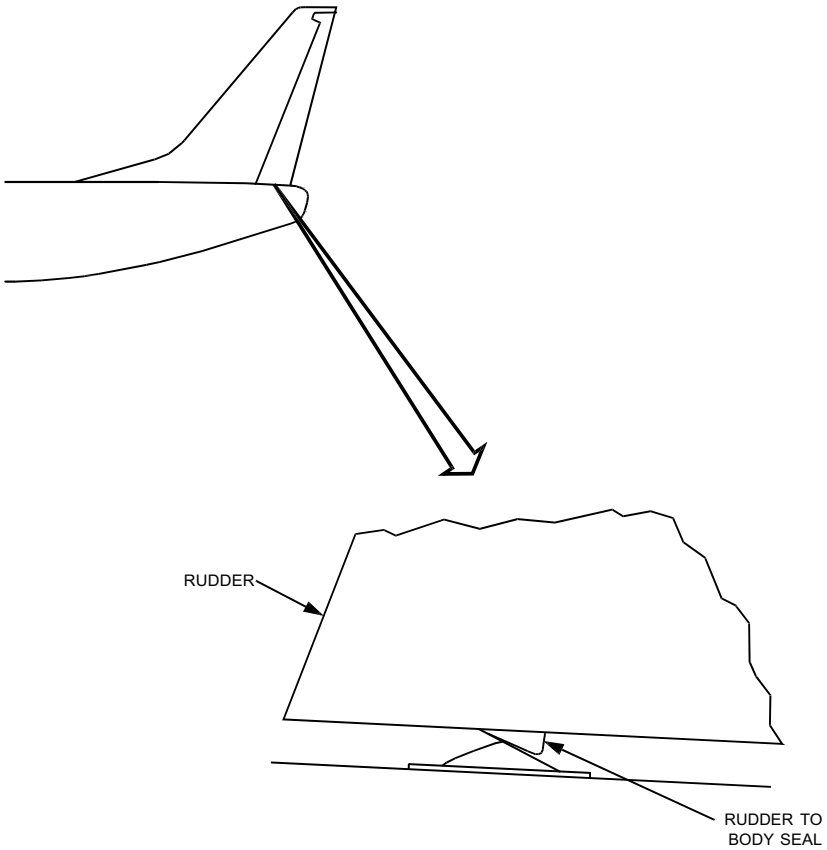
For -300/-400/-500/-600/-700/-800/-900



55-40-01 Fuselage Rudder to Body Seal

For -300/-400/-500:
Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
May be missing.		
1	Negligible penalty	Negligible penalty



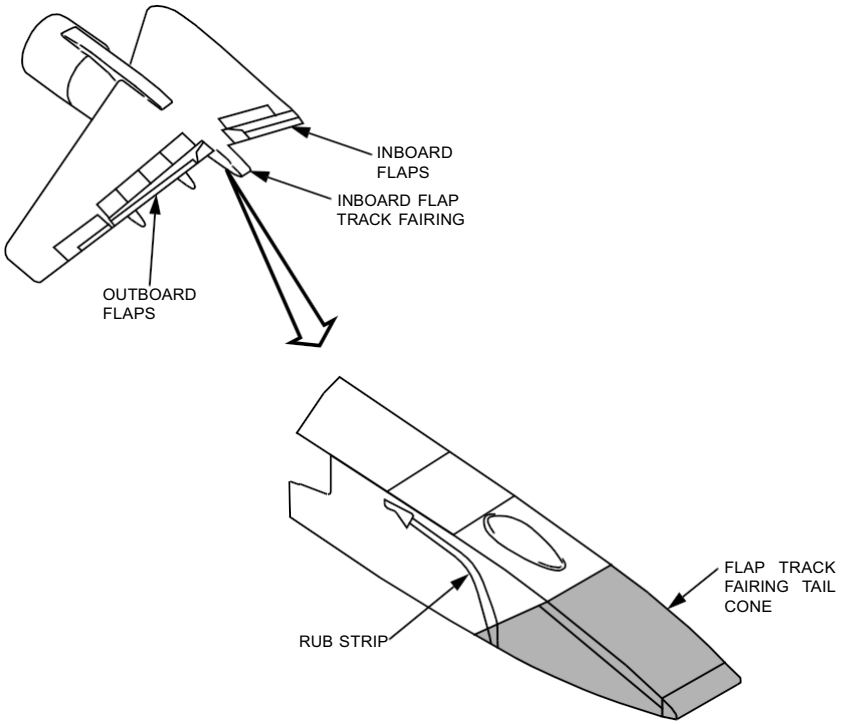
57-10-01 Inboard Flap Track Fairing Tail Cone and Plunger Assembly

For -300/-400/-500:
Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
Both may be missing.		
2	1000 lb	1800 lb
Both may be missing.		
2	453 kg	816 kg

NOTE 1: On the outboard trailing edge flaps, the midflap has a plunger assembly which follows the rub strip on the outboard side of the inboard flap track fairing. When the flap track fairing tail cone is removed or missing the plunger assembly must also be removed.

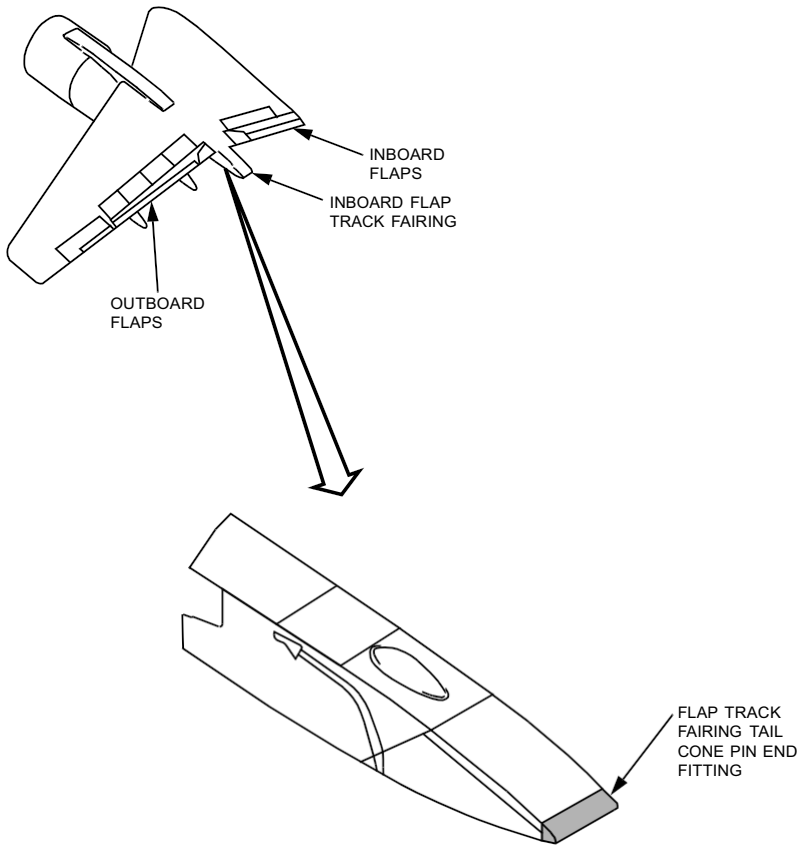
NOTE 2: The other tail cone and plunger assembly must be removed when one is missing.



57-10-02 Inboard Flap Track Fairing Tail Cone Pin End Fittings

For -300/-400/-500:
Performance limited weights are reduced by the following for each missing item:

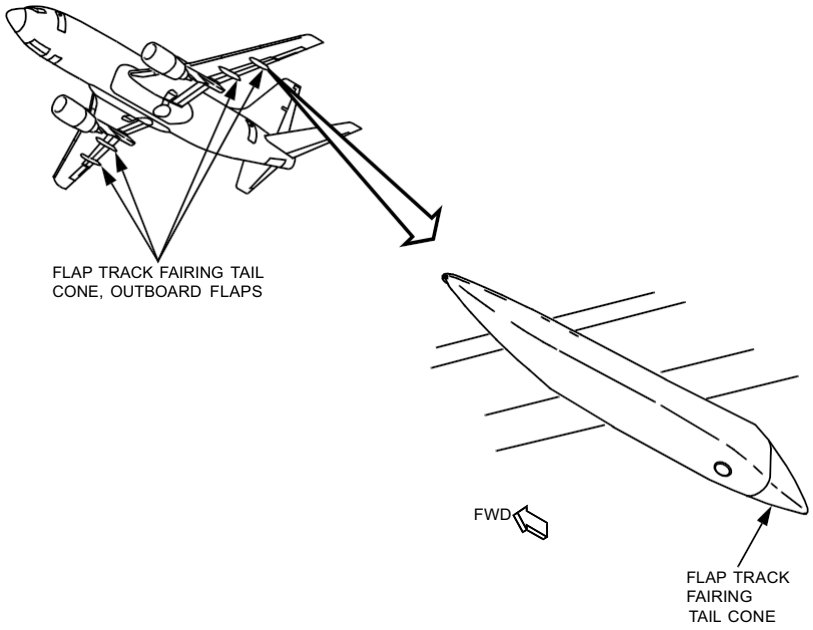
Number Installed	Takeoff & Landing	Enroute Climb
One or both may be missing.		
2	Negligible penalty	Negligible penalty



57-10-03 Flap Track Fairing Tail Cone, Outboard Flaps

Performance limited weights are reduced by the following for each missing item:

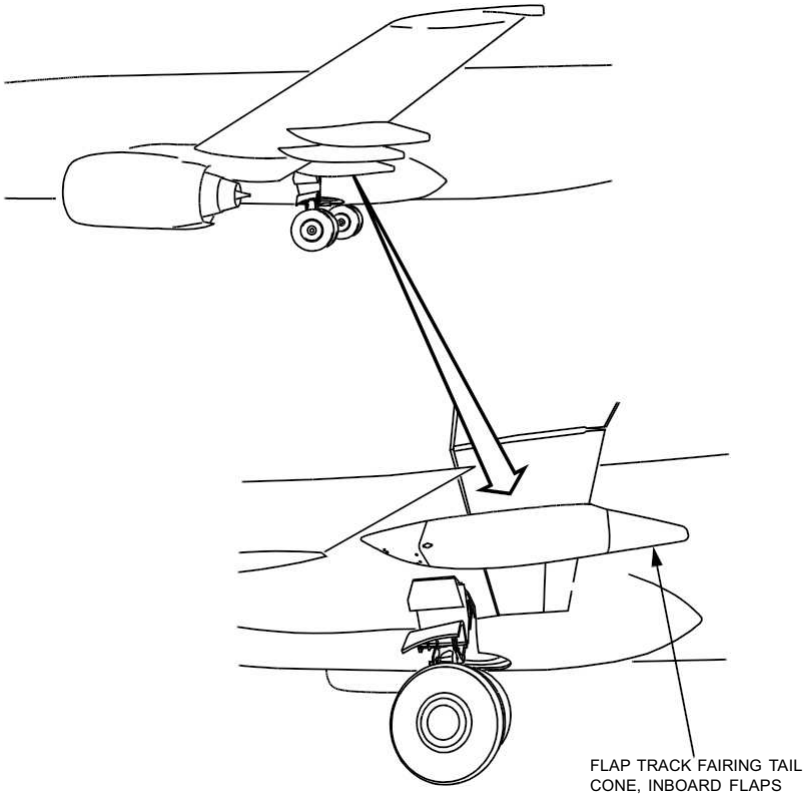
Number Installed	Takeoff & Landing	Enroute Climb
For -100/-200/-300/-400/-500/ -600/-700/-800/-900: One or two tail cones may be missing.		
4	136 lb	272 lb
For -100/-200/-300/-400/-500/ -600/-700/-800/-900: One or two tail cones may be missing.		
4	61 kg	123 kg
For -900ER: One or two tail cones may be missing.		
4	180 lb	360 lb
For -900ER: One or two tail cones may be missing.		
4	83 kg	161 kg


FLAP TRACK FAIRING TAIL CONE, OUTBOARD FLAPS
FWD
FLAP TRACK FAIRING TAIL CONE

57-10-04 Flap Track Fairing Tail Cones, Inboard Flaps

For -600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following for each missing item:

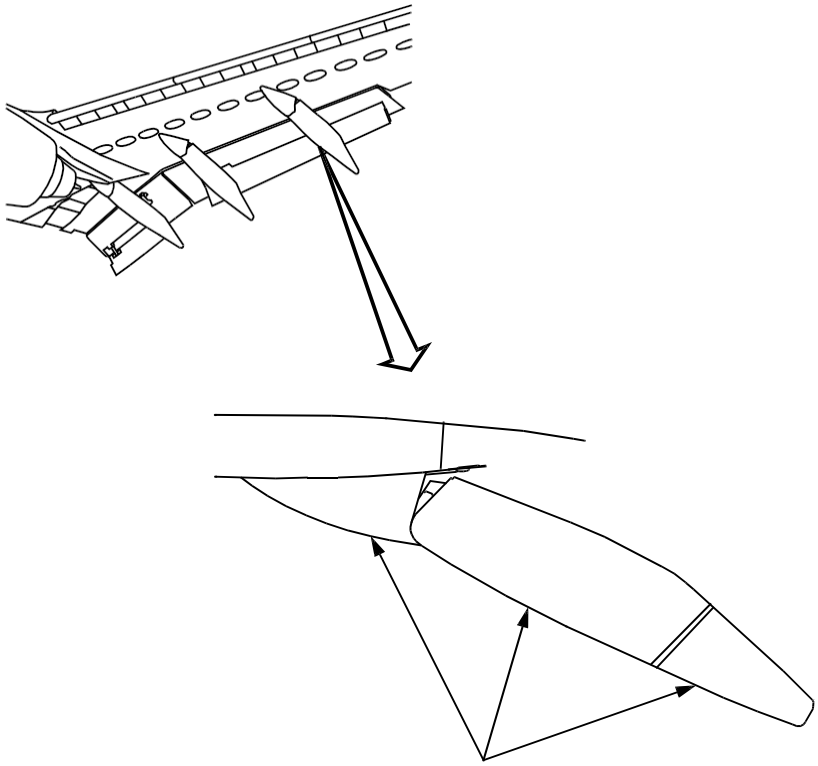
Number Installed	Takeoff & Landing	Enroute Climb
For -600/-700/-800/-900: One or both tail cones may be missing.		
2	151 lb	303 lb
For -600/-700/-800/-900: One or both tail cones may be missing.		
2	68 kg	137 kg
For -900ER: One or both tail cones may be missing.		
2	200 lb	400 lb
For -900ER: One or both tail cones may be missing.		
2	92 kg	179 kg


FLAP TRACK FAIRING TAIL
CONE, INBOARD FLAPS

57-10-05 Flap Support Fairings No. 1 and No. 8 (Outboard Flap)

For -600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following for each missing item:

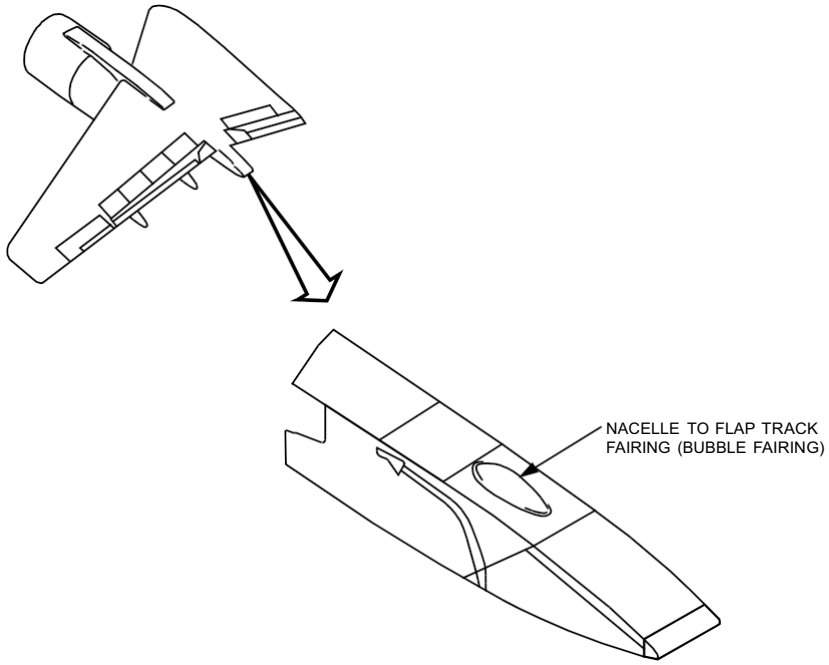
Number Installed	Takeoff & Landing	Enroute Climb
For -600/-700/-800/-900: One or both may be missing.		
2	1454 lb	2907 lb
For -600/-700/-800/-900: One or both may be missing.		
2	660 kg	1319 kg
For -900ER: One or both may be missing.		
2	1940 lb	3780 lb
For -900ER: One or both may be missing.		
2	881 kg	1718 kg


FLAP SUPPORT
FAIRING NO. 1

57-10-06 Track Fairing, Nacelle-to-Flap (Bubble Fairing)

For -300/-400/-500:
Performance limited weights are reduced by the following for each missing fairing:

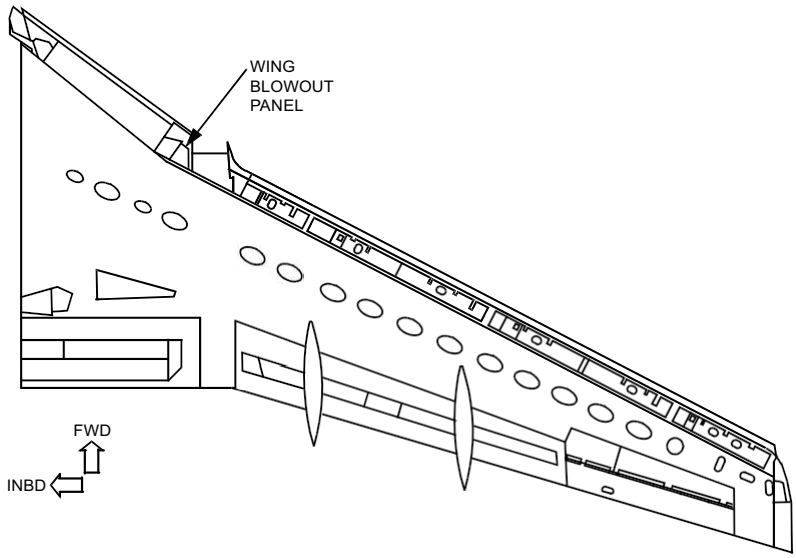
Number Installed	Takeoff & Landing	Enroute Climb
One or both may be missing.		
2	378 lb	Negligible penalty
One or both may be missing.		
2	171 kg	Negligible penalty



57-30-01 Wing Blowout Panel

For -100/-200/-300/-400/-500:
Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
Any number or combination of items 57-30-01, -02, -03, -04, -05 may be missing.		
2	350 lb	1200 lb
Any number or combination of items 57-30-01, -02, -03, -04, -05 may be missing.		
2	159 kg	544 kg

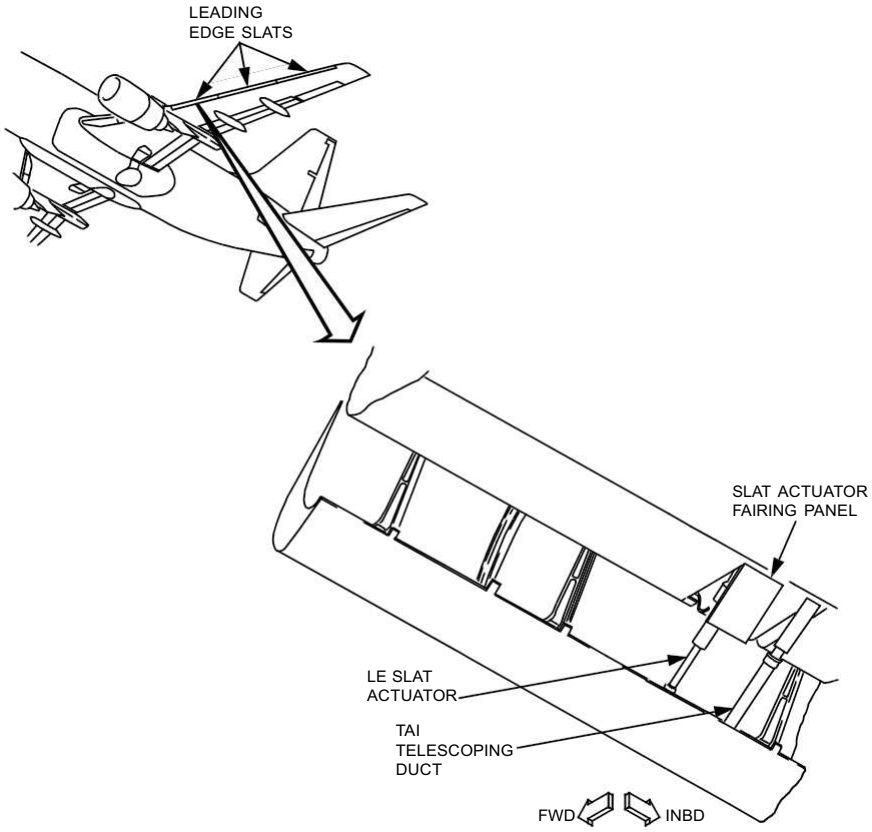


LEFT WING LOWER SURFACE

57-30-02 Slat Actuator Fairing Panel

For -100/-200/-300/-400/-500:
Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
Any number or combination of items 57-30-01, -02, -03, -04, -05 may be missing.		
6	350 lb	1200 lb
Any number or combination of items 57-30-01, -02, -03, -04, -05 may be missing.		
6	159 kg	544 kg



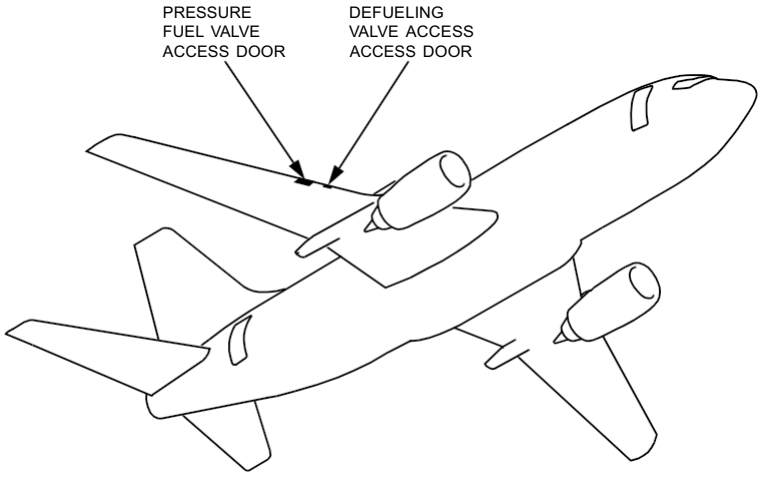
57-30-03 Defueling Valve Access Door

For -100/-200/-300/-400/-500:

NOTE: With door missing, defueling valve handle must be lockwired CLOSED.

Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
Any number or combination of items 57-30-01, -02, -03, -04, -05 may be missing.		
1	350 lb	1200 lb
Any number or combination of items 57-30-01, -02, -03, -04, -05 may be missing.		
1	159 kg	544 kg

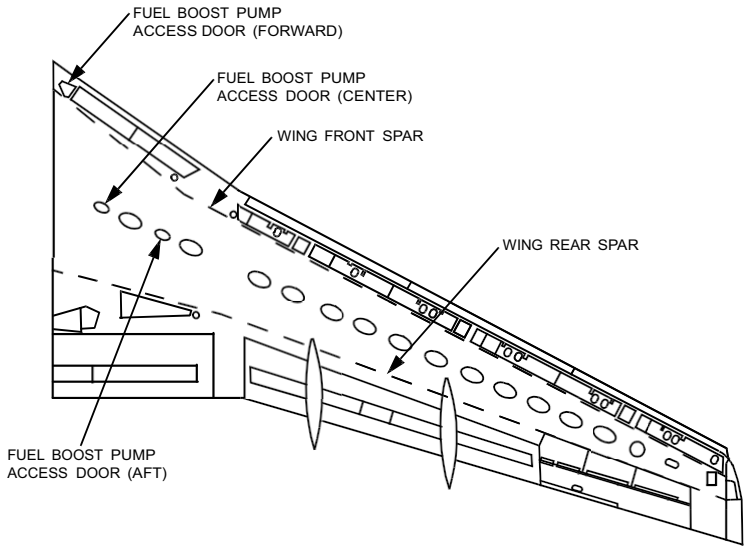


57-30-04 Fuel Boost Pump Access Door

NOTE: With door(s) missing, the corresponding fuel boost pump inlet valve(s) must be lockwired OPEN prior to takeoff.

Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
For -300/-400/-500: Any number or combination of items 57-30-01, -02, -03, -04, -05 may be missing. The two forward fuel boost pump doors are not installed on airplanes that have the leading edge flaps covering the forward pumps.		
4	350 lb	1200 lb
For -300/-400/-500: Any number or combination of items 57-30-01, -02, -03, -04, -05 may be missing. The two forward fuel boost pump doors are not installed on airplanes that have the leading edge flaps covering the forward pumps.		
4	159 kg	544 kg



LEFT WING LOWER SURFACE

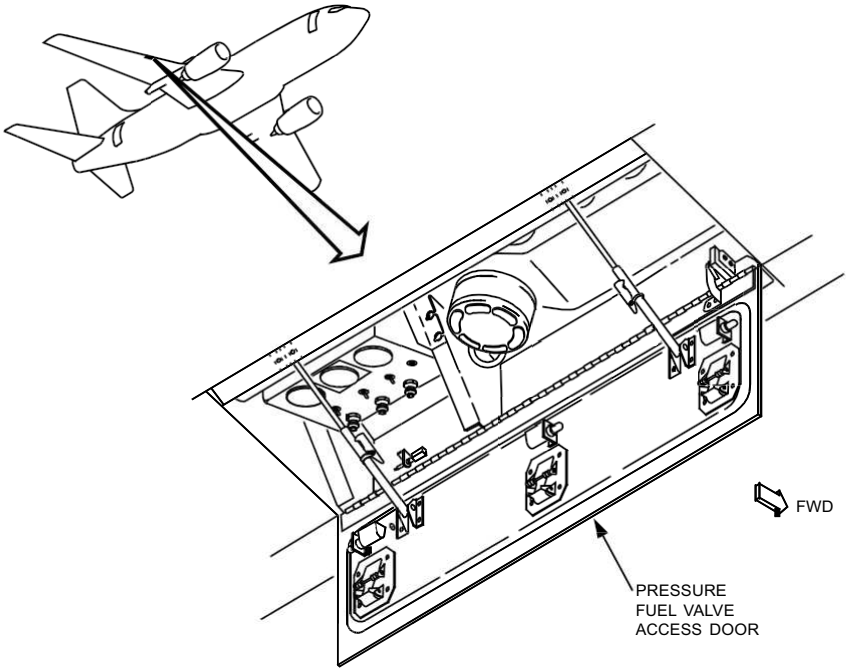
57-30-05 Pressure Fuel Valve Access Door

For -100/-200/-300/-400/-500:

NOTE: With door missing, all electrical circuits involved in the cavity must be de-energized prior to takeoff. This may be accomplished by opening and collaring the FUELING AND EXT PWR CONTROL circuit breaker on the P6-5 panel. Power may be re-applied after each flight, provided that equipment in the cavity, including the wiring, is inspected for damage before power is re-applied. Power must be removed prior to the next flight if the door is not replaced. Refer to AMM Chapter 11 for details on FAA required placards on missing access door. An alternate means of providing placard information to refueling personnel should be used.

Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
Any number or combination of items 57-30-01, -02, -03, -04, -05 may be missing.		
1	350 lb	1200 lb
Any number or combination of items 57-30-01, -02, -03, -04, -05 may be missing.		
1	159 kg	544 kg

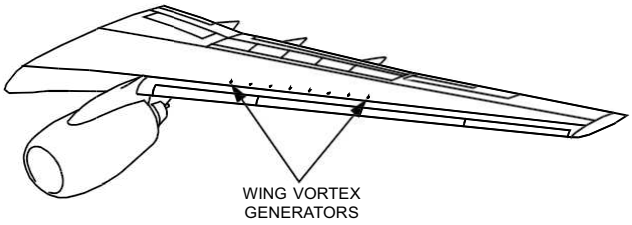

FWD
PRESSURE
FUEL VALVE
ACCESS DOOR

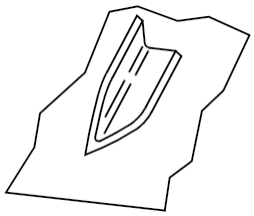
57-30-06 Wing Vortex Generators

Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
For -300/-400/-500: Inboard A maximum of 2 inboard (non-adjacent) and 1 outboard may be missing per wing.		
34	No Penalty	No penalty
For -300 line position 1636 and on; -400/-500: Outboard A maximum of 2 inboard (non-adjacent) and 1 outboard may be missing per wing.		
18	No Penalty	No penalty

Number Installed	Takeoff & Landing	Enroute Climb
For -600/-700/-800/-900/-900ER: A maximum of one per wing may be missing.		
16	No Penalty	No penalty

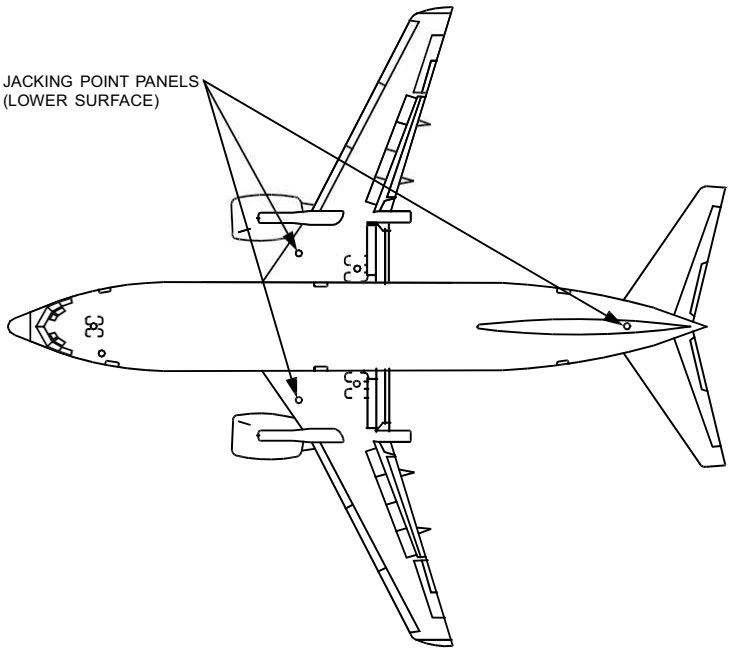




57-30-07 Jacking Point Panels

Performance limited weights are reduced by the following:

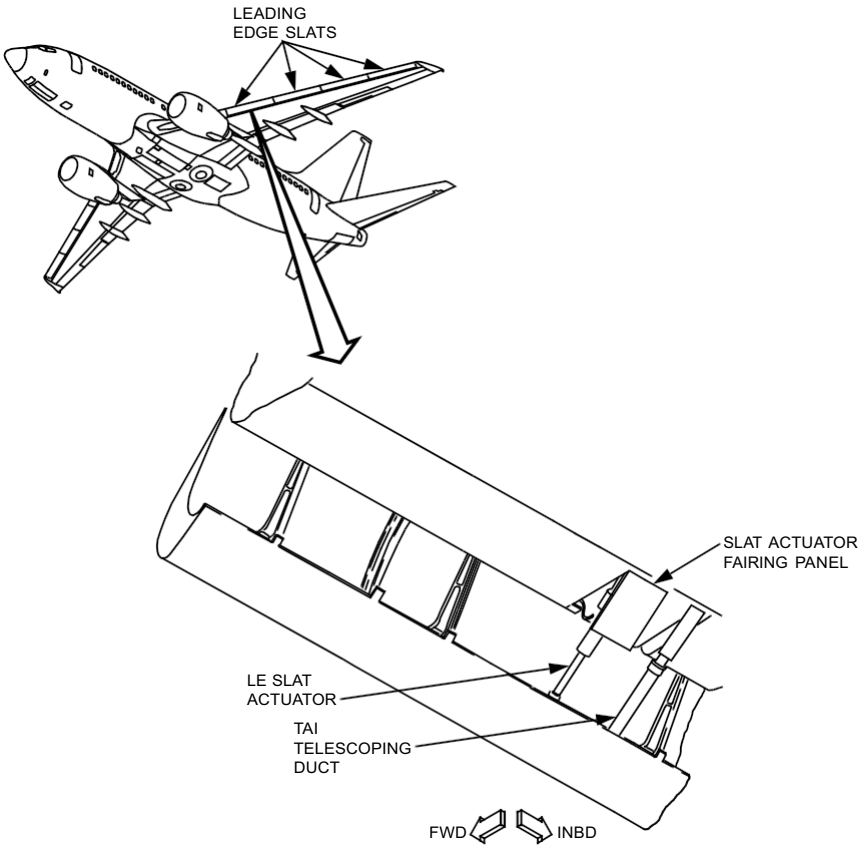
Number Installed	Takeoff & Landing	Enroute Climb
Any number may be missing.		
3	Negligible penalty	Negligible penalty



57-30-08 Slat Actuator Fairing Panels

For -600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following for each missing panel:

Number Installed	Takeoff & Landing	Enroute Climb
For -600/-700/-800/-900: Any number or combination may be missing.		
8	109 lb	218 lb
For -600/-700/-800/-900: Any number or combination may be missing.		
8	49 kg	99 kg
For -900ER: Any number or combination may be missing.		
8	150 lb	290 lb
For -900ER: Any number or combination may be missing.		
8	66 kg	129 kg


LEADING
EDGE SLATS
SLAT ACTUATOR
FAIRING PANEL
LE SLAT
ACTUATOR
TAI
TELESCOPING
DUCT
FWD
INBD

57-41-04 Slat Main Track Seal Door

For -300/-400/-500/-600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following for each missing item:

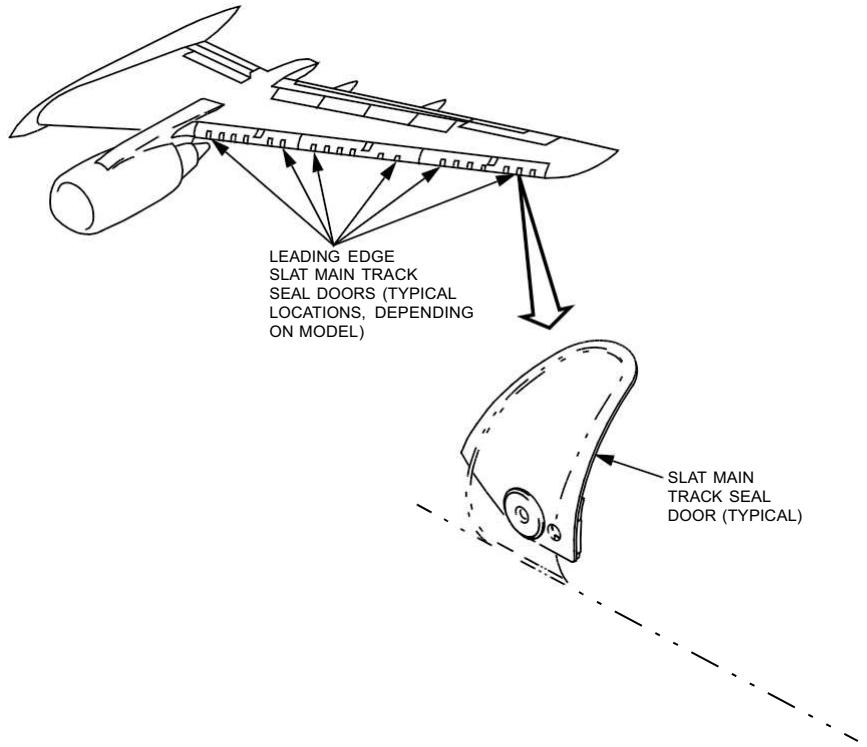
Number Installed	Takeoff & Landing	Enroute Climb

For -300/-400/-500 prior to line number 1185:
Any number may be missing, except as restricted below.
(May be missing in symmetrical sets only. Also may be missing in combination with items 57-41-05, -06, -07 as long as the penalties, limitations and notes for those items are observed)

12	No penalty	No penalty

For -600/-700/-800/-900/-900ER:
Any number may be missing.

4	Negligible penalty	Negligible penalty



57-41-05 Slat TAI-Duct Seal Door

For -300/-400/-500 Applicable for flap 10 or larger:

Any combination of items 57-41-05, -06, -07 up to 9 symmetrical pairs (with a maximum of 3 on any one slat) may be missing. If one item is missing, the symmetrical item on the opposite wing must be removed.

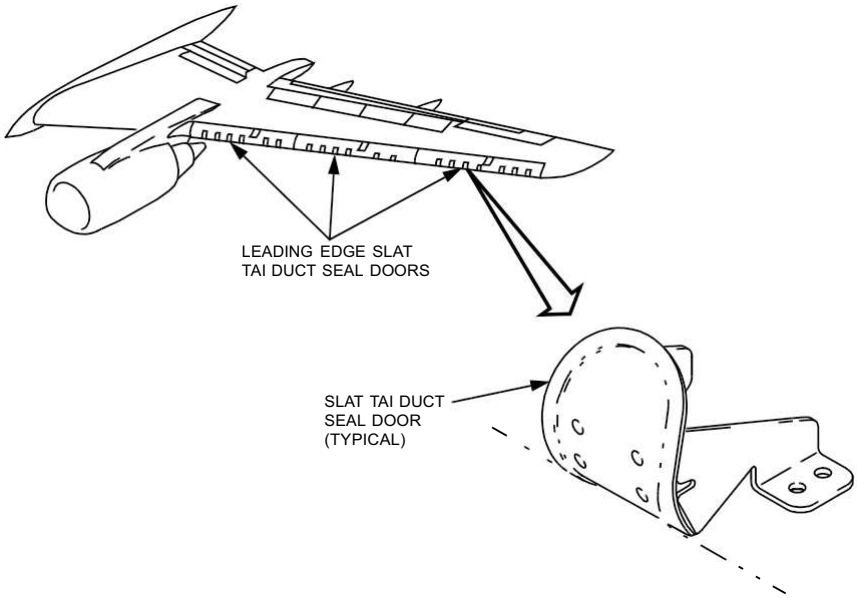
The following performance adjustments are applied once for any number or combination of symmetrical sets of items 57-41-05, -06, -07 missing (performance adjustments only applicable with slats fully extended, flaps 10 or larger):

Reduce the takeoff field length by 600 feet or the takeoff field length limited weight by 7000 lb (3180 kg). Increase VR and V2 by 1 knot.

Reduce the landing field length by 100 feet or the landing field length limited weight by 3000 lb (1360 kg). Increase VREF by 1 knot.

In addition, takeoff and landing climb limited weight penalties for each missing set of items 57-41-05, -06, -07 are additive . Takeoff and landing climb limited weights are reduced by the following for each symmetrical set of slat TAI-duct seal doors missing (performance penalty only applicable with slats fully extended, flaps 10 or larger):

Number Installed	Takeoff/ Landing Climb
6	300 lb
6	136 kg



57-41-06 Slat Actuator Sliding Seal

For -300/-400/-500 Applicable for flap 10 or larger:
Any combination of items 57-41-05, -06, -07 up to 9 symmetrical pairs (with a maximum of 3 on any one slat) may be missing. If one item is missing, the symmetrical item on the opposite wing must be removed.

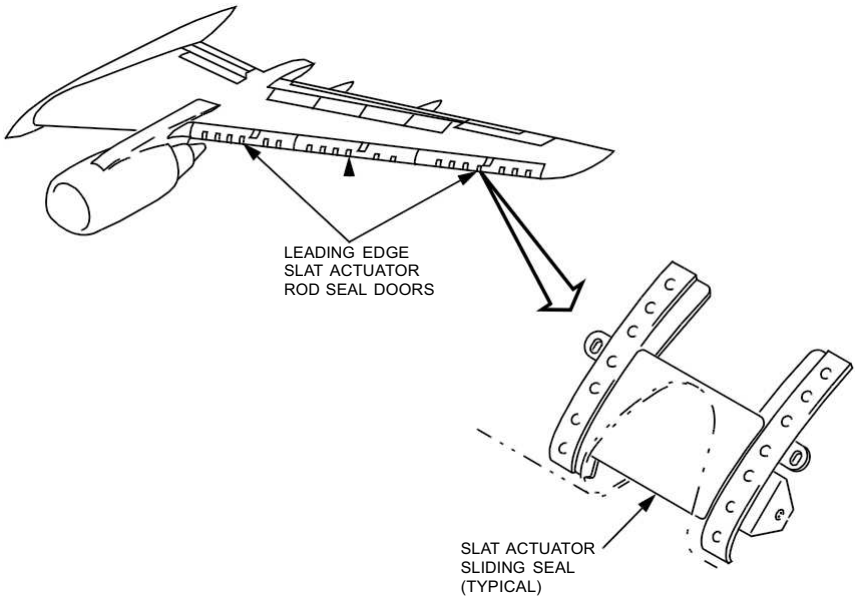
The following performance adjustments are applied once for any number or combination of symmetrical sets of items 57-41-05, -06, -07 missing (performance adjustments only applicable with slats fully extended, flaps 10 or larger):

Reduce the takeoff field length by 600 feet or the takeoff field length limited weight by 7000 lb (3180 kg). Increase VR and V2 by 1 knot.

Reduce the landing field length by 100 feet or the landing field length limited weight by 3000 lb (1360 kg). Increase VREF by 1 knot.

In addition, takeoff and landing climb limited weight penalties for each missing set of items 57-41-05, -06, -07 are additive . Takeoff and landing climb limited weights are reduced by the following for each symmetrical set of slat slat actuator sliding seals missing (performance penalty only applicable with slats fully extended, flaps 10 or larger):

Number Installed	Takeoff/ Landing Climb
6	450 lb
6	204 kg



57-41-07 Slat Auxiliary Track Seal Door

For -300/-400/-500:
Any combination of items 57-41-05, -06, -07 up to 9 symmetrical pairs (with a maximum of 3 on any one slat) may be missing. If one item is missing, the symmetrical item on the opposite wing must be removed.

The most outboard slat auxiliary track seal door on slats no.1 and no. 6 may be symmetrically missing with no takeoff/landing field length performance penalty and takeoff/landing climb limited weight performance penalty.

The following performance adjustments are applied once for any number or combination of symmetrical sets of items 57-41-05, -06, -07 missing (performance adjustments only applicable with slats fully extended, flaps 10 or larger):

Reduce the takeoff field length by 600 feet or the takeoff field length limited weight by 7000 lb (3180 kg). Increase VR and V2 by 1 knot.

Reduce the landing field length by 100 feet or the landing field length limited weight by 3000 lb (1360 kg). Increase VREF by 1 knot.

