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**DISEÑO PRELIMINAR DE UNA AERONAVE EN RÉGIMEN
SUBSÓNICO ALTO, DE CORTO ALCANCE Y UN SOLO
PASILLO**

Tutor del PFC:

VANESSA DEL CAMPO GATELL

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Contenido de este Volumen 2:

LISTA MAESTRA DE EQUIPOS MÍNIMOS (MMEL)

PÁGINA INTENCIONADAMENTE EN BLANCO



MASTER MINIMUM EQUIPMENT LIST

(M. M. E. L.)

AFAB-3000 SERIES

P/N: AFAB3000-MMEL

**Los Ítems aplicables a esta MMEL corresponden a las aeronaves
modelo:**

AFAB-3000 Series

REGISTRO DE REVISIONES

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PREÁMBULO

1. Introducción

Esta MMEL toma en consideración el equipo genérico de la aeronave, configuración, condiciones operativas y los requisitos establecidos en la normativa vigente JAR-OPS incluyendo las Instrucciones Circulares y Circulares Operativas de la AESA y los requisitos exigidos por las Autoridades de Aviación Civil extranjeras sobre cuyo espacio aéreo se vuela.

Cualquier MEL derivada de ella no se desviará de ninguna Directiva de Aeronavegabilidad o de cualquier otro Requerimiento Mandatorio y no será en ningún caso menos restrictiva que esta MMEL.

Es la finalidad de esta MMEL el permitir operaciones con ítems de equipos inoperativos por un período de tiempo hasta que la rectificación pueda ser realizada.

Las rectificaciones habrán de realizarse en la primera oportunidad posible.

Las Condiciones y Limitaciones de la MEL derivada de esta MMEL no liberan al Comandante de determinar si la aeronave se halla en buenas condiciones para la operación segura con ítems no aptos para el servicio permitidos por dicha MEL.

Las provisiones de la MEL resultante son aplicables hasta que la aeronave comience el vuelo.

Cualquier decisión de continuar un vuelo después de un fallo o no funcionamiento que se haga evidente después del comienzo del vuelo deberá ser evaluada según el buen juicio del piloto y el buen quehacer aeronáutico. El comandante puede continuar haciendo referencia y usar la MEL si lo encuentra apropiado, prevaleciendo no obstante lo expuesto en el Manual de Vuelo en todo caso.

Al aprobar la MEL correspondiente la AESA permite el despacho de la aeronave con ciertos elementos o componentes no operativos con tal que un nivel de

seguridad aceptable sea mantenido al usar los procedimientos operativos y/o de mantenimiento, al transferir la función a otro Componente operativo o por

referencia a otro instrumento o Componente que suministre la información requerida.

2. Contenido de la MEL

La MMEL contiene solamente aquellos elementos requeridos por la Normativa para la Operación o aquellos elementos importantes para la aeronavegabilidad, que pudieran estar inoperativos con anterioridad al despacho de la aeronave, siempre que los procedimientos y limitaciones apropiados sean observados.

Equipo que sea obviamente básico para la aeronavegabilidad de la aeronave tales como motores, sistema del tren de aterrizaje, etc. no aparecen en la lista y deberán estar operativos para todos los vuelos. Es importante notar que:

TODOS LOS ELEMENTOS QUE ESTEN RELACIONADOS CON LA AERONAVEGABILIDAD DE LA AERONAVE Y NO ESTEN INCLUIDOS EN LA LISTA, SE REQUIERE AUTOMATICAMENTE QUE ESTÉN OPERATIVOS.

3. Criterios para el despacho

La decisión del Comandante del vuelo de hacer que se corrijan con anterioridad al inicio del vuelo ítems que la MEL resultante permite inoperativos tendrá precedencia sobre las provisiones contenidas en dicha MEL. El Comandante puede solicitar requerimientos por encima del mínimo que aparece en la lista, siempre que a su juicio tal equipo añadido sea esencial para la seguridad de un vuelo en particular bajo las condiciones que prevalezcan en esa ocasión.

La MEL que derive de esta MMEL no puede tener en consideración todos los casos de fallos múltiples de funcionamiento. Por tanto, antes del despacho de la aeronave con múltiples ítems inoperativos, deberá asegurarse que cualquier interrelación entre ítems inoperativos no resultara en una degradación en el nivel de seguridad ni lo en un indebido incremento en la carga de trabajo de la tripulación. Es particularmente en el área de las múltiples discrepancias y

especialmente en las discrepancias de sistemas relacionados, que el buen juicio, basado en las circunstancias de cada caso, incluyendo las condiciones climáticas y en ruta deberá ser usado.

4. Acción de mantenimiento

Deberá hacerse todo el esfuerzo posible por parte de Mantenimiento para corregir todos los defectos técnicos tan pronto como sea practicable y que la aeronave sea devuelta al servicio por parte del centro de mantenimiento en completa condición operacional. El Comandante deberá ser informado por Mantenimiento tan pronto como sea factible, en el caso de que fuera imposible la rectificación del ítem inoperativo antes de la salida.

Siempre que la aeronave sea devuelta al servicio por Mantenimiento para su despacho con ítems inoperativos se requiere lo siguiente: El libro de la aeronave (*technical logbook*) de abordó deberá contener una descripción detallada de los ítems inoperativos, consejos especiales para la tripulación de vuelo, y si fuera necesario información sobre la acción correctora tomada.

Cuando sean accesibles para la tripulación de vuelo, el (los) control(es) y el (los) indicador(es) relacionados con la(s) unidad(es) inoperativa(s) o componente(s) deberán ser rotulados claramente.

Si la operación inadvertida pudiera producir un riesgo, tal equipo deberá ser puesto inoperativo (físicamente) como se indique en el Procedimiento de Mantenimiento apropiado.

Los Procedimientos de Mantenimiento (M) están explicados en esta MMEL.

De forma análoga, los Procedimientos Operativos (O) también están explicados en esta MMEL.

5. Intervalos de rectificación

Los ítems o componentes diferidos de acuerdo con las MEL resultantes deberán ser rectificadas en o antes de los intervalos de rectificación establecidos por los siguientes designadores que aparecen en la columna "CAT" de esta MMEL.

Cuando se especifique un período de tiempo éste comenzará a las 00:01 horas del día de calendario siguiente al día de descubrimiento.

- **Categoría A**

No se establece un intervalo específico, sin embargo los ítems en esta categoría deberán ser rectificadas de acuerdo con las condiciones establecidas en la columna "Remarks" (5) de la MEL.

- **Categoría B**

Los ítems en esta categoría se deberán rectificar dentro de los tres (3) días de calendario consecutivos, excluyendo el de descubrimiento.

- **Categoría C**

Los ítems en esta categoría se deberán rectificar dentro de los diez (10) días de calendario consecutivos, excluyendo el de descubrimiento.

- **Categoría D**

Los ítems en esta categoría se deberán rectificar dentro de los ciento veinte (120) días de calendario consecutivos, excluyendo el de descubrimiento.

DEFINICIONES

Para el propósito de esta MMEL se aplicarán las siguientes definiciones:

(a) "Condiciones Meteorológicas Visuales" (VMC) significa que el entorno atmosférico es tal que permitiría a un vuelo proceder bajo las Reglas de Vuelo Visual aplicables al vuelo. Esto no evita operar bajo las Reglas de Vuelo Instrumental.

(b) "Operación diurna" es cualquier vuelo llevado a cabo desde el punto del despegue hasta el del aterrizaje en el intervalo de tiempo que va desde los treinta (30) minutos anteriores a la salida del sol, hasta los treinta (30) minutos posteriores a la puesta del sol.

(c) Un guión "-" en las columnas 3 y 4 indica una cantidad variable.

Nota: Las columnas las enumeramos de 1 a 5 como se indica a continuación:

(1)	(2) REPAIR TIME INTERVAL CATEGORIES		
SYSTEM – EQUIPMENT		(3) NUMBER INSTALLED	
DESCRIPTION		(4) NUMBER REQUIRED FOR FLIGHT	
		(5) REMARKS AND/OR EXCEPTIONS	

(d) "Condiciones de formación de hielo" significa que las condiciones atmosféricas son tales que es posible la formación de hielo en la aeronave o en sus motores.

(e) "Inoperativo" en relación con un ítem, función, componente o sistema significa que ese ítem, función, componente o sistema no funciona de manera correcta de manera que no cumple su propósito previsto o no funciona consistentemente dentro de(l) (los) límite(s) de tolerancia(s) operativo(s).

Algunos sistemas han sido designados para ser tolerantes ante los fallos y son monitorizados por un ordenador digital que transmite mensajes de fallo a un ordenador central con vistas al mantenimiento. La presencia de este tipo de mensajes no significa que el sistema esté inoperativo.

(f) "**Material combustible**" es un material que es capaz de incendiarse y arder.

(g) "*" Requiere que el equipo inoperativo, componente, sistema o función del equipo tenga una placa en el cockpit para informar a los miembros de la tripulación de las condiciones de este equipo.

