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# AIC

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12 / 2005
21 JUL

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## ORGANIZATION AND CONTENTS OF AN OPERATIONS MANUAL

### 1. INTRODUCTION

1.1 This AIC is issued in the exercise of the powers conferred under Section 24o of the Civil Aviation Act 1969. Regulation 47 (2) Civil Aviation Regulation 1996 provides that:

The operator of every aircraft to which this regulation applies shall:

- (a) make available to each member of his operating staff an operation manual;
- (b) ensure that each of the operations manual is kept up to date; and
- (c) ensure that on each flight every member of the crew has access to a copy of every part of the operations manual which is relevant to his duties on the flight.

1.2 Each operations manual shall contain all such information and instructions as may be necessary to enable the operating staff to properly perform their respective duties including, in particular, giving information and instructions relating to public transport operational requirements. The ninth schedule Part A of the CAR 1996 provides the requirement on the content of an Operations Manual. However, the purpose of this AIC is to list additional items to be included as part of the content of an Operations Manual for aeroplane and helicopter operations.

### 2. ORGANIZATION AND CONTENTS OF AN OPERATIONS MANUAL - AEROPLANE

#### 2.1 Organization.

2.1.1 From 01 January 2006, an operations manual, which may be issued in separate parts corresponding to specific aspects of operations, provided in accordance with Annex 6 Part I. Chapter 4, 4.2.2.1 shall be organized with the following structure:

- (a) General;
- (b) Aircraft operating information;
- (c) Area, routes and aerodromes; and
- (d) Training.

#### 2.2 Contents

2.2.1 The aeroplane operations manual shall contain at the least the following:

## 2.3 **General**

- 2.3.1 Instructions outlining the responsibilities of operations personnel pertaining to the conduct of flight operations.
- 2.3.2 Rules limiting the flight time and flight duty periods and providing for adequate rest periods for flight crew members and cabin crew as required by Annex 6 Part I Chapter 4, 4.2.10.2.
- 2.3.3 A list of the navigational equipment to be carried including any requirements relating to operations in RNP airspace.
- 2.3.4 Where relevant to the operations, the long-range navigation procedures, engine failure procedure for ETOPS and the nomination and utilization of diversion aerodromes.
- 2.3.5 The circumstances in which a radio listening watch is to be maintained.
- 2.3.6 The method for determining minimum flight altitudes.
- 2.3.7 The methods for determining aerodrome operating minima.
- 2.3.8 Safety precautions during refueling with passengers on board.
- 2.3.9 Ground handling arrangements and procedures.
- 2.3.10 Procedures, as prescribed in Annex 12, for pilots-in-command observing an accident.
- 2.3.11 The flight crew for each type of operation including the designation of the succession of command.
- 2.3.12 Specific instructions for the computation of the quantities of fuel and oil to be carried, having regard to all circumstances of the operation including the possibility of the failure of one or more power-plants while en route.
- 2.3.13 The conditions under which oxygen shall be used and the amount of oxygen determined in accordance with Annex 6 Part I Chapter 4, 4.3.8.2.
- 2.3.14 Instructions for mass and balance control.
- 2.3.15 Instructions for the conduct and control of ground de-icing/anti-icing operations.
- 2.3.16 The specifications for the operational flight plan.
- 2.3.17 Standard operating procedures (SOP) for each phase of flight.
- 2.3.18 Instructions on the use of normal checklists and the timing of their use.
- 2.3.19 Departure contingency procedures.
- 2.3.20 Instructions on the maintenance of altitude awareness and the use of automated or flight crew altitude call-out.
- 2.3.21 Instructions on the use of autopilots and auto-throttles in IMC.
- 2.3.22 Instructions on the clarification and acceptance of ATC clearances, particularly where terrain clearance is involved.
- 2.3.23 Departure and approach briefings.