In addition, takeoff and landing climb limited weight penalties for each missing set of items 57-41-05, -06, -07 are additive. Takeoff and landing climb limited weights are reduced by the following for each symmetrical set of slat auxiliary track seal doors missing (performance penalty only applicable with slats fully extended, flaps 10 or larger):

Number Installed	Takeoff/ Landing Climb

For -300/-400:
2 per inboard slat and 3 per outboard slat prior to line number 1185, applicable for flap 10 or larger.

14	550 lb

For -300/-400:
2 per inboard slat and 3 per outboard slat prior to line number 1185, applicable for flap 10 or larger.

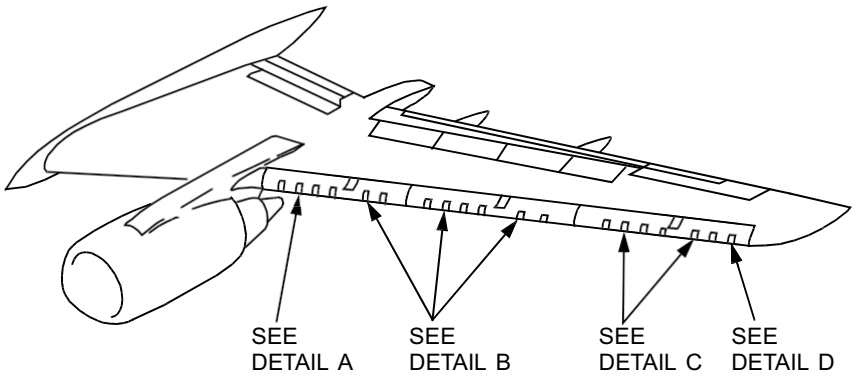
14	250 kg

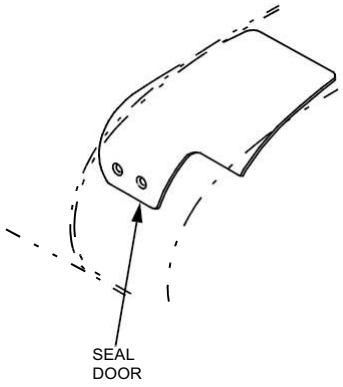
For -300/-400/-500:
2 per slat, line number 1185 and on, applicable for flap 10 or larger.

12	550 lb

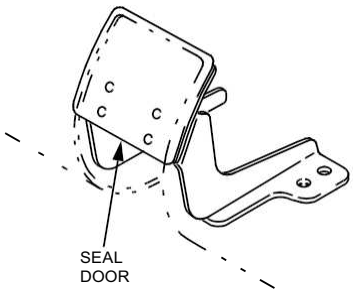
For -300/-400/-500:
2 per slat, line number 1185 and on, applicable for flap 10 or larger.

12	250 kg

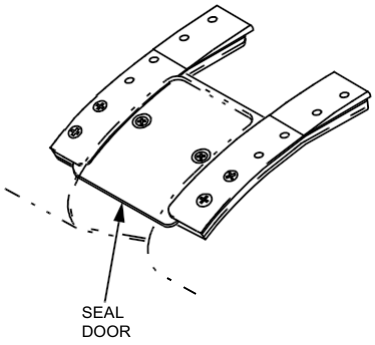

SEE
DETAIL A
SEE
DETAIL B
SEE
DETAIL C
SEE
DETAIL D



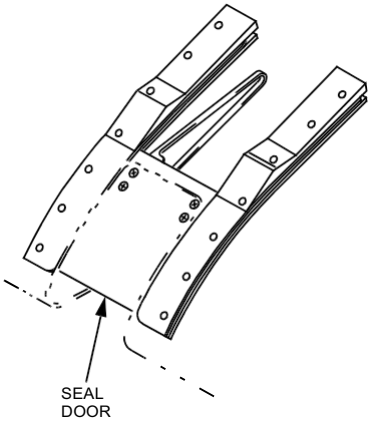
DETAIL A



DETAIL B



DETAIL C

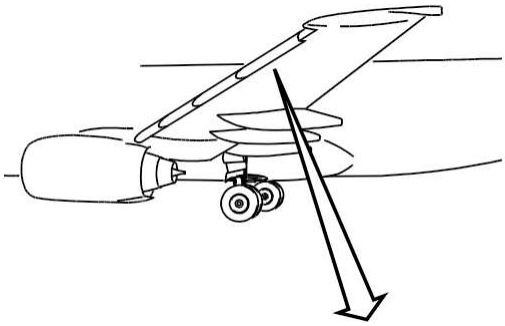


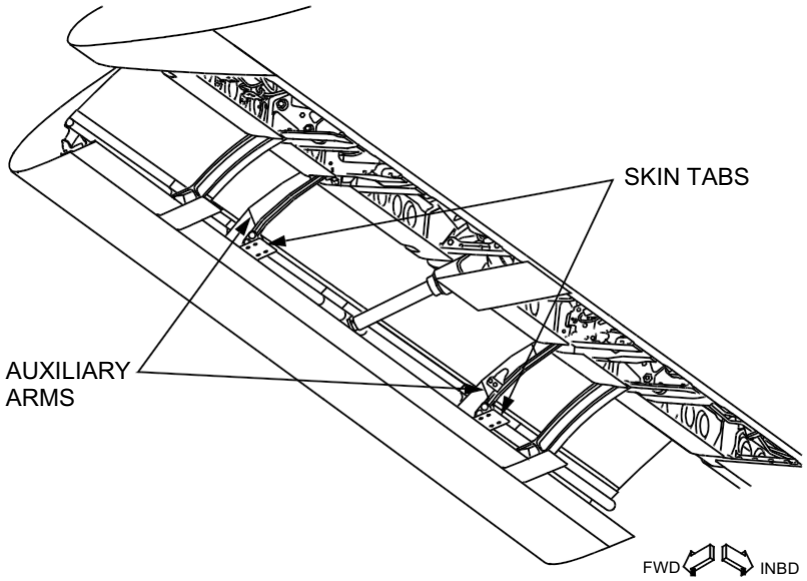
DETAIL D

57-41-08 Slat Skin Tabs C/T Auxiliary Arms

For -600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following for each missing item:

Number Installed	Takeoff & Landing	Enroute Climb
Any number may be missing. There are 2 items per slat except none on slat 4 and 5.		
12	Negligible penalty	Negligible penalty

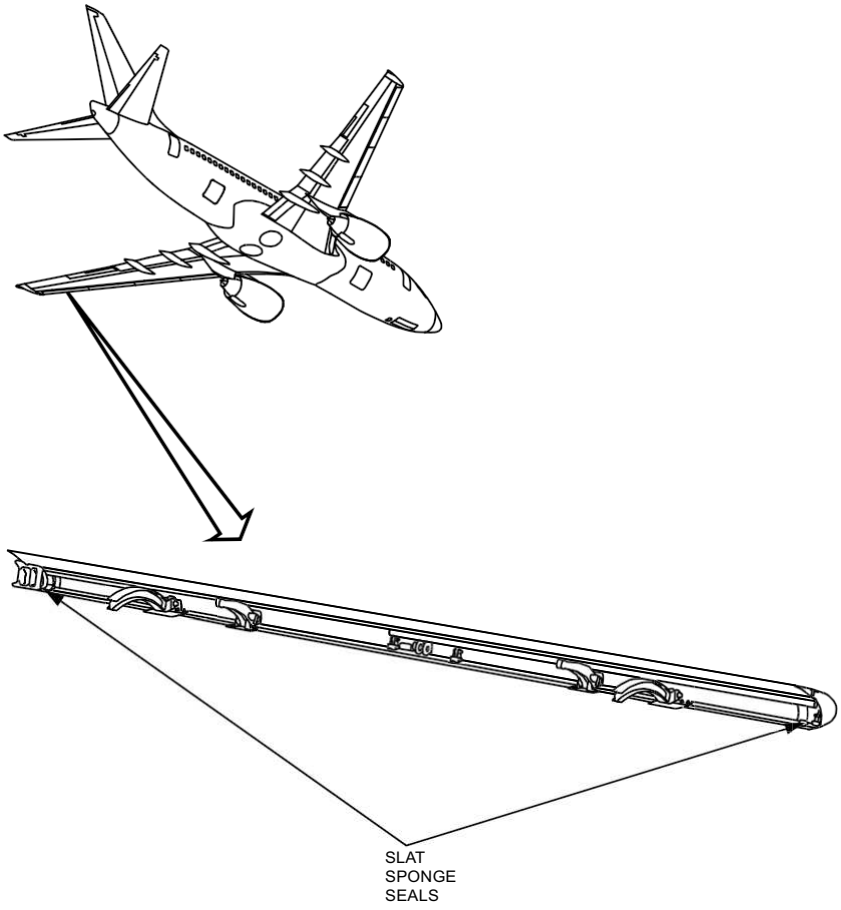




57-41-09 Slat Sponge Seals

For -600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following for each missing item:

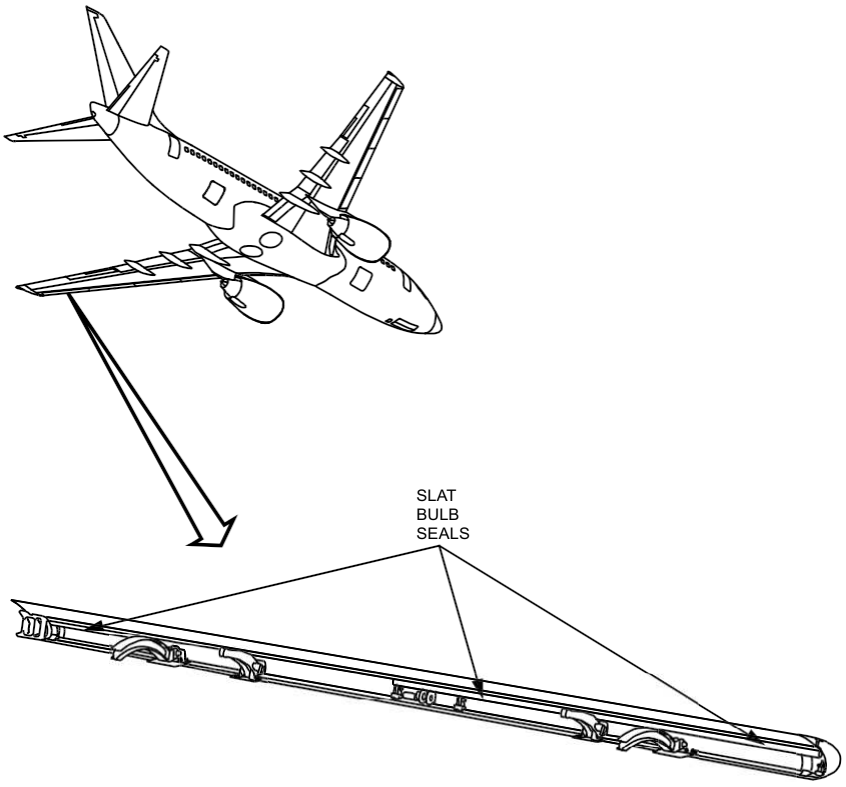
Number Installed	Takeoff & Landing	Enroute Climb
Any number may be missing. There are 2 items per slat.		
16	Negligible penalty	Negligible penalty



57-41-10 Slat Bulb Seals

For -600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following for each slat with one or more missing seal segments:

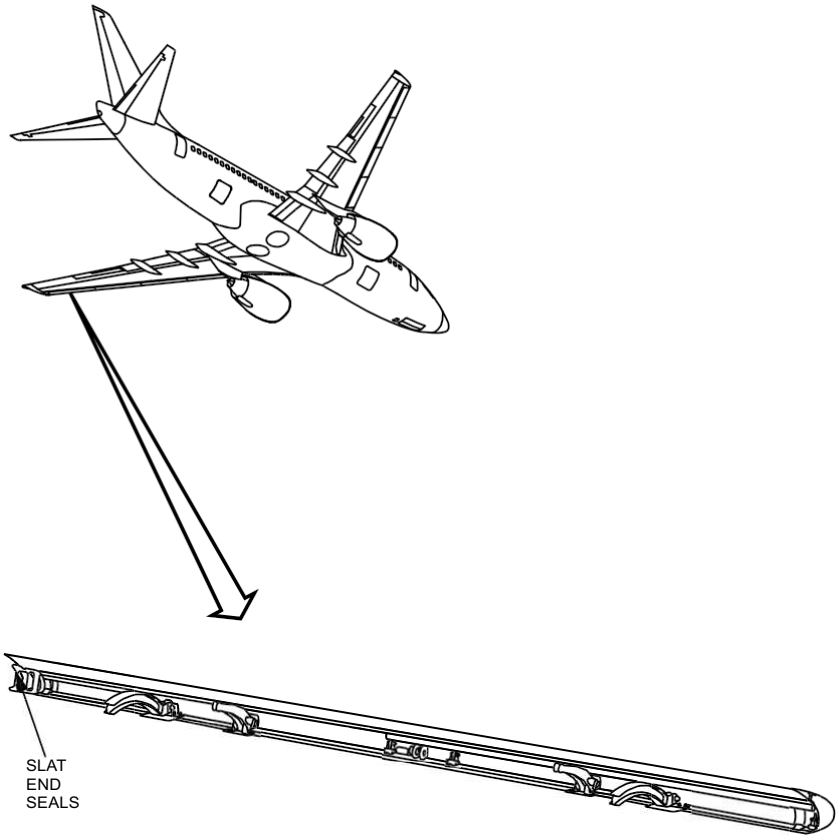
Number Installed	Takeoff & Landing	Enroute Climb
For -600/-700/-800/-900: Any number may be missing.		
76	122 lb	245 lb
For -600/-700/-800/-900: Any number may be missing.		
76	55 kg	111 kg
For -900ER: Any number may be missing.		
76	170 lb	320 lb
For -900ER: Any number may be missing.		
76	74 kg	145 kg


SLAT
BULB
SEALS

57-41-11 Slat End Seals (Outboard End, Slats 1 & 8)

For -600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following for each missing item:

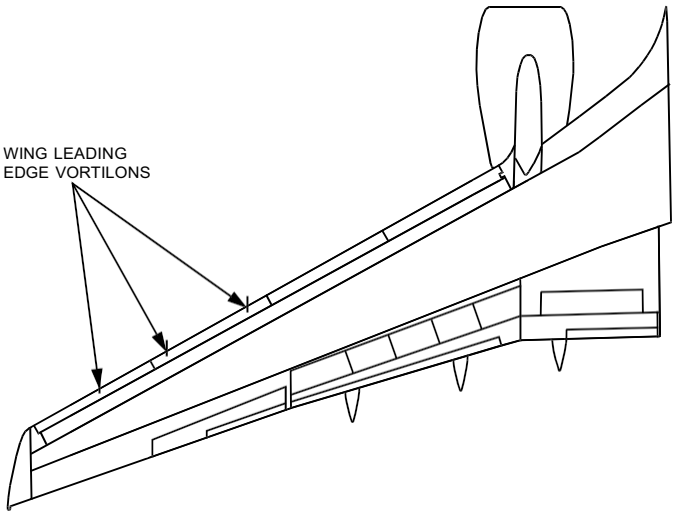
Number Installed	Takeoff & Landing	Enroute Climb
Up to 2 may be missing.		
10	Negligible penalty	Negligible penalty



57-41-12 Wing Leading Edge Vortilons

For -600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following:

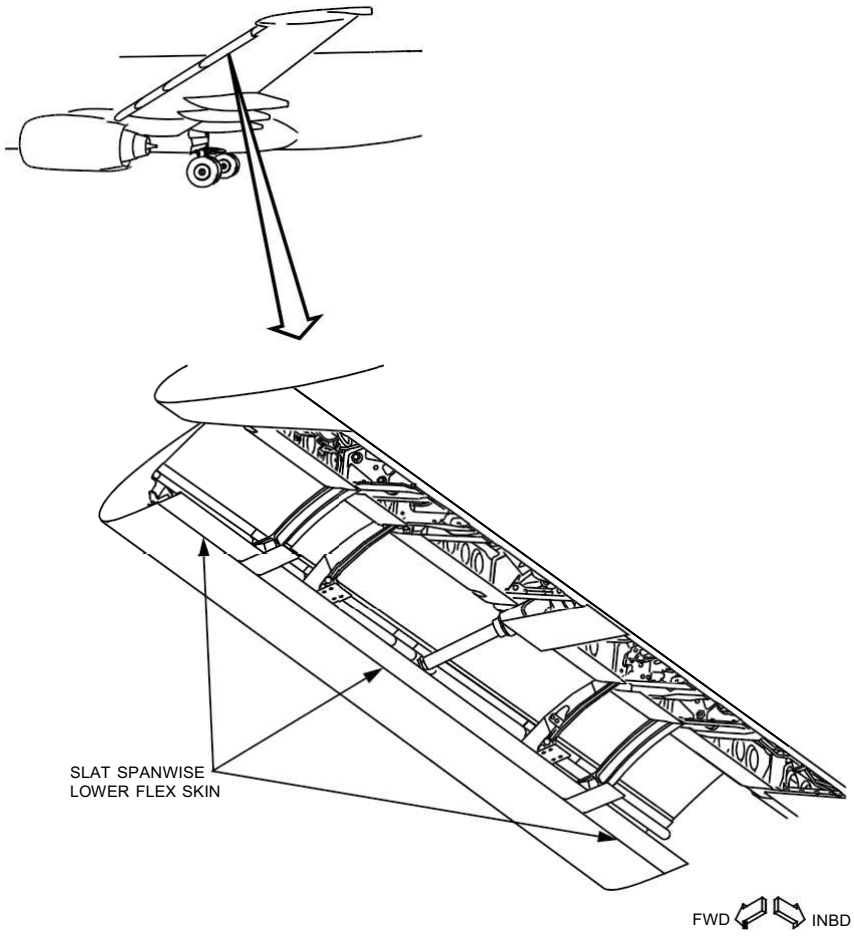
Number Installed	Takeoff & Landing	Enroute Climb
One per wing may be missing.		
6	No penalty	No penalty



57-41-13 Slat Spanwise Lower Flex Skin

For -600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following for each missing item:

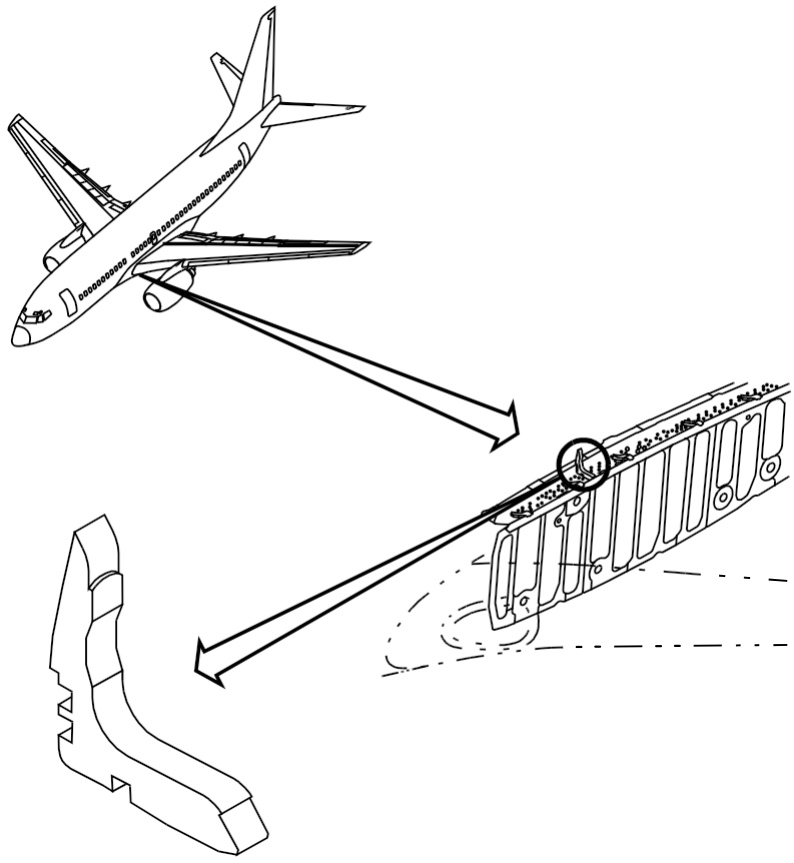
Number Installed	Takeoff & Landing	Enroute Climb
One per wing (part numbers 114A9201-1 through -20) may be missing.		
24	Negligible penalty	Negligible penalty



57-51-01 Sponge Rubber Air Dam in Overwing Bolt Cover Cavity

For -600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following for each missing item:

Number Installed	Takeoff & Landing	Enroute Climb
One or both may be missing.		
2	Negligible penalty	Negligible penalty



SPONGE RUBBER
AIR DAM

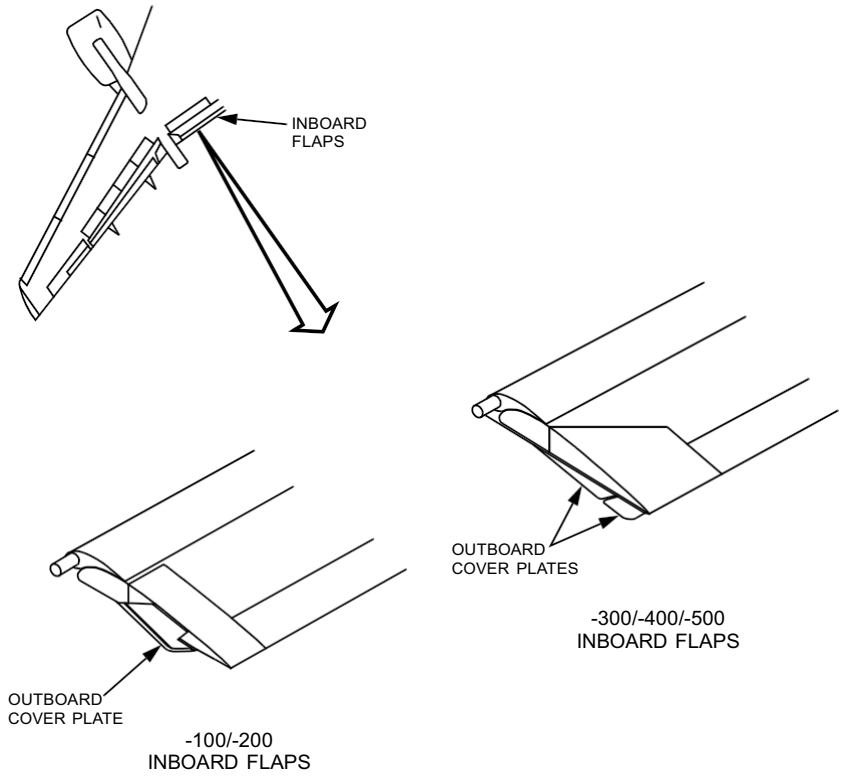
57-52-01 Inboard Flap, Outboard Cover Plates

For -100/-200/-300/-400/-500:
Performance limited weights are reduced by the following for each missing item:

Number Installed	Takeoff & Landing	Enroute Climb

For -300/-400/-500:
Any number may be missing.

