



CHAPTER 4

**HELICOPTER INSTRUMENTS, EQUIPMENT, AND
FLIGHT DOCUMENTS**

Note.— Specifications for the provision of helicopter communication and navigation equipment are contained in Chapter 5.

4.1 GENERAL

4.1.1 An operator shall ensure that, in addition to the minimum equipment necessary for the issuance of a Certificate Of Airworthiness, the instruments, equipment and flight documents prescribed in the following paragraphs shall be installed or carried, as appropriate, in helicopters according to the helicopter used and to the circumstances under which the flight is to be conducted. The prescribed instruments and equipment, including their installation, shall be approved or accepted by the DG, CAAN or the State of Registry.

4.1.2 A helicopter shall carry a certified true copy of the Air Operator Certificate specified in 2.2.1, and a copy of the operations specifications relevant to the helicopter type, issued in conjunction with the certificate. When the certificate and the associated operations specifications are issued in a language other than English, an English translation shall be included.

Note.— Provisions for the content of the Air Operator Certificate and its associated operations specifications are contained in Appendix 5 of the Air Operator Certificate Requirements (AOCR).

4.1.3 Provided the helicopter's manufacturer has issued a Master Minimum Equipment List, the operator may include in the Operations Manual a Minimum Equipment List (MEL), approved by the DG, CAAN which will enable the Pilot-In-Command to determine whether a flight may be commenced or continued from any intermediate stop should any instrument, equipment or systems become inoperative. Where Nepal is not the State of Registry, the Air Operator shall ensure that the MEL does not affect the helicopter's compliance with the airworthiness requirements applicable in the State of Registry.

Note.— Appendix 13 contains guidance on the Minimum Equipment List.

4.1.4 The operator shall make available to operations staff and crew members an aircraft operating manual, for each aircraft type operated, containing the normal, abnormal and emergency procedures relating to the operation of the aircraft. The manual shall include



details of the aircraft systems and of the checklists to be used. The design of the manual shall observe Human Factors principles. The manual shall be easily accessible to the flight crew during all flight operations.

Note.— Guidance material on the application of Human Factors principles can be found in the Human Factors Training Manual (Doc 9683).

4.2 ALL HELICOPTERS ON ALL FLIGHTS

4.2.1 A helicopter shall be equipped with instruments that will enable the flight crew to control the flight path of the helicopter, carry out any required procedural manoeuvres and observe the operating limitations of the helicopter in the expected operating conditions.

4.2.2 A helicopter shall be equipped with:

a) accessible and adequate First Aid Kit containing medical supplies appropriate to the number of passengers and crew the helicopter is authorized to carry;

Note.— Guidance on the contents of first-aid and universal precaution kits is given in Appendix 07.

b) portable fire extinguishers of a type which, when discharged, will not cause dangerous contamination of the air within the helicopter. At least one shall be located in:

- 1) the pilot's compartment; and
- 2) each passenger compartment that is separate from the pilot's compartment and that is not readily accessible to the flight crew.

Note 1.— Any portable fire extinguisher so fitted in accordance with the certificate of airworthiness of the helicopter may count as one prescribed.

Note 2.— Refer to 4.2.2.1 for fire extinguishing agents.

c)

- 1) a seat or berth for each person over two years;
- 2) a seat belt for each seat and restraining belts for each berth; and
- 3) a safety harness for each flight crew seat. The safety harness for each pilot seat shall incorporate a device which will automatically restrain the occupant's torso in the event of rapid deceleration.

Note 1.— Depending on the design, the lock on an inertia reel device may suffice for this purpose.

Note 2.— Safety harness includes shoulder straps and a seat belt which may be used independently.

d) means of ensuring that the following information and instructions are conveyed to passengers:

- 1) when seat belts or harnesses are to be fastened;



- 2) when and how oxygen equipment is to be used if the carriage of oxygen is required;
 - 3) restrictions on smoking;
 - 4) location and use of life jackets or equivalent individual flotation devices where their carriage is required; and
 - 5) location and method of opening emergency exits; and
- e) if fuses are used, spare electrical fuses of appropriate ratings for replacement of those accessible in flight.

