

Contents
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CIVIL AVIATION DEPARTMENT
MINISTRY OF CIVIL AVIATION AND COMMUNICATION
Male'
Republic of Maldives

MALDIVIAN AIRWORTHINESS REQUIREMENTS

<u>No</u>	<u>Issue</u>	<u>Date</u>	<u>Subject</u>
A No. 01	03	12 April 2006	Issue of Maldivian Airworthiness Requirements
B No. 01	01	04 January 2009	REPEALED
B No. 02	02	04 January 2009	REPEALED
B No. 03	01	08 January 2008	REPEALED
B No.04			REPEALED
C No. 01	01	04 January 2009	REPEALED
C No. 02	02	03 August 2008	REPEALED
C No. 03	02	04 January 2009	REPEALED
C No. 04	01	04 January 2009	REPEALED
C No. 05	01	04 January 2009	REPEALED
C No. 06	01	02 November 1991	Minimum Equipment List
C No. 07	01	04 January 2009	REPEALED
C No. 08	01	04 January 2009	REPEALED
C No. 09	08	04 July 2004	Mandatory Aircraft Equipment
C No. 10	01	04 January 2009	REPEALED
C No. 11	02	03 August 2008	REPEALED
C No. 12	01	04 January 2009	REPEALED
C No. 13	01	04 January 2009	REPEALED
C No. 14	02	26 January 2009	REPEALED
C No. 15	01	04 March 2002	Carriage of Oxygen for Medical use by Passengers
D No. 01	02	04 January 2009	REPEALED
D No. 02			REPEALED
D No. 03	02	04 January 2009	REPEALED
D No. 04	01	04 January 2009	REPEALED
D No. 05	01	04 January 2009	REPEALED
D No. 06	01	04 January 2009	REPEALED
D No. 07	01	04 January 2009	REPEALED
E No. 01	02	04 January 2009	REPEALED
E No. 02	01	03 August 2008	REPEALED
E No. 03	01	04 January 2009	REPEALED
MAR-66			REPEALED
MAR 145			REPEALED
MAR 147			REPEALED
MARM			REPEALED



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CIVIL AVIATION DEPARTMENT
MINISTRY OF TOURISM AND CIVIL AVIATION
Male'
Republic of Maldives

MALDIVIAN AIRWORTHINESS REQUIREMENTS

Series "A" No. 01
Issue 03
Dated 16 April 2006
Effective Forthwith

ISSUE OF MALDIVIAN AIRWORTHINESS REQUIREMENTS

1. Introduction

- 1.1. The Civil Aviation Department is issuing "Maldivian Airworthiness Requirements" under the provisions of the Maldives Civil Aviation Act (Act No.2/2001)
- 1.2. Maldivian Airworthiness Requirements (MARs) sets out the minimum requirements, in respect of airworthiness of aircraft, aircraft engineering and maintenance, licensing of aircraft maintenance engineers and the approval of persons and organisations that are required by the Law and Civil Aviation Regulation in the Maldives.

2. Issue and Amendment

- 2.1. "Maldivian Airworthiness Requirements" is issued bearing different series identifications alphabetical letters depending upon the subjects dealt with and under the same "Series" numbers such as No. 01, 02, 03 etc.
- 2.2. The alphabetical series of the MARs as and when issued shall deal with the following subjects:

Series "A"	General
Series "B"	Aircraft Airworthiness
Series "C"	Aircraft Engineering and Maintenance Standards
Series "D"	Licensing of Aircraft Maintenance Engineers
Series "E"	Approval of Organizations
Series "F"	Aircraft Performance

More sections on other subjects may be added depending upon the development of maintenance / overhaul infrastructure and Civil Aviation industry in the country of future.

- 2.3. When a MAR is issued, it shall be given a serial number under the particular series, an issue number and the date of issue along with the date of its effectivity.
- 2.4. As and when a minor alteration is made to an MAR part, the same is issued in the form of an amendment. In case it is considered essential to make substantial changes, a new 'Issue No.' will be given along with the date of 'issue'.
- 2.5. MARs may be issued using a different numbering style to that mentioned in part 2.1. When a different numbering style is used, it shall be similar to Federal Aviation Regulation (FAR) or European Aviation Safety Agency (EASA) /Joint Aviation Regulation (JAR) numbering style.
- 2.6. An updated list of all MARs shall be issued when an amendment is issued to any series/part of MARs.

3. Compliance

- 3.1. It is the responsibility of the owner /operator to ensure that MARs are complied by licenced aircraft engineers and other concerned staff as applicable.
- 3.2. The owner/operator shall ensure that applicable requirements are duly reflected in their Engineering Exposition or Operation Manual as applicable.

4. Cancellation

This circular cancels the latest MAR series A Issue 02, dated 19 September 2001, which should be destroyed.



Mahmood Razee
DIRECTOR GENERAL OF CIVIL AVIATION



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DEPARTMENT OF CIVIL AVIATION

Male'

