



CHAPTER 3.4

FLIGHT OPERATIONS

3.4.1 Operating facilities

An operator shall ensure that a flight will not be commenced unless it has been ascertained by every reasonable means available that the ground and/or water facilities including communication facilities and navigation aids available and directly required on such flight, for the safe operation of the aeroplane, are adequate for the type of operation under which the flight is to be conducted.

Note.— “Reasonable means” in this Standard is intended to denote the use, at the point of departure, of information available to the operator either through official information published by the aeronautical information services or readily obtainable from other sources.

3.4.2 Operational management

3.4.2.1 Operator notification

3.4.2.1.1 If an operator has an operating base in a State other than the State of Registry, the operator shall notify the State in which the operating base is located.

3.4.2.1.2 Upon notification in accordance with 3.4.2.1.1, safety and security oversight shall be coordinated between the State in which the operating base is located and the State of Registry.

3.4.2.2 Operations manual

An operator shall provide, for the use and guidance of personnel concerned, an operations manual containing all the instructions and information necessary for operations personnel to perform their duties. The operations manual shall be amended or revised as is necessary to ensure that the information contained therein is kept up to date. All such amendments or revisions shall be issued to all personnel that are required to use this manual.

Note 1.— States may reference accepted and recognized industry codes of practice as the basis for the development of an operations manual.



Note 2.— Attachment 2.A contains guidance on the organization and content of an operations manual.

3.4.2.3 Operating instructions — general

3.4.2.3.1 An operator shall ensure that all operations personnel are properly instructed in their particular duties and responsibilities and the relationship of such duties to the operation as a whole.

3.4.2.3.2 **RESERVED**

3.4.2.4 In-flight simulation of emergency situations

An operator shall ensure that when passengers are being carried, no emergency or abnormal situations shall be simulated.

3.4.2.5 Checklists

Checklists shall be used by flight crews prior to, during and after all phases of operations, and in emergencies, to ensure compliance with the operating procedures contained in the aircraft operating manual and the aeroplane flight manual or other documents associated with the certificate of airworthiness and otherwise in the operations manual, are followed. The design and utilization of checklists shall observe Human Factors principles.

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

3.4.2.6 Minimum flight altitudes

An operator shall specify, for flights which are to be conducted in accordance with the instrument flight rules, the method of establishing terrain clearance altitudes.

3.4.2.7 Aerodrome operating minima

An operator shall ensure that no pilot-in-command operates to or from an aerodrome using operating minima lower than those which may be established for that aerodrome by the State in which it is located, except with the specific approval of that State.

Note 1.— It is the practice in some States to declare, for flight planning purposes, higher minima for an aerodrome when nominated as an alternate, than for the same aerodrome when planned as that of intended landing.

Note 2.— The use of head-up displays (HUD) or enhanced vision systems (EVS) may allow operations with lower visibilities than normally associated with the aerodrome operating minima.



3.4.2.8 Fatigue management programme

An operator shall establish and implement a fatigue management programme that ensures that all operator personnel involved in the operation and maintenance of aircraft do not carry out their duties when fatigued. The programme shall address flight and duty times and be included in the operations manual.

3.4.2.9 Passengers

3.4.2.9.1 An operator shall ensure that passengers are made familiar with the location and use of:

- a) seat belts;
- b) emergency exits;
- c) life jackets, if the carriage of life jackets is prescribed;
- d) oxygen dispensing equipment, if the provision of oxygen for the use of passengers is prescribed; and
- e) other emergency equipment provided for individual use, including passenger emergency briefing cards.

3.4.2.9.2 An operator shall ensure that all persons on board are aware of the location and general manner of use of the principal emergency equipment carried for collective use.

3.4.2.9.3 An operator shall ensure that in an emergency during flight, passengers are instructed in such emergency action as may be appropriate to the circumstances.

3.4.2.9.4 An operator shall ensure that during take-off and landing and whenever considered necessary, by reason of turbulence or any emergency occurring during flight, all passengers on board an aeroplane are secured in their seats by means of the seat belts or harnesses provided.

3.4.3 Flight preparation

3.4.3.1 The operator shall develop procedures to ensure that a flight is not commenced unless:

- a) the aeroplane is airworthy, duly registered and that appropriate certificates with respect thereto are aboard the aeroplane;
- b) the instruments and equipment installed in the aeroplane are appropriate, taking into account the expected flight conditions;
- c) any necessary maintenance has been performed in accordance with Chapter 3.8;



- d) the mass of the aeroplane and centre of gravity location are such that the flight can be conducted safely, taking into account the flight conditions expected;
- e) any load carried is properly distributed and safely secured; and
- f) the aeroplane operating limitations, contained in the flight manual, or its equivalent, will not be exceeded.

3.4.3.2 **RESERVED**

3.4.3.3 Operational flight planning

An operator shall specify flight planning procedures to provide for the safe conduct of the flight based on considerations of aeroplane performance, other operating limitations and relevant expected conditions on the route to be followed and at the aerodromes concerned. These procedures shall be included in the operations manual.

3.4.3.4 Alternate aerodromes

3.4.3.4.1 *Take-off alternate aerodrome*

3.4.3.4.1.1 A take-off alternate aerodrome shall be selected and specified in the flight plan if the weather conditions at the aerodrome of departure are at or below the applicable aerodrome operating minima or it would not be possible to return to the aerodrome of departure for other reasons.