- 2.3.24 Procedures for familiarization with areas, routes and aerodromes.
- 2.3.25 Stabilized approach procedure.
- 2.3.26 Limitation on high rates of descent near the surface.
- 2.3.27 Conditions required to commence or to continue an instrument approach.
- 2.3.28 Instructions for the conduct of precision and non-precision instrument approach procedures.
- 2.3.29 Allocation of flight crew duties and procedures for the management of crew workload during night and IMC instrument approach and landing operations.
- 2.3.30 Instructions and training requirements for the avoidance of controlled flight into terrain and policy for the use of the ground proximity warning system (GPWS).
- 2.3.31 Policy, instructions, procedures and training requirements for the avoidance of collisions and the use of the airborne collision avoidance system (ACAS).

**Note.- Procedures for the operation of ACAS are contained in PANS-OPS (Doc 8168), Volume I, Part VIII, Chapter 3, and in PANS-ATM (Doc 4444), Chapters 12 and 15.**

- 2.3.32 Information and instructions relating to the interception of civil aircraft including:
  - (a) procedures, as prescribed in Annex 2, for pilots-in-command of intercepted aircraft; and
  - (b) visual signals for use by intercepting and intercepted aircraft, as contained in Annex 2.
- 2.3.33 For aeroplanes intended to be operated above 15,000 m (49,000 ft):
  - (a) information which will enable the pilot to determine the best course of action to take in the event of exposure to solar cosmic radiation; and
  - (b) procedures in the event that a decision to descend is taken, covering:
    - (1) the necessity of giving the appropriate ATS unit prior warning of the situation and of obtaining a provisional descent clearance; and
    - (2) the action to be taken in the event that communication with the ATS unit cannot be established or is interrupted.

**Note.- Guidance material on the information to be provided is contained in Circular 126 - Guidance Material on SST Aircraft Operations.**

- 2.3.34 Details of the accident prevention and flight safety program provided in accordance with Annex 6 Part I Chapter 3, 3.2, including a statement of safety policy and the responsibility of personnel.
- 2.3.35 Information and instructions on the carriage of dangerous goods, including action to be taken in the event of an emergency.

**Note.- Guidance material on the development of policies and procedures for dealing with dangerous goods incidents on board aircraft is contained in Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods (Doc 9481).**

2.3.36 Security instructions and guidance.

2.3.37 The search procedure checklist provided in accordance with Annex 6 Part I Chapter 13.

## **2.4 Aircraft operating information**

2.4.1 Certification limitations and operating limitations.

2.4.2 The normal, abnormal and emergency procedures to be used by the flight crew and the checklists relating thereto as required by Annex 6 Part 1 Chapter 6, 6.1.3.

2.4.3 Operating instructions and information on climb performance with all engines operating, if provided in accordance with Annex 6 Part I Chapter 4, 4.2.3.3.

2.4.4 Flight planning data for pre-flight and in-flight planning with different thrust/power and speed settings.

2.4.5 The maximum crosswind and tailwind components for each aeroplane type operated and the reductions to be applied to these values having regard to gusts, low visibility, runway surface conditions, crew experience, use of autopilot, abnormal or emergency circumstances, or any other relevant operational factors.

2.4.6 Instructions and data for mass and balance calculations.

2.4.7 Instructions for aircraft loading and securing of load.

2.4.8 Aircraft systems, associated controls and instructions for their use, as required by Annex 6 Part I Chapter 6, 6.1.3.

2.4.9 The minimum equipment list and configuration deviation list for the aeroplane types operated and specific operations authorized, including any requirements relating to operations in RNP airspace.

2.4.10 Checklist of emergency and safety equipment and instructions for its use.

2.4.11 Emergency evacuation procedures, including type-specific procedures, crew coordination, assignment of crew's emergency positions and the emergency duties assigned to each crew member.

2.4.12 The normal, abnormal and emergency procedures to be used by the cabin crew, the checklists relating thereto and aircraft systems information as required, including a statement related to the necessary procedures for the coordination between flight and cabin crew.

2.4.13 Survival and emergency equipment for different routes and the necessary procedures to verify its normal functioning before take-off, including procedures to determine the required amount of oxygen and the quantity available.