Republic of Maldives

MALDIVIAN AIRWORTHINESS REQUIREMENTS

Series "C" No. 06
Issue 01
Dated 02 November 1991
Effective Forthwith

Subject:- Minimum Equipment List

1. Introduction

- 1.1 Pursuant to the provisions of the Civil Aviation Regulation, Maldives, for the time being in force, an aircraft may not commence a flight if any of the equipment required by the regulations to be carried is unserviceable unless the Director has expressly granted a permission for such operations.
- 1.2 Such arrangements can only be accepted if operation with specified equipment unserviceable meets the requirements of the Civil Aviation Regulation and the level of safety achieved is not less than the minimum standard either implied or specified by the Certification Basis (defined in the Type Certificate)
- 1.3 Each aircraft type with a MTWA exceeding 2730 kg will have a Master Minimum Equipment list (MMEL) or equivalent approved by the Authority of the country of manufacture and accepted by the DCA. Any aircraft of a type which does not have an approved MMEL, (or equivalent document), cannot be dispatched with unserviceable equipment unless such unserviceabilities are expressly permitted by the Director or by special limitations and procedures in the Approved Flight Manual.
- 1.4 The MMEL will deal with significant items of equipment which may safely be permitted to be unserviceable under certain conditions. It will not include those items which are essential for safety under all conditions. Minor unserviceabilities with no safety implications will be left to the discretion of the Commander. All items which affect the airworthiness of aircraft or safety of those carried on board are therefore, required to be operative.
- 1.5 The MMEL is applicable to an aircraft type but does not take into account the operating circumstances of individual operators of that type; therefore, it can not in itself be regarded as providing operational permission. In order to establish whether or not it is acceptable to dispatch with particular equipment unserviceable it will be necessary for each operator to prepare and seek DCA approval to their own Minimum Equipment List (MEL).

1.6 The MEL can not be less restrictive than the appropriate Approved MMEL and may have to be more restrictive to reflect operators circumstances and capabilities.

2. *Applicability*

2.1 This Airworthiness Requirement specifies the procedure for the framing, approval and use of MEL for aircraft operated for public transport.

3. *Definition*

3.1 A Minimum Equipment List is a document, approved by the Department of Civil Aviation, containing those units and systems which may be in-operative in service for a very limited period without adversely effecting the safety and airworthiness of the aircraft under certain conditions.

4. *Purpose*

4.1 Defects are encountered during operations of an aircraft, for which repair facilities may not exist at route stations and even at the main engineering base in some cases.

4.2 Transport aircraft of today have, however, inherent safe guards introduced into them at the design stage in the form of duplicated systems and components etc. so that safe operations of aircraft is possible even with the existence of certain defects. Transport aircraft are, therefore, permitted to continue their flights from transit station to bases where maintenance facilities are available. This practice not only reduces unnecessary engineering costs but also avoids passenger discomforts associated with delays to services.

5. *Contents of MEL*

5.1 A Minimum Equipment List shall be so drawn as to contain.

5.1.1 A general preamble covering the following aspects

- a) The operator's basic policies regarding operations of an aircraft, components or equipment including the outside repair/overhaul agencies where the aircraft or components will be overhauled in case the facilities are not available at the main base.
- b) The aircraft captain's responsibility to report such defects or damage. The aspects to be considered by him deciding whether to continue a flight without rectification action being taken.
- c) The responsibility of engineering staff regarding the deferment of rectification action and their notification and advice to the aircraft commander.

- d) The certification required for the deferment of rectification action and notification within the company that deferment has been authorised.
- 5.1.2 List of in-operative aircraft systems, items of equipment or components including the number installed, with which an aircraft can be operated, provided an acceptable level of safety is maintained by following appropriate operating limitations, by a transfer of the function to another operating component or by reference to other instruments and components giving the required information.
- 5.1.3 The limits and conditions applicable in authorising a deferment together with the notification and advice to flight crew of deferment.
- 5.1.4 The bases where rectification of defects on specific items shall be accomplished.
- 5.1.5 Any limitations imposed on the operation of an aircraft with
- a) unserviceable or in-operative components/equipment, parts or systems,
 - b) missing components or parts,
 - c) minor damage

6. Approval of Minimum Equipment List

- 6.1 MEL or an amendment to MEL will be compiled by the holder of an Air Operator's Certificate and submitted for approval to the Director of Civil Aviation accompanied with justification for the acceptance of each item and the proposal should include the following.
- a) Manufacturer's name of each unit and total number of units installed on the aircraft.
 - b) Evidence of prior approval by the aircraft manufacturer or Airworthiness Authority of the country of manufacture, eg. Configuration Deviation List etc.
 - c) In respect of amendments, a statement of the failure rate of each item submitted and action taken by the organisation to improve its reliability.
 - d) A statement that the organisation's "Chief Pilot" and "Chief Engineer" have agreed on the proposed MEL or its amendment.

7. Use of MEL

- 7.1 As a normal practice the defects carried forward under MEL shall be rectified and deficiencies made good at the first available opportunity where facilities exist and in any case such repairs/replacement must be carried out when the aircraft returns to the main base. The MEL is not intended to provide for continued operation of the aircraft for an indefinite period with in-operative items but to permit the operation of an aircraft with in-operative equipment within the framework of a controlled and sound programme of repairs and parts replacement.

- 7.2 The chief engineer of the organisation shall be responsible for exercising necessary control to ensure that no aircraft is dispatched with multiple items in-operative, thus resulting in reduction in the level of safety and/or increase in crew work-load.
- 7.3 Notwithstanding the MEL an Aircraft Maintenance Engineer need not issue certificate of release to service or a Pilot need not accept the aircraft for flight if it is considered that it is unsafe to do so.
- 7.4 The AME responsible for releasing the aircraft, after invoking the provisions of MEL, shall inform the Pilot of the aircraft accordingly, make a mention of it in the Technical Log and placard the in-operative unit/system suitably.
8. Operation of an aircraft with either unserviceable or in- operative components or equipment that are not specified in the MEL, or damage exceeding that specified in the MEL may only be authorised provided.
- a) the “Chief Pilot” and the “Chief Engineer” of an the Air Operator’s Certificate holder concur after ensuring that airworthiness of the aircraft and safety of its operation will not be jeopardised by such action, and
 - b) that approval of the Director of Civil Aviation or his authorised Airworthiness personnel is obtained.