(h) "(O)" Este símbolo indica que se tiene que seguir un procedimiento operativo por parte de la Tripulación de Vuelo.

(i) "(M)" Este símbolo indica que se requiere un procedimiento específico de mantenimiento, el cual debe ser efectuado cuando operamos con este ítem inoperativo.

(j) "ICS": Inter Communication System, Inter- comunicador.

Para mejor información incluimos las definiciones que afectan al texto de esta MMEL escrita en idioma inglés.

Definiciones en idioma inglés:

1. Systems Definitions

System numbers are based on the European Association of Aerospace Industries (AECMA) Specification 1000D and items are numbered sequentially.

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

b. "**Category**" (**Column 2**) means the category of rectification intervals determined for a specific item.

c. "**Number Installed**" (**Column 3**) is the number (quantity) of items normally installed in the aircraft. This number represents the aircraft configurations considered in developing this MMEL. Should the number be a variable (e.g., passenger cabin items) a number is not required.

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

e. "**Remarks or Exceptions**" (**Column 5**) in this column includes a statement either prohibiting or permitting operation with a specific number of items inoperative, provisos (conditions and limitations) for such operation, and appropriate notes.

2. "**Aircraft Flight Manual**" (**HFM**) The document required for type certificate and approved by the responsible LBA Aircraft Certification Office. The LBA approved HFM for the specific aircraft is listed on the applicable Type Certificate Data Sheet.

3. “As required by operating requirements” The listed item of equipment is subject to certain provisions (restrictive or permissive) expressed in the applicable operational requirements.

4. Each inoperative item when accessible to the crew in flight, the control(s), and/or indicator(s) related to inoperative unit(s) or component(s) **must be clearly placarded** to inform and remind the crewmembers of the equipment condition.

5. “AESA” means Agencia Estatal de Seguridad Aérea, the applicable portions of the European Aviation Safety Authorities (EASA) in Spain.

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 in the aircraft.

7. “Flight Day” means a 24 hour period (from midnight to midnight) either Universal Time Co-ordinated (UTC) or local time, as selected by the operator, during which at least one flight is initiated for the affected aircraft.

8. “Icing Conditions” means an atmospheric environment that may cause ice to form on the aircraft or in the engine(s).

9. Alphabetical symbol in Column 5 indicates a proviso (condition or limitations) that must be complied with for operation with the listed item inoperative.

10. “Inoperative” means in relation to an item, function, component or system, that the item, function, component or system malfunctions to the extent that it does not accomplish its intended purpose or is not consistently functioning within its design operating limit or tolerance. Some systems have been designed to be fault tolerant and are monitored by digital computers which transmit fault messages to a centralized computer for the purpose of maintenance. The presence of this category of message does not mean that the system is inoperative.

11. “Notes:” in Column 5 provides additional information for crewmember or maintenance consideration. Notes are used to identify applicable material which is intended to assist with compliance, but do not relieve the operator of the responsibility for compliance with all applicable requirements. Notes are not a part of the provisos.

12. Inoperative components of an inoperative system Inoperative items which are components of a system which is inoperative are usually considered components directly associated with and having no other function than to support

that system. (Warning / caution systems associated with the inoperative system must be operative unless relief is specifically authorized per the MEL).

13. “(M)” symbol indicates a requirement for a specific maintenance procedure which must be accomplished prior to operation with the listed item inoperative. Normally these procedures are accomplished by maintenance personnel; however, other personnel may be qualified and authorized to perform certain functions. Procedures requiring specialized knowledge or skill, or requiring the use of tools or test equipment should be accomplished by maintenance personnel. The satisfactory accomplishment of all maintenance procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are required to be published as part of the operator’s manual or MEL.

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

Note: The (M) and (O) symbols are required in the operator’s MEL unless otherwise authorized by the NCAA (AESA).

15. “Deactivated” and “Secured” means that the specified component must be put into an acceptable condition for safe flight. An acceptable method of securing or deactivating will be established by the operator.

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

17. “Visual Flight Rules” (VFR) is as defined in respective regulations. This precludes a pilot from filing an Instrument Flight Rules (IFR) flight plan.

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

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

20. “Rectification Intervals” All users of an MEL approved under respective regulations must perform repairs of inoperative systems or components, deferred in accordance with the MEL, at or prior to the rectification intervals established by the following letter designators:

- **Category A**

No standard interval is specified, however, items in this category shall be rectified in accordance with the conditions stated in the MMEL.

Where a time period is specified it shall start at 00:01 on the calendar day following the day of discovery.

- **Category B**

Items in this category shall be rectified within three (3) consecutive calendar days, excluding the day of discovery.

- **Category C**

Items in this category shall be rectified within ten (10) consecutive calendar days, excluding the day of discovery.

- **Category D**

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

Letter designators are listed in Column 2.

21. Engine Indicating Crew Alerting System (EICAS), Electronic Centralised Aircraft Monitoring System (ECAM) or similar systems that provide electronic messages refer to a system capable of providing different priority levels of systems information messages (e.g., Warning, Caution, Advisory Status and

Maintenance). Any aircraft discrepancy message that affects dispatchability will normally be at status message level (e.g., Advisory Status) or higher.

22. “Administrative control item” means an item listed by the operator in the MEL for tracking and informational purposes. It may be added to an operator’s

MEL by approval of the Principal Operations Inspector provided no relief is granted, or provided conditions and limitations are contained in an approved document (i.e. Structural Repair Manual, airworthiness directive, etc.). If relief other than that granted by an approved document is sought for an administrative control item, a request must be submitted to the NCAA. If the request results in review and approval by the NCAA, the item becomes an MMEL item rather than an administrative control item.

23. “**”** symbol in Column 1 indicates an item which is not required by regulation but which may have been installed on some models of aircraft covered by this MMEL.

24. “Day of Discovery” The calendar day that a malfunction was recorded in the aircraft maintenance record/log book.

25. “Approved by the Authority” means approved by anyone of the Authorities that have signed the JAA Arrangements of 11 September 1990, in accordance with the procedures agreed by those Authorities.

26. “Calendar Day” A 24 hour period from midnight to midnight based on either UTC or local time, as selected by the operator.

27. “Commencement of flight” The point when the aircraft begins to move under its own power for the purpose of preparing for take- off.

28. “If installed” The listed item of equipment is either optional or is not required to be installed on all aircraft covered by the resulting MEL.

Nota 1:

En el procedimiento (M), es decir, que requiere una acción de mantenimiento, ésta podrá ser ejecutada, en función de su dificultad, por personal NO Responsable de Mantenimiento (Tripulación de Vuelo, etc.) pero con ciertas habilidades y/o conocimientos de lo que se debe hacer.

Una vez que el responsable de mantenimiento decide que otra persona independiente de mantenimiento efectúe dicha acción, enviará por escrito la "autorización" y el procedimiento a efectuar.

El medio aprobado para enviarlo por escrito será normalmente vía vía telex, fax o correo electrónico.

Nota 2:

Cuando no exista (O) ni (M), en algún ítem de la MMEL, tanto la Tripulación de Vuelo como el Personal Responsable de Mantenimiento podrá diferir este ítem.

Nota 3:

Cuando un equipo/instrumento no esté operativo, aunque no se requiera para la operación, deberá colocarse en el panel debajo del instrumento una nota aclaratoria bien visible indicando este hecho.

NOTA IMPORTANTE:

Los ítems aplicables a esta MMEL corresponden a los siguientes modelos de aeronaves:

AFAB-3000 Series

(O) MMEL OPERATING PROCEDURES

In addition to the instructions provided herein, the operator is responsible to assure all appropriate inspections and checklists have been accomplished prior to the next flight.

ATA 22 – Autopilot – Item 2 – Flight Director (O)

The pilot is responsible for ensuring that the aircraft is operated in accordance with instrument flight procedures that do not require use of the flight director.

ATA 23 – Communications – Item 1 – Communications Systems (O)

The pilot is responsible for reviewing prior to flight the communications requirements of the proposed route and heliports to be used during the flight and ensuring that safe communications can be maintained throughout the entire planned flight.

ATA 23 – Communications – Item 4 – Cabin Public Address System (O)

Passenger briefing can be provided orally (without using Passenger Address System) by the pilot or by using the cabin ICS system. It is the pilot's responsibility to ensure appropriate alternate normal and emergency procedures for communications with the cabin are established. It is the pilot's responsibility to ensure all the passengers can hear the briefing and understand their responsibility during emergencies.

ATA 23 – Communications – Item 5 – Intercom System (O)

Passenger briefing can be provided orally (without using Intercom System) by the pilot or by using the cabin PA system. It is the pilot's responsibility to ensure appropriate alternate normal and emergency procedures for communications with the cabin are established. It is the pilot responsibility to ensure all the passengers can hear the briefing and understand their responsibility during emergencies.

ATA 25 – Equipment and Furnishings – Item 6 – EMS Equipment (O)

The pilot is responsible for ensuring that the deactivated and secured EMS equipment does not adversely affect the safety of flight.