4.2.2.1 Any agent used in a built-in fire extinguisher for each lavatory disposal receptacle for towels, paper or waste in a helicopter for which the individual certificate of airworthiness is first issued on or after 31 December 2011 and any extinguishing agent used in a portable fire extinguisher in a helicopter for which the individual certificate of airworthiness is first issued on or after 31 December 2016 shall:

- a) meet the applicable minimum performance requirements of the State of Registry; and
- b) not be of a type listed in the 1987 *Montreal Protocol on Substances that Deplete the Ozone Layer* as it appears in the Eighth Edition of the *Handbook for the Montreal Protocol on Substances that Deplete the Ozone Layer*, Annex A, Group II.

Note.— Information concerning extinguishing agents is contained in the UNEP Halons Technical Options Committee Technical Note No. 1 – New Technology Halon Alternatives and FAA Report No. DOT/FAA/AR-99-63, Options to the Use of Halons for Aircraft Fire Suppression Systems.

4.2.3 A helicopter shall carry:

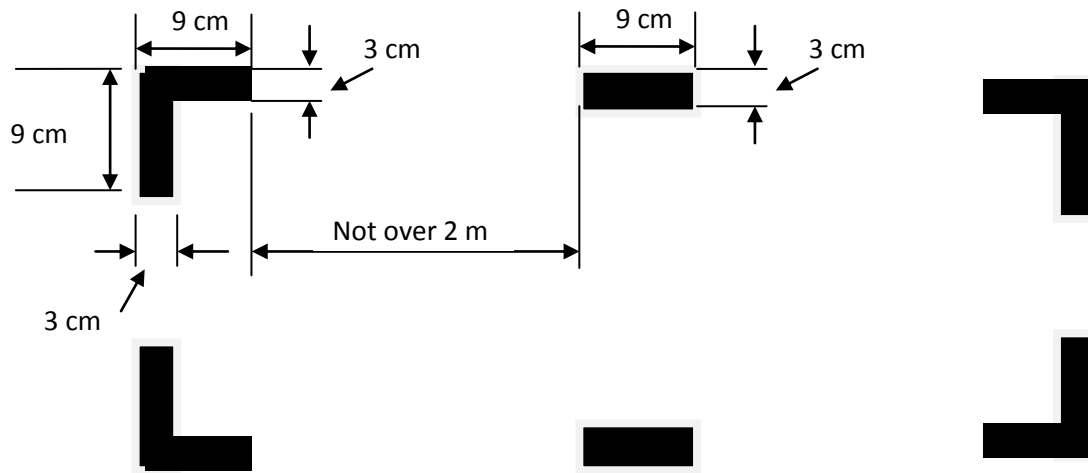
- a) the operations manual prescribed in 2.2.2, or those parts of it that pertain to flight operations;
- b) the Helicopter Flight Manual for the helicopter, or other documents containing performance data required for the application of Chapter 3 and any other information necessary for the operation of the helicopter within the terms of its Certificate Of Airworthiness, unless these data are available in the Operations Manual; and
- c) 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.

4.2.4 Marking of break-in points

4.2.4.1 If areas of the fuselage suitable for break-in by rescue crews in an emergency are marked on a helicopter, such areas shall be marked as shown below (see figure following). The colour of the markings shall be red or yellow, and if necessary they shall be outlined in white to contrast with the background.

4.2.4.2 If the corner markings are more than 2 m apart, intermediate lines 9 cm × 3 cm shall be inserted so that there is no more than 2 m between adjacent markings.

Note.— This Requirement does not require any helicopter to have break-in areas.



MARKING OF BREAK-IN POINTS (see 4.2.4)

4.3 FLIGHT RECORDERS

Note 1.— Crash protected flight recorders comprise one or more of the following systems: a flight data recorder (FDR), a cockpit voice recorder (CVR), an airborne image recorder (AIR) and/or a data link recorder (DLR). Image and data link information may be recorded on either the CVR or the FDR.

Note 2.— Combination recorders (FDR/CVR) may be used to meet the flight recorder equipage requirements in this FOR (H).

Note 3.— Detailed guidance on flight recorders is contained in Appendix 5.

Note 4.— Lightweight flight recorders comprise one or more of the following systems: an aircraft data recording system (ADRS), a cockpit audio recording system (CARS), an airborne image recording system (AIRS) and/or a data link recording system (DLRS). Image and data link information may be recorded on either the CARS or the ADRS.