2.4.14 The ground-air visual signal code for use by survivors, as contained in Annex 12.

## **2.5 Areas, routes and aerodromes**

2.5.1 A route guide to ensure that the flight crew will have, for each flight, information relating to communication facilities, navigation aids, aerodromes, instrument approaches, instrument arrivals and instrument departures as applicable for the operation, and such other information as the operator may deem necessary for the proper conduct of flight operations.

- 2.5.2 The minimum flight altitudes for each route to be flown.
- 2.5.3 Aerodrome operating minima for each of the aerodromes that are likely to be used as aerodromes of intended landing or as alternate aerodromes.
- 2.5.4 The increase of aerodrome operating minima in case of degradation of approach or aerodrome facilities.
- 2.5.5 The necessary information for compliance with all flight profiles required by regulations, including but not limited to, the determination of:
  - (a) take-off runway length requirements for dry, wet and contaminated conditions, including those dictated by system failures which affect the take-off distance;
  - (b) take-off climb limitations;
  - (c) en-route climb limitations;
  - (d) approach climb limitations and landing climb limitations;
  - (e) landing runway length requirements for dry, wet and contaminated conditions, including systems failures which affect the landing distance; and
  - (f) supplementary information, such as tire speed limitations.

## 2.6 Training

- 2.6.1 Details of the flight crew training program, as required by Annex 6 Part I Chapter 9, 9.3.
- 2.6.2 Details of the cabin crew duties training program as required by Annex 6 Part I Chapter 12, 12.4.
- 2.6.3 Details of the flight operations officer/flight dispatcher training program when employed in conjunction with a method of flight supervision in accordance with Annex 6 Part I Chapter 4, 4.2.1.

**Note.- Details of the flight operations officer/flight dispatcher training program are contained in Annex 6 Part I Chapter 10, 10.2**

## 3. ORGANIZATION AND CONTENTS OF AN OPERATIONS MANUAL - HELICOPTER

### 3.1 Organization

- 3.1.1 From 01 January 2006, an operations manual, which may be issued in separate parts corresponding to specific aspects of operations, provided in accordance with Annex 6 Part III Chapter 2, 2.2.2.1 shall be organized with the following structure:
  - (a) General;
  - (b) Aircraft operating information;
  - (c) Area, routes and aerodromes; and
  - (d) Training.

### 3.2 Contents

- 3.2.1 The helicopter operations manual shall contain at the least the following:

### 3.3 **General**

- 3.3.1 Instructions outlining the responsibilities of operations personnel pertaining to the conduct of flight operations.
- 3.3.2 Rules limiting the flight time and flight duty periods and providing for adequate rest periods for flight crew members and cabin crew.
- 3.3.3 A list of the navigational equipment to be carried.
- 3.3.4 The circumstances in which a radio listening watch is to be maintained.
- 3.3.5 The method for determining minimum flight altitudes.
- 3.3.6 The methods for determining heliport operating minima.
- 3.3.7 Safety precautions during refueling with passengers on board.
- 3.3.8 Ground handling arrangements and procedures.
- 3.3.9 Procedures, as prescribed in Annex 12, for pilots-in-command observing an accident.
- 3.3.10 The flight crew for each type of operation including the designation of the succession of command.
- 3.3.11 Specific instructions for the computation of the quantities of fuel and oil to be carried, having regard to all circumstances of the operation including the possibility of the failure of one or more power plants while en route.
- 3.3.12 The conditions under which oxygen shall be used and the amount of oxygen determined in accordance with Annex 6 Part III Section II, Chapter 2, 2.3.8.2.
- 3.3.13 Instructions for mass and balance control.
- 3.3.14 Instructions for the conduct and control of ground de-icing/anti-icing operations.
- 3.3.15 The specifications for the operational flight plan.
- 3.3.16 Standard operating procedures (SOP) for each phase of flight.
- 3.3.17 Instructions on the use of normal checklists and the timing of their use.
- 3.3.18 Departure contingency procedures.
- 3.3.19 Instructions on the maintenance of altitude awareness.
- 3.3.20 Instructions on the clarification and acceptance of ATC clearances, particularly where terrain clearance is involved.
- 3.3.21 Departure and approach briefings.
- 3.3.22 Route and destination familiarization.
- 3.3.23 Conditions required to commence or to continue an instrument approach.
- 3.3.24 Instructions for the conduct of precision and non-precision instrument approach procedures.