Mohamed Shareef
DIRECTOR OF CIVIL AVIATION



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CIVIL AVIATION DEPARTMENT
MINISTRY OF TRANSPORT AND CIVIL AVIATION
Male'
Republic of Maldives

MALDIVIAN AIRWORTHINESS REQUIREMENTS

Series "C" No. 09
Issue 08
Date 04 July 2004
Effective Forthwith

MANDATORY AIRCRAFT EQUIPMENT

1. Introduction

1.1 Civil Aviation Regulation, Maldives, part 7 requires that every Maldivian aircraft shall be provided with such equipment as the Director may from time to time require having regard to the circumstances of any flight to which the aircraft is to engage for the purpose of the flight. An aircraft shall not fly unless it is so equipped with instruments and equipment including radio equipment, to comply with the law of the country in which it is registered and to enable the flight crew to control the flight path of the aircraft in the expected operating conditions. The equipment may be for the purpose of facilitating the navigation of the aircraft, the carrying out of search and rescue operations and the survival of the persons carried in the aircraft.

2. Applicability

2.1 This Airworthiness Requirement is applicable to every aircraft registered in the Maldives and the equipment specified by this MAR shall be provided when the aircraft is being utilised in the circumstances specified herein.

3. General

3.1 In addition to the minimum equipment provided on board an aircraft in accordance with type certificate specifications, such other instrument and equipment as prescribed in the following paragraphs shall be installed as appropriate to the circumstances under which a flight is to be conducted.

3.2 The equipment referred in para 1.1 above shall be of a type approved by the Director of Civil Aviation and shall be installed in a manner so approved.

Subject: Mandatory Aircraft Equipment

- 3.3 Neither the equipment nor the manner in which it is installed, shall be modified except with the approval of the Director.
- 3.4 The equipment carried in compliance with this MAR shall be so installed or stowed and kept stowed, and so maintained and adjusted, as to be readily accessible and capable of being used by the person for whose use it is intended.
- 3.5 The position of equipment provided for emergency use shall be indicated by clear markings in or on the aircraft. In particular in every public transport aircraft registered in the Maldives there shall be;
- (1) provided individually for each passenger; or
 - (2) if the Director so permits in writing, exhibited in a prominent position in every passenger compartment -
a notice relevant to the aircraft in question containing pictorial:
 - (i) instructions on the brace position to be adopted in the event of an emergency landing;
 - (ii) instructions on the method of use of the safety belts and safety harnesses as appropriate;
 - (iii) information as to where emergency exits are to be found and instructions as to how they are to be used;
 - (iv) information as to where the life-jackets, escape slides, life-rafts and oxygen masks if required to be provided, are to be found and instruction as to how they are to be used.
- 3.6 All equipment installed or carried in an aircraft, whether or not in compliance with this MAR, shall be so installed or stowed and so maintained and adjusted as not to be a source of danger in itself or to impair the airworthiness of the aircraft or the proper functioning of any equipment or services necessary for the safety of the aircraft.
- 3.7 Subject to such exceptions as may be approved by the Director for any particular flight conditions, the equipment including radio and Radio navigation equipment shall always be maintained in serviceable condition.
- 3.8 All instrument dials shall have the operating range marked as indicated by the manufacturer of the aircraft in which these are installed.
- 3.9 When a flight is conducted with unserviceable instrument/ equipment in accordance with para 3.7 above, the affected equipment/instrument shall be placarded as "unserviceable" and additionally rendered ineffective or removed from aircraft so as not to interfere with other serviceable systems. The pilot-in-command of the aircraft must also be informed of the same by the maintenance personnel responsible for releasing the aircraft.

4. **Equipment**

4.1 The following equipment shall be installed in;

4.1.1 **All aeroplanes on all flights**

- a) a First Aid Kit having contents appropriate to the seating capacity of the aircraft. The kit shall be stowed so as to be readily accessible to flight/cabin crew in flight and near an exit. The First Aid Kit stowed in the passenger compartment shall contain at least one pair of Protective Gloves as per OPS 13 issue 01 dated 12 April 1995.

Note: contents of the first-aid kit is on Attachment-A and Attachment B (page 13 and 14).

- b) at least 1 portable fire extinguisher in pilot's compartment and 1 in each passenger compartment that is partitioned from pilot's compartment.

Note: The discharge from the fire extinguisher shall be of non-toxic type

- c) a seat or berth for each person over the age of 2 years.
- d) a seat belt for each seat and restraining belt for each berth, the seat belt shall be replaced by a safety harness for each occupant when aeroplane is engaged in aerobatics.
- e) safety harness for each flight crew seat unless the aircraft is below 2730kg and it is impractical to install a safety harness. In the latter case a diagonal shoulder strap as approved by the Director may be sufficient.

Note 1 : The pilot-in-command shall ensure that all the flight crew members wear safety harness during take off and landing phases of flights and/or whenever turbulent weather is encountered. At other times at least safety belt must be worn.

Note 2 : Infants below the age of 2 years shall be carried in the lap of an adult occupant to ensure effective restraining in the event of sudden deceleration of aircraft, or shall be properly secured by means of a child restraint device.

- f) means of ensuring that following information and instructions are conveyed to passengers
1. when seat belts are to be fastened.
 2. restrictions on smoking
- g) spare electrical fuses of appropriate ratings for replacement of those accessible in flight.
- h) the aeroplane flight manual or other documents containing performance data required, and any other information necessary for the operation of aeroplane

Subject: Mandatory Aircraft Equipment

within the terms of its certificate of airworthiness.