4.3.1 Flight data recorders and aircraft data recording systems

Note 1.— FDR and AIR performance requirements are as contained in the EUROCAE ED-112, Minimum Operational Performance Specification (MOPS) for Crash Protected Airborne Recorder Systems, or equivalent documents.

Note 2.— Parameters to be recorded are listed in Table A5-1 of Appendix 5.

Note 3.— ADRS performance requirements are as contained in the EUROCAE ED-155, Minimum Operational Performance Specification (MOPS) for Lightweight Flight Recorder Systems, or equivalent documents.



4.3.1.1 *Types*

4.3.1.1.1 A Type IV FDR shall record the parameters required to determine accurately the helicopter flight path, speed, attitude, engine power and operation.

4.3.1.1.2 A Type IVA FDR shall record the parameters required to determine accurately the helicopter flight path, speed, attitude, engine power, operation and configuration.

4.3.1.1.3 A Type V FDR shall record the parameters required to determine accurately the helicopter flight path, speed, attitude and engine power.

4.3.1.2 *Operation*

4.3.1.2.1 All helicopters of a maximum certificated take-off mass of over 3 180 kg for which the individual certificate of airworthiness is first issued on or after 1 January 2016 shall be equipped with a Type IVA FDR.

4.3.1.2.2 All helicopters of a maximum certificated take-off mass of over 7 000 kg, or having a passenger seating configuration of more than nineteen, for which the individual certificate of airworthiness is first issued on or after 1 January 1989 shall be equipped with a Type IV FDR.

4.3.1.2.3 *RESERVED*

4.3.1.2.4 All turbine-engined helicopters of a maximum certificated take-off mass of over 2 250 kg, up to and including 3 180 kg for which the application for type certification was submitted to a Contracting State on or after 1 January 2018 shall be equipped with:

- a) a Type IV A FDR; or
- b) a Class C AIR capable of recording flight path and speed parameters displayed to the pilot(s); or
- c) an ADRS capable of recording the essential parameters defined in Table A5-3 of Appendix 5.

Note.— The “application for type certification was submitted to a Contracting State” refers to the date of application of the original “Type Certificate” for the helicopter type, not the date of certification of particular helicopter variants or derivative models.

4.3.1.2.5 *RESERVED*

4.3.1.3 *Discontinuation*

4.3.1.3.1 The use of engraving metal foil FDRs shall be discontinued.

4.3.1.3.2 *RESERVED*

4.3.1.3.3 The use of photographic film FDRs shall be discontinued.



4.3.1.3.4 The use of analogue FDRs using frequency modulation (FM) shall be discontinued by 1 January 2012.

4.3.1.3.5 *RESERVED*

4.3.1.3.6 The use of magnetic tape FDRs shall be discontinued by 1 January 2016.

4.3.1.4 *Duration*

Types IV, IVA and V FDRs shall be capable of retaining the information recorded during at least the last ten hours of their operation.

4.3.2 COCKPIT VOICE RECORDERS

Note.— CVR performance requirements are as contained in the EUROCAE ED-112, Minimum Operational Performance Specification (MOPS) for Crash Protected Airborne Recorder Systems, or equivalent documents.

4.3.2.1 *Operation*

4.3.2.1.1 All helicopters of a maximum certificated take-off mass of over 7 000 kg for which the individual Certificate Of Airworthiness is first issued on or after 1 January 1987 shall be equipped with a CVR. For helicopters not equipped with an FDR, at least main rotor speed shall be recorded on the CVR.

4.3.2.1.2 *RESERVED*

4.3.2.1.3 All helicopters of a maximum certificated take-off mass of over 7 000 kg for which the individual certificate of airworthiness was first issued before 1 January 1987 shall be equipped with a CVR. For helicopters not equipped with an FDR, at least main rotor speed shall be recorded on the CVR.

4.3.2.2 *Discontinuation*

4.3.2.2.1 The use of magnetic tape and wire CVRs shall be discontinued by 1 January 2016.

4.3.2.2.2 *RESERVED*

4.3.2.3 *Duration*

4.3.2.3.1 A CVR shall be capable of retaining the information recorded during at least the last 30 minutes of its operation.