3.4.3.4.1.2 The take-off alternate aerodrome shall be located within the following distance from the aerodrome of departure:

- a) aeroplanes having two engines. Not more than a distance equivalent to a flight time of one hour at the single-engine cruise speed; and
- b) aeroplanes having three or more engines. Not more than a distance equivalent to a flight time of two hours at the one-engine inoperative cruise speed.

3.4.3.4.1.3 For an aerodrome to be selected as a take-off alternate the available information shall indicate that, at the estimated time of use, the conditions will be at or above the aerodrome operating minima for that operation.

3.4.3.5 Refuelling with passengers on board

3.4.3.5.1 An aeroplane shall not be refuelled when passengers are embarking, on board or disembarking unless it is properly attended by qualified personnel ready to initiate and direct an evacuation of the aeroplane by the most practical and expeditious means available.

3.4.3.5.2 When refuelling with passengers embarking, on board or disembarking, two-way communication shall be maintained by the aeroplane's



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intercommunication system or other suitable means between the ground crew supervising the refuelling and the qualified personnel on board the aeroplane.

Note 1.— The provisions of 3.4.3.5.1 do not necessarily require the deployment of integral aeroplane stairs or the opening of emergency exits as a prerequisite to refuelling.

Note 2.— Provisions concerning aircraft refuelling are contained in Annex 14, Volume I, and guidance on safe refuelling practices is contained in the Airport Services Manual (Doc 9137), Parts 1 and 8.

Note 3.— Additional precautions are required when refuelling with fuels other than aviation kerosene or when refuelling results in a mixture of aviation kerosene with other aviation turbine fuels, or when an open line is used.

3.4.3.6 Oxygensupply

3.4.3.6.1 A flight to be operated at flight altitudes at which the atmospheric pressure in personnel compartments will be less than 700 hPa shall not be commenced unless sufficient stored breathing oxygen is carried to supply:

- a) all crew members and 10 per cent of the passengers for any period in excess of 30 minutes that the pressure in compartments occupied by them will be between 700 hPa and 620 hPa; and
- b) the crew and passengers for any period that the atmospheric pressure in compartments occupied by them will be less than 620 hPa.

3.4.3.6.2 A flight to be operated with a pressurized aeroplane shall not be commenced unless a sufficient quantity of stored breathing oxygen is carried to supply all the crew members and passengers, as is appropriate to the circumstances of the flight being undertaken, in the event of loss of pressurization, for any period that the atmospheric pressure in any compartment occupied by them would be less than 700 hPa. In addition, when an aeroplane is operated at flight altitudes at which the atmospheric pressure is less than 376 hPa, or which, if operated at flight altitudes at which the atmospheric pressure is more than 376 hPa and cannot descend safely within four minutes to a flight altitude at which the atmospheric pressure is equal to 620 hPa, there shall be no less than a 10-minute supply for the occupants of the passenger compartment.

3.4.4 In-flight procedures

3.4.4.1 Instrument approaches

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3.4.4.2 Use of oxygen

3.4.4.2.1 All flight crew members, when engaged in performing duties essential to the safe operation of an aeroplane in flight, shall use breathing oxygen continuously whenever the circumstances prevail for which its supply has been required in 3.4.3.6.1 or 3.4.3.6.2.

3.4.4.2.2 All flight crew members of pressurized aeroplanes operating above an altitude where the atmospheric pressure is less than 376 hPa shall have available at the flight duty station a quick-donning type of oxygen mask which will readily supply oxygen upon demand.

3.4.4.3 Aeroplane operating procedures for noise abatement

3.4.4.3.1 **RESERVED**

3.4.4.3.2 **RESERVED**

3.4.4.4 Aeroplane operating procedures for rates of climb and descent

Recommendation.— *Unless otherwise specified in an air traffic control instruction, to avoid unnecessary airborne collision avoidance system (ACAS II) resolution advisories in aircraft at or approaching adjacent altitudes or flight levels, pilots should consider using appropriate procedures to ensure that a rate of climb or descent of less than 8 m/s or 1 500 ft/min (depending on the instrumentation available) is achieved throughout the last 300 m (1 000 ft) of climb or descent to the assigned altitude or flight level, when made aware of another aircraft at or approaching an adjacent altitude or flight level.*

Note.— *Material concerning the development of these procedures is contained in PANS-OPS (Doc 8168), Volume I, Part III, Section 3, Chapter 3.*

3.4.5 Duties of pilot-in-command

3.4.5.1 The pilot-in-command shall ensure that the checklists specified in 3.4.2.5 are complied with in detail.

3.4.5.2 The pilot-in-command shall be responsible for notifying the nearest appropriate authority by the quickest available means of any accident involving the aeroplane, resulting in serious injury or death of any person or substantial damage to the aeroplane or property. In the event that the pilot-in-command is incapacitated the operator shall take the forgoing action.

Note.— *A definition of the term “serious injury” is contained in Annex 13.*

3.4.5.3 The pilot-in-command shall be responsible for reporting all known or suspected defects in the aeroplane, to the operator, at the termination of the flight.



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3.4.5.4 The pilot-in-command shall be responsible for the journey log book or the general declaration containing the information listed in 2.8.2.

Note.— By virtue of Resolution A10-36 of the Tenth Session of the Assembly (Caracas, June–July 1956) “the General Declaration, [described in Annex 9] when prepared so as to contain all the information required by Article 34 [of the Convention on International Civil Aviation] with respect to the journey log book, may be considered by Contracting States to be an acceptable form of journey log book”.

3.4.6 Cabin baggage (take-off and landing)

An operator shall specify procedures to ensure that all baggage carried onto an aeroplane and taken into the passenger cabin is adequately and securely stowed.