- i) current and suitable charts to cover the route of the proposed flight and any route along which it is reasonable to expect that the flight may be diverted.
- j) with and Emergency Locator Beacon operating on 121.5 MHz and 406 MHz over a period of 48 hours of continuous operation, at an operating temperature of minus 20°C, the equivalent isotropically radiated peak envelop power shall at no time be less than 100 mW. on each frequency. The equipment shall be designed and installed so that it;
 - i) operates automatically in the even of a crash;
 - ii) is capable of manual operation by survivors;
 - iii) is not dependent for operation upon the aeroplane power supply;
 - iv) is water resistant; and
 - v) is unlikely to be rendered inoperative by a crash.
- k) one life jacket or equivalent flotation device for each person on board, stowed in a position easily accessible from his/her seat. Each life jacket or equivalent individual flotation device when carried shall be equipped with a means of electric illumination and a whistle for the purpose of facilitating the location of persons.

Provided that life-jacket or individual flotation device constructed and carried solely for use by children under 3 years of age need not be equipped with a whistle.

- l) life-rafts in sufficient number to accommodate all persons on board.

In case of a helicopter carrying 20 or more persons, a minimum of two life-rafts sufficient together to accommodate all persons on board, shall be carried.

Each life-raft shall contain the following equipment.

- i) means of maintaining buoyancy;
- ii) a sea anchor
- iii) life-lines, and means of attaching one life-raft to another;
- iv) paddles or other means of propulsion;
- v) means of protecting the occupants from the elements;
- vi) a water proof torch;
- vii) marine type pyrotechnical distress signals;
- viii) means of making sea water drinkable, unless the full quantity of fresh water is carried as specified in (ix) below;

ix) for each 4 or proportion of 4 persons the life-raft is designed to carry:

100 grams of glucose toffee tablets;
half a litre of fresh water in durable containers:

x) first aid equipment.

Item (vi) to (x) inclusive shall be contained in a pack.

m) if the maximum total weight authorised exceeds 5700kg, shall be equipped with a door between the flight crew compartment and any adjacent compartment to which passengers have access. This door shall be fitted with a lock or bolt capable of being worked from the flight crew compartment.

n) shall carry such other equipment as required by the Director

4.1.2 All aeroplanes for the purpose of public transport of passengers

shall be equipped with the following in addition to the requirements of para 4.1 above:

a) in addition to requirement of first aid kit as stated in para 4.1.1 (a) above, one or more medical kits for emergency use, stowed so as to be readily accessible and near an exit, having contents appropriate to the passenger carrying capacity of the aircraft.

b) an inter communication system for use by all members of the flight crew when the aircraft carries a flight crew of more than one person. The system shall include microphones, not of a hand held type, for use by the pilot and flight engineer (if any);

c) 1 portable battery-powered megaphone if the aircraft carry more than 19 passengers and less than 100 passengers, readily available for use by a member of the crew.

d) 2 portable battery-powered megaphones for aircraft if the seating capacity is more than 99 passengers and less than 200 passengers each readily available for use by a member of the crew.

e) 3 portable battery-powered megaphones, if the seating capacity of the aircraft is more than 199 passengers, each readily available for use by a member of the crew.

f) a public address system

g) an inter-phone system of communication between members of the flight crew and the cabin attendants.

h) shall carry the operations manual or those parts of the operations manual that pertain to flight operations.

i) emergency locator beacons as stipulated in 4.1.1 (j). The number of emergency locator beacons carried shall not be less than :-
2 if the aircraft carries not more than 8 life-rafts.

if the aircraft carries more than 8 life-rafts, 1 additional emergency locator beacon for every additional 4 or portion of 4 life-rafts

- j) A Ground Proximity Warning System (GPWS) which has a forward looking terrain avoidance function prior to January 1, 2003 capable of providing automatically a timely and distinctive warning to pilots of the potentially hazardous proximity of ground and water, where the aeroplane is turbine engine and of a maximum certificated take off mass exceeding 5700kg or authorized to carry more than 09 passengers. This GPWS shall provide the warnings of the following circumstances:
- i) excessive descent rate
 - ii) excessive terrain closure rate:
 - iii) Excessive altitude loss after take-off or go-around
 - iv) Unsafe terrain clearance while not in landing configuration;
 - gear not locked down;
 - flaps not in a landing position; and
 - v) excessive descent below the instrument glide path

The GPWS may be exempted for domestic operations in Maldives.

- k) escape slides or such other equipment readily available for use where in the case of a flying machine while at rest on ground, the sill of any external door intended for disembarkation of passengers, whether normally or in an emergency, is more than 1.82 metres from the ground when its under-carriage is in the normal position for taxiing;
- l) A radar set capable of giving warning to the pilot-in-command of the aircraft and to the co-pilot of the presence of cumulonimbus clouds and other potentially hazardous weather conditions, where the aircraft is a turbine jet aeroplane having a maximum total weight authorised exceeding 5700kg or pressurised aircraft having a maximum total weight authorised exceeding 11400kg:
- m) an under water sonar location device, except in respect of those helicopters or gyroplanes which have a device attached to cockpit voice recorder, on all aircraft above 27000kg.
- n) a transponder, which has mode A and C prior to June 2005.

4.1.3 All seaplanes on all flights:

- a) equipment for making sound signals;
- b) one sea anchor (drogue) and other equipment necessary to facilitate mooring, anchoring or manoeuvring the flying machine on water appropriate to its size, weight and handling characteristics;
- c) additional floatation equipment, capable of supporting one-fifth of the number of persons on board, and provided in a place of stowage accessible from outside the flying machine;
- d) parachute distress rocket signals capable of making, from the surface of the water, the pyrotechnical signal of distress.

Note: "Seaplanes" includes amphibians operated as seaplanes.