4.3.2.3.2 From 1 January 2016, all helicopters required to be equipped with a CVR shall be equipped with a CVR capable of retaining the information recorded during the last two hours of its operation.

4.3.2.3.3 *RESERVED*



4.3.3 Data link recorders

Note.— Data link recorders performance requirements are as contained in the EUROCAE ED-112, Minimum Operational Performance Specifications (MOPS) for Crash Protected Airborne Recorder Systems, or equivalent documents.

4.3.3.1 Applicability

4.3.3.1.1 All helicopters for which the individual certificate of airworthiness is first issued on or after 1 January 2016, which utilize any of the data link communications applications listed in 5.1.2 of Appendix 5 and are required to carry a CVR, shall record on a flight recorder the data link communications messages.

4.3.3.1.2 All helicopters which are modified on or after 1 January 2016 to install and utilize any of the data link communications applications listed in 5.1.2 of Appendix 5 and are required to carry a CVR shall record on a flight recorder the data link communications messages.

Note 1.— Data link communications are currently conducted by either ATN-based or FANS 1/A-equipped helicopter.

Note 2.— A Class B AIR could be a means for recording data link communications applications messages to and from the helicopters where it is not practical or is prohibitively expensive to record those data link communications applications messages on FDR or CVR.

4.3.3.2 Duration

The minimum recording duration shall be equal to the duration of the CVR.

4.3.3.3 Correlation

Data link recording shall be able to be correlated to the recorded cockpit audio.

4.3.4 Flight recorders — general

4.3.4.1 Construction and installation

Flight recorders shall be constructed, located and installed so as to provide maximum practical protection for the recordings in order that the recorded information may be preserved, recovered and transcribed. Flight recorders shall meet the prescribed crashworthiness and fire protection specifications.

Note.— Industry crashworthiness and fire protection specifications are as contained in the EUROCAE ED-112, Minimum Operational Performance Specifications (MOPS) for Crash Protected Airborne Recorder Systems, or equivalent documents.



4.3.4.2 Operation

4.3.4.2.1 Flight recorders shall not be switched off during flight time.

4.3.4.2.2 To preserve flight recorder records, flight recorders shall be deactivated upon completion of flight time following an accident or incident. The flight recorders shall not be reactivated before their disposition as determined in accordance with Annex 13.

Note 1.— The need for removal of the flight recorder records from the aircraft will be determined by the investigation authority in the State conducting the investigation with due regard to the seriousness of an occurrence and the circumstances, including the impact on the operation.

Note 2.— The operator's responsibilities regarding the retention of flight recorder records are contained in Section II, 9.6.

4.3.4.3 Continued serviceability

Operational checks and evaluations of recordings from the flight recorder systems shall be conducted to ensure the continued serviceability of the recorders.

Note.— Procedures for the inspections of the flight recorder systems are given in Appendix 5.

4.3.4.4 Flight recorders electronic documentation

The documentation requirement concerning FDR parameters provided by operators to accident investigation authorities should be in electronic format and take account of industry specifications.

Note.— Industry specification for documentation concerning flight recorder parameters may be found in the ARINC 647A, Flight Recorder Electronic Documentation, or equivalent document.

4.3.4.5 Preservation Of Flight Recorder Data for Accident or Incident Investigation

The holder of an Air Operator Certificate issued by the Director General shall retain the records produced by a flight recorder unless demanded, for inspection by the Director General as he may require. The holder shall keep such records in safe custody until instructed by the Director General to release them for the purpose of accidental investigation.

4.4 INSTRUMENTS AND EQUIPMENT FOR FLIGHTS OPERATED UNDER VFR AND IFR — BY DAY AND NIGHT

Note.— The flight instruments requirements in 4.4.1, 4.4.2 and 4.4.3 may be met by combinations of instruments or by electronic displays.