ATA 28 – Fuel – Item 1 – Multiple Indicator Fuel Quantity Gauge (O)

Prior to start, the pilot is responsible for verifying that both fuel tank groups are full.

ATA 30 – Ice and Rain Protection – Item 1 – Pitot Heating Systems (O)

Prior to flight the pilot is responsible for ensuring the remaining pitot heater is operative in accordance with the following procedure:

- With the pitot tube covers removed, momentarily move PITOT STATIC HEATERS switch ON and confirm heat on pitot tube.
- Prior to flight the pilot is also responsible for ensuring the pitot heater failure indicator pitot heater is operative by moving the Caution Panel TEST switch to LT and observing the status of the PITOT STATIC HEATER Caution light.

ATA 30 – Ice and Rain Protection – Item 3 – Static Port Heaters (O)

Prior to flight the pilot is responsible for ensuring the remaining static port heater is operative in accordance with the following procedure:

- With the pitot tube covers removed, momentarily move PITOT STATIC HEATERS switch ON and confirm heat on static ports.

ATA 30 – Ice and Rain Protection – Item 5 – Pitot Heating Failure Indication (O)

Prior to flight the pilot is responsible for ensuring the remaining pitot heater is operative in accordance with the following procedure:

- With the pitot tube covers removed, momentarily move PITOT STATIC HEATERS switch ON and confirm heat on pitot tube.

ATA 33 – Lights – Item 1 – Navigation / Position Lights (O)

The pilot is responsible for ensuring the appropriate air traffic control unit is contacted prior to flight.

ATA 33 – Lights – Item 2 – Anti-Collision Lights (O)

Daylight Operations: The pilot is responsible for complying with Operational Requirements for daylight operations.

Offshore and Remote Operations: The pilot is responsible for ensuring the appropriate air traffic control unit is contacted prior to flight.

ATA 33 – Lights – Item 5 – Cockpit Instrument Lighting System (O)

It is the pilot's responsibility to check prior to flight that:

- a) remaining lights are sufficient to clearly illuminate all required instruments, controls, and other devices for which it is provided,
- b) remaining lights are positioned so that the direct rays are shielded from flight crew members eyes, and
- c) lighting configuration and intensity is acceptable to the flight crew.

ATA 33 – Lights – Item 8 – Passenger Notice System (O)

The pilot is responsible for notifying passengers when seat belts shall be fastened and when smoking is prohibited. This briefing may be provided orally, and it is the pilot's responsibility to ensure the passengers can hear the notification.

ATA 34 – Navigation – Item 9 – Navigation Systems (O)

The pilot is responsible for ensuring that the functioning navigation systems comply with Operational Requirements.

ATA 34 – Navigation – Item 10 – ATC Transponders (O)

The pilot is responsible for ensuring the appropriate air traffic control unit is contacted prior to flight.

ATA 34 – Navigation – Item 12 – Radar Altimeter System (O)

The pilot is responsible for ensuring that the Radar Altimeter is not required for local or en-route procedural requirements.

ATA 34 – Navigation – Item 17– Traffic Collision Avoidance Systems (O)

The pilot is responsible for ensuring that the TCAS is not required for local or en-route procedural requirements.

ATA 52 – Doors – Item 1 – Door Warning System (O)

The pilot is responsible for ensuring that all doors and hatches are closed and locked and verified by a visual check prior to take-off.

ATA 77 – Engine Indicating – Item 1 – Tachometer, Triple Indicating (O)

The pilot is responsible for ensuring that the aircraft is flown with the handling pilot flying the aircraft from the station with the operating instrument on the instrument panel.

ATA 77 – Engine Indicating – Item 2 – Dual Torque Indicator (O)

The pilot is responsible for ensuring that the aircraft is flown with the handling pilot flying the aircraft from the station with the operating instrument on the instrument panel.

ATA 77 – Engine Indicating – Item 3 – Engine Out Warning System (O)

The pilot is responsible for monitoring engine parameters as an alternate means of identification of engine failure as presented in the emergency procedures section of the approved Flight Manual.

(M) MMEL MAINTENANCE PROCEDURES

In addition to the instructions provided herein, the operator is responsible to assure all appropriate inspections and checklists have been accomplished prior to the next flight. The below annexed procedures are not included in the Maintenance Manual because they are driven by the MMEL process. Refer to Maintenance Manual for standard procedures.

General Procedure

Referring to all the procedures listed below, when it is prescribed to lock a circuit breaker use lock ring P/N S4933959-501 or equivalent.

ATA 21 – Air Conditioning – Item 3 – Bleed Air Cooling System (M)

Deactivate the system by pulling the appropriate circuit breaker(s) in accordance with the Flight Manual.

Secure the system by locking all the deactivated circuit breakers and tag accordingly.

ATA 21 – Air Conditioning – Item 4 - Freon Cooling System (M)

Deactivate the system by pulling the appropriate circuit breaker(s) in accordance with the Flight Manual.

Secure the system by locking all the deactivated circuit breakers and tag accordingly.

ATA 25 – Equipment/Furnishings – Item 2 – Passenger Seats (M)

Refer to MM. Secure passenger seat in the upright position and placard “DO NOT OCCUPY”.

Make sure the placard is clearly visible and firmly secured.

ATA 25 – Equipment/Furnishings – Item 6 – EMS Equipment (M)

Refer to EMS equipment manufactures maintenance procedures for the proper deactivation of the installed EMS equipment.

ATA 25 – Equipment/Furnishings – Item 8 - Passenger Steps (M)

Deactivate the system by pulling breaker STEP on the overhead circuit breaker. Secure the system by locking the deactivated circuit breakers and tag accordingly.

ATA 25 – Equipment/Furnishings – Item 12 – Lifejackets (M)

The inoperative lifejacket(s) must be placarded inoperative, removed from installed location and placed out of sight so it cannot be mistaken for functional unit. Prior to take-off the pilot must inform the passengers that the equipment is not operative.

ATA 25 – Equipment/Furnishings – Item 13 – Survival Equipment (M)

The inoperative equipment must be placarded inoperative, or removed from installed location and placed out of sight so it cannot be mistaken for functional unit. Prior to take-off the pilot must inform the passengers that the equipment is not operative.

ATA 25 – Equipment/Furnishings – Item 14 – Life-rafts and Contents (M)

The inoperative equipment must be placarded inoperative, or removed from installed location and placed out of sight so it cannot be mistaken for functional unit. Prior to take-off the pilot must inform the passengers that the equipment is not operative.

ATA 26 – Fire Equipment – Item 2 – Hand Held Fire Extinguishers (M)

Refer to MM. The inoperative fire extinguisher(s) must be placarded inoperative, removed from installed location and placed out of sight so it cannot be mistaken for functional unit. Prior to take-off the pilot must inform the passengers that the equipment is not operative.

ATA 28 – Fuel – Item 1 - Multiple Indicator Fuel Quantity Gauge (M)

Placard the indicator “INOPERATIVE”.

ATA 28 – Fuel – Item 4 - Auxiliary Fuel System (M)

Refer to Service Instruction for the appropriate system installed. Placard the indicator “INOPERATIVE”.

ATA 30 – Ice and Rain Protection – Item 1 – Pitot Heating Systems (M)

Placard the annunciation “INOPERATIVE”.

ATA 30 – Ice and Rain Protection – Item 3 – Static Port Heaters (M)

Refer to Installation Drawing. Placard the annunciation “INOPERATIVE”.

ATA 30 – Ice and Rain Protection – Item 5 – Pitot Heating Failure Indication (M)

Refer to Instructions for Continued Airworthiness for system inspections and maintenance. Placard the annunciation “INOPERATIVE”.

ATA 33 – Lights – Item 8 - Fasten Seat Belt and No Smoking (M)

Placard the annunciation “INOPERATIVE”. Check that at least one operative annunciation is visible from each occupied passenger seat or an alternate means for the pilot to communicate to each passenger accordingly.

ATA 34 – Navigation – Item 17 - Traffic Collision Alert Systems (M)

Deactivate the system by pulling the appropriate circuit breaker(s) in accordance with the Flight Manual.

Secure the system by locking all the deactivated circuit breakers and tag accordingly.

ATA 52 – Doors – Item 1 – Door Warning System (M)

Deactivate the system by pulling the appropriate circuit breaker(s) in accordance with the Flight Manual.

Secure the system by locking all the deactivated circuit breakers and tag accordingly.