4.2 All turbine engine aeroplanes of maximum take off weight authorised exceeding 5700kg but not exceeding 11400 kg:

- a) a Flight data recorder capable of recording the parameters; time, attitude, air speed, magnetic heading and vertical acceleration or
- b) a 4 channel Cockpit Voice Recorder capable of recording and retaining the data recorded during at least the last 30 minutes of its operation.
- c) All turbine-engined aeroplanes that have a maximum take-off mass in excess of 5,700kg or that are authorised to carry more than 19 passengers shall be equipped with ACAS II, which operates in accordance with the relevant provisions of Annex 10, Vol IV by 1st January 2005

4.3 All turbine engine aeroplanes of maximum take off weight authorised exceeding 11400kg:

4.3.1 Flight Data Recorder and a 4 channel CVR as defined in sub-para 4.2 above

Note: 1 To preserve flight recorder records, flight recorders should be deactivated upon completion of flight time following an accident or an incident and must not be reactivated prior to removal of these records.

4.3.2 All turbine-engined aeroplanes that have a maximum take-off mass in excess of 15,000kg or that are authorised to carry more than 30 passengers shall be equipped with ACAS II, which operates in accordance with the relevant provisions of Annex 10, Vol IV by 1st January 2000

4.4 All Aeroplanes when flying at a height of 10000 feet or more above mean sea level

Oxygen in a manner as classified below;

4.4.1 Unpressurised aeroplanes

Any flight to be operated at an altitude in which the atmospheric pressure in flight crew/passenger compartments will be less than 700 mb, the flight shall not be commenced unless sufficient stored breathing oxygen is carried to supply;

- (a) all crew members and 10% passengers for any period in excess of thirty minutes that the pressure in the compartment occupied by them will be between 700 mb and 620 mb.
- (b) the crew and passengers for any period that the atmospheric pressure in the compartment occupied by them will be less than 620 mb.

4.4.2 Pressurised Aeroplanes

The flight shall not be commenced for any pressurised aeroplane unless a sufficient quantity of stored breathing oxygen is carried to supply all the crew members and a proportion of passengers as appropriate to the circumstances of the flight, in the event of loss of pressurisation, for any period that the atmospheric pressure in any compartment occupied by them would be less than 700 mb.

4.4.3 An aeroplane intended to be operated at altitudes at which the atmospheric pressure is less than 700 mb, but which is provided with means on maintaining pressure greater than 700 mb. in personal compartments, shall be provided with oxygen storage and dispensing apparatus capable of storing and dispensing the oxygen supplies as required in para 4.4.2 above.

4.4.4 All pressurised aeroplanes which are intended to be operated at altitudes at which the atmospheric pressure would be less than 376 mb. shall be equipped with a device to provide positive warning to the pilot of any dangerous loss of pressurisation.

Note: Approximate altitude in the standard atmosphere corresponding to the values of absolute pressure used in the text are as follows:

<u>Absolute pressure</u>	<u>Meters</u>	<u>Feet</u>
700 mb.	3,000	10,000
620 mb.	4,000	13,000
375 mb.	7,600	25,000

4.5 All aeroplanes under icing conditions

means of prevention and/or removal of ice from wind shield, wings, propellers or other parts of the aeroplane where ice formation will adversely effect the safety of aircraft.

4.6 All Aeroplanes on flights over substantially uninhabited land areas

a) when flying over substantially uninhabited land areas where, in the event of an emergency landing, tropical conditions are likely to be met shall be equipped with:

- i) marine type pyrotechnical distress signals;
- ii) for each 4 or portion of 4 persons on board, 100 grams of glucose toffee tablets;
- iii) for each 4 persons or portion of 4 persons on board, ½ a litre of fresh water in durable containers;

b) when flying over substantially uninhabited land or other areas where, in the event of an emergency landing, polar conditions are likely to be met shall be equipped with:

- i) marine type pyrotechnical distress signals;
- ii) for each 4 or portion of 4 persons on board, 100 grams of glucose toffee tablets;

- iii) for each 4 persons or portion of 4 persons on board, $\frac{1}{2}$ a litre of fresh water in durable containers;
- iv) for every 75 or portions of 75 persons on board, 1 stove suitable for use with aircraft fuel;
- v) 1 cooking utensil, in which snow or ice can be melted;
- vi) 2 snow shovels;
- vii) 2 ice saws;

- viii) single or multiple sleeping-bags, sufficient for the use of one-third of all persons on board;
- ix) 1 arctic suit for each member of the crew of the aircraft.

5. Instruments

5.1 All aeroplanes on all flights

All aeroplanes on all flights shall be equipped with:

- a) a magnetic compass
- b) an accurate time piece, indicating time in hours, minutes and seconds.
- c) an airspeed indicator.
- d) 2 airspeed indicators if the maximum total weight authorised of the aircraft exceeds 5700kg.

Note: The Air speed indication system should be equipped with means of preventing malfunctions due to either condensation or icing.

- e) a sensitive pressure altimeter adjustable for any sea level barometric pressure.
- f) RPM Indicator for each engine
- g) out side air temperature indicator if the maximum total weight authorised of the aircraft exceeds 5700 kg.
- h) oil pressure indicator for each engine
- i) oil quantity indicator for each tank (instrument or a dip- stick)
- j) Cylinder Head Temperature indicator for each air-cooled engine having rated BHP above 250.
- k) oil temperature gauge for each air-cooled engine having rated BHP above 250.
- l) manifold pressure gauge for each engine fitted with variable pitch propeller and/

Subject: Mandatory Aircraft Equipment

or is super-charged

- m) fuel quantity indicator indicating quantity of fuel in each tank
- n) landing gear position indicator for the aircraft fitted with retractable landing gear
- o) such other items/equipment as may be prescribed by the Director for particular installation.