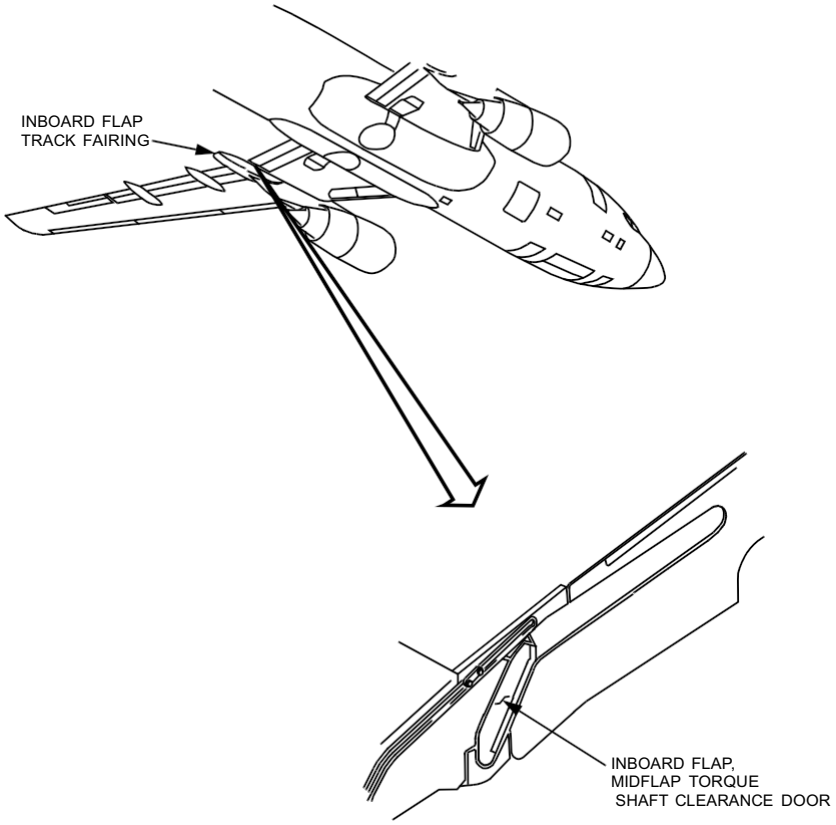
4	No penalty	Negligible penalty



57-53-01 Inboard Flap, Midflap Torque Shaft Clearance Door

For -100/-200/-300/-400/-500:
Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
One or both may be missing.		
2	No penalty	75 lb
One or both may be missing.		
2	No penalty	34 kg



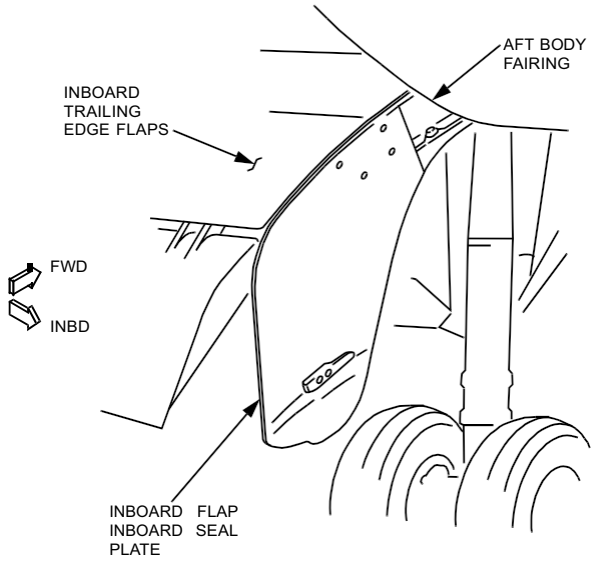
57-53-03 Inboard Flap, Inboard Seal Plate

For -300/-400/-500:
NOTE 1: Penalties applicable for Flaps Up and Flaps 1 operation only. No penalties for operations at Flaps 5 through 40.

For -600/-700/-800/-900/-900ER:
NOTE 2: Operation at Flaps 40 prohibited. Penalties applicable for Flaps Up and Flaps 1 operation only. No penalties for operations at Flaps 5 through 30.

Performance limited weights are reduced by the following for each missing item:

Number Installed	Takeoff & Landing	Enroute Climb
For -300/-400/-500: One or both may be missing.		
2	325 lb	450 lb
For -300/-400/-500: One or both may be missing.		
2	147 kg	204 kg
For -600/-700/-800/-900: One or both may be missing.		
2	371 lb	742 lb
For -600/-700/-800/-900: One or both may be missing.		
2	168 kg	337 kg
For -900ER: One or both may be missing.		
2	500 lb	970 lb
For -900ER: One or both may be missing.		
2	225 kg	439 kg

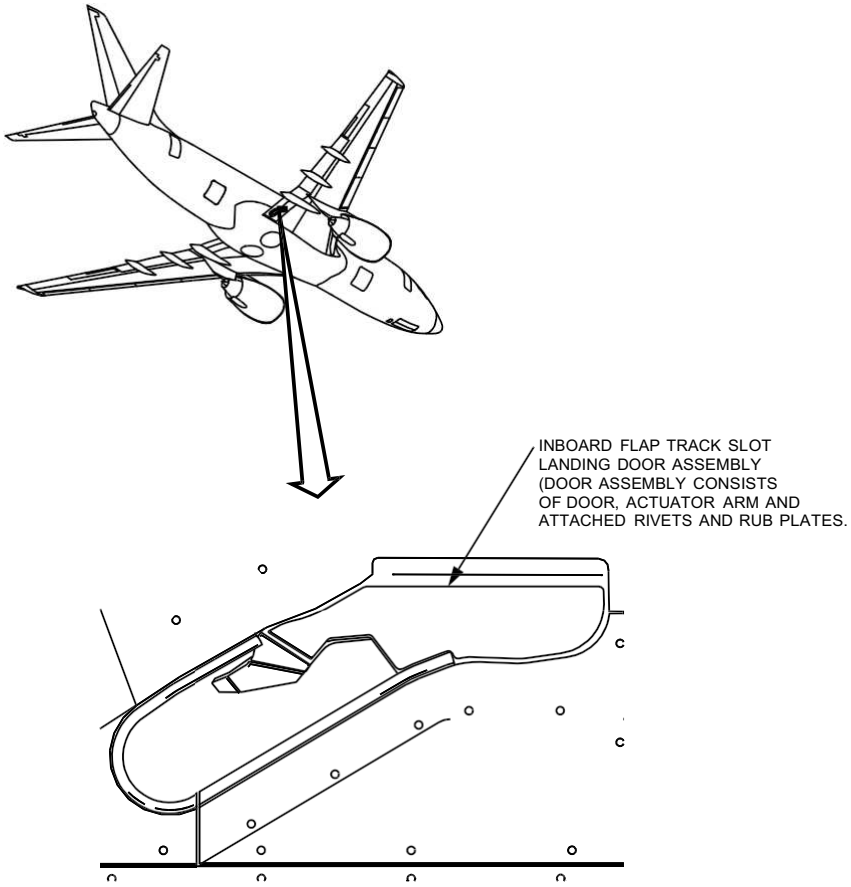

AFT BODY
FAIRING
INBOARD
TRAILING
EDGE FLAPS
FWD
INBD
INBOARD FLAP
INBOARD SEAL
PLATE

57-53-05 Inboard Flap, Inboard Flap Track Slot Landing Door Assembly

For -600/-700/-800/-900/-900ER:
NOTE: Operation at Flaps 40 prohibited.

Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
Door actuator arm and plate assembly must be complete or removed entirely. Both may be missing.		
2	No penalty	No penalty

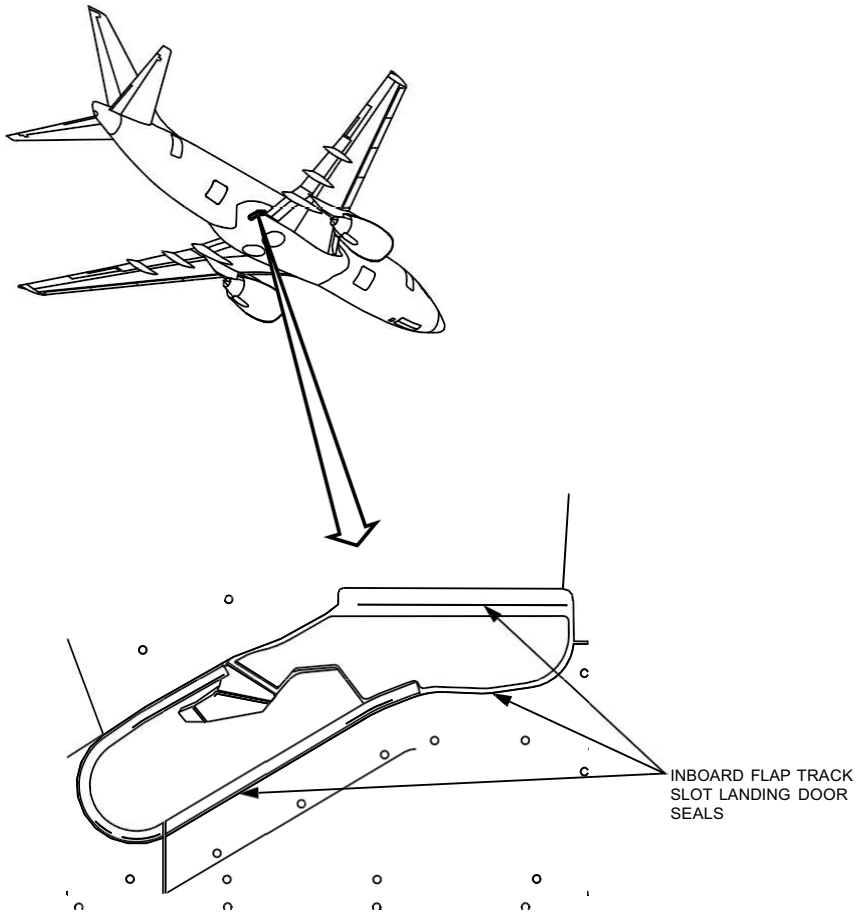


57-53-06 Inboard Flap, Inboard Flap Track Slot Landing Door Seals

For -600/-700/-800/-900/-900ER:
NOTE: Operation at Flaps 40 prohibited.

Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
Any combination of seals and retainers may be missing.		
6	No penalty	No penalty

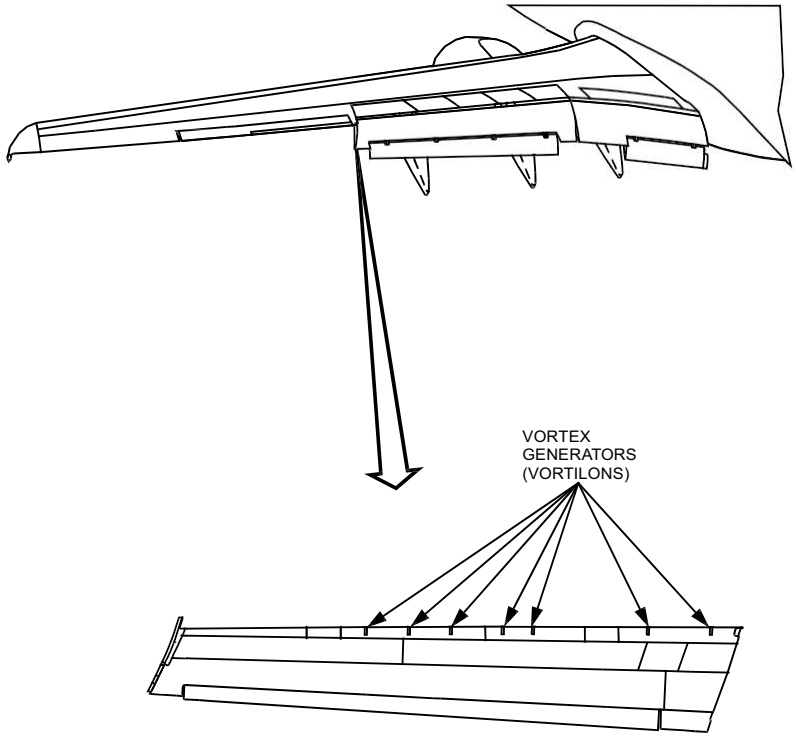


57-53-07 Outboard Flap Leading Edge Vortex Generators

For -600/-700/-800/-900/-900ER:
NOTE: Operation at Flaps 40 prohibited.

Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
Up to 3 non adjacent per side may be missing.		
14	No penalty	No penalty



57-54-01 Krueger Flap Seal Doors

For -300/-400/-500:

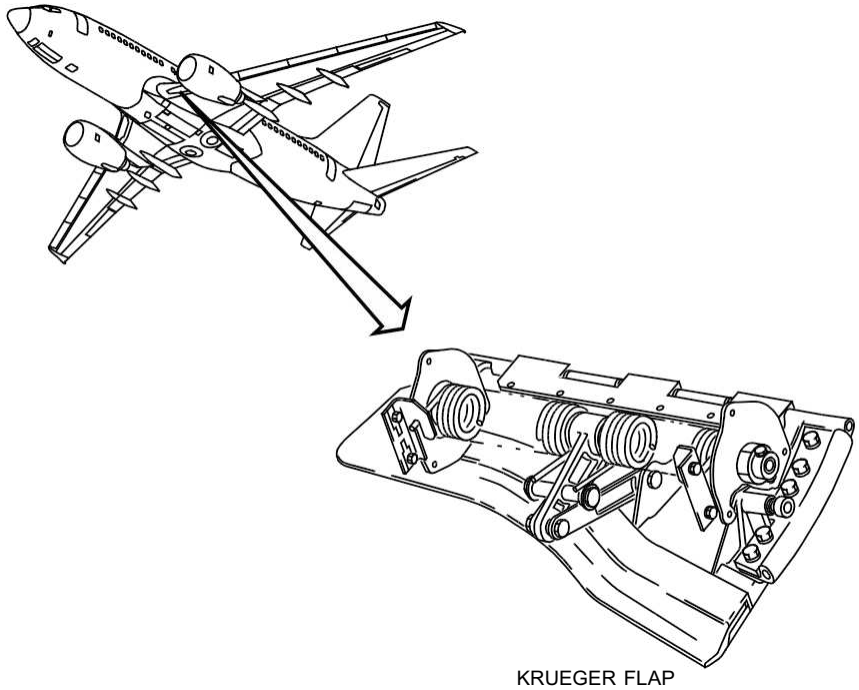
The following performance adjustments are applied:

Reduce the takeoff field length by 600 feet or the takeoff field length limited weight by 7000 lb (3180 kg). Increase VR and V2 by 1 knot.

Reduce the landing field length by 125 feet or the landing field length limited weight by 3000 lb (1360 kg). Increase VREF by 1 knot.

In addition, takeoff, enroute, and landing climb limited weights are reduced by the following for the symmetrical set of missing krueger flap seal doors:

Number Installed	Takeoff & Landing Climb	Enroute Climb
Symmetrical configuration is required. Therefore, if one door is missing, the other door must be removed.		
2	600 lb	Negligible penalty
Symmetrical configuration is required. Therefore, if one door is missing, the other door must be removed.		
2	272 kg	Negligible penalty

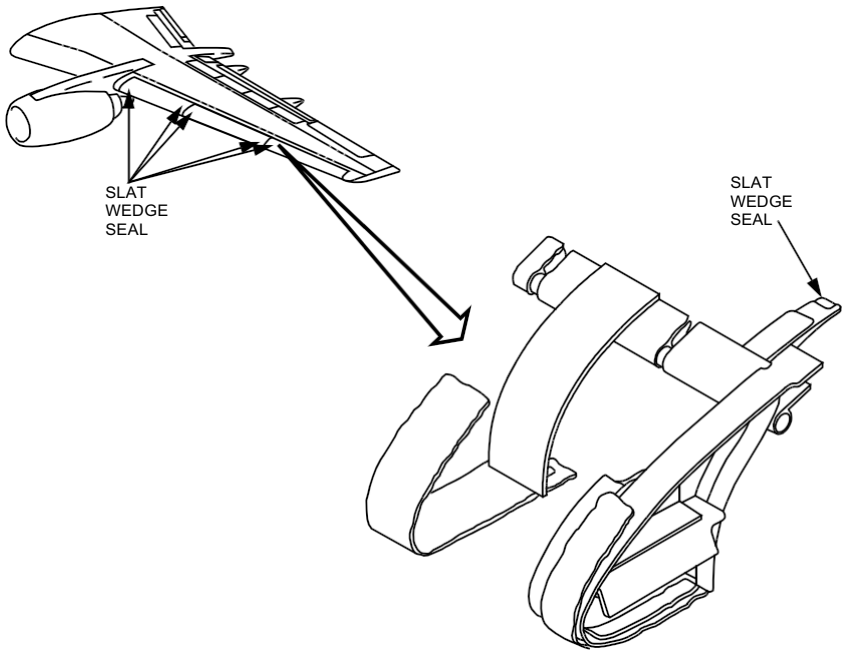


KRUEGER FLAP SEAL DOOR

57-54-02 Wing Leading Edge Slat Wedge Seals

For -300/-400/-500:
Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
Up to four seals may be missing on one wing and one may be missing on the other wing.		
8	No penalty	Negligible penalty
Two or more seals missing on both wings.		
8	No penalty	125 lb
Two or more seals may be missing on both wings.		
8	No penalty	57 kg
(Prior to line position 1585 or prior to incorporation of SB 737-57-1148) Up to five seals may be missing on one wing and one may be missing on other wing.		
10	No penalty	Negligible penalty
(Prior to line position 1585 or prior to incorporation of SB 737-57-1148) Two or more seals may be missing on both wings.		
10	No penalty	125 lb
(Prior to line position 1585 or prior to incorporation of SB 737-57-1148) Two or more seals may be missing on both wings.		
10	No penalty	57 kg

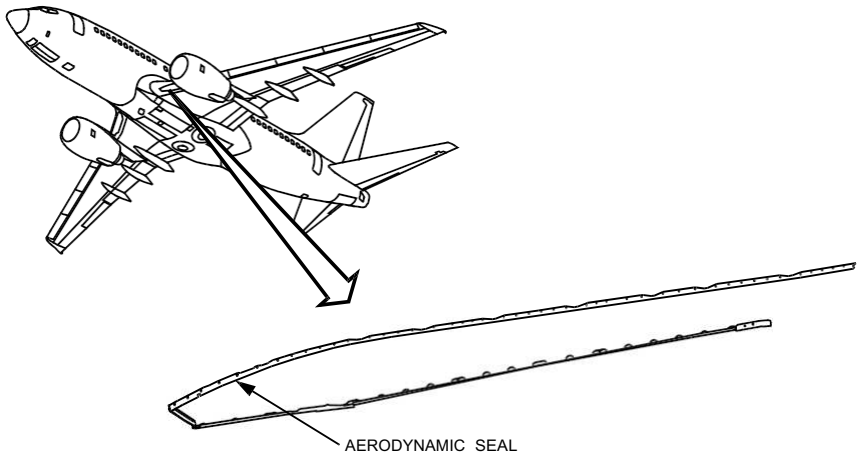

SLAT
WEDGE
SEAL
SLAT
WEDGE
SEAL

57-54-03 Aerodynamic Seal C/T Krueger Flap (Fwd) Inboard Fixed Leading Edge

Only the seals and/or seal retainers around the inboard Krueger flap cavities (Krueger flaps #2 and #3) are allowed to be missing. Seals that extend partially over the outboard Krueger flap cavities may not be missing. Any seal retainers that support the seals which extend partially over the outboard Krueger flap cavity may not be missing, even if these seal retainers are located entirely in the inboard Krueger flap cavities.