ATA 21 AIR CONDITIONING

(1) SYSTEM & SEQUENCE ITEM NUMBERS	(2) MEL CATEGORY			
	(3) NUMBER INSTALLED			(5) REMARKS OR EXCEPTIONS
	(4) NUMBER REQUIRED FOR DISPATCH			
	C	2	0	
ATA 21 AIR CONDITIONING (PAGE 21-1)				
1. Cockpit Vent Blowers	C	2	0	Both may be inoperative provided Heated Windshields (Item 30-4) are installed for both pilots and operative.
	C	2	0	Both may be inoperative provided Bleed Air Heater (Item 21-2) is operative.
2. Bleed Air Heater	C	1	0	May be inoperative provided: (a) Heater switch is selected OFF, (b) Outside air temperature is above +5 degrees C and, (c) Pilot's cockpit vent blower (Item 21-1) is operative
	C	1	0	May be inoperative provided pilot's Heated Windshield (Item 30-4) is installed and operative.
3. Bleed Air Cooling System	C	-	0	(M) May be inoperative provided system is deactivated and secured.
4. Freon Cooling System	C	-	0	(M) May be inoperative provided system is deactivated and secured.

ATA 22 AUTOPILOT

(1) SYSTEM & SEQUENCE ITEM NUMBERS	(2) MEL CATEGORY			
	(3) NUMBER INSTALLED			
	(4) NUMBER REQUIRED FOR DISPATCH			
	(5) REMARKS OR EXCEPTIONS			
ATA 22 AUTOPILOT (PAGE 22-1)				
1. Automatic Flight Control Systems (AFCS) (JAR-OPS 1.655)	C	-	0	One or more may be inoperative provided the flight is conducted under day VMC.
	D	-	1	Any in excess of one may be inoperative.
2. Flight Director	C	-	0	(O) May be wholly or partially inoperative provided precision navigation or approach minima do not require their use.

ATA 23 COMMUNICATIONS

(1) SYSTEM & SEQUENCE ITEM NUMBERS	(2) MEL CATEGORY			
	(3) NUMBER INSTALLED			
	(4) NUMBER REQUIRED FOR DISPATCH			
	(5) REMARKS OR EXCEPTIONS			
ATA 23 COMMUNICATIONS (PAGE 23-1)				
1. Radio Communications Systems (FM, HF,UHF, VHF, etc.) (JAR-OPS 1.860/865)	C	-	1	When flying VFR over routes navigated by reference to visual landmarks: Any in excess of one, and not power by an emergency bus, may be inoperative.
	A	-	1	(O) When flying IFR, or VFR over routes not navigated by reference to visual landmarks: Any one of the two required Radio Communication Systems not powered by the emergency bus may be inoperative provided: (a) The aircraft has not made more than one flight since the item was last serviceable, and (b) The commander has satisfied himself that, taking into account the latest information available as to the route/are and heliport to be used (including any planned diversion) and the weather conditions likely to be encountered , the flight can be made safely and in accordance with any relevant requirements of the appropriate air traffic control unit.

ATA 23 COMMUNICATIONS (CONT'D)

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY			(5) REMARKS OR EXCEPTIONS
		(3) NUMBER INSTALLED			
		(4) NUMBER REQUIRED FOR DISPATCH			
ATA 23 COMMUNICATIONS (PAGE 23-2)					
2. Cockpit Voice Recorder (CVR) (JAR-OPS 1.700/705/710)	A	1	0	May be inoperative provided: (a) The aircraft does not exceed 8 further flights with the CVR inoperative. (b) A maximum of 72 hours have elapsed since the CVR was found to be inoperative, and, (c) Any Flight Data Recorder (FDR) required to be carried is operative, <u>Note:</u> This alleviation is not applicable to combined CVR/FDRs. For those combined systems, refer to item 31-6.	
3. Flight Data Recorder (FDR)				See ATA 31.	
4. Cabin Public Address System (JAR-OPS 1.695)					
1) Passenger Config. (Including Pre-recorded Passenger Announcement System)	B	-	0	(O) May be inoperative provided: (a) Alternate normal and emergency procedures and/or operating restrictions are established and used. (b) The flight crew compartment / cabin interphone system is operative.	
2) Cargo Configuration	D	-	0	(O) May be inoperative provided alternate normal and emergency procedures and/or operating restrictions are established and used.	

ATA 23 COMMUNICATIONS (CONT'D)

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY			(5) REMARKS OR EXCEPTIONS
		(3) NUMBER INSTALLED			
		(4) NUMBER REQUIRED FOR DISPATCH			
ATA 23 COMMUNICATIONS (PAGE 23-3)					
5. Intercom System (ICS)					
1)	Flight Crew ICS (JAR-OPS 1.685)	D	-	-	Any system in excess of those required may be inoperative.
2)	Cabin ICS (JAR-OPS 1.690)	C	-	0	O) May be inoperative provided: (a) Alternate normal and emergency procedures are established and used, and (b) The PA system is operative. <u>Note:</u> Any station that is operative may be used.
6.	Floor Mounted Intercom System Radio Switches	C	2	0	May be inoperative.

ATA 24 ELECTRICAL POWER

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY			(5) REMARKS OR EXCEPTIONS
		(3) NUMBER INSTALLED			
		(4) NUMBER REQUIRED FOR DISPATCH			
ATA 24 ELECTRICAL POWER (PAGE 24-1)					
1. Starter/Generator		2	2	Both must be operative	
2. Inverters	B	-	1	One may be inoperative if operations are conducted with adequate external attitude reference.	

ATA 25 EQUIPMENT/FURNISHINGS

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY			(5) REMARKS OR EXCEPTIONS
		(3) NUMBER INSTALLED			
		(4) NUMBER REQUIRED FOR DISPATCH			
ATA 25 EQUIPMENT/FURNISHINGS (PAGE 25-1)					
1. Emergency Floatation Equipment. (JAR-OPS 1.843)					
1) Aircrafts in Performance Class 1	D	-	0		May be inoperative for flights overland.
	C	-	0		May be inoperative for flights over water which are at a distance which is less than 10 minutes flying time from land, at normal cruise speed.
2) Aircrafts in Performance Class 2					
a) En-route	D	-	0		May be inoperative for flights overland.
	C	-	0		May be inoperative for flights over water which are at a distance which is less than 10 minutes flying time from land, at normal cruise speed.
b) Take-off & Landing over water	-	-	1		Must be operative

ATA 25 EQUIPMENT/FURNISHINGS (CONT'D)

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY			(5) REMARKS OR EXCEPTIONS
		(3) NUMBER INSTALLED			
		(4) NUMBER REQUIRED FOR DISPATCH			
ATA 25 EQUIPMENT/FURNISHINGS (PAGE 25-2)					
3) Aircrafts in Performance Class 3					
a) En-route	D	-	0	May be inoperative for flights overland.	
b) Take-off & Landing over water	-	-	1	Must be operative	
2. Passenger Seats (JAR-OPS 1.730)	D	-	-	(M) One or more may be inoperative provided the inoperative seat: (a) Does not block an emergency exit, (b) Does not restrict any passenger from access to the main aircraft aisle, and (c) Is blocked and placarded "DO NOT OCCUPY" <u>Note:</u> A seat with an inoperative or missing seat belt or harness is considered inoperative.	
3. Flight Crew Seats					
1) Crewmember Shoulder Harness	B	2	1	The left crew seat harness may be inoperative provided that seat is not used.	
	B	2	0	One or both flight crew shoulder harness inertia reels may be inoperative provided the affected harness is adjusted and locked by an approved means to suit the requirements of the occupant.	

ATA 25 EQUIPMENT/FURNISHINGS (CONT'D)

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY			(5) REMARKS OR EXCEPTIONS
		(3) NUMBER INSTALLED			
		(4) NUMBER REQUIRED FOR DISPATCH			
ATA 25 EQUIPMENT/FURNISHINGS (PAGE 25-3)					
4. Cargo Suspension System	C	-	0	May be inoperative	
5. Emergency Locator Transmitter (ELT) (JAR-OPS 1.820)	A	-	0	May be inoperative provided: (a) The aircraft shall not fly for more than 6 hours after the ELT becomes unserviceable and (b) Not more than 24 hours have elapsed since the ELT became unserviceable.	
6. Emergency Medical System (EMS) Equipment	C	-	0	(M) and/or (O) May be inoperative provided system is deactivated and secured.	
7. Passenger Convenience Item(s)	D	-	0	Passenger convenience items are those related to passenger convenience, comfort or entertainment such as, but not limited to, galley equipment, movie equipment, ashtrays, stereo equipment, overhead reading lamps, etc. Items addressed elsewhere in this document shall not be included. (M) and (O) procedures may be required and included in the air carrier's appropriate document.	

ATA 25 EQUIPMENT/FURNISHINGS (CONT'D)

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY			(5) REMARKS OR EXCEPTIONS
		(3) NUMBER INSTALLED			
		(4) NUMBER REQUIRED FOR DISPATCH			
ATA 25 EQUIPMENT/FURNISHINGS (PAGE 25-4)					
8. Passenger Steps (Electrically Actuated)	C	-	0	(M) May be inoperative provided: (a) Steps are in the stowed (down) position, and (b) System is deactivated and secured.	
9. Automatically Deployable Emergency Locator Transmitter (ADELT) (JAR-OPS 1.820)					
a) Flight not over water and over water flights not beyond 10 minutes flying time from land	C	-	-	May be inoperative.	
b) Over water flights beyond 10 minutes flying time from land at normal cruise speed	A	-	-	May be inoperative provided: (a) The aircraft shall not fly for more than 6 hours after the ADELT was found to be inoperative, and (b) A maximum of 24 hours have elapsed since the ADELT was found to be inoperative.	
10. First Aid Kits (JAR-OPS 1.745)	A	-	-	May be incomplete for a maximum of 1 calendar day.	
	D	-	1	Any in excess of one may be incomplete or missing.	