5.2 All aeroplanes operated in accordance with instrument flights rules (IFR)

All aeroplanes when operated in accordance with the instrument flight rules, or when the aeroplane cannot be maintained in a desired attitude without reference to one or more flight instruments, shall be equipped with:

- a) all instruments specified in 5.1
- b) a turn and slip indicator;
- c) an attitude indicator (artificial horizon);
- d) a heading indicator (directional gyroscope);
- e) a means of indicating whether the power supply to the gyroscopic instrument is adequate;
- f) a rate of climb and decent indicator;
- g) a second sensitive pressure altimeter in addition to 5.1 (e) above;
- h) a vacuum gauge in case Gyroscopic instruments are of 'air-driven' type;
- i) All turbine engined aeroplanes of a maximum certificated take off mass of over 5700kg introduced into service after 1 January, 1975 and all helicopters when operated in accordance with instrument flight rules shall be fitted with an emergency power supply, independent of the main electrical generating system, for the purpose of operating and illuminating, for a minimum period of 30 minutes, an attitude indicating instrument (artificial horizon), clearly visible to the pilot-in-command. The emergency power supply shall be automatically operative after the total failure of the main electrical generating system and clear indication shall be given on the instrument panel that the attitude indicator(s) is being operated by emergency power.
- j) Communication and Navigation equipment as referred under para 7 in this MAR.

Note: in case of a helicopter with maximum total weight authorised exceeding 2000kg, gyroscopic bank and pitch indicator and either sensitive pressure Altimeter duplicated or a Radio Altimeter be installed.

6. All aeroplanes when operated at night

Issue of Madivian Airworthiness Requirements

shall be equipped with the following instruments and equipment:

- a) Instruments and equipment as stated in para 5.2 above;
- b) position lights ie navigation lights (an unobstructed red light on the left side, green on the right near the wing tips and a white light near the tail);
- c) Anti-collision lights;
- d) Electrical equipment, supplied from the main source of supply in the aircraft, to provide sufficient illumination to enable the flight crew properly to carry out their duties during flight;
- e) Two landing lights each fitted with a single filament lamp or one light having dual filament lamp with separately energised filaments;
- f) In case of a helicopter with maximum total weight authorised exceeding 5700kg, 1 dual filament landing light with separately energised filaments or 2 single filament lights, each of which is adjustable so as to illuminate the ground in front of and below the helicopter;
- g) 1 Electric Torch for each member of the crew of the aircraft;
- h) an electric lighting system to provide illumination in every passenger compartment;
- i) an emergency lighting system to provide illumination in the passenger compartment sufficient to facilitate satisfactory evacuation of the aircraft;

7. Communication and navigation equipment

7.1 Communication equipment

All aircraft, excluding micro-light aircraft operated outside controlled airspace, shall be provided with;

- a) radio communication equipment capable of conducting two-way communication at any time during flight with at least one aeronautical station for air traffic control purposes;

The radio communication equipment shall provide for communications on the aeronautical emergency frequency 121.5 MHz.

- b) equipment capable of receiving meteorological information at any time during the flight;

Note: Aircraft maximum take-off weight authorised less than 5700kg may be exempted from the requirements of the sub-para (b) above.

7.2 Navigation Equipment

All aircraft when flying under instrument flight rules within controlled airspace notified shall be equipped with:

- a) secondary surveillance radar equipment;
- b) radio and radio navigation equipment capable of enabling the aircraft to be navigated along the intended route including;
 - i) automatic direction finding equipment;
 - ii) distance measuring equipment;
 - iii) VHF omni-range equipment;
- c) all aircraft when flying for the purpose of public transport under Instrument Flight Rules and making an approach to landing at an aerodrome notified as precision approach shall be fitted with radio navigation equipment capable of enabling the aircraft to make an approach to landing using the Instrument Landing System.

Note 1: Provisioning of communications and navigation equipment will ensure that in the even of failure of one item of equipment during flight, the remaining equipment will be sufficient to complete the flight safely and meet the above requirements.

Note 2: 'Secondary Surveillance Radar Equipment' means radio equipment capable of,

- a) replying to an interrogation from Secondary Surveillance Radar units on the surface and
- b) being operated in accordance with such instructions as may be given to the aircraft by the appropriate Air Traffic Control Unit.

8. Instruments and Equipment for Helicopters

In addition to the instruments and equipment required to be fitted according to type certificate / preceding paragraphs of this MAR (applicable to aeroplanes), all helicopters shall have:

1. RPM indicator for each main rotor;
2. a flotation device in addition to the usual landing gear;
3. a 4 channel CVR having at least main rotor speed recording capability on one of its tracks;
4. an under water sonar location device, except in respect of those helicopters or gyroplanes which have a device attached to cockpit voice recorder;
5. a radio altimeter with an audio voice warning operating below a preset height and a visual warning capable of operating at a height selected by the pilot.

9. Cancellation

This circular cancels the latest MAR series "C" No. 09, issue 7 which should be destroyed.



Mahmood Raze
DIRECTOR GENERAL OF CIVIL AVIATION

ATTACHMENT- A
First Aid Kit

The following contents are required for aeroplanes engaged in commercial passengers carrying operations

Note 1:-For 0-50 pax seats 1xFAK is required.

For 51-150 pax seats 2xFAK is required.

For 151-250 pax seats 3xFAK is required.

For more than 250 pax seats 4xFAK is required.

Note 2:-List of contents is to be firmly attached to the container.

Note 3:-Container to be sealed.