4.4.1 All helicopters when operating in accordance with VFR by day shall be equipped with:

- a) a magnetic compass;
- b) an accurate timepiece indicating the time in hours, minutes and seconds;



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- c) a sensitive pressure altimeter;
- d) an airspeed indicator; and
- e) such additional instruments or equipment as may be prescribed by the DG, CAAN

4.4.2 No helicopter shall be permitted to operate at night under VFR for commercial purposes.

4.4.2.1 *RESERVED*

4.4.3 No helicopter shall be permitted to operate under IFR for commercial purposes. Multi-engine helicopters may be permitted to operate under IFR for training purposes only with prior permission. Such helicopters when operating in accordance with IFR, or when the helicopter cannot be maintained in a desired attitude without reference to one or more flight instruments, shall be equipped with:

- a) a magnetic compass;
- b) an accurate timepiece indicating the time in hours, minutes and seconds;
- c) two sensitive pressure altimeters;
- d) an airspeed indicating system with means of preventing malfunctioning due to either condensation or icing;
- e) a slip indicator;
- f) an attitude indicator (artificial horizon) for each required pilot and one additional attitude indicator;
- g) a heading indicator (directional gyroscope);
- h) a means of indicating whether the power supply to the gyroscope instrument is adequate;
- i) a means of indicating in the flight crew compartment the outside air temperature;
- j) a rate of climb and descent indicator;
- k) a stabilization system, unless it has been demonstrated to the satisfaction of the certifying authority that the helicopter possesses, by nature of its design, adequate stability without such a system;
- l) such additional instruments or equipment as may be prescribed by the appropriate authority; and
- m) if operated at night, the lights specified in 4.4.2 g) to k) and 4.4.2.1.

4.4.3.1 All helicopters when operating in accordance with IFR 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.

4.4.4 A helicopter when operating in accordance with IFR and which has a maximum certificated take-off mass in excess of 3,175 kg or a maximum passenger seating configuration of more than 9 should be equipped with a ground proximity warning system which has a forward-looking terrain avoidance function.



4.5 ALL HELICOPTERS ON FLIGHTS OVER WATER

4.5.1 Means of flotation

All helicopters intended to be flown over water shall be fitted with a permanent or rapidly deployable means of flotation so as to ensure a safe ditching of the helicopter when:

- a) engaged in offshore operations, or other overwater operations as prescribed by the State of the DG, CAAN; or
- b) flying over water in a hostile environment at a distance from land corresponding to more than 10 minutes at normal cruise speed when operating in performance Class 1 or 2; or

Note.— When operating in a hostile environment, a safe ditching requires a helicopter to be designed for landing on water or certificated in accordance with ditching provisions.

- c) flying over water in a non-hostile environment at a distance from land specified by the appropriate authority of the responsible State when operating in performance Class 1; or

Note.— When considering the distance beyond which flotation equipment is required, the State should take into consideration the certification standard of the helicopter.

- d) flying over water beyond autorotational or safe forced landing distance from land when operating in performance Class 3.

4.5.2 Emergency equipment

4.5.2.1 Helicopters operating in performance Class 1 or 2 and operating in accordance with the provisions of 4.5.1 shall be equipped with:

- a) one life jacket, or equivalent individual flotation device, for each person on board, stowed in a position easily accessible from the seat or berth of the person for whose use it is provided. For offshore operations the life jacket shall be worn constantly unless the occupant is wearing an integrated survival suit that includes the functionality of the life jacket;
- b) life-saving rafts in sufficient numbers to carry all persons on board, stowed so as to facilitate their ready use in emergency, provided with such life-saving equipment including means of sustaining life as is appropriate to the flight to be undertaken; and

Note.— The overload state is a design safety margin of 1.5 times the maximum capacity.

- c) equipment for making the pyrotechnical distress signals described in Annex 2.

4.5.2.2 Helicopters operating in performance Class 3 when operating beyond autorotational distance from land but within a distance from land specified by the DG, CAAN shall be equipped with one life jacket, or equivalent individual flotation device, for each person on board, stowed in a position easily accessible from the seat or berth of the person for whose use it is provided.



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Note.— When determining the distance from land referred to in 4.5.2.2, consideration should be given to environmental conditions and the availability of search and rescue facilities.

4.5.2.2.1 For offshore operations, when operating beyond autorotational distance from land, the life jacket shall be worn unless the occupant is wearing an integrated survival suit that includes the functionality of the life jacket.