ATA 25 EQUIPMENT/FURNISHINGS (CONT'D)

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY		
		(3) NUMBER INSTALLED		
		(4) NUMBER REQUIRED FOR DISPATCH		
		(5) REMARKS OR EXCEPTIONS		
ATA 25 EQUIPMENT/FURNISHINGS		(PAGE 25-5)		
11. Torches (JAR-OPS 1.640)	C	-	-	One or more may be inoperative provided each required crew member assigned to affected position has an operative torch.
12. Life jackets (JAR-OPS 1.825)	D	-	-	(M) Any in excess of the minimum required may be missing or inoperative, provided: (a) Inoperative lifejacket is placarded inoperative, removed from the installed location and placed out of sight so it cannot be mistaken for a functional unit, and (b) Required distribution of serviceable lifejackets is maintained.
13. Survival Equipment (JAR-OPS 1.835)	D	-	-	(M) Any in excess of the minimum required may be missing or inoperative provided, the inoperative equipment is placarded inoperative, removed from the installed location and placed out of sight so it cannot be mistaken for a functional unit.

ATA 25 EQUIPMENT/FURNISHINGS (CONT'D)

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY		
		(3) NUMBER INSTALLED		
		(4) NUMBER REQUIRED FOR DISPATCH		
		(5) REMARKS OR EXCEPTIONS		
ATA 25 EQUIPMENT/FURNISHINGS		(PAGE 25-6)		
14. Life-rats and contents (JAR-OPS 1.830)	D	-	-	(M) Any in excess of the minimum required may be missing or inoperative provided, the inoperative equipment is placarded inoperative, removed from the installed location and placed out of sight so it cannot be mistaken for a functional unit.
15. Underwater Sonar Locating Device	D	-	-	As required by Operating Requirements.

ATA 26 FIRE PROTECTION

(1) SYSTEM & SEQUENCE ITEM NUMBERS	(2) MEL CATEGORY			
	(3) NUMBER INSTALLED			
	(4) NUMBER REQUIRED FOR DISPATCH			
	(5) REMARKS OR EXCEPTIONS			
ATA 26 FIRE PROTECTION				
(PAGE 26-1)				
1. Baggage Compartment Smoke Detector System	A	1	0	May be inoperative provided: (a) Only non-combustible items are carried, and (b) Repairs or replacements are carried out within 3 calendar days.
2. Hand Held Fire Extinguishers	D	-	-	(M) Any in excess of those required may be inoperative or missing provided: (a) The inoperative fire extinguisher is placarded inoperative, removed from the installed location and placed out of sight so it cannot be mistaken for a functional unit, and (b) Required distribution is maintained.

ATA 27 FLIGHT CONTROLS

(1) SYSTEM & SEQUENCE ITEM NUMBERS	(2) MEL CATEGORY				
	(3) NUMBER INSTALLED				
	(4) NUMBER REQUIRED FOR DISPATCH				
	(5) REMARKS OR EXCEPTIONS				
ATA 27 FLIGHT CONTROLS					(PAGE 27-1)
1. Force Trim System	C	1	0	May be inoperative, provided operations are conducted with adequate external attitude reference.	
2. Hydraulic Control System Temperature Gauge	A	2	1	One may be inoperative provided: (a) The hydraulic pressure gauge and combined temp/press CWP caution of the associated system are both operative, (b) The hydraulic pressure gauge of the associated system is monitored throughout the flight, and (c) All 3 indications of the other hydraulic control system are operative, and (d) Repairs or replacements are carried out within 3 calendar days.	

ATA 27 FLIGHT CONTROLS (CONT'D)

(1) SYSTEM & SEQUENCE ITEM NUMBERS	(2) MEL CATEGORY			
	(3) NUMBER INSTALLED			
	(4) NUMBER REQUIRED FOR DISPATCH			
	(5) REMARKS OR EXCEPTIONS			
ATA 27 FLIGHT CONTROLS				
(PAGE 27-2)				
3. Hydraulic Control System Pressure Gauge	A	2	1	One may be inoperative provided: <ul style="list-style-type: none"> (a) The hydraulic temperature gauge and combined temp/press CWP caution of the associated system are both operative, (b) The hydraulic temperature gauge of the associated system is monitored throughout the flight, and (c) All 3 indications of the other hydraulic control system are operative, and (d) Repairs or replacements are carried out within 3 calendar days.



ATA 28 FUEL

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY			(5) REMARKS OR EXCEPTIONS
		(3) NUMBER INSTALLED			
		(4) NUMBER REQUIRED FOR DISPATCH			
ATA 28 FUEL					(PAGE 28-1)
1. Multiple Indicator Fuel Quantity Gauge	A	1	1	(M)/(O) One indication may be inoperative provided: (a) The other two level indications operate normally, (b) Both fuel low level lights operate normally, (c) Departure is made with both fuel tank groups full (d) Expected flight time is less than half the aircraft endurance on full tanks, and (e) Aircraft may depart on a flight or series of flights for the purpose of returning directly to a base where repairs or replacement can be made.	
2. Fuel Pressure Gauge	B	2	1	One may be inoperative provided: (a) The other gauge is operative and (b) Both fuel boost pumps are operative.	

ATA 28 FUEL (CONT'D)

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY			(5) REMARKS OR EXCEPTIONS
		(3) NUMBER INSTALLED			
		(4) NUMBER REQUIRED FOR DISPATCH			
ATA 28 FUEL		(PAGE 28-2)			
3. "FUEL LOW" CWP	A	2	1	One may be inoperative provided: (a) Fuel carried is sufficient to supply both engines, at normal twin engine cruise, to the destination including reserves plus 15 minutes, (b) Fuel quantity Indication System is operative, (c) The aircraft may depart on a flight or series of flights for the purpose of returning directly to a base where repairs or replacements can be made.	
4. Auxiliary Fuel System	D	-	0	May be inoperative provided: (a) Flight is not predicated on the use of the system, and (b) Any fuel in the Auxiliary Fuel System is calculated in the weight and balance.	
	D	-	0	(M) Insure Auxiliary Fuel System valve(s) are closed and insure there are no fuel leaks, or Auxiliary Fuel System is empty.	

ATA 30 ICE AND RAIN PROTECTION

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY			(5) REMARKS OR EXCEPTIONS
		(3) NUMBER INSTALLED			
		(4) NUMBER REQUIRED FOR DISPATCH			
ATA 30 ICE AND RAIN PROTECTION (PAGE 30-1)					
1. Pitot Heating Systems (JAR-OPS 1.650/652)					
1) Day VFR Operation	C	2	0	One or more may be inoperative provided the aircraft is not operated at any time in known or forecast icing conditions of visible moisture or precipitation, when the OAT is less than +5 C.	
2) IFR or Night Operation	C	2	1	(O)/(M) Any in excess of one pitot heater may be inoperative provided: (a) The remaining pitot heater is verified to be operative prior to each flight. (b) The pitot heat failure indication (if installed) for the remaining pitot heater is verified to be operative prior to each flight. (c) Flight is conducted under VMC in sight of the surface in sight, and (d) The aircraft is not operated at any time in known or forecast icing conditions of visible moisture or precipitation, when the OAT is less than +5 C.	

ATA 30 ICE AND RAIN PROTECTION (CONT'D)

(1) SYSTEM & SEQUENCE ITEM NUMBERS	(2) MEL CATEGORY			
	(3) NUMBER INSTALLED			
	(4) NUMBER REQUIRED FOR DISPATCH			
	(5) REMARKS OR EXCEPTIONS			
	ATA 30 ICE AND RAIN PROTECTION (PAGE 30-2)			
2. Windshield Wipers (JAR-OPS 1.675)	C	2	-	One or both may be inoperative provided the aircraft is not operated in known or forecast precipitation that requires their use.
3. Static Port Heaters (JAR-OPS 1.675)				
1) Day VFR Operation	D	6	0	One or more may be inoperative provided the aircraft is not operated at any time in known or forecast icing conditions of visible moisture or precipitation, when the OAT is less than +5 C.
2) IFR or Night Operation	B	6	1	(O)/(M) Any in excess of one static heater may be inoperative provided: (a) Flight is conducted under VMC with the surface in sight. (b) The aircraft is not operated at any time in known or forecast conditions of visible moisture or precipitation, when the OAT is less than +5 C, and (c) The remaining static heating system and all connected flight instruments are verified to be operative prior to each flight.