Performance limited weights are reduced by the following for any number of missing items:

Number Installed	Takeoff & Landing	Enroute Climb
For -100/-200/-300/-400/-500: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
6	No penalty	1400 lb
For -100/-200/-300/-400/-500: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
6	No penalty	635 kg
For -600/-700/-800/-900/-900ER: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
6	No penalty	350 lb
For -600/-700/-800/-900/-900ER: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
6	No penalty	159 kg

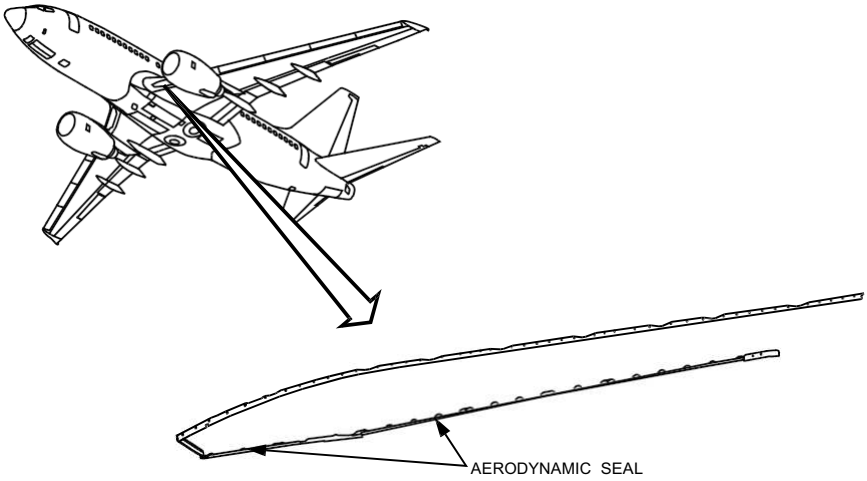

AERODYNAMIC SEAL

57-54-04 Aerodynamic Seal C/T Krueger Flap (Aft)

Only the seals and/or seal retainers around the inboard Krueger flap cavities (Krueger flaps #2 and #3) are allowed to be missing. Seals that extend partially over the outboard Krueger flap cavities may not be missing. Any seal retainers that support the seals which extend partially over the outboard Krueger flap cavity may not be missing, even if these seal retainers are located entirely in the inboard Krueger flap cavities.

Performance limited weights are reduced by the following for any number of missing items:

Number Installed	Takeoff & Landing	Enroute Climb
For -100/-200/-300/-400/-500: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
6	No penalty	1400 lb
For -100/-200/-300/-400/-500: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
6	No penalty	635 kg
For -600/-700/-800/-900/-900ER: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
6	No penalty	350 lb
For -600/-700/-800/-900/-900ER: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
6	No penalty	159 kg

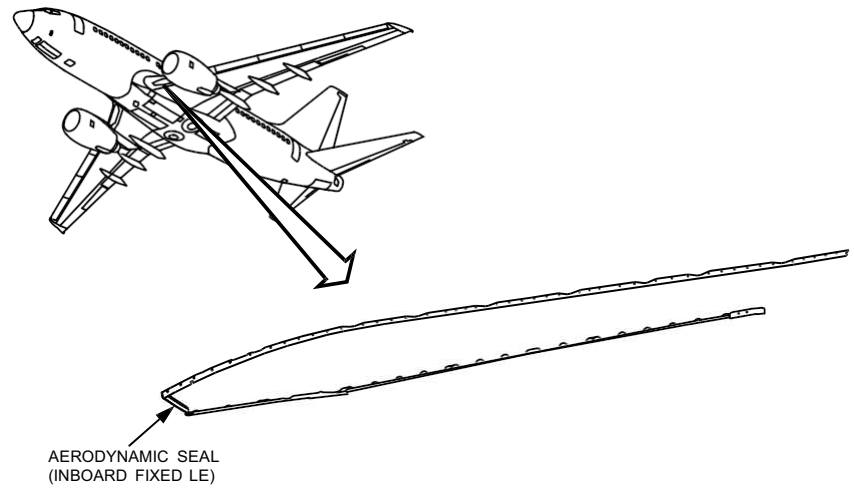

AERODYNAMIC SEAL

57-54-05 Aerodynamic Seal C/T Krueger Flap (Inboard Fixed Leading Edge)

Only the seals and/or seal retainers around the inboard Krueger flap cavities (Krueger flaps #2 and #3) are allowed to be missing. Seals that extend partially over the outboard Krueger flap cavities may not be missing. Any seal retainers that support the seals which extend partially over the outboard Krueger flap cavity may not be missing, even if these seal retainers are located entirely in the inboard Krueger flap cavities.

Performance limited weights are reduced by the following for any number of missing items:

Number Installed	Takeoff & Landing	Enroute Climb
For -100/-200/-300/-400/-500: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
2	No penalty	1400 lb
For -100/-200/-300/-400/-500: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
2	No penalty	635 kg
For -600/-700/-800/-900/-900ER: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
2	No penalty	350 lb
For -600/-700/-800/-900/-900ER: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
2	No penalty	159 kg

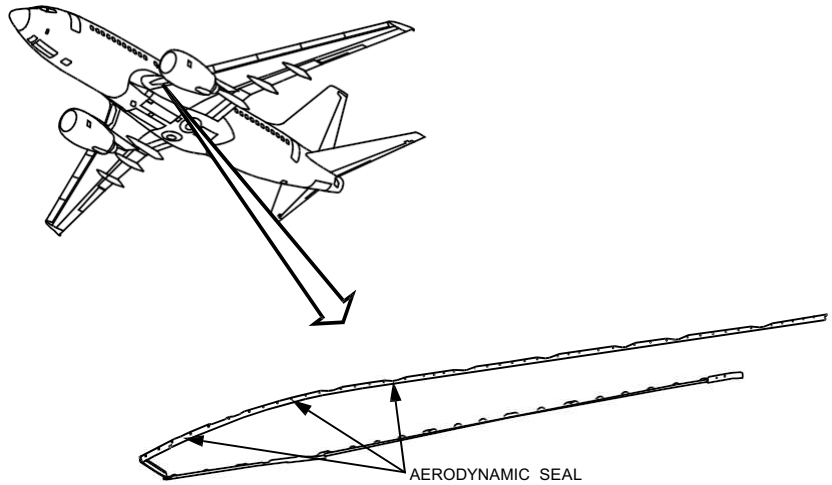

AERODYNAMIC SEAL
(INBOARD FIXED LE)

57-54-06 Aerodynamic Seal Retainer C/T Seal (Krueger Flap - Fwd)

Only the seals and/or seal retainers around the inboard Krueger flap cavities (Krueger flaps #2 and #3) are allowed to be missing. Seals that extend partially over the outboard Krueger flap cavities may not be missing. Any seal retainers that support the seals which extend partially over the outboard Krueger flap cavity may not be missing, even if these seal retainers are located entirely in the inboard Krueger flap cavities.

Performance limited weights are reduced by the following for any number of missing items:

Number Installed	Takeoff & Landing	Enroute Climb
For -100/-200/-300/-400/-500: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
18	No penalty	1400 lb
For -100/-200/-300/-400/-500: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
18	No penalty	635 kg
For -600/-700/-800/-900/-900ER: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
18	No penalty	350 lb
For -600/-700/-800/-900/-900ER: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
18	No penalty	159 kg

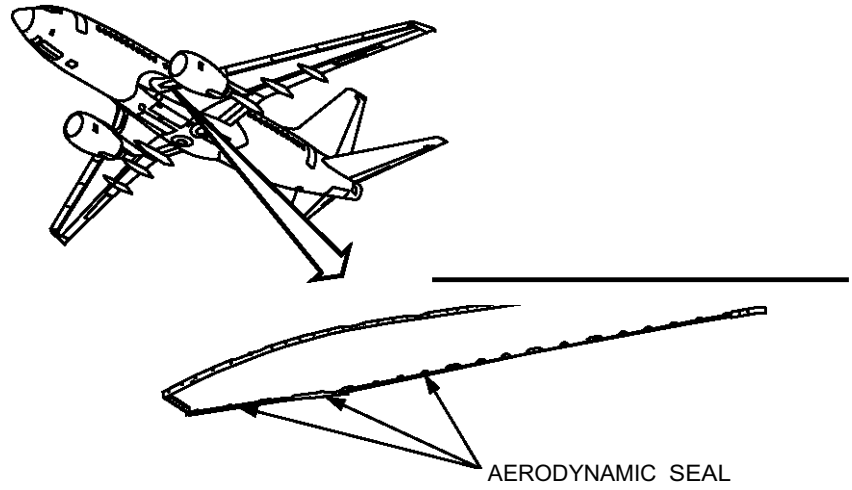

AERODYNAMIC SEAL

57-54-07 Aerodynamic Seal Retainer C/T Seal (Krueger Flap - Aft)

Only the seals and/or seal retainers around the inboard Krueger flap cavities (Krueger flaps #2 and #3) are allowed to be missing. Seals that extend partially over the outboard Krueger flap cavities may not be missing. Any seal retainers that support the seals which extend partially over the outboard Krueger flap cavity may not be missing, even if these seal retainers are located entirely in the inboard Krueger flap cavities.

Performance limited weights are reduced by the following for any number of missing items:

Number Installed	Takeoff & Landing	Enroute Climb
For -100/-200/-300/-400/-500: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
14	No penalty	1400 lb
For -100/-200/-300/-400/-500: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
14	No penalty	635 kg
For -600/-700/-800/-900/-900ER: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
14	No penalty	350 lb
For -600/-700/-800/-900/-900ER: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
14	No penalty	159 kg

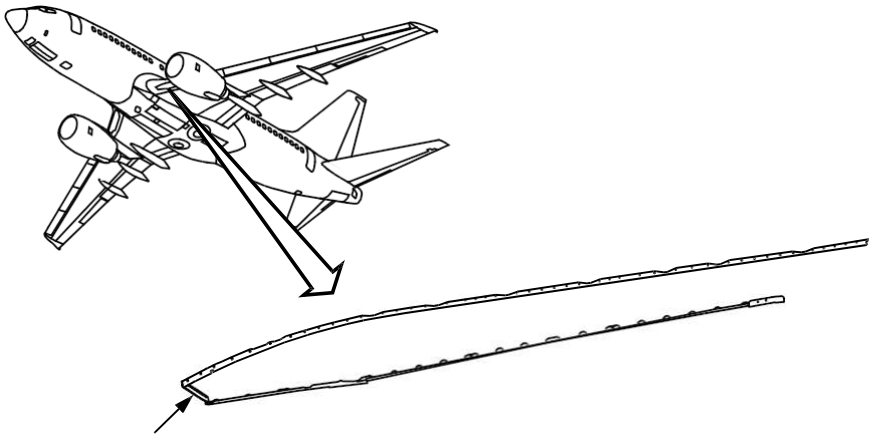

AERODYNAMIC SEAL

57-54-08 Aerodynamic Seal Retainer Assembly C/T Krueger Flap (Aft)

Only the seals and/or seal retainers around the inboard Krueger flap cavities (Krueger flaps #2 and #3) are allowed to be missing. Seals that extend partially over the outboard Krueger flap cavities may not be missing. Any seal retainers that support the seals which extend partially over the outboard Krueger flap cavity may not be missing, even if these seal retainers are located entirely in the inboard Krueger flap cavities.

Performance limited weights are reduced by the following for any number of missing items:

Number Installed	Takeoff & Landing	Enroute Climb
For -100/-200/-300/-400/-500: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
2	No penalty	1400 lb
For -100/-200/-300/-400/-500: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
2	No penalty	635 kg
For -600/-700/-800/-900/-900ER: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
2	No penalty	350 lb
For -600/-700/-800/-900/-900ER: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
2	No penalty	159 kg

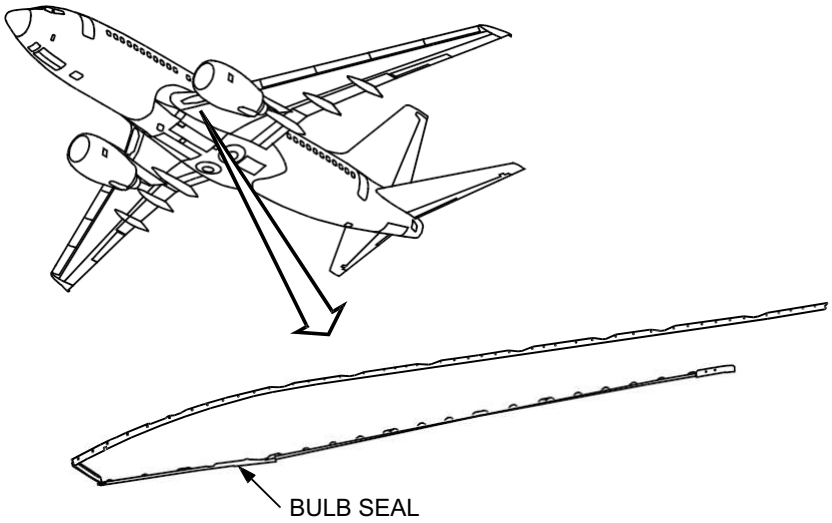

AERODYNAMIC SEAL
RETAINER ASSEMBLY

57-54-09 Bulb Seal C/T Krueger Flap (Aft)

Only the seals and/or seal retainers around the inboard Krueger flap cavities (Krueger flaps #2 and #3) are allowed to be missing. Seals that extend partially over the outboard Krueger flap cavities may not be missing. Any seal retainers that support the seals which extend partially over the outboard Krueger flap cavity may not be missing, even if these seal retainers are located entirely in the inboard Krueger flap cavities.

Performance limited weights are reduced by the following for any number of missing items:

Number Installed	Takeoff & Landing	Enroute Climb
For -100/-200/-300/-400/-500: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
6	No penalty	1400 lb
For -100/-200/-300/-400/-500: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
6	No penalty	635 kg
For -600/-700/-800/-900/-900ER: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
6	No penalty	350 lb
For -600/-700/-800/-900/-900ER: A combination of one or more seals and/or retainers from Items 57-54-03 through 57-54-09 may be missing.		
6	No penalty	159 kg

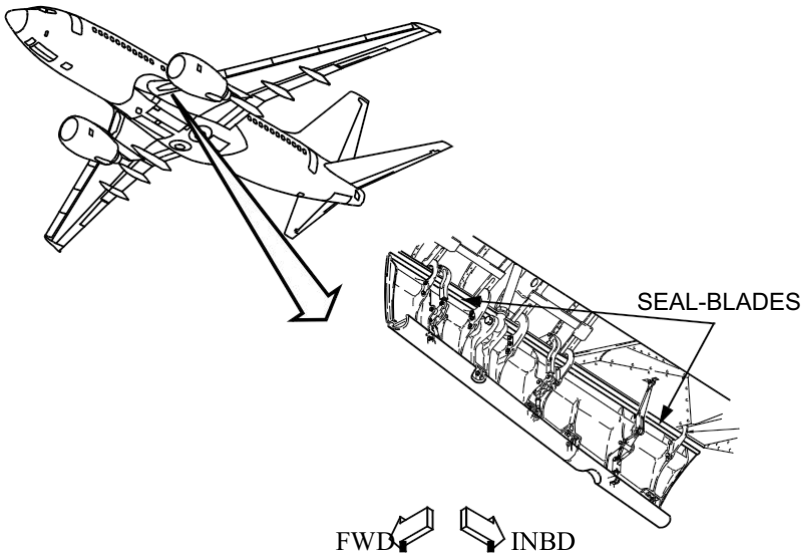

BULB SEAL

57-54-10 Seal-Blade, Inboard Krueger Flap, Spanwise, Aft

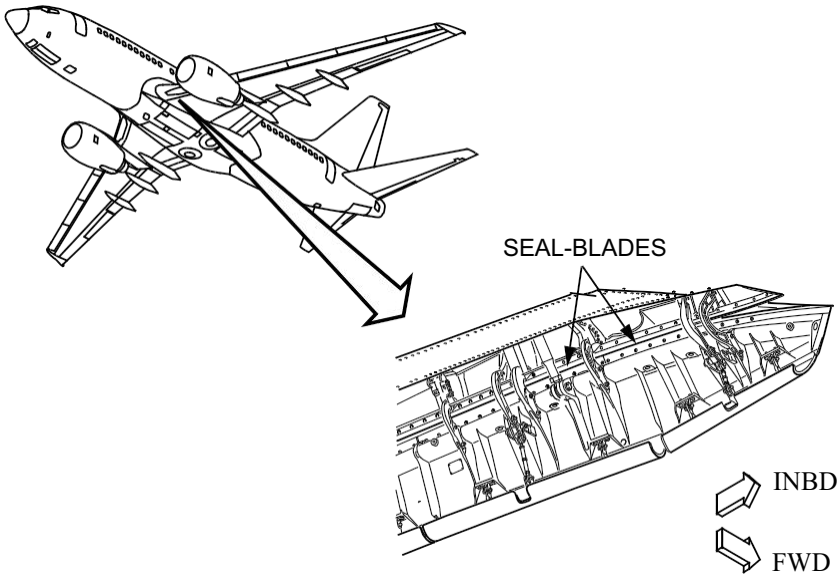
Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
For -100/-200/-300/-400/-500: One or both of the seals may be missing (inboard Krueger flap #2 and #3 only). Takeoff and Landing Speeds Takeoff speeds (VR and V2) and landing speed (VREF) are increased by one knot for either one or both seals missing (applicable to all flap settings). Some -100/-200 have 4 Aft Spanwise Inboard Krueger Flap Seal-Blades installed.		
6	1500 lb	250 lb
For -100/-200/-300/-400/-500: One or both of the seals may be missing (inboard Krueger flap #2 and #3 only). Takeoff and Landing Speeds Takeoff speeds (VR and V2) and landing speed (VREF) are increased by one knot for either one or both seals missing (applicable to all flap settings). Some -100/-200 have 4 Aft Spanwise Inboard Krueger Flap Seal-Blades installed.		
6	680 kg	113 kg
For -600/-700/-800/-900/-900ER: One or both of the seals may be missing (inboard Krueger flap #2 and #3 only). Takeoff and Landing Speeds - No Impact.		
6	750 lb	150 lb
For -600/-700/-800/-900/-900ER: One or both of the seals may be missing (inboard Krueger flap #2 and #3 only). Takeoff and Landing Speeds - No Impact.		
6	340 kg	68 kg

For -100/-200/-300/-400/-500:



For -600/-700/-800/-900/-900ER:



57-70-01 Seal-Blade, Spoiler

For /-400/-500:
Performance limited weights are reduced by the following for each missing item:

Number Installed	Takeoff & Landing	Enroute Climb

For -300/-400/-500:
Inboard Seals
Any number may be missing.

2	225 lb	300 lb

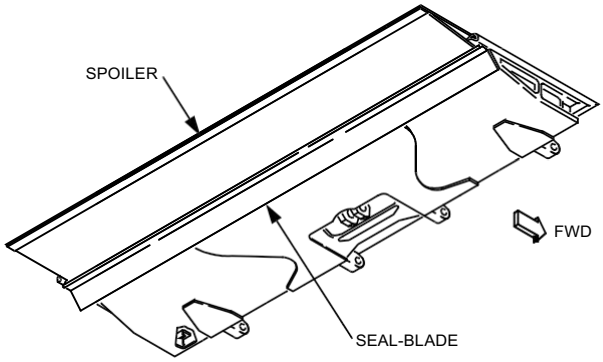
For -300/-400/-500:
Inboard Seals
Any number may be missing.

2	102 kg	136 kg

For -300/-400/-500:
Outboard Seals
Any number may be missing.

8	126 lb	168 lb

Number Installed	Takeoff & Landing	Enroute Climb
For -300/-400/-500: Outboard Seals Any number may be missing.		
8	57 kg	76 kg

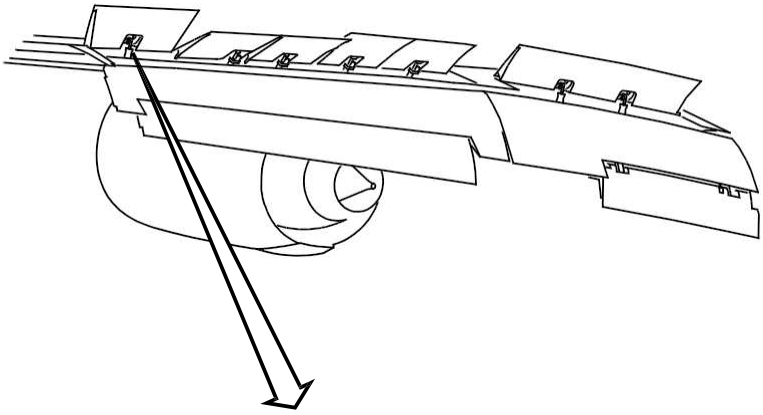


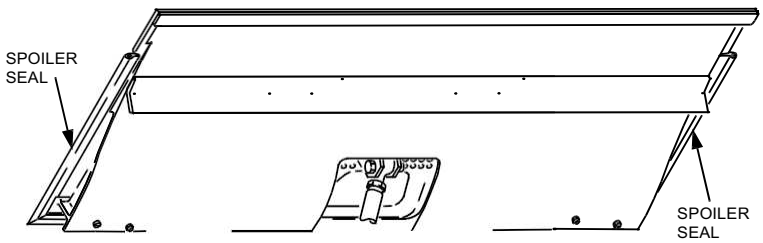
57-71-01 Spoiler 1, 2, 3, 10, 11, 12 Seals

For -600/-700/-800/-900/-900ER:
NOTE: There are 2 seals installed per spoiler.