- 3.3.25 Allocation of flight crew duties and procedures for the management of crew workload during night and IMC instrument approach and landing operations.
- 3.3.26 Information and instructions relating to the interception of civil aircraft including:
  - (a) procedures, as prescribed in Annex 2, for pilots-in-command of intercepted aircraft; and
  - (b) visual signals for use by intercepting and intercepted aircraft, as contained in Annex 2.
- 3.3.27 Details of the accident prevention and flight safety program provided in accordance with Annex 6 Part III Section II, Chapter 1, 1.1.7, including a statement of safety policy and the responsibility of personnel.
- 3.3.28 Information and instructions on the carriage of dangerous goods, including action to be taken in the event of an emergency.

**Note: Guidance material on the development of policies and procedures for dealing with dangerous goods incidents on board aircraft is contained in Emergency Response Guidance for Aircraft Incidents involving Dangerous Goods (Doc 9481).**

- 3.3.29 Security instructions and guidance.
- 3.3.30 The search procedure checklist provided in accordance with Section II Chapter 11, 11.1
- 3.4 **Aircraft operating information**
  - 3.4.1 Certification limitations and operating limitations.
  - 3.4.2 The normal, abnormal and emergency procedures to be used by the flight crew and the checklists relating thereto as required by Annex 6 Part III Section II, Chapter 4, 4.1.3.
  - 3.4.3 Flight planning data for pre-flight and in-flight planning with different thrust/power and speed settings.
  - 3.4.4 Instructions and data for mass and balance calculations.
  - 3.4.5 Instructions for aircraft loading and securing of load.
  - 3.4.6 Aircraft systems, associated controls and instructions for their use, as required by Annex 6 Part III Section II, Chapter 4, 4.1.3.
  - 3.4.7 The minimum equipment list for the helicopter types operated and specific operations authorized.
  - 3.4.8 Checklist of emergency and safety equipment and instructions for its use.
  - 3.4.9 Emergency evacuation procedures, including type-specific procedures, crew coordination, assignment of crew's emergency positions and the emergency duties assigned to each crew member.
  - 3.4.10 The normal, abnormal and emergency procedures to be used by the cabin crew, the checklists relating thereto and aircraft systems information as required, including a statement related to the necessary procedures for the coordination between flight and cabin crew.

3.4.11 Survival and emergency equipment for different routes and the necessary procedures to verify its normal functioning before take-off, including procedures to determine the required amount of oxygen and the quantity available.

3.4.12 The ground-air visual signal code for use by survivors, as contained in Annex 12.

### 3.5 Routes and aerodromes

3.5.1 A route guide to ensure that the flight crew will have, for each flight, information relating to communication facilities, navigation aids, aerodromes, instrument approaches, instrument arrivals and instrument departures as applicable for the operation, and such other information as the operator may deem necessary for the proper conduct of flight operations.

3.5.2 The minimum flight altitudes for each route to be flown.

3.5.3 Heliport operating minima for each of the heliports that are likely to be used as heliports of intended landing or as alternate heliports.

3.5.4 The increase of heliport operating minima in case of degradation of approach or heliport facilities.

### 3.6 Training

3.6.1 Details of the flight crew training program and requirements, as required by Annex 6 Part III Section II, Chapter 7, 7.3.

3.6.2 Details of the cabin crew duties training program as required by Section II, Chapter 10, 10.3.

3.6.3 Details of the flight operations officer/flight dispatcher training program when employed in conjunction with a method of flight supervision in accordance with Annex 6 Part III Section II, Chapter 2, 2.2.

**Note.- Details of the flight operations officer/flight dispatcher training program are contained in Annex 6 Part III Section II, Chapter 8, 8.2.**

4. This AIC supersedes AIC 17/2000 dated 14 July 2000.

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