ATA 30 ICE AND RAIN PROTECTION (CONT'D)

(1) SYSTEM & SEQUENCE ITEM NUMBERS	(2) MEL CATEGORY			
	(3) NUMBER INSTALLED			
	(4) NUMBER REQUIRED FOR DISPATCH			
	(5) REMARKS OR EXCEPTIONS			
	ATA 30 ICE AND RAIN PROTECTION (PAGE 30-3)			
4. Heated Windshield	C	2	1	Copilots may be inoperative for single pilot operations.
	C	2	1	One may be inoperative provided the Bleed Air Heater (21-2) operates normally.
	C	2	0	Both may be inoperative provided: (a) Heater/defog system operates normally, and (b) The aircraft is not operated in icing conditions. OR Both may be inoperative provided: (a) Both cockpit vent blowers (Item 21-1) operate normally, and (b) Ambient temperatures are above +5° C (41°F) for the duration of the flight.

ATA 30 ICE AND RAIN PROTECTION (CONT'D)

(1) SYSTEM & SEQUENCE ITEM NUMBERS	(2) MEL CATEGORY			
	(3) NUMBER INSTALLED			
	(4) NUMBER REQUIRED FOR DISPATCH			
	(5) REMARKS OR EXCEPTIONS			
	ATA 30 ICE AND RAIN PROTECTION (PAGE 30-4)			
5. Pitot Heating Failure Indication System (JAR-OPS 1.650/652)				
1) Day VFR Operation	D	-	0	May be inoperative.
2) IFR or Night Operation	C	-	1	(O)/(M) Any in excess of one may be inoperative provided: (a) The associated pitot heater is verified to be operative prior to each flight, (b) Flight is conducted under VMC with the surface insight, and (c) The aircraft is not operated at any time in known or forecast conditions of visible moisture or precipitation, when the OAT is less than +5 C.

ATA 31 INDICATION/RECORDING SYSTEMS

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY			(5) REMARKS OR EXCEPTIONS
		(3) NUMBER INSTALLED			
		(4) NUMBER REQUIRED FOR DISPATCH			
ATA 31 INDICATION/RECORDING SYSTEMS (PAGE 31-1)					
1. Clocks (JAR-OPS 1.650/652)	C	-	0	May be inoperative providing an accurate time piece is operative on the flight deck indicating the time in hours, minutes and seconds. <u>Note 1:</u> The above is applicable only to those aircraft where the clock has no implication on other equipment e.g. FDR, otherwise the effects on such other systems must be considered. <u>Note 2:</u> On the basis that the timepiece required does not need to be approved, an accurate pilot's wristwatch which indicates hours, minutes and seconds, would be acceptable.	
2. Elapsed Timer	C	-	0	May be inoperative.	
3. Hour Meter	C	-	0	May be inoperative.	
4. Aircraft/Engine Monitoring System (where required)	C	-	0	As required by Operating Requirements	
5. Cockpit Voice Recorder				Moved to ATA 23, Item 2.	

ATA 31 INDICATION/RECORDING SYSTEMS (CONT'D)

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY			(5) REMARKS OR EXCEPTIONS
		(3) NUMBER INSTALLED			
		(4) NUMBER REQUIRED FOR DISPATCH			
		(5) REMARKS OR EXCEPTIONS			
ATA 31 INDICATION/RECORDING SYSTEMS (PAGE 31-2)					
6. Flight Data Recorder (FDR)					
1) Individual FDR Unit (if installed) (JAR-OPS 1.715/720) ... <i>(continued)</i> ...	A	-	0	May be inoperative provided: (a) The aircraft does not exceed 8 further consecutive flights with the FDR inoperative. (b) A Maximum of 72 hours have elapsed since the FDR was found to be inoperative, and (c) Any Cockpit Voice Recorder required to be carried is operative. <u>Note 1:</u> This alleviation is not applicable to combined CVR/FDRs. For those combined systems, refer to item 31-6 (2). <i>...(continued)...</i>	



ATA 31 INDICATION/RECORDING SYSTEMS (CONT'D)

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY			(5) REMARKS OR EXCEPTIONS
		(3) NUMBER INSTALLED			
		(4) NUMBER REQUIRED FOR DISPATCH			
ATA 31 INDICATION/RECORDING SYSTEMS (PAGE 31-3)					
1) Individual FDR Unit (if installed) (JAR-OPS 1.715/720) ...(continued)...	A	-	0	<p><u>Note 2:</u> The flight data recorder is considered to be inoperative when any of the following conditions exist:</p> <ul style="list-style-type: none"> i. Loss of the flight recording function is evident to the flight crew during the preflight check e.g. by means of a system status monitor, or ii. The need for maintenance has been identified by the system monitors, where available, with the setting of an indicator and the cause of that setting has not been determined, or iii. Analyses of recorded data or maintenance actions have shown that more than 5% of the total number of individual parameters (variable and discrete) required to be recorded for the particular aircraft, are not being recorded properly. <p><u>Note 3:</u> Where improper recording affects 5% of the parameters or less, timely corrective action will need to be taken by the aero plane operator in accordance with approved maintenance procedures.</p>	

ATA 31 INDICATION/RECORDING SYSTEMS (CONT'D)

(1) SYSTEM & SEQUENCE ITEM NUMBERS	(2) MEL CATEGORY			
	(3) NUMBER INSTALLED			
	(4) NUMBER REQUIRED FOR DISPATCH			
	(5) REMARKS OR EXCEPTIONS			
ATA 31 INDICATION/RECORDING SYSTEMS (PAGE 31-4)				
2) Combined Unit (FDR/CVR) (if installed) (JAR-OPS 1.715/720)	A	-	0	If one combination recorder is installed, the flight data recorder or the cockpit voice recorder function may be inoperative provided: (a) The other function, where required is operative. (b) The aircraft does not exceed 8 further flights with the inoperative function, and (c) A maximum of 72 hours have elapsed since the inoperative function was found.
7. HUMS				Moved to ATA 45 Item 1
8. Engine RPM Audio Warning	A	1	0	May be inoperative provided: (a) Rotor RPM warning light is operative, (b) Both triple tachometers are operative, (c) Associated dual torque indicators are operative, and (d) The aircraft may depart on a flight or series of flights for the purpose of returning directly to a base where repairs or replacements may be made.

ATA 33 LIGHTS

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY			(5) REMARKS OR EXCEPTIONS
		(3) NUMBER INSTALLED			
		(4) NUMBER REQUIRED FOR DISPATCH			
		ATA 33 LIGHTS (PAGE 33-1)			
1. Navigation/Position Lights	C	-	0	One or more may be inoperative for daylight operation.	
	C	-	-	Any in excess of the minimum required may be inoperative for night operations.	
	A	-	-	(O) One or more may be inoperative for a single night flight when departing from an offshore or remote installation provided: (a) The appropriate ATC unit has been informed before departure. (b) The anti-collision light system is operative, and (c) The landing light system is operative.	

ATA 33 LIGHTS (CONT'D)

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY			(5) REMARKS OR EXCEPTIONS
		(3) NUMBER INSTALLED			
		(4) NUMBER REQUIRED FOR DISPATCH			
ATA 33 LIGHTS		(PAGE 33-2)			
2. Anti-Collision Light Systems (JAR-OPS 1.640)					
1) Anti-Collision Light (Beacon or Strobe Type)					
a) Daylight Operations	B	-	0	(O) One or more may be inoperative.	
	C	-	1	Any in excess of one may be inoperative.	
b) Night Operations	C	-	1	Any in excess of one may be inoperative.	
c) Offshore and remote Operations	A	-	0	(O) One or more may be inoperative for a single night flight when departing an off-shore or remote installation provided: (a) The appropriate ATC unit has been informed before departure, (b) The navigation light system is operative, and (c) The landing light system is operative.	
2) White Strobe Light	C	-	0	May be inoperative.	

ATA 33 LIGHTS (CONT'D)

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY			(5) REMARKS OR EXCEPTIONS
		(3) NUMBER INSTALLED			
		(4) NUMBER REQUIRED FOR DISPATCH			
ATA 33 LIGHTS		(PAGE 33-3)			
3. Landing Lights	C	-	0	One or more may be inoperative for daylight operation.	
	C	-	1	Any in excess of one adjustable landing light may be inoperative for night operations. Note that search light may be used for landing.	
4. Search Light	C	1	0	May be inoperative for daylight operations only.	
5. Cockpit Instrument Lighting System	B	1	0	One or more may be inoperative for daylight operation.	
	C	-	-	(O) Individual lights may be inoperative provided: a) Sufficient lighting is operative to make each required instrument, control, and other device for which it is provided easily readable, b) Sufficient flight deck emergency lighting is operative, and, c) Lighting configuration at dispatch is acceptable to the flight crew.	
	C	-	-	Co-pilot's station instrument lights may be inoperative for single pilot operations, provided no co-pilot's station instrument is required to be used by the pilot.	