4.5.2.3 Helicopters operating in performance Class 3 when operating beyond the distance specified in 4.5.2.2 shall be equipped as in 4.5.2.1.

4.5.2.4 In the case of helicopters operating in performance Class 2 or 3, when taking off or landing at a heliport where, in the opinion of the State of the Operator, the take-off or approach path is so disposed over water that in the event of a mishap there would be likelihood of a ditching, at least the equipment required in 4.5.2.1 a) shall be carried.

4.5.2.5 Each life jacket and equivalent individual flotation device, when carried in accordance with 4.5, shall be equipped with a means of electric illumination for the purpose of facilitating the location of persons.

4.5.2.6 *RESERVED*

4.5.2.7 *RESERVED*

4.5.2.8 *RESERVED*

4.5.3 All helicopters on flights over designated sea areas

4.5.3.1 Helicopters, when operating over sea areas which have been designated by the State concerned as areas in which search and rescue would be especially difficult, shall be equipped with life-saving equipment (including means of sustaining life) as may be appropriate to the area overflown.

4.5.3.2 *RESERVED*

Note.— When establishing rescue time, the sea state and the ambient light conditions should be taken into consideration.

4.6 ALL HELICOPTERS ON FLIGHTS OVER DESIGNATED LAND AREAS

Helicopters, when operated across land areas which have been designated by the State concerned as areas in which search and rescue would be especially difficult, shall be equipped with such signalling devices and life-saving equipment (including means of sustaining life) as may be appropriate to the area overflown.

4.7 EMERGENCY LOCATOR TRANSMITTER (ELT)

4.7.1 From 1 July 2008, all helicopters operating in performance Class 1 and 2 shall be equipped with at least one automatic ELT and, when operating on flights over water as



described in 4.5.1 a), with at least one automatic ELT and one ELT(S) in a raft or life jacket.

4.7.2 From 1 July 2008, all helicopters operating in performance Class 3 shall be equipped with at least one automatic ELT and, when operating on flights over water as described in 4.5.1 b), with at least one automatic ELT and one ELT(S) in a raft or life jacket.

4.7.3 ELT equipment carried to satisfy the requirements of 4.7.1 and 4.7.2 shall operate in accordance with the relevant provisions of Annex 10, Volume III.

Note.— The judicious choice of numbers of ELTs, their type and placement on aircraft and associated floatable life support systems will ensure the greatest chance of ELT activation in the event of an accident for aircraft operating over water or land, including areas especially difficult for search and rescue. Placement of transmitter units is a vital factor in ensuring optimal crash and fire protection. The placement of the control and switching devices (activation monitors) of automatic fixed ELTs and their associated operational procedures will also take into consideration the need for rapid detection of inadvertent activation and convenient manual switching by crew members.

4.8 ALL HELICOPTERS ON HIGH ALTITUDE FLIGHTS

Note.— Approximate altitude in the Standard Atmosphere corresponding to the value of absolute pressure used in this text is as follows:

Absolute pressure	Metres	Feet
700 hPa	3 000	10 000
620 hPa	4 000	13 000
376 hPa	7 600	25 000

4.8.1 A helicopter intended to be operated at flight altitudes at which the atmospheric pressure is less than 700 hPa in personnel compartments shall be equipped with oxygen storage and dispensing apparatus capable of storing and dispensing the oxygen supplies required in 2.3.8.1.

4.8.2 A helicopter intended to be operated at flight altitudes at which the atmospheric pressure is less than 700 hPa but which is provided with means of maintaining pressures greater than 700 hPa in personnel compartments shall be provided with oxygen storage and dispensing apparatus capable of storing and dispensing the oxygen supplies required in 2.3.8.2.

4.8.3 A helicopter intended to be operated at flight altitudes at which the atmospheric pressure is more than 376 hPa which cannot descend safely within four minutes to a flight altitude at which the atmospheric pressure is equal to 620 hPa, and for which the individual certificate of airworthiness was issued on or after 9 November 1998, shall be provided with automatically deployable oxygen equipment to satisfy the requirements of 2.3.8.2. The total number of oxygen dispensing units shall exceed the number of passenger and cabin crew seats by at least 10 per cent.