Performance limited weights are reduced by the following:

Number Installed	Takeoff & Landing	Enroute Climb
Up to 6 may be missing.		
12	No penalty	No penalty





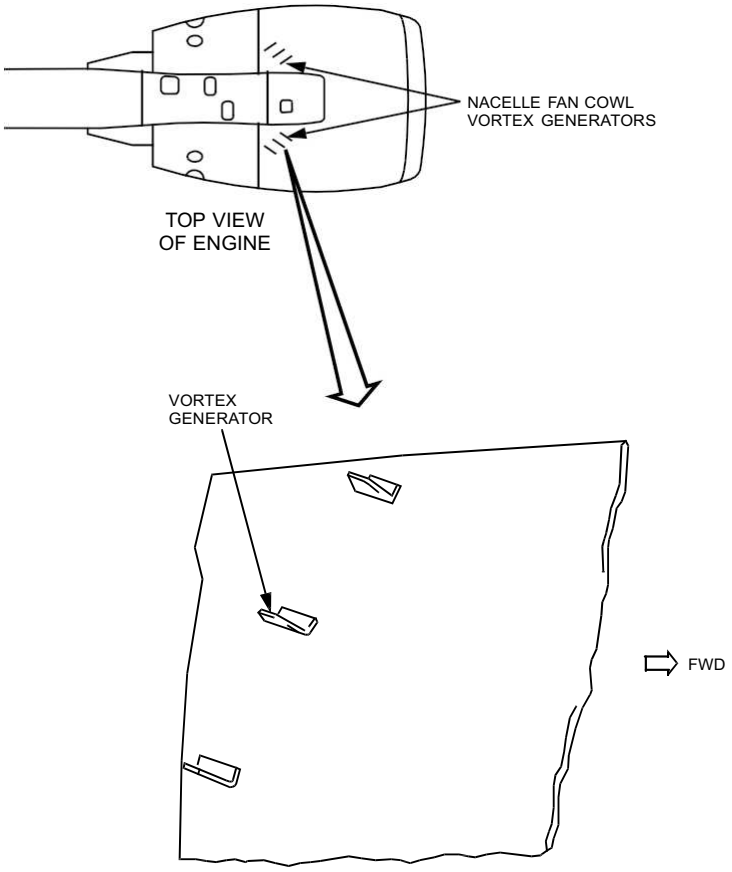
71-11-01 Nacelle Fan Cowl Vortex Generators

For -300/-400/-500:

NOTE: There are 3 vortex generators per nacelle side.

Performance limited weights are reduced by the following for each missing vortex generator:

Number Installed	Takeoff & Landing	Enroute Climb
One per nacelle side for a total of four may be missing.		
12	Negligible penalty	Negligible penalty



71-60-01 Nacelle Fan Duct Extension Ring Acoustic Panels

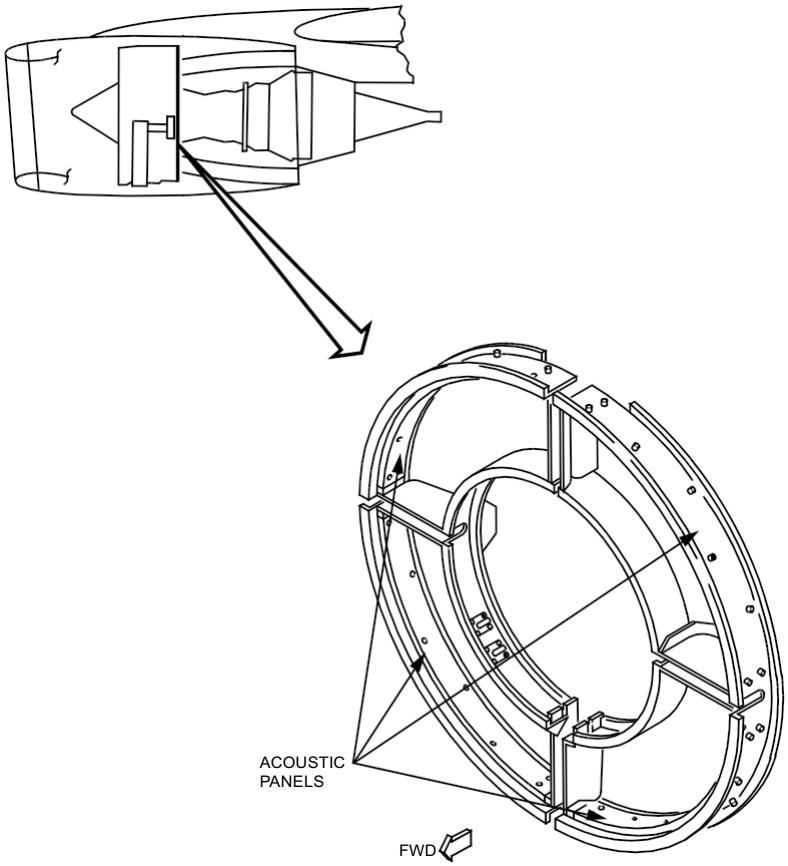
For -300/-400/-500:

NOTE 1: There are 4 acoustic panels per engine.

NOTE 2: Fastener holes must be covered to prevent excess air from entering the fan compartment. Clean the holes and surrounding area with a suitable solvent such as MIBK, MEK, or acetone. Fill the holes with BMS5-63 aero sealant, or equivalent.

Performance limited weights are reduced by the following for one or two panels missing:

Number Installed	Takeoff & Landing	Enroute Climb
One panel (1/4 ring segment) per engine may be missing.		
8	Negligible penalty	Negligible penalty



78-30-01 Thrust Reverser Blocker Door and Drag Link Sets

NOTE: Removal of blocker doors and drag links must be done as a set.

Performance limited weights are reduced by the following for each missing set:

Number Installed	Takeoff & Landing	Enroute Climb

For -300/-400/-500:
One per thrust reverser side for a total of four may be missing.

20	275 lb	325 lb

For -300/-400/-500:
One per thrust reverser side for a total of four may be missing.

20	125 kg	147 kg

For -600/-700/-800/-900:
One per thrust reverser side for a total of four may be missing.

20	255 lb	255 lb

For -600/-700/-800/-900:
One per thrust reverser side for a total of four may be missing.

20	115 kg	115 kg

For -900ER:
One per thrust reverser side for a total of four may be missing.

20	270 lb	270 lb

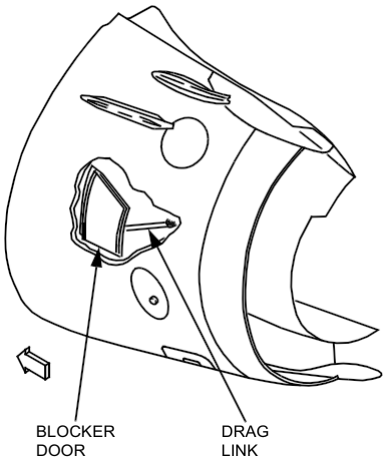
For -900ER:
One per thrust reverser side for a total of four may be missing.

20	123 kg	123 kg

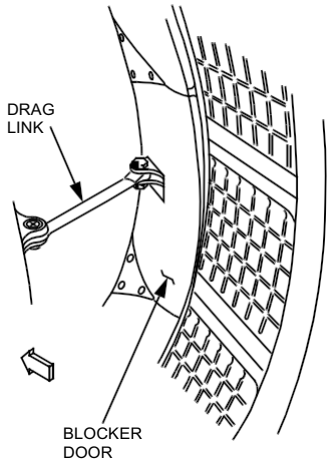
For -600/-700/-800/-900/-900ER:

NOTE 1: On wet/contaminated runways, in lieu of the above takeoff and landing weight penalties, the takeoff and landing performance limited weights are reduced by 8250 lb.

NOTE 2: On wet/contaminated runways, in lieu of the above takeoff and landing weight penalties, the takeoff and landing performance limited weights are reduced by 3750 kg.



VIEW FORWARD OUTSIDE
THRUST REVERSER
TRANSLATING SLEEVE

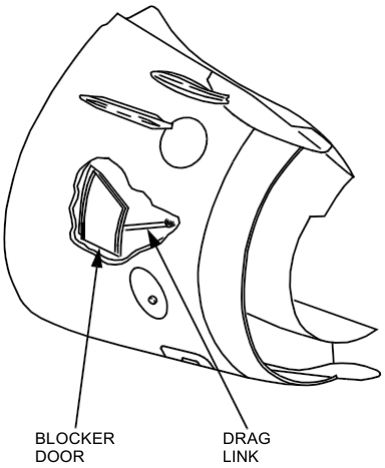


VIEW AFT INSIDE
THRUST REVERSER
TRANSLATING SLEEVE

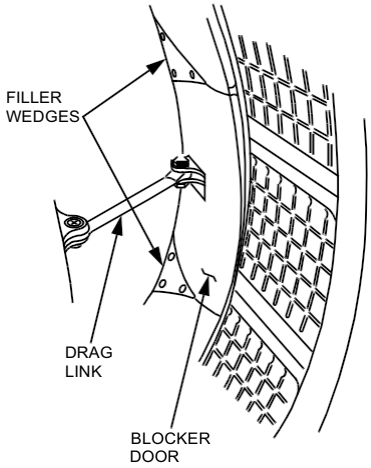
78-30-02 Thrust Reverser Filler Wedges

For -300/-400/-500:
The performance limited weights are reduced by the following for each missing wedge:

Number Installed	Takeoff & Landing	Enroute Climb
One per thrust reverser side for a total of four may be missing.		
16	125 lb	125 lb
One per thrust reverser side for a total of four may be missing.		
16	57 kg	57 kg



VIEW FORWARD OUTSIDE THRUST REVERSER TRANSLATING SLEEVE



VIEW AFT INSIDE THRUST REVERSER TRANSLATING SLEEVE

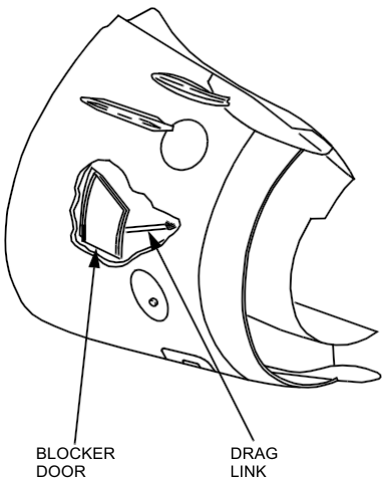
78-30-03 Thrust Reverser Cascade Vane Segments

For -300/-400/-500:

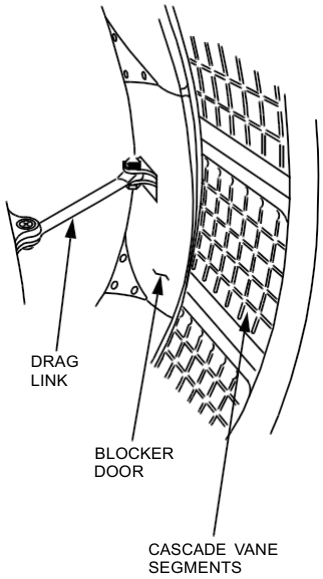
NOTE 1: The thrust reverser on the other side must operate normally. No credit for reverse thrust may be taken on the affected engine.

NOTE 2: Refer to MMEL Item 78-1 for inoperative thrust reverser.

Number Installed	Takeoff & Landing	Enroute Climb
One per thrust reverser side for a total of two on one engine may be missing provided the affected thrust reverser is deactived.		
32	No penalty	No penalty



VIEW FORWARD OUTSIDE THRUST REVERSER TRANSLATING SLEEVE

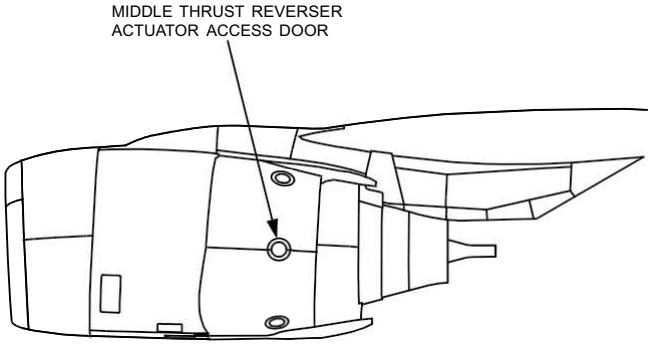


VIEW AFT INSIDE THRUST REVERSER TRANSLATING SLEEVE

78-30-04 Middle Thrust Reverser Sleeve (“D” Duct) Actuator Access Doors

For -600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following for each missing door.

Number Installed	Takeoff & Landing	Enroute Climb
Any number may be missing.		
4	Negligible penalty	Negligible penalty

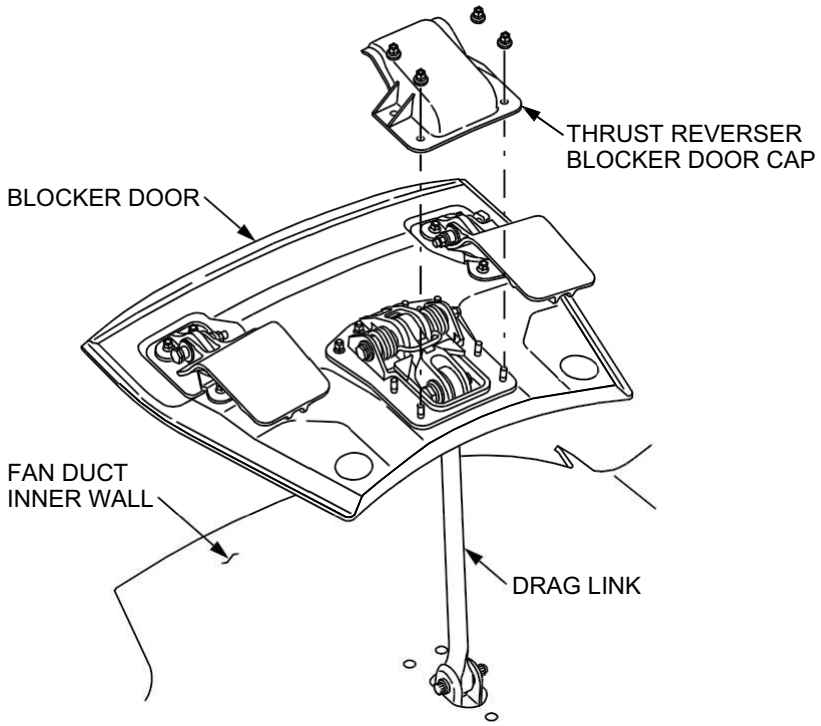


LEFT SIDE VIEW NO. 1 AND 2 ENGINE

78-30-05 Thrust Reverser Blocker Door Caps

For -600/-700/-800/-900/-900ER:
On dry runways, any number may be missing with no performance penalty. On wet/contaminated runways, any number may be missing provided performance limited weights are reduced by the following for each missing cap:

Number Installed	Takeoff & Landing	Enroute Climb
For -600/-700/-800/-900/-900ER: Dry Runway		
20	No penalty	No penalty
For -600/-700/-800/-900: Wet/Contaminated Runway		
20	125 lb	No penalty
For -600/-700/-800/-900: Wet/Contaminated Runway		
20	57 kg	No penalty
For -900ER: Wet/Contaminated Runway		
20	140 lb	No penalty
For -900ER: Wet/Contaminated Runway		
20	64 kg	No penalty

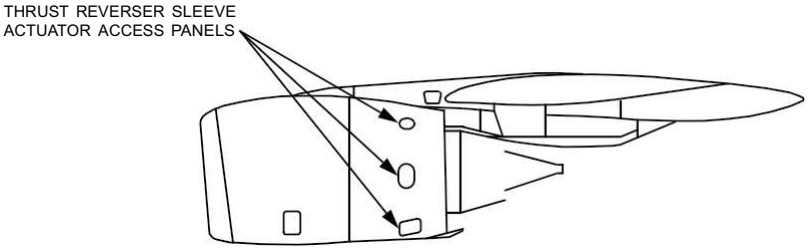

THRUST REVERSER
BLOCKER DOOR CAP
BLOCKER DOOR
FAN DUCT
INNER WALL
DRAG LINK

78-31-03 Thrust Reverser Sleeve Actuator Access Panels

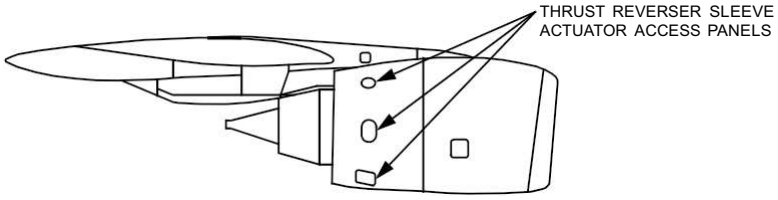
For -300/-400/-500:

Performance limited weights are reduced by the following for each affected nacelle side:

Number Installed	Takeoff & Landing	Enroute Climb
One panel may be missing per nacelle side.		
12	175 lb	350 lb
One panel may be missing per nacelle side.		
12	79 kg	159 kg
Two or more panels may be missing per nacelle side.		
12	850 lb	1700 lb
Two or more panels may be missing per nacelle side.		
12	386 kg	771 kg



LEFT SIDE VIEW ENGINE NO. 1 AND 2

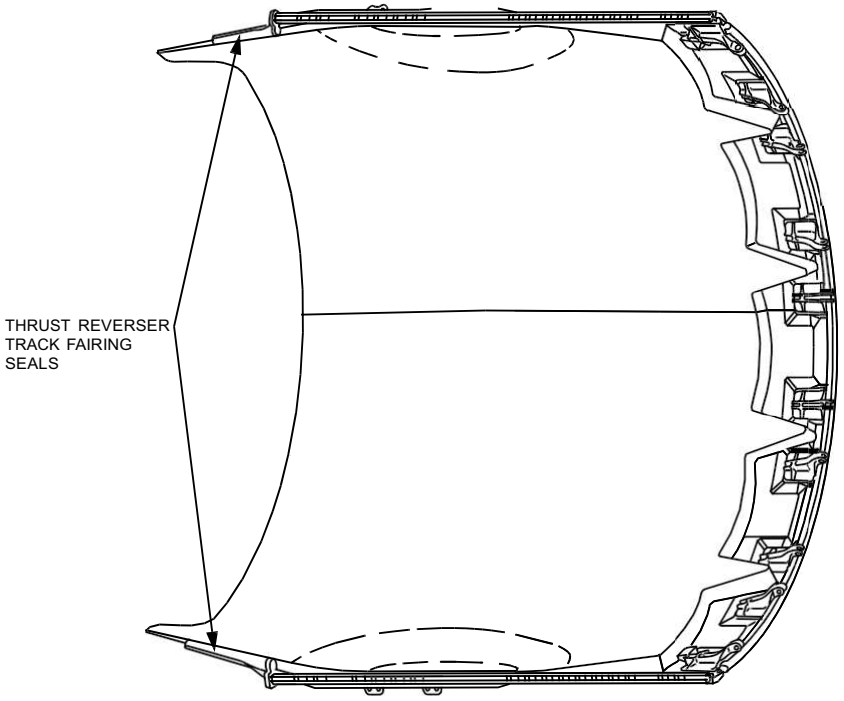


RIGHT SIDE VIEW ENGINE NO. 1 AND 2

78-31-04 Thrust Reverser Track Fairing Seals

For -600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following for each missing seal:

Number Installed	Takeoff & Landing	Enroute Climb
Any number may be missing.		
8	Negligible penalty	Negligible penalty



78-31-05 Thrust Reverser Cascades

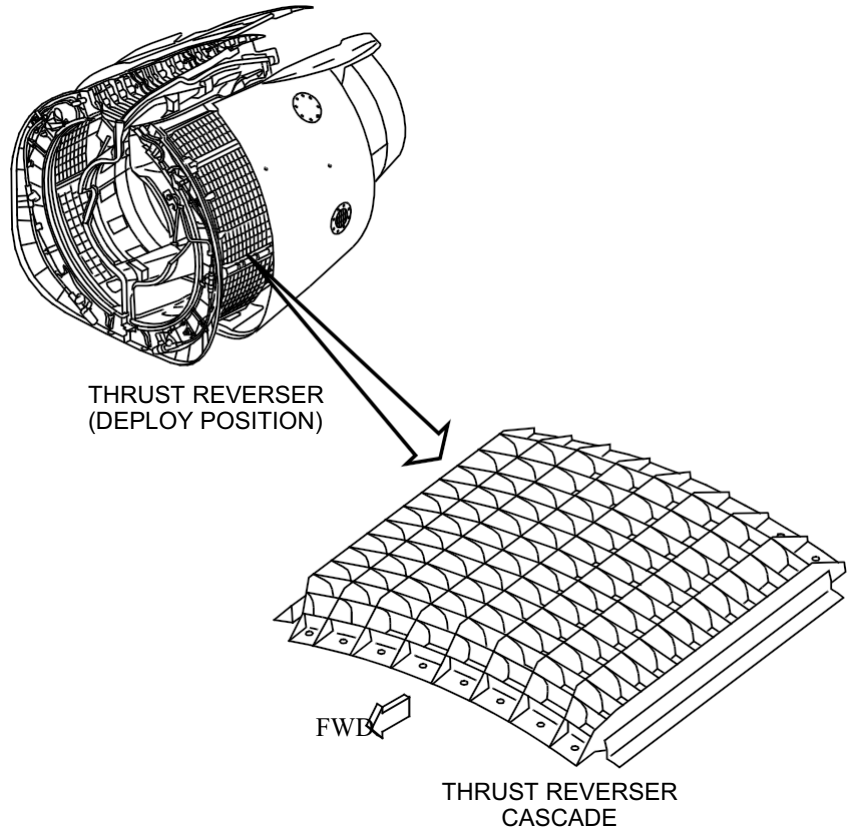
For -600/-700/-800/-900/-900ER:

NOTE 1: The affected thrust reverser must be locked out. The thrust reverser on the opposite engine must operate normally. No credit for reverse thrust may be taken on the affected engine.

NOTE 2: Refer to MMEL Item 78-1 for inoperative thrust reverser.