Note 4:-Container to be checked annually-name of inspector to be recorded on the container.

Note 5:-Date of inspection and next inspection due date to be clearly shown on container

	ITEM	QTY	REMARKS
1	Bandage white -cotton 3mx8cm (9'x3")	3	
2	Bandage white -cotton 3mx8cm (9'x2")	3	
3	Bandage white -cotton 3mx8cm (9'x1")	3	
4	Bandage -crepe 3mx8cm (9'x3")	2	
5	Bandage -crepe 3mx8cm (9'x2")	2	
6	Burns-dressing pads-large	12	
7	Wound dressing pads-large	12	
8	Adhesive elastic tape 3mx8cm (9'x3")	1 roll	
9	Adhesive elastic tape 3mx8cm (9'x2")	1 roll	
10	Safety pins-assorted sizes	24	stainless steel type
11	Scissors-small or medium	1	stainless steel type
12	Dressings-adhesive-small/medium/large	24	eg: sticking plasters/band Aid
13	Antiseptic fluid (eg: Dettol)	Bottle 125ml	
14	Burn ointment	1 tube	
15	An Artificial Plastic Airway	1	eg: Cinnarizine or equivalent
16	Analgesic tablet	100	
17	Anti-emetic-tablet	25	eg: Paracetamol 500mg
18	Nasal de-congestant fluid	1 bottle	eg: Afrin or Sinutex
19	Gastro intestinal antacid tablet	25	eg: Maalox/Actan
20	Anti-diarrhoeal medication	1 bottle or 25 tablets	eg: loderamide
21	Ground to air Visual Code booklet	1	For use by survivors
22	Disposable Rubber Gloves	1 pair	
23	Mosquito Repellant cream	1 bottle	eg: Autan or Johnson's OFF
24	Splints	set	suitable for upper & lower limb use
25	Emollient Eye Drop	1 Bottle	
26	Handbook on First Aid		

**ATTACHMENT- B
First Aid Kit**

The following contents are required for aeroplanes engaged in commercial passengers carrying operations

Note 1:-For 0-18 pax seats 1xFAK is required.

Note 2:-List of contents is to be firmly attached to the container.

Note 3:-Container to be sealed.

Note 4:-Container to be checked annually-name of inspector to be recorded on the container.

Note 5:-Date of inspection and next inspection due date to be clearly shown on container

	ITEM	QTY	REMARKS
1	Bandage white -cotton 3mx8cm (9'x3")	1	
2	Bandage white -cotton 3mx8cm (9'x2")	1	
3	Bandage white -cotton 3mx8cm (9'x1")	1	
4	Bandage -crepe 3mx8cm (9'x3")	1	
5	Bandage -crepe 3mx8cm (9'x2")	1	
6	Burns-dressing pads-large	5	
7	Wound dressing pads-large	5	
8	Adhesive elastic tape 3mx8cm (9'x3")	1 roll	
9	Adhesive elastic tape 3mx8cm (9'x2")	1 roll	
10	Safety pins-assorted sizes	15	stainless steel type
11	Scissors-small or medium	1	stainless steel type
12	Dressings-adhesive-small/medium/large	15	eg: sticking plasters/band Aid
13	Antiseptic fluid (eg: Dettol)	Bottle 125ml	
14	Burn ointment	1 tube	
15	An Artificial Plastic Airway	1	
16	Analgesic tablet	10	eg: Paracetamol 500mg
17	Anti-emetic-tablet	05	eg: Cinnarizine or equivalent
18	Nasal de-congestant fluid	1 bottle	eg: Afrin or Sinutex
19	Gastro intestinal antacid tablet	05	eg: Maalox/Actan
20	Anti-diarrhoeal medication	1 bottle or 5 tablets	eg: loderamide
21	Ground to air Visual Code booklet	1	For use by survivors as contained in Annex12
22	Disposable Rubber Gloves	1 pair	
23	Mosquito Repellant cream	1 bottle	eg: Autan or Johnson's OFF
24	Splints	set	
25	A handbook on First Aid		
26	Emmolient eye drops		



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CIVIL AVIATION DEPARTMENT

Male'

Republic of Maldives

MALDIVIAN AIRWORTHINESS REQUIREMENTS

Series "C" No. 15
Issue 01
Dated 04 March 2002
Effective 04 April 2002

Subject:- Carriage of Oxygen for Medical use by Passengers

1. Scope

This Maldivian Airworthiness Requirements prescribes how an oxygen generator may be used on board an aircraft for a passenger requiring medical oxygen other than in the event of an in-flight emergency.

2. Requirements

The holder of an Air Operator's Certificate may allow a passenger to carry and operate equipment for the storage, generation, or dispensing of oxygen when the following conditions are met;

(a) The equipment is;

- i. furnished by the AOC holder;
- ii. of an approved type or is in conformity with the manufacturing, packaging, marking, labeling, and maintenance requirements;
- iii. maintained by the certificate holder in accordance with an approved maintenance program;
- iv. free of flammable contaminants on all exterior surfaces;

- v. capable of providing a minimum mass flow of oxygen to the user of four liters per minute;
 - vi. constructed so that all valves, fittings, and gauges are protected from damage, and;
 - vii. appropriately secured without hindering any emergency exits. Installation location must be approved.
- (b) When the oxygen is stored in the form of a liquid, the equipment must be under the AOC holder's approved maintenance program since its purchase new or since the storage container was last purged.
- (c) When the oxygen is stored in the form of a compressed gas;
- i. The equipment must be under the AOC holder's approved maintenance program since its purchase new or since the last hydrostatic test of the storage cylinder, and;
 - ii. The pressure in any oxygen cylinder must not exceed the rated cylinder pressure.
- (d) Each person using the equipment must have a medical need to use it evidenced by a written statement to be kept in that person's possession, signed by a licensed physician which specifies the maximum quantity of oxygen needed each hour and the maximum flow rate needed for the pressure altitude corresponding to the pressure in the cabin of the airplane under normal operating conditions; this sub-paragraph does not apply to carriage of oxygen in an airplane in which the only passengers carried are persons who may have a medical need for oxygen during flight, no more than one relative or other interested person for each of those persons, and medical attendants.
- (e) the total quantity of oxygen carried must be equal to the maximum quantity of oxygen needed each hour, as specified in the physician's statement, multiplied by the number of hours used to compute the amount of airplane fuel required.
- (f) the pilot in command must be advised when the equipment is on board, and when it is intended to be used.