ATA 33 LIGHTS (CONT'D)

(1) SYSTEM & SEQUENCE ITEM NUMBERS	(2) MEL CATEGORY			
	(3) NUMBER INSTALLED			
	(4) NUMBER REQUIRED FOR DISPATCH			
	(5) REMARKS OR EXCEPTIONS			
ATA 33 LIGHTS (PAGE 33-4)				
6. Cabin Emergency Lights (JAR-OPS 1.815)				
1) Cabin Emergency Lighting System (where installed)	-	-	-	May be inoperative provided in accordance with arrangements agreed with the National Authority.
2) EXIS Lighting (HEELS)	B	-	0	<p>May be inoperative overland, or for over water operations within 10 minutes flying time of land.</p> <p>For other over water operations, maximum permissible LED failures:</p> <p>(a) EXIS 1 – For standard length (24 LEDs) a maximum of 3 failed LEDs with no more than 2 failed LED's adjacent. = For half length (12 LEDs) a maximum of 1 failed LED = For one third length (8LEDs) a maximum of 1 failed LED</p> <p>(b) EXIS II – A maximum of 2 failed LEDs per corner strip, one in each arm.</p> <p>(c) EXIS III – A maximum of 4 failed LEDs per light assembly, with no more than 1 failed LED per band along any side.</p>

ATA 33 LIGHTS (CONT'D)

(1) SYSTEM & SEQUENCE ITEM NUMBERS	(2) MEL CATEGORY			
	(3) NUMBER INSTALLED			
	(4) NUMBER REQUIRED FOR DISPATCH			
	(5) REMARKS OR EXCEPTIONS			
ATA 33 LIGHTS		(PAGE 33-5)		
7. Cabin Lighting System	D	-	0	May be inoperative for daylight operations only.
	C	-	0	May be inoperative provided passengers are not carried.
	C	-	-	Individual lights may be inoperative provided: (a) Inoperative lights do not exceed fifty (50) percent of the total installed. (b) Cabin emergency lighting is operative, and (c) Lighting is acceptable for the crew located in the cabin to perform their required duties.
8. Passenger Notice System (Fasten Seat Belt- No Smoking)	C	-	-	(M)(O) "No Smoking/Fasten Seat Belt" signs may be inoperative and the affected passenger seat(s) may be occupied provided. (a) The PA system is operative and can be clearly heard throughout the cabin during flight, and (b) A procedure is used to notify passengers when the seat belts must be fastened and smoking is prohibited.
	C	-	-	May be inoperative provided passengers are not carried.

ATA 33 LIGHTS (CONT'D)

(1) SYSTEM & SEQUENCE ITEM NUMBERS	(2) MEL CATEGORY			
	(3) NUMBER INSTALLED			
	(4) NUMBER REQUIRED FOR DISPATCH			
	(5) REMARKS OR EXCEPTIONS			
ATA 33 LIGHTS (PAGE 33-6)				
9. External Utility Light(s) (if installed)	C	1	0	May be inoperative.
10. Supplemental Lighting System (if installed)	C	1	0	May be inoperative.
11. Secondary Instrument Light System	C	1	0	May be inoperative for daylight operations OR
	A	1	0	May be inoperative at night provided: (a) All normal instrument lights are operative, (b) Repairs or replacements are carried out within 3 calendar days.

ATA 34 NAVIGATION

(1) SYSTEM & SEQUENCE ITEM NUMBERS	(2) MEL CATEGORY			
	(3) NUMBER INSTALLED			
	(4) NUMBER REQUIRED FOR DISPATCH			
	(5) REMARKS OR EXCEPTIONS			
ATA 34 NAVIGATION (PAGE 34-1)				
1. Airspeed Indicator (JAR-OPS 1.650/652)				
1) Single Pilot Operation	B	2	1	Any in excess of one may be inoperative provided: (a) The operative instrument is on the handling pilot's side, and (b) Flight is conducted by day under VMC conditions when navigating with reference to visual landmarks.
2) Aircrafts equipped with EFIS displays				
a) Standby airspeed indicator	B	-	0	May be inoperative provided: (a) Both the commander's and co-pilot's airspeed indicator systems are operative, and (b) Flight is conducted by day under VFR over routes navigated by day under VFR over routes navigated by reference to visual landmarks. <u>Note:</u> For aircrafts with EFIS type displays, the airspeed display (tape must be operative.

ATA 34 NAVIGATION (CONT'D)

(1) SYSTEM & SEQUENCE ITEM NUMBERS	(2) MEL CATEGORY			
	(3) NUMBER INSTALLED			
	(4) NUMBER REQUIRED FOR DISPATCH			
	(5) REMARKS OR EXCEPTIONS			
ATA 34 NAVIGATION		(PAGE 34-2)		
2. Sensitive Altimeter Adjustable for Barometric Pressure (JAR-OPS 1.650/652)				
1) Day VFR Operations	C	-	1	Any in excess of one may be inoperative provided: (a) Flight is conducted with reference to visual landmarks, and (b) The operative altimeter is on the handling pilot's side.
2) IFR or Night Operations	C	-	1	Any in excess of one may be inoperative provided: (a) Flight is conducted over routes navigated by reference to visual landmarks. (b) The radio altimeter (where required) is operative, and (c) The operative altimeter in on the handling pilot's side. <u>Note:</u> For aircrafts with EFIS type displays, the altimeter display (tape) must be operative.

ATA 34 NAVIGATION (CONT'D)

(1) SYSTEM & SEQUENCE ITEM NUMBERS	(2) MEL CATEGORY			
	(3) NUMBER INSTALLED			
	(4) NUMBER REQUIRED FOR DISPATCH			
	(5) REMARKS OR EXCEPTIONS			
ATA 34 NAVIGATION (PAGE 34-3)				
3. Standby Magnetic Compass/ Magnetic Direction Indicator (JAR-OPS 1.650/652)	B	2	0	May be inoperative provided: (a) Flight is conducted by day under VFR when navigating with reference to visual landmarks, and (b) When operationally required, the aircraft's main Magnetic Direction Indicator System (ATA 34 Item 6) is operative.
4. Attitude Indicators (JAR-OPS 1.650/652)				
1) Main Attitude Indicators/ Gyroscopic Bank and Pitch Indicator				
a) Day VFR Operation	D	-	2	Any in excess of two may be inoperative provided the operative attitude indicators are at each pilot's station.
	B	-	1	One may be inoperative provided flight is conducted under day VFR with a visual horizon.
b) IFR or Night Operation	B	-	1	Any in excess of one may be inoperative provided the operative slip indicator is on the handling pilot's side.

ATA 34 NAVIGATION (CONT'D)

(1) SYSTEM & SEQUENCE ITEM NUMBERS	(2) MEL CATEGORY			
	(3) NUMBER INSTALLED			
	(4) NUMBER REQUIRED FOR DISPATCH			
	(5) REMARKS OR EXCEPTIONS			
ATA 34 NAVIGATION (PAGE 34-4)				
2) Standby Attitude Indicator				
a) Day VFR Operation	C	-	0	May be inoperative provided all other required attitude indicators are operative.
b) IFR or Night Operation	B	-	1	Any in excess of one may be inoperative.
5. Stabilized Direction Indicators/Gyroscopic Direction Indicator/Gyroscopic Compasses (JAR-OPS 1.650/652)				
1) Day VFR Operation	D	-	1	Any in excess of one may be inoperative provided the operative stabilized director is on the handling pilot's side.
...(Continued)...	A	-	0	May be inoperative provided: (a) The standby magnetic compass is operating normally, and (b) Flight is conducted overland under day VFR when navigating with reference to visual landmarks, and (c) The aircraft may depart on a flight or series of flights for the purpose of returning to a base where repairs or replacements can be made.

ATA 34 NAVIGATION (CONT'D)

(1) SYSTEM & SEQUENCE ITEM NUMBERS	(2) MEL CATEGORY			
	(3) NUMBER INSTALLED			
	(4) NUMBER REQUIRED FOR DISPATCH			
	(5) REMARKS OR EXCEPTIONS			
ATA 34 NAVIGATION (PAGE 34-5)				
5. Stabilized Direction Indicators/Gyroscopic Direction Indicator/Gyroscopic Compasses (JAR-OPS 1.650/652) ... <i>(Continued)</i> ...				
2) IFR or Night Operation	C	-	1	Any in excess of one may be inoperative provided: (a) The operative stabilized direction indicator is on the handling pilot's side, and (b) The standby magnetic compass is operative.
6. Vertical Speed Indicator VSI (JAR-OPS 1.650/652)	C	2	1	Any in excess of one may be inoperative provided the operative VSI is on the handling pilot's side.
	B	2	0	May be inoperative provided the flight is conducted by day under VFR over routes navigated by reference to visual landmarks.

ATA 34 NAVIGATION (CONT'D)

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY			(5) REMARKS OR EXCEPTIONS
		(3) NUMBER INSTALLED			
		(4) NUMBER REQUIRED FOR DISPATCH			
		(5) REMARKS OR EXCEPTIONS			
		(5) REMARKS OR EXCEPTIONS			
ATA 34 NAVIGATION		(PAGE 34-6)			
7. Gyroscopic Rate-of-Turn Indicator	B	2	0	One or both may be inoperative provided a standby attitude indicator is installed and operative on the instrument panel for the pilot flying the aircraft.	
8. OAT/Free Air Temperature Indicator (JAR-OPS 1.650/652)	C	1	0	May be inoperative provided another air temperature indication is operative that is convertible to OAT.	