Performance limited weights are reduced by the following for each missing cascade:

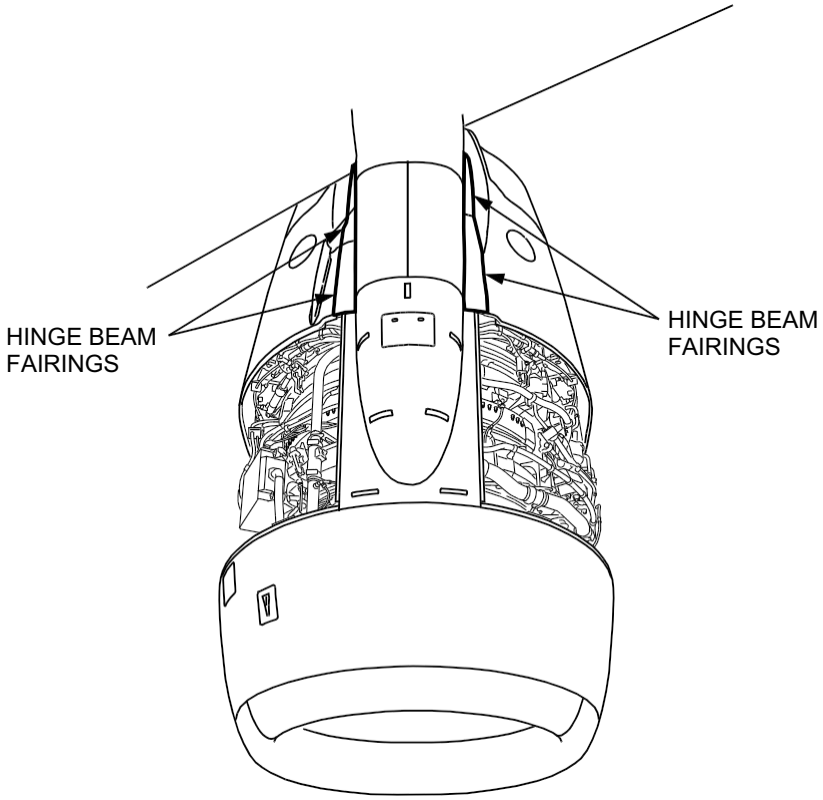
Number Installed	Takeoff & Landing	Enroute Climb
One per thrust reverser side on one engine (for a total of two) may be missing.		
24	Negligible penalty	Negligible penalty



78-31-06 Thrust Reverser Hinge Beam Fairings

For -600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following for each missing fairing:

Number Installed	Takeoff & Landing	Enroute Climb
Any number may be missing.		
8	Negligible penalty	Negligible penalty



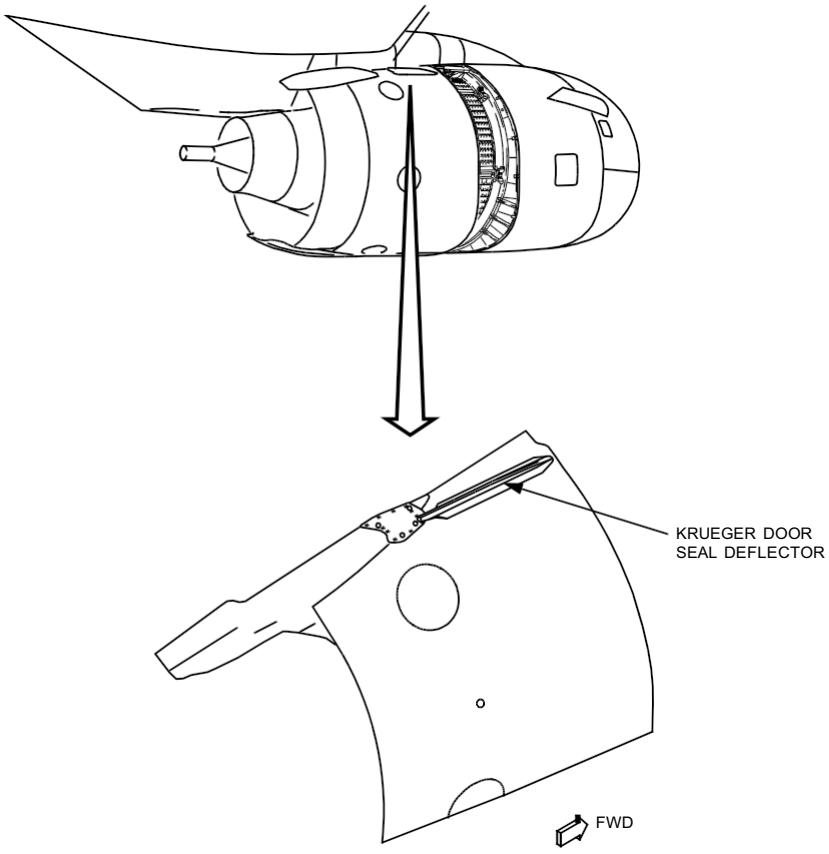
78-31-07 Thrust Reverser Krueger Door Seal Deflector

For -600/-700/-800/-900/-900ER:

NOTE 1: The affected thrust reverser must be locked out. The thrust reverser on the other side must operate normally. No credit for reverse thrust may be taken on the affected engine.

NOTE 2: Refer to MMEL Item 78-1 for inoperative thrust reverser.

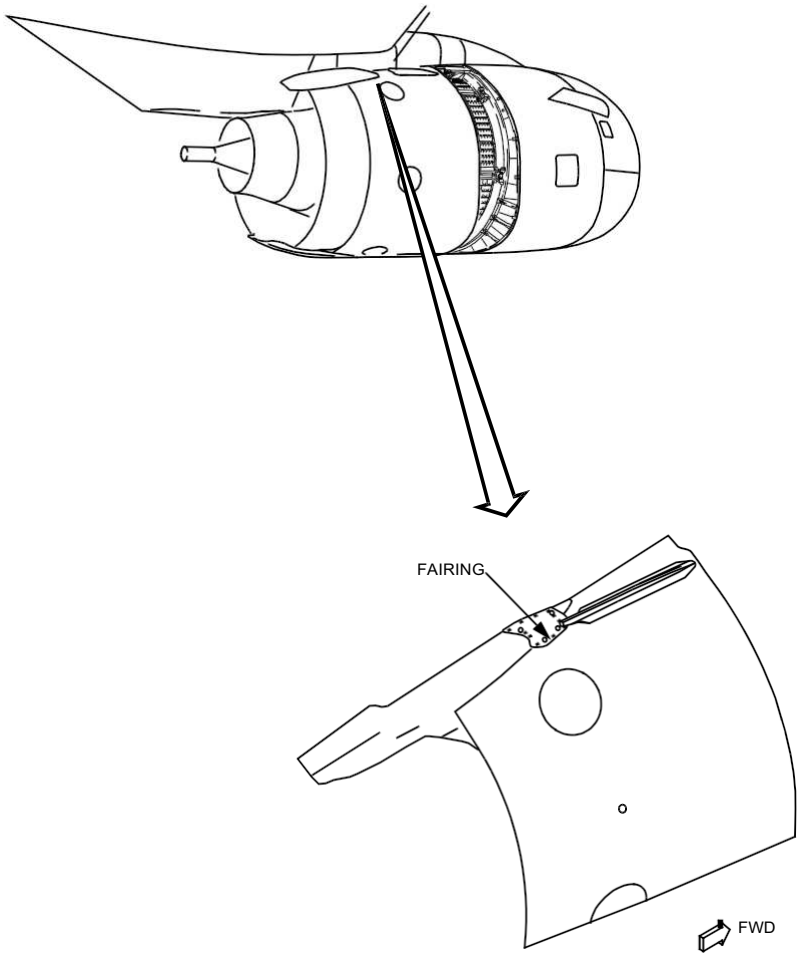
Number Installed	Takeoff & Landing	Enroute Climb
One may be missing.		
2	Negligible penalty	Negligible penalty



78-31-08 Thrust Reverser Krueger Door Seal Fairing

For -600/-700/-800/-900/-900ER:
Performance limited weights are reduced by the following for each missing fairing:

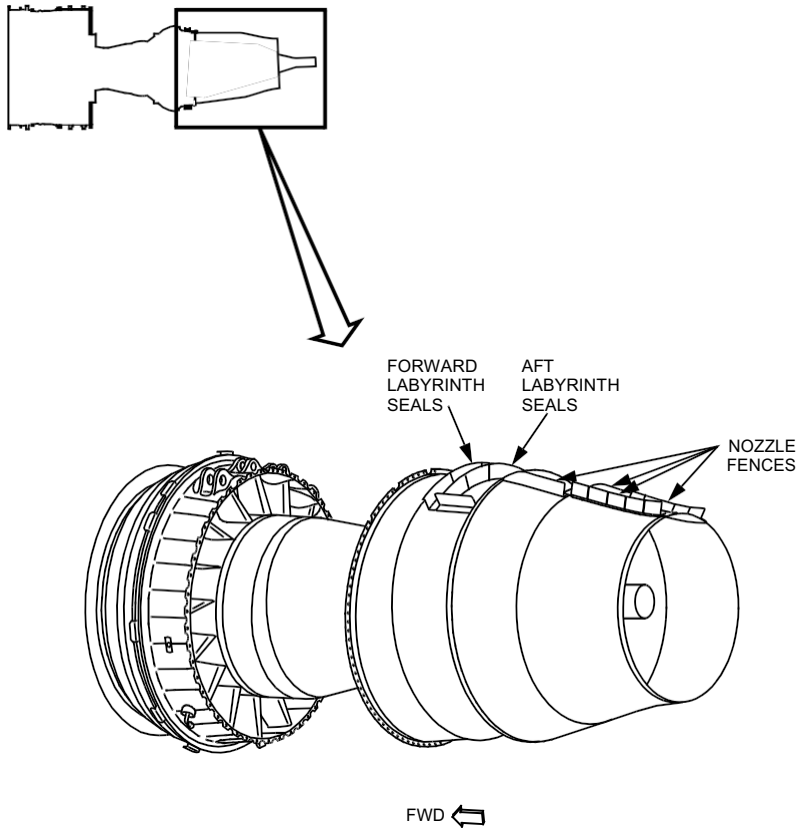
Number Installed	Takeoff & Landing	Enroute Climb
One or both may be missing.		
2	Negligible penalty	Negligible penalty



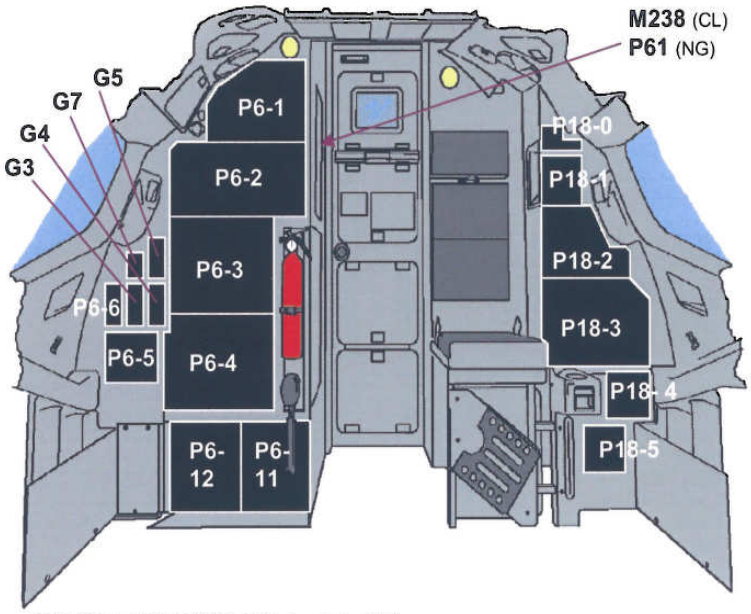
78-32-02 Primary Nozzle Fences

For -600/-700/-800/-900/-900ER:

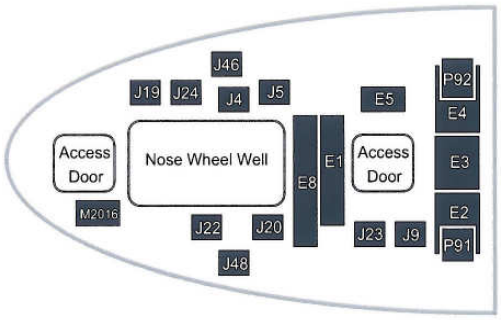
Number Installed	Takeoff & Landing	Enroute Climb
Four per nozzle for a total of eight may be missing for a maximum of 10 days or 125 flights, whichever comes first. Visual inspections of the nozzle and aft fairing are requried every 10 flights within this interval.		
24	No penalty	No penalty



CIRCUIT BREAKERS PANELS



P6-5, P6-6, P18-0, P18-4, P18-5 only in (CL)
G3-4-5-7 (CL) = **SPCU M01720** (NG)



CIRCUIT BREAKERS / SECTION CL

1 Airplane General, Emergency Equipment, Doors, Windows

Air Stair	P18-1	C, D
Door Lock, Warning	P6-3	C1, A2
Galley Aft	P6-12	C7-9
Galley Forward	P6-11	C7-9
Lavatory Flush Motors	P18-4	B3,B6,C6
Lavatory Water Heaters	P18-4	A5-7
Lights		
Anti Collision	P18-3	C15-16
Landing	P18-3	A13-16
Taxi Nose Gear	P18-3	D14
Position	P18-3	B15,B16
runway Turnoff	P18-3	D15-16
Service	P18-3	E14-16
		F14-16
Wing	P18-3	B13
AFCS Flood	P6-3	E12,E14
Control Cabin	P6-3	A9-15
Emergency Exit	P18-3	A12
Entry (dim)	P6-5	B6
Lav Dome-Mirror	P18-3	F10-11
Lav Mirror Ext Power	P6-3	D1
Master Dim Bus Ind	P6-3	B13-B15
		C13-C15
		D13-15
No Smoke/Seat Belts	P18-3	A9-10
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		F9-14
Instrument Panel	P6-3	B11-B12
		C9,C11-12
Pass. Signs Control	P18-3	A11
Galley	P18-3	B8,C6
		D6,E6,F12
Pass. Window	P18-3	B6-7
Oxygen System	P18-3	F6-9
Service Outlets	P6-3	E1,F1
Vacuum Cleaner Recep	P18-4	C1-2
Water Quantity Ind	P18-4	A2

2 Air Systems

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Cabin Air Recirculation	P6-4	E5
Equipment Cooling	P18-3	A18,B18
		C18,D18
		E18
Fan Control Supply	P18-3	F17-18
Forward Outflow Valve	P6-4	C5
Indicators	P6-4	D1-4
Outflow Valve Heater	P6-4	D5
Pack Valves	P6-4	C3-4
Pressure Control	P6-4	F1-6
Ram Module	P6-4	E1-3
Recirculation Fan	P6-4	B4-5
Temperature Control	P6-4	A1-5
Turbofan Valves	P6-4	C1-2
Pneumatic Duct		
Pressure Indication	P6-4	C1

3 Anti-Ice, Rain

Alpha Vane Heater	P18-3	D4-5
Drain Heater	P18-3	D3
Elevator Pitot Heaters	P18-3	D1-2
Engines & Wing Anti-Ice	P18-3	A1-4
Pitot Static Heaters	P18-3	C1-4
Pitot Static Indication	P6-3	F17-18
Rain Repellent	P18-3	B3-4
Temp Probe Heater	P18-3	C5
Window Anti-Ice	P6-11	B7-9
Window Anti-Ice / Heat	P6-12	B7-9
Window Heat Control	P18-3	E1-4,F1-4
Windshield Wiper	P18-3	B1-2
Wing valves	P18-3	A5
Overheat Wheel Well		
Wing Body	P6-2	B24

4 Automatic Flight

Air Force Limiter	P18-1	D7
Autothrottle	P18-1	D3-4
Engage Interlock	P18-1	E4
FCC-DC	P18-1	E3
MCP AFDS CRS 2 DC	P6-2	B3
MCP AFDS DC	P18-1	D1

5 Communications

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ACARS/Printer	P18-2	E12, E13
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FO	P6-2	B20
OBS	P6-2	C21

HF 1	P18-2	E13
HF 2	P6-1	C2
Interphone	P6-2	A20-A21 +B+C+D
Pass. Tape Reproducer	P6-1	D6-7
Selcal 1	P18-2	D15
Selcal 2	P6-1	D1
VHF 1	P18-2	D12
VHF 2	P6-1	C2
Voice Recorder	P18-2	C6
VOR/LOC 1	P18-1	A1
VOR/LOC 2	P6-1	A15

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AC Transfer Bus Ind	P6-5	D6
Aux Power Start	P18-5	-
Battery Bus	P6-5	C7
Battery Bus Control	P6-5	B2-3
Battery Charger	P6-4	D8,F8
Battery Transfer Control	P6-5	A3
Battery Warn Light	P18-1	E5
DC Bus Power	P6-5	B7-8
DC Bus 1&2	P6-4	B6,D6
DC Indication	P6-5	C1-6
DC Standby	P6-5	C1
DC Standby Power	P6-5	D2-3
External Power	P6-12	D5,D8
External Power Control	P6-5	D4
External Power Control	P6-5	B4
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Gen Control (1, APU, 2)	P6-4	D10-D12
Gen Drive Oil Temp & Press	P6-4	E10-E13
Generator Power Cont	P6-5	B5
Ground Service	P6-11	D8
Ground Service Bus	P6-4	A13-15,D13-15
Hot Battery Bus	P18-5	-
Hot Battery Bus -Switch	P18-5	-
Inverter	P6-5	A1-A2
Inverter Volts	P6-4	F18
Main Bus 1&2	P6-4	B10-15
Main/Transfer DC 1&2	P6-4	E14-E15 F14-15
No 1 Electronics	P6-1	E13-15
No 2 Electronics	P18-0	A2-3
Standby Bus Power	P6-4	F16-17
Indication Auto	P6-5	A5-6
Transfer Bus 1-2	P6-12	B2,B5
Transfer Bus 1-2	P6-11	B2,B5
Transfer Bus 1-2	P6-4	C10-15
Transfer/CSD Control	P6-4	F10-13
TR1 P6-4		A8
TR2 P6-4		C8
TR3 P6-4		E8

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Control Sys Thrust Rev	P6-2	C6,C8
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Engine AVM	P6-2	B4
Idle Control	P6-2	A4
Ignition	P6-2	B5-8
Master Caution	P6-2	A5
Oil Quantity	P6-2	D5,D7
Oil Temperature Ind	P6-2	D6
Oil Pressure Ind	P6-2	D7
Start Valves	P6-2	D6,D8
Tacho N1 N2 Ind	P6-2	D1-4
Thrust Reverser	P6-2	C5,C7

8 Fire Protection

Detection / Protection	P6-2	A22-24
Fire Extinguisher Bottles	P6-2	C22-C24 D23-D24
Pass. & Crew Call Smoke Detection	P18-4	A1
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Mach Trim System C	P6-2	B1-2
Sensor exc AC	P18-1	E1
Altn TE Flap Drive AC	P6-2	D10
Flap Position Indication	P6-2	C12-13
Rudder Trim Indicator	P6-2	C11
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Stab Trim A/P	P18-0	A1
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Trim Control	P6-2	C9-10
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ADF 2	P6-1	B14-15

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ADC 2	P6-1	B6-7
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Air/Data XFMR 2	P6-1	B5
Altimeter 1	P18-2	B8-9
Altimeter 2	P6-1	B4
Mach/ASI 1	P18-2	B10
Mach/ASI 2	P6-1	C5
Transponder 1	P18-1	B2
Transponder 2	P6-1	D16
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Inst XFMR 1	P18-2	A1
Inst XFMR 2	P6-1	A12
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Radio Altimeter 2	P6-1	C15
RDMI Captain	P18-2	A5
RDMI FO	P6-1	A8
Standby Horizon	P18-2	C1
SG 1	P18-2	C
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VSI 2	P6-1	C4
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CDU 2	P6-1	B
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DAA 2	P6-1	D8-10
DAA/FMC 1	P18-2	C5
DAA/FMC 2	P6-1	D13
EADI 1	P18-2	E4
EADI 2	P6-1	C12
EFIS 1	P18-2	E2-3
EFIS 2	P6-1	C10-11
EHSI 1	P18-2	E5
EHSI 2	P6-1	C13
FCC 1	P18-1	E
FCC 2	P6-2	C
FMCS	P18-2	E6-9
IRS 1	P18-2	D4-5
IRS 2	P6-1	D11-12
MCP	P6-2	B
MCP	P18-1	D

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Aft	P6-3	C3,C7
Center	P6-3	D5,E5
Forward	P6-3	B3,B7
Fuel Crossfeed Valve	P6-3	C5
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Ground Fueling	P6-3	A7
Control	P6-5	B4
Fuel Boost Pump Control	P6-3	E3,E7
Fuel Shut Off Valves	P6-3	B5,D3,D7
Fuel Temp Indicator	P6-3	A3-6
Fuel Quantity Indicators	P6-3	A3-6

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Auto Slat 2	P6-2	C14-15
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Bypass Valve Control	P6-2	D18-19
Elec Hydr Pump Control	P6-2	A14-15
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Hydraulic SOV Engine	P6-2	B18-19
Gear Sys Transfer Valve	P6-2	D14-15
Oil Quantity Indication	P6-2	C16-17
Pressure Indication	P6-2	D16-17
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Standby Pump Altn	P6-12	A8
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System B Pump Elec	P6-11	C2

14 Landing Gear

Fail Warn & Park Brake	P6-3	E16-18
Anti-Skid	P6-3	E18
Autobrakes	P6-3	A17
Lever Latch	P6-3	C17
Ldg Gear Relay & Lights	P6-3	C18
nose wheel steering	P6-3	D16