4.8.4 *RESERVED*

4.9 ALL HELICOPTERS IN ICING CONDITIONS

All helicopters shall be equipped with suitable anti-icing and/or de-icing devices when operated in circumstances in which icing conditions are reported to exist or are expected to be encountered.

4.10 *RESERVED*

4.11 ALL HELICOPTERS REQUIRED TO COMPLY WITH THE NOISE CERTIFICATION STANDARDS IN ANNEX 16, VOLUME I

All helicopters required to comply with the noise certification Standards of Annex 16, Volume I, shall carry a document attesting noise certification. When the document, or a suitable statement attesting noise certification as contained in another document approved by the State of Registry, is issued in a language other than English, it shall include an English translation.

Note 1.— The attestation may be contained in any document, carried on board, approved by the State of Registry in accordance with the relevant provisions of Annex 16, Volume I.

Note 2.— The various noise certification Standards of Annex 16, Volume I, which are applicable to helicopters are determined according to the date of application for a type certificate, or the date of acceptance of an application under an equivalent prescribed procedure by the certifying authority. Some helicopters are not required to comply with any noise certification Standard. For details see Annex 16, Volume I, Part II, Chapters 8 and 11.

4.12 HELICOPTERS CARRYING PASSENGERS — CABIN CREW SEATS

4.12.1 All helicopters shall be equipped with a forward or rearward facing (within 15 degrees of the longitudinal axis of the helicopter) seat, fitted with a safety harness for the use of each cabin crew member required to satisfy the intent of 10.1 in respect of emergency evacuation.

Note 1.— In accordance with the provisions of 4.2.2 c) 1), a seat and seat belt shall be provided for the use of each additional cabin crew member.

Note 2.— Safety harness includes shoulder straps and a seat belt which may be used independently.

4.12.2 Cabin crew seats shall be located near floor level and other emergency exits as required by the DG, CAAN or the State of Registry for emergency evacuation.

4.13 HELICOPTERS REQUIRED TO BE EQUIPPED WITH A PRESSURE-ALTITUDE REPORTING TRANSPONDER

Except as may be otherwise authorized by the appropriate authority, all helicopters shall be equipped with a pressure-altitude reporting transponder which operates in accordance with the provisions of Annex 10, Volume IV.



Note.— This provision is intended to support the effectiveness of ACAS as well as to improve the effectiveness of air traffic services. The intent is also for aircraft not equipped with pressure-altitude reporting transponders to be operated so as not to share airspace used by aircraft equipped with airborne collision avoidance systems.

4.14 MICROPHONES

All flight crew members required to be on flight deck duty shall communicate through boom or throat microphones.

4.15 RESERVED

4.16 HELICOPTERS EQUIPPED WITH HEAD-UP DISPLAYS (HUD) AND/OR ENHANCED VISION SYSTEMS (EVS)

Where helicopters are equipped with HUD and/or EVS, the use of such systems to gain operational benefit shall be approved by the State of the Operator.

Note.— Guidance on HUD and EVS is contained in Attachment J to Annex 6, Part I.

4.17 DOCUMENTS TO BE CARRIED ON BOARD AN HELICOPTER.

A Nepalese registered helicopter which is engaged in commercial air transport operations shall carry the following documents:

- a) Nepalese Certificate of Registration issued in relation to that helicopter;
- b) Nepalese Certificate of Airworthiness issued in relation to that helicopter;
- c) current Maintenance Release issued in relation to that helicopter;
- d) Aircraft Flight Manual or equivalent Certification document;
- e) licenses issued in relation to the radio equipment installed in the helicopter;
- f) current licenses held by each member of the flight crew;
- g) aircraft journey log book or general declaration;
- h) if passengers are carried, a list of their names, places of embarkation and intended place of disembarkation (passenger manifest);
- i) cargo manifest
- j) Operations Manual, or those parts of it relating to flight operations ;
- k) a copy of the operational flight plan; if applicable;
- l) a copy of the Air Traffic Control flight plan;
- m) load sheet relating to the calculation of mass of the helicopter;
- n) trim sheets relating to the disposition of the load and balance of the helicopter;
- o) the maps and charts required for that flight;
- p) Standard Operating Procedure;
- q) a certified true copy of the AOC and Operations Specifications;
- r) a copy of the MEL or list of acceptable defects, as applicable.