ATA 34 NAVIGATION (CONT'D)

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY			(5) REMARKS OR EXCEPTIONS
		(3) NUMBER INSTALLED			
		(4) NUMBER REQUIRED FOR DISPATCH			
		(5) REMARKS OR EXCEPTIONS			
		(5) REMARKS OR EXCEPTIONS			
ATA 34 NAVIGATION		(PAGE 34-7)			
9. Navigation Systems (VOR, ILS, ADF, Long Range, etc.) (JAR-OPS 1.865)	A	-	-	(O) No more than one of the navigation equipment systems carried in accordance with the requirements of JAR-OPS 1.865, may be inoperative provided: (a) The aircraft has not made more than one flight since the item was last serviceable, and (b) The commander has satisfied himself that, taking into account the latest information available as to the route/area and heliport to be used (including any planned diversion) and the weather conditions likely to be encountered, the flight can be made safely and in accordance with any relevant requirements of the appropriate air traffic control unit.	
	D	-	-	Any in excess of those required may be inoperative.	
10. ATC Transponders and Automatic Reporting Systems (JAR-OPS 1.860/865)	A	-	0	(O) May be inoperative provided agreement can be obtained from all ATC authorities along the route or any planned diversion, to a place where repairs can be made.	
	D	-	-	Any transponder in excess of those required for the route to be flown may be inoperative.	

ATA 34 NAVIGATION (CONT'D)

(1) SYSTEM & SEQUENCE ITEM NUMBERS	(2) MEL CATEGORY			
	(3) NUMBER INSTALLED			
	(4) NUMBER REQUIRED FOR DISPATCH			
	(5) REMARKS OR EXCEPTIONS			
	ATA 34 NAVIGATION (PAGE 34-8)			
11. DME	D	-	-	As required by Operating Requirements.
12. Radio/Radar Altimeter System				
1) Without Audio Voice Warning (if installed)	D	-	0	May be inoperative provided procedures do not require its use.
2) With Audio Voice Warning (if installed) (JAR-OPS 1.660/1.440)	D	-	0	(O) May be inoperative provided: (a) Over water operations are not conducted, and, (b) Procedures do not require its use.
	A	-	0	(O) May be inoperative provided: (a) No more than 6 hours shall be flown over water since the radio altimeter was found to be inoperative, (b) A maximum of 24 hours have elapsed since the radio altimeter was found to be inoperative, (c) The aircraft shall not fly over water at an altitude of less than 500 feet except for takeoff and landing, and (d) The aircraft shall not descend below 500 feet on approach to landing over water unless the landing site is clearly visible to the pilot.

ATA 34 NAVIGATION (CONT'D)

(1) SYSTEM & SEQUENCE ITEM NUMBERS	(2) MEL CATEGORY			
	(3) NUMBER INSTALLED			
	(4) NUMBER REQUIRED FOR DISPATCH			
	(5) REMARKS OR EXCEPTIONS			
	ATA 34 NAVIGATION (PAGE 34-9)			
13. Weather Radar/Thunderstorm Detection System (if installed) (JAR-OPS 1.670)	D	-	1	Any system in excess of one may be inoperative provided procedures do not require use of inoperative system.
	C	-	0	May be inoperative provided the weather reports or forecasts available to the commander indicate that cumulonimbus clouds or other potentially hazardous weather conditions, which could be detected by the systems when in working order, are unlikely to be encountered on the intended route or any planned diversion there from and not required under JAR 3.295 with regard to coastal heliports to offshore alternates.
14. Flight Director				See ATA 22-2
15. Marker Beacon	C	-	0	May be inoperative provided approach procedures do not require its use.
16. Alternate Source of Static Pressure for Altimeter, A/S and Vertical Speed	A	-	0	May be inoperative provided: (a) Operations are conducted with adequate external attitude reference, and (b) Repairs or replacements are carried out within 3 calendar days.

ATA 34 NAVIGATION (CONT'D)

(1) SYSTEM & SEQUENCE ITEM NUMBERS	(2) MEL CATEGORY			
	(3) NUMBER INSTALLED			
	(4) NUMBER REQUIRED FOR DISPATCH			
	(5) REMARKS OR EXCEPTIONS			
ATA 34 NAVIGATION (PAGE 34-10)				
17. Traffic Collision Alert Systems (i.e., TCAS, TCAD, etc.)	C	-	0	(M) (0) May be inoperative provided: a) Not required by operational requirements, and b) System is deactivated and secured, and en route or approach procedures do not require its use.
18. Altitude Encoding System	C	1	0	As required by Operating Requirements.

ATA 35 OXYGEN

(1) SYSTEM & SEQUENCE ITEM NUMBERS	(2) MEL CATEGORY			
	(3) NUMBER INSTALLED			
	(4) NUMBER REQUIRED FOR DISPATCH			
	(5) REMARKS OR EXCEPTIONS			
ATA 35 OXYGEN				
(PAGE 35-1)				
1. Oxygen System and Masks (Crew and Passengers) (if installed) (JAR-OPS 1.775)				
1) Flight Deck	C	-	-	One or more may be inoperative provided the aircraft is not operated above a pressure altitude of 10,000 ft.
2) Cabin Compartment	C	-	-	Any in excess of that required may be inoperative.
	C	-	-	One or more may be operative provided the aircraft is not operated above a pressure altitude of 10,000 ft.

ATA 45 CENTRAL MAINTENANCE SYSTEM

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY			(5) REMARKS OR EXCEPTIONS
		(3) NUMBER INSTALLED			
		(4) NUMBER REQUIRED FOR DISPATCH			
ATA 45 CENTRAL MAINTENANCE SYSTEM (PAGE 45-1)					
1. Health Usage Monitoring System (HUMS) (if installed) (JAR-OPS 1.517)	B	1	0	System/components may be inoperative for periods agreed by the Authority.	

ATA 52 DOORS

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY			(5) REMARKS OR EXCEPTIONS
		(3) NUMBER INSTALLED			
		(4) NUMBER REQUIRED FOR DISPATCH			
ATA 52 DOORS		(PAGE 52-1)			
1. Door Warning System	C	1	0	(M) or (O) May be inoperative provided all doors and hatches are confirmed by visual inspection to be closed and locked by a crew member prior to each departure.	

ATA 73 ENGINE FUEL AND CONTROL

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY		(5) REMARKS OR EXCEPTIONS
		(3) NUMBER INSTALLED		
		(4) NUMBER REQUIRED FOR DISPATCH		
		ATA 73 ENGINE FUEL AND CONTROL		
1. Engine Fuel Control (Automatic Mode)		2	2	Both must be operative.

ATA 77 ENGINE INDICATING

(1) SYSTEM & SEQUENCE NUMBERS	ITEM	(2) MEL CATEGORY			(5) REMARKS OR EXCEPTIONS
		(3) NUMBER INSTALLED			
		(4) NUMBER REQUIRED FOR DISPATCH			
ATA 77 ENGINE INDICATING (PAGE 77-1)					
1. Tachometer, Triple Indicating	A	-	1	(O) One may be inoperative provided: (a) Operative instrument is on the handling pilot's instrument panel and (b) Associated Dual Torque Indicator operates normally, and (c) Repairs or replacements are carried out within 3 calendar days.	
2. Dual Torque Indicator	A	-	1	(O) One may be inoperative provided: (a) Operative instrument is on the handling pilot's instrument panel and (b) Associated Triple Tachometer Indicator operates normally, and (c) Repairs or replacements are carried out within 3 calendar days.	
3. Engine Out Warning System	A	2	1	(O) One may be inoperative provided: (a) Alternate procedures are established and utilized for engine failure identification, and (b) Repairs or replacements are carried out within 3 calendar days.	

ATA 79 ENGINE OIL

(1) SYSTEM & SEQUENCE ITEM NUMBERS	(2) MEL CATEGORY			
	(3) NUMBER INSTALLED			
	(4) NUMBER REQUIRED FOR DISPATCH			
	(5) REMARKS OR EXCEPTIONS			
	ATA 79 ENGINE OIL (PAGE 79-1)			
1. Engine Oil Pressure Gauge	A	2	1	One may be inoperative provided: (a) The associated engine Oil Press CWP caption is operative (b) The associated engine Oil Temp gauge is operative and monitored throughout the flight. (c) All indications of the other engine oil system are operative, and (d) Repairs or replacements are carried out within 3 calendar days
2. Engine Oil Pressure Caution CWP	A	2	1	One may be inoperative provided: (a) The associated engine Oil Press and Oil temp gauges are operative and monitored throughout the flight, (b) All indications of the other engine oil system are operative. (c) Repairs or replacements are carried out within 3 calendar days