- (g) the equipment must be stowed and each person using the equipment must be seated, so as not to restrict access to or use of any required emergency or regular exit or of the aisle in the passenger compartment.
- (h) no person may smoke and no certificate holder may allow any person to, smoke within 10 feet of oxygen storage and dispensing equipment carried in accordance with this MAR.
 - i. no certificate holder may allow any person other than a person trained to connect or disconnect oxygen dispensing equipment or any other ancillary component to or from gaseous oxygen cylinder while any passenger is aboard the airplane.
 - ii. the requirements of this section do not apply to the carriage of supplemental or first aid oxygen and related equipment required by 4.4.2 and 4.4.3 in MAR Series C 09.
- (i) this MAR does not apply when the equipment is furnished by a professional or medical emergency service for professional or medical emergency service for use on board an aircraft in a medical emergency when no other practical means of transportation (including any other properly equipped certificate holder) is reasonably available and the person carried under medical emergency is accompanied by a person trained in the use of medical oxygen.
- (j) Each certificate holder who, under the authority of paragraph 2(i) of this MAR deviates from paragraph 1 if this MAR under a medical emergency shall, within 10 days, excluding Friday and Saturdays, and Public Holidays, after the deviation, send to the Civil Aviation Department a complete report of the operation involved, including a description of the deviation and the reasons for it.

3. Effectivity

This MAR comes into effect on 04 April 2002.



Mahmood Razee

DIRECTOR GENERAL OF CIVIL AVIATION



DEPARTMENT OF CIVIL AVIATION
MINISTRY OF TRANSPORT AND COMMUNICATION

Huravee Building,, Male'
Maldives

APPLICATION FOR AERODROME

1. Particulars of the proposed licensee (as required to be shown on the licence)
 - a) Full name.....
 - b) Address:

Note: The licence holder must be legal person. If a group or club applying for a licence is not incorporated the names(s) of their person(s) who will hold the licence and be responsible for giving effect to the conditions of the licence should be stated.

2. Details of the aerodrome.
 - a) proposed name of aerodrome.....
 - b) WGS84 co-ordinates.....
 - c) position of aerodrome with reference to the nearest town.

Note: This application must be accompanied by a map showing the exact boundaries of the proposed aerodrome it should show the location of the floating platform and the distance from the nearest landmark.

3. Details of Licence
 - a) Period for which licence is required, if less than 12 months.
 - b) Do you require licence for public use.
 - c) Classification of aircraft to be operated at the aerodrome, eg. aeroplanes, helicopters gyroplanes

4. a) Type and maximum total weight authorised of the heaviest aircraft engaged on the flights for the purpose of the public transport of passengers and for instruction in flying expected to use the aerodrome.
- b) Expected average number of movements per calendar month of aircraft shown at (a) during the threee busiest calendar months of the year. (one movement is one take-off or one landings)

Public Transport of Passengers	Instructions in flying
Type	
Weight	

5. Is the aerodrome to be used for night flying?

6. Are you the owner of the aerodrome site?

IF NOT PLEASE STATE

- a) Details of any rights that you hold over the site
 - b) The period for which you hold these rights
 - c) The name and address of the owner or tenant whose permission has been obtained for the site to be used as an aerodrome
7. a) Does any public or private right of way exist on or near the proposed aerodrome?
- b) If so, would the use of the site as an aerodrome interfere with such rights?
- c) If there is a risk of interference with private rights, please give details of any agreement made with the holder of the rights for the use of the site as aerodrome.

8. The following table conforms to that of the Civil Aviation Department Scheme of Charges (Aerodrome Licensing). Please enter against the highest weight category appropriate to your aerodrome the total number of movements of aircraft in that category flying for the purpose of public transport of passengers and instruction in flying which you expect to take place at the aerodrome during the busiest consecutive three months of a twelve months period of operations.

The figure required is the combined total for the three months, each take-off and each landing counting as a movement.

CATEGORY (by weight of aircraft)	No. of movements
a) Not exceeding 5 tonnes	
b) Exceeding 5 tonnes but not exceeding 35 tonnes	
c) Exceeding 35 tonnes but not exceeding 140 tonnes	
d) Exceeding 140 tonnes	

9. Will Air Traffic Control Service with licenced Air Traffic Controllers be provided? YES/NO

CERTIFICATE

I hereby certify that the foregoing information is correct in every respect and no relevant information has been withheld.

INFORMATION

Before an aerodrome licence is granted the Civil Aviation Department will require to be satisfied that the physical conditions on the manoeuvring area and in the environs of the aerodrome are acceptable, that the scale of equipment provided is adequate, and the aerodrome is organised, staffed and has maintenance and other arrangements sufficient to ensure the safe operation of the aerodrome and its facilities for the purposes for which the licence application has been made. The requirements are set out in detail in the MAR Series C 14 and ICAO Annex 14.