15 Warning Systems

Aural Warn Ldg Gear	P6-3	D18
Door Warning	P6-3	A2
GPWS	P18-1	A7
Mach Warning 1	P18-2	B7
Mach Warning 2	P6-1	C7
Master Caution Lights	P6-3	D8-12
Master Warning	P6-2	B23
Stall Warning 1	P18-2	D7-9
Stall Warning 2	P6-1	A6-7

CIRCUIT BREAKERS / SECTION NG

1 Airplane General, Emergency Equipment, Doors, Windows

Aft Cargo Loader Cont	P6-11	D8
Aft Cargo Loader Drive	P9	E8
Door Area Htr-Aft	P91	A14
Door Area Htr-Fwd	P91	A16
Door Lock Cabin	P6-3	E1
Drain SOV	P6-12	B4
Fwd Airstair		
Actuator	P6-4	B17
Cont Normal	P6-4	A17
Cont Stby	P6-4	C16
Door	P6-4	A16
Stby Door Actr	P6-4	C17
Fwd Galley Air SOV	P6-12	B2
Galley Bus A-B	P92	F7, F8
Galley Bus C-D	P91	F6-F8
Galley Coffee Makers	Galley	
Grey Water Drain Valve	P18-3	E19
Lav Water Heater A-D-E	P18-3	F13-F15
Lights - Access Compt	P91	C5
Lights - Air Cond Compt	P92	C3
Lights - Brt Entry	P91	E10
Lights - Cargo Compt		
Aft - Fwd	P92	C5, C4
Lights - Cargo Cont	P92	C10
Lights - Ceiling	P91	D12, D11
Lights - Control Cabin Panel		
Flood Cont	P6-3	A11
Flood Stby	P6-3	A12
Stand	P6-3	A8
Dome White	P6-3	A15
Map & Kit	P6-3	A9
Obs Reading	P6-3	A10
Stby Compass	P6-3	A14
Lights - Elec Rack -Fwd	P91	C2
Lights - Elex Panel		
Aft Captain	P8	TBD
Aft Center	P8	TBD
Aft FO	P8	TBD
Fwd	P8	TBD
Lights - Emer Panel G	P6-3	D8
Lights - Entry Dim	P6-4	E9
Lights - Exterior		
Anti Collision White	P18-3	B13
Anti Collision Red	P18-3	B12
General Light Cont	P18-3	D12
Landing Left Fixed	P18-3	B15
Landing Left Retr	P18-3	C15
Landing Right Fixed	P18-3	C14
Landing Right Retr	P18-3	B14
Logo Illum	P18-3	A15
Nose Gear Taxi	P18-3	D14
Position	P18-3	A13, A12
Runway Turnoff Left	P18-3	C13, C12
Runway Turnoff Right	P18-3	C12
Wing Scan	P18-3	A14
Lights - Fwd Airstair		
Tread Light	P6-4	A18
Lights - Galley	P92	E10
Lights - Gnd Serv Ceiling		
Night Cont	P91	C4
Lights - Gnd Serv Window		
Bright. Cont	P92	C1
Lights - Indicator Master		
Dim Bat	P6-3	D12
Dim Bus 1	P6-3	D13
Dim Bus 2	P6-3	D14
Dim Dim Cont	P6-3	D11
Dim Sect 1>3	P6-3	E11-E13
Dim Sect 4	P6-3	E14
Dim Sect 5>8	P6-3	F11-F14
Lights - Lav Mirror Light	P18-3	E14
Lights - Overhead		
28V Primary	P6-3	D9
28V Secondary	P6-3	D10
5V Secondary	P6-3	E8-E10 F8-F10
Lights - Panel & Instr		
28v Pri Capt & Ctr	P6-3	B9
28v Pri FO	P6-3	B10
CB Panel	P6-3	C9
Elex Panel	P6-3	C10
Lights - Pass. Cabin		
Signs Lavatory Sign	P18-3	D9
Emergency Chgr	P18-3	A11, B10
Fasten Seat Belt	P18-3	C9, C8
No Smoking	P18-3	C11, C10
Reading Left	P91	B1-B9
Reading - Right	P92	B1-B9
Pass. Call	P18-3	A8, B8, D11
Lights - Thrsh	P91	C1
Lights - Wheel Well	P92	C2
Lights - Window L-R	P92	E12, E11
Lights - Work & Thrsh	P91	C3
Overwing Flight Lock	P6-2	D2, D1
Oxygen Indicator	P18-3	F7
Oxygen Manual Control	P18-3	F8
Oxygen Pass.	P18-3	F10, F9
Potable Water Compr.	P91	A18

Service Outlet	P92	E7
Service Outlets 28v dc	P6-3	F1
Shaver Outlet 115v ac	P18-3	F12
Vacuum Outlet	P92	E9, E8
Vacuum Waste	P18-3	D19
Vacuum Waste Blower	P91	F2,C11
Vent SOV	P6-12	B3
Water Qty Ind	P91	C9

2 Air Systems

Bleed Air Press Ind	P6-4	B5
Bleed Air Valve Isln	P6-4	A5
Bleed Air Valves	P6-4	A7, B7
Bleed Air Xdcr	P6-4	A6, B6
Door Area Heat Cont	P18-3	E11
Equip Cooling Exhaust Fan		
Control Altn	P6-4	C15
Control Normal	P6-4	C14
Power Altn	P92	A10
Power Norm	P91	E1
Equip Cooling Low Flow		
Detect Exhaust	P18-3	A18
Detect Supply	P18-3	A17
Equip Cooling Supply Fan		
Control Normal	P6-4	C12
Control Altn	P6-4	C13
Power Altn	P91	A8
Power Norm	P92	A8
Mix Valve Pos Ind	P6-4	D7
Overboard Valve Cont	P6-4	D1, D2
Overheat	P6-4	C4
Pack Cont Right	P6-4	B11, B9
Pack Cont Valves	P6-4	C6, C5
Pack Cont Valves Alt	P6-4	D3, D4
Pack Control Left	P6-4	A11, A9
Pack/Eng Bleed Air Ovht	P6-4	C8, C7
Pressurization Control		
Auto 1 - 2	P6-4	F3, F5
Indication	P6-4	F7
Lcd Ltg	P6-4	F1
Manual	P6-4	F6
Ram Air Mod Control	P6-4	A8, B8
Ram Air Mod	P6-4	A4, B4
Recirc Fan Cont	P6-4	E1
Recirc Fan Left Cabin	P18-3	E7
Recirc Fan Left Cont	P18-3	E9
Recirc Fan Right Cabin	P6-4	E4
Recirc Fan Right Cont	P6-4	E2
Temp Control 35 Deg F	P6-4	A1, B1
Temp Control Auto	P6-4	A2, B2
Temp Control Manual	P6-4	A3
Temp Control Valve	P6-4	A1, B1
Temp Indicator	P6-4	D8
Trim Air Press (800-900)	P6-4	D9
Zone Temp		
Duct Ovht	P6-4	C2-C4
Valve Fan Cont	P6-4	A3, B2, B3

3 Anti-Ice, Rain

Aux Water Tank		
Heat Blanket	P6-2	B15
Eng 1 & Wing Cont	P18-3	A6
Eng 1Cowl Anti-Ice	P18-3	A7
Eng 2 Cowl Anti-Ice	P18-3	B7
Eng 2 Control	P18-3	B6
Heaters Alpha Vane	P18-3	C3, D3
Heaters Aux Pitot	P18-3	D6
Heaters Captain Pitot	P18-3	C1
Heaters Drain	P18-3	E3-E5
Heaters Elev Pitot L-R	P18-3	C4, D4
Heaters FO Pitot	P18-3	D5
Heaters Temp Probe	P18-3	C2
Hose Heaters	P18-3	E18
Probe Indication Capt	P6-3	F18
Probe Indication FO	P6-3	F16
Water Line Heaters	P18-3	D18
Water Hose Heaters	P6-2	B17
Water Sterilizer Heat Bl.	P6-2	B16
Water Tank Heat Blanket	P6-2	B14
Window Heat Control		
L1 Front AC	P18-3	E1
L2 Side AC	P18-3	D2
R1 Front AC	P18-3	D1
R2 Side AC	P18-3	E2
Window Heat Power		
L1 Front	P6-11	B9
L2 Side	P6-12	B9
L4 & L5	P6-11	B7
R1 Front	P6-12	B8
R2 Side	P6-11	B8
R4 & R5	P6-12	B7
Windshield Wipers L&R	P18-3	B3, B1
Wing Anti-Ice Valve	P18-3	A1

4 Automatic Flight

AFCS Sys A		
Engage Interlock	P18-1	D3
FCC DC	P18-1	D2
Mach Trim	P18-1	C4, D4
Sensor Exc AC	P18-1	C5
AFCS Sys B		
Engage Interlock	P6-2	B4
FCC DC	P6-2	B3
Mach Trim	P6-2	C1, B2
Sensor Exc AC	P6-2	C2
AFCS Interlock 2	P6-2	A3

AFCS Stabilizer Trim	P18-1	C2
AFDS MCP DC 1	P18-1	D5
AFDS MCP DC 2	P6-2	C3
AFDS MCP CRS 2 DC	P6-2	B3
Autothrottle DC 1 - 2	P18-1	E1, E3

5 Communications

ACARS CMU DC	P6-1	E9
ACARS Printer	P6-1	E5
Audio Captain	P6-2	D23
Audio FO	P6-2	D22
Audio OBS	P6-2	D24
C/B-Nats	P6-1	E2
CMU 1 - 2	P6-1	E7, E8
Entertainment Video	P6-1	C7, C5
Entertainment Audio	P6-1	C8, B10
Entertainment Mux	P6-1	C10
Entertainment PA Sys	P6-1	C6
Entertainment PA Tape	P6-1	C9
HF 1	P18-2	E11
HF 2	P6-1	D2
Interphone Power Capt 1	P6-2	C24
Interphone Power Capt 2	P6-2	C23
Interphone Power FO 1	P6-2	C22
Interphone Power FO 2	P6-2	C21
PA Amplifier	P6-1	D4
Pass. Cabin Crew Call	P18-3	A9
Selcal	P18-2	D15
VHF 1	P18-2	D11
VHF 2	P6-1	C3
VHF 3	P18-2	D12
Video 1 till 4	P6-1	D5-D8
Voice Recorder + Relay	P18-2	D7, C7

6 Electrical

AC APU gen Ind	P91	B11
AC Gen 1 Ind	P91	B12
AC Gen 2 Ind	P92	B12
APU gen Cont Unit	P92	C9
Aux Bat Chgr	P91	E3
Aux Bat DC Voltmeter	J9	A2
Auxiliary Battery Charger	J9	L29
Auxiliary Power Breaker	P91	TBD
Bat Bus Sect 1 - 2 - 3	M01720	C4,5,A1
Bat Chgr	P92	E1
Bat/Stby Sw Pos Ind	M01720	B5
Battery Bus	J9	A5
Battery Charger	J9	A4
Bus PWR Cont Unit	P91	C10
Bus Tie Breaker 1 - 2	P91	TBD
Cabin Util Rly PWR	P6-11	A8
DC Bus 1 Sect 1 - 2	P91	A2, C12
DC Bus 1 XFR	P91	A1
DC Bus 2 Sect 1 - 2	P92	C12, A2
DC Bus 2 XFR	P92	A1
DC Bus Indication		
Bat Bus	**P6-4**	**F14**
DC Bus 1 - 2	**P6-4**	**F16, F18**
Hot Bat Bus	**P6-4**	**E15**
Stby Bus	**P6-4**	**E18**
Sw Hot Bat Bus	**P6-4**	**E16**
Dual Bat RCCB Remote	M01720	A4
Electrical Gnd Serv		
Cont	P6-4	E13
DC 1	P6-4	D11
DC Hot Bat	P6-4	E12
Electrical TR3 XFR		
Relay Cont	P6-4	E11
Ext PWR 1	P92	A18
Ext PWR 2	P92	A15
Ext PWR BPCU	P92	A12
Ext Power Contractor	P92	A12
Gen 1 Load Shed	P91	C7
Gen 2 Load Shed	P92	C7
Generator APU GCU	P6-4	F12
Generator Breaker 1	P91	TBD
Generator Breaker 2	P92	TBD
Generator Bus PCU	P6-4	F13
Generator Cont Unit 1-2	P6-4	F10, F11
Generator Disc 1-2	P6-4	F8, F9
Gnd Serv 1	P91	F1
Gnd Serv 1 Sect 1	P91	E5
Gnd Serv 1 - 28v ac	P91	E11
Gnd Serv 2	P92	F1
Gnd Serv 2 - 28v ac	P92	E6
Hot Bat Bus	M01720	B3
Inverter Remote	M01720	A5
Inverter Volts	M01720	A2
Main Bus 1	P91	F6
Main Bus 2	P92	F6
P6 Dist	P92	C6
SPCU Normal, Standby	M01720	B1, B2
Static Inverter RCCB	J9	TBD
STBY BUS		
PWR - AC BUS	**P6-4**	**D18**
115v ac Ind	**P6-4**	**D16**
28v ac Distr	P6-4	D15
Sect 1 - 2	M01720	C1, C2
Switched Hot Bat Bus	M01720	B4
TRU 1	P91	A6
TRU 2	P92	A4
TRU 3	P92	A6
TRU 3 Altn	P91	A4
TRU 3 DC Ind	M01720	C3
XFR Bus 1		
28v ac	P91	B10
Sect 1 & 2	P91	F4, F5
Sect 2 - 28v ac	P18-3	C5

XFR Bus 2		
28v ac	P92	B10
Sect 1 & 2	P92	F4, F5
Sect 2 - 28v ac	P6-4	D14
115v ac Ind	P6-4	D13

7 Engines, APU

APU Cont	P6-4	A14
APU Fire Sw Power	P6-2	B19
APU SCU	P91	A11
APU SCU Fan Power	P6-4	B14
Eng 1 Altn PWR Ch A-B	P18-2	A5, A4
Eng 1 Ignition Left-Right	P18-2	A3, A1
Eng 1 Run/PWR	P18-2	B3
Eng 1 Start Lever A-B	P18-2	B1, B2
Eng 1 Start Valve	P18-2	B8
Eng 1 Thrust Reverser	P18-2	B4-B7
Eng 2 Altn PWR Ch A-B	P6-2	D8, D7
Eng 2 Ignition Left-Right	P6-2	D6, D4
Eng 2 Run/PWR	P6-2	B5
Eng 2 Start Lever A-B	P6-2	B6, B7
Eng 2 Start Valve	P6-2	C4
Eng 2 Thrust Reverser	P6-2	C5-C8
Eng Fuel Eng 1 HPSOV	P6-3	E5, E6
Eng Fuel Eng 2 HPSOV	P6-3	E3, E4
Eng Vib Mon	P6-2	A2

8 Fire Protection

Cargo Fire Aft Det A-B	P18-3	C19, C18
Cargo Fire Ext 1 - 2	P18-3	B17, B16
Cargo Fire Fwd Det A-B	P18-3	C17, C16
Fire Protection Detection		
Master Warn & Cont	P6-2	A21
Ovht Wheel Well	P6-2	A19
Ovht Wing Body	P6-2	A19
APU	P6-2	A23
Eng 1	P6-2	A24
Eng 2	P6-2	A22
Fire Protection Extinguishers		
Altn	P6-2	B24, B23
APU	P6-2	B21
Left	P6-2	B22
Right	P6-2	B20
Lavatory Smoke	P18-3	E12

9 Flight Controls

Alternate TE Flap Drive	P6-2	D13
Auto Speed Brake	P6-2	B9
Autoslat DC 1 - 2	P6-2	C14, B14
Elev Tab Valve Right	P6-2	B8
Flap Load Relief	P6-2	A6
Flap FCSOV	P6-2	A7
Flight Cont FCSOV	P6-2	B13, C13
Force Fight Monitor	P6-2	D15
FSEU DC 1 - 2	P6-2	A8, A9
Rudder Authority Limiter	P6-2	C9
Spoiler FCSOV	P6-2	B12
Stab Trim	P6-2	D10, B10
SMYD -1 Cmptr DC	P18-2	E5
SMYD -1 Snsr Exc AC	P18-2	E6
SMYD -2 Cmptr DC	P6-1	B5
SMYD -2 Snsr Exc AC	P6-1	B4
Speed Brake Autostow	P6-4	TBD
Standby Rudder FCSOV	P6-2	C11
Stick Shaker Left	P18-2	E4
Stick Shaker Right	P6-1	B6
TE Flap Pos/Skew		
Snsr & Ind	P6-2	A12, A11
Trim Cont Aileron	P6-2	D18
Trim Cont Rudder	P6-2	D19
Trim Ind Rudder	P6-2	D16
Yaw Damper 1 DC	P18-1	D7
Yaw Damper 2 DC	P18-1	D6
Yaw Damper AC	P18-1	C7
Yaw Damper Indicator	P18-1	C6

10 Flight Instruments, Displays

ADC 1	P18-2	A8, A9
ADC 2	P6-1	B6, B7
Data Loader	P18-2	A9
Display DEU 1 Holdup	P6-1	D10
Display DEU 1 Pri	P18-2	D5
Display DEU 2 Holdup	P6-1	D9
Display DEU 2 Pri	P6-1	D11
DU Captain Inboard	P18-2	D3
DU Captain Outboard	P18-2	D4
DU Center Lower	P6-1	E12
DU Center Upper	P18-2	D2
DU FO Inboard	P6-1	E11
DU FO Outboard	P6-1	E10
EFIS Cont Panel Capt	P18-2	D1
EFIS Cont Panel FO	P6-1	E13
Flight Recorder	P18-2	C9, C10
Flight Rec Position Snsr	P18-2	C8
Misc Clock	P6-3	A2, A1

11 Flight Management, Navigation

ADIRU Left	P18-1	E7, E5
ADIRU Left EXC	P18-2	E8
ADIRU Right	P6-1	C14, C17
ADIRU Right EXC	P6-1	C15
ATC 1	P18-1	B5

ATC 2	P6-1	D14
ATC Antenna Switch	P6-1	E14
CDU 1	P18-2	A7
CDU 2	P6-1	D15
FMCS Bite DC	P18-2	B10
FMCS Computer 1	P18-2	A6
FMCS Computer 2	P6-1	D16
FMCS MCDU 1	P18-2	A7
FMCS MCDU 2	P6-1	D15
FMCS XFR	P6-1	E15
GPS - MMR 1	P18-1	A2, A7
GPS - MMR 2	P6-1	A13, A9
HUD (As installed)	P18-2	C1, C2, C5, C6
Instrument XFR	P18-2	E2
ISFD (As installed)	P18-2	D8
Radio Navigation		
ADF 1	P18-1	A4
ADF 2	P6-1	A17
DME 1	P18-1	B3
DME 2	P6-1	A14
Nav Cont Pnl 1	P18-1	A3
Nav Cont Pnl 2	P6-1	A15
Nav Snsr DC-1	P18-1	B1
Nav Snsr DC-2	P6-1	A10
Radio Altm 1	P18-1	B4
Radio Altm 2	P6-1	A16
RMI	P18-1	A5
VOR 1 / Mkr Bcn	P18-1	A1
VOR 2	P6-1	A12
Stby Altm/ASI Vibrator	P18-2	D10
Stby Attitude Indicator	P18-2	D9
TCAS	P18-1	B6
Terrain Display	P18-1	A7
Weather Radar R/T	P6-1	D13

12 Fuel

Fuel Boost Pump		
CTR Tank Left	P91	D6
CTR Tank Right	P92	D6
Main Tank 1 Aft	P92	D2
Main Tank 1 Fwd	P91	D2
Main Tank 2 Aft	P91	D4
Main Tank 2 Fwd	P92	D4
Fuel Cross Feed Valve	P6-3	B7
Fuel Fueling Control	P6-3	A3
Fuel Fueling Indicators	P6-3	A4
Fuel Qty Processor Unit	P6-3	A6, A5
Fuel Shutoff Valves	P6-3	C6, C4
Fuel Spar Valve Eng 1-2	P6-3	B4, B3
Fuel Spar Valve Ind.	P6-3	B5
Fuel Temp Indicator	P6-3	A7

13 Hydraulics

EMDP 1 Control Sys B	P91	C8
EMDP 1 Sys B	P91	F3
EMDP 2 Control Sys A	P92	C8
EMDP 2 Sys A	P92	F3
EDP Depress Valve 1	P6-2	B15
EDP Depress Valve 2	P6-2	A17
Hyd Sys		
Ldg Gr Sys Xfr Valve	P6-2	C16, C15
Brake Press Ind	P6-2	A13
PTU Valve Cont	P6-2	A15, A16
SOV Eng 1 - 2	P6-2	C19, C18
Stdby Hydraulic Pump	P92	F2

14 Landing Gear

Landing Gear		
Air/Gnd Relay	P6-3	D15
Air/Gnd Sys 1-2	P6-3	C16, C15
Altn Extend Solenoid	P6-3	D16
Antiskid Inbd-Outbd	P6-3	E16, E18
Autobrake Bite Cont	P6-3	A18, A16
Nose Gear Steering	P6-3	D17
Parking Brake	P6-3	B16
PSEU Pri - Altn	P6-3	D1, D2

15 Warning Systems

AFCS Sys A		
Warn Light (Bat)	P18-1	D1
AFCS Sys B		
Warn Light (Bat)	P6-2	B1
Door Warning	P6-3	
Interphone & Warn	P6-2	D21
GPWS	P18-1	B7
Landing Gear		
Aural Warn	P6-3	D18
Latch & Press Warn	P6-3	B17
Takeoff Warn Cutoff	P6-3	C18
Mach Warn Sys 1	P18-2	E3
Mach Warn Sys 2	P6-1	B7
Master Caution		
Annunciator	P6-3	B13, B12
Annunciator Control	P6-3	C11-C14
Stall Warn Asym Mode	P18-2	E7