
SUBJECT: OPERATIONS MANUAL

DATE: 24/09/2015

1. OBJECTIVE

1.1.1 This circular provides guidance and directions to prepare an operations manual to determine that all required regulatory areas are covered, content is consistent with safe operating practices, and is based on sound rationale or demonstrated effectiveness.

2. BACKGROUND

2.1.1 CV-CAR require each air operator to issue to crew members and persons assigned operational control functions an operations manual. Furthermore, CV-CAR outline the organization and contents of the operations manual. The operations manual shall be reviewed by the AAC and approved prior to being provided for the use of personnel. AAC will require revision of the manual as necessary to achieve compliance with CV-CAR and safety requirements.

2.1.2 The objective of AAC review of the operations manual is to ensure that the policies and procedures contained in the manual:

- (1) Implement the Civil Aviation Regulations of CV-CAR (CV-CAR);
- (2) Provide clear, complete and detailed operating instructions, policies and procedures so that operational personnel are fully informed of what is required of them. Procedures shall be effective, represent sound safety philosophy and be capable of being accomplished;
- (3) Make provisions for revision to ensure that the information contained therein is kept up to date;
- (4) Present the necessary guidance and instructions to personnel in a suitable and convenient format; and
- (5) Outline standardized procedures for all crew member functions.

3. MANUAL ORGANIZATION

3.1.1 In order to accomplish the above requirements and effectively organize policy and instructions, that portion of an operator's overall manual system which applies specifically to operations personnel is typically divided into several volumes. The size, as well as the number of volumes, of the operations manual will depend upon the size and complexity of the proposed operations. The overall manual system may be organized in any manner which adequately provides guidance concerning all important aspects of the operation.

3.1.2 The operations manual shall be organized with the following structure:

- (1) Part A - General;
- (2) Part B - Aircraft operating information;
- (3) Part C - Area, routes and aerodromes; and
- (4) Part D - Training.

4. OVERALL OPERATIONS MANUAL INSPECTION AREAS

4.1.1 Operations manual or manual contains information in sufficient detail to permit all flight operations personnel to perform their duties safely and efficiently. The following areas shall be evaluated:

- (1) Organization and readability. The manual(s) shall be organized so that information specific to various employee positions and types of operations is easy to locate, clear, concise, and unambiguous. Tables of contents shall be detailed enough so that specific subject areas may be easily and expeditiously located. Print quality, illustrations, and graphics shall be clear and readable. Each manual shall be numbered and issued according to a specific distribution list, and each holder made responsible for its prompt and accurate update. The distribution list shall contain all operations personnel and others requiring the information therein for proper performance of their duties. Those parts of the manual required to be carried on board each aircraft shall be designed for convenient use and all parts shall permit ready and accurate reference;
- (2) Validity and accuracy. Technical information contained in manuals such as weight and balance charts, performance charts, limitations, etc. shall accurately reflect data provided from the manufacturer or shall have been developed through the use of accepted and approved methods;
- (3) Consistency. Information presented in the various sections or volumes of a manual shall be consistent with that presented in other sections;
- (4) Currency and conformity. Information contained in manuals shall reflect current company organization, equipment, procedures and policies. The manual(s) shall be easy to update and contain a list of effective pages;
- (5) Distribution and availability. The operator shall have an effective system for distributing and updating manuals. The individual(s) responsible for entering changes in specific manuals shall be identified. The AAC must be provided with copies of all manuals;
- (6) Approvals. CV-CAR require that the operations manual be reviewed in detail and approved by AAC. The inspectors shall ensure the operator complies with the applicable approvals issued by the State of Registry, when Cabo Verde is not the State of Registry, and/or the State of Design in addition to AAC requirements;
- (7) Content. The focus of the manual inspection will be to evaluate the operator's operations manual in the areas listed above. The "content" area of the form contains a checklist of the minimum subject areas which shall be adequately addressed in the operator's manual(s). The checklist items in the "content" area are designed to be used for all operators. Certain items may not apply to a particular operator in which case the checklist item shall be annotated – not applicable. More specific information on each checklist item is outlined below. In determining the acceptability of the material contained in the manual(s),

inspectors will need to often cross reference against the applicable regulations and AAC guidance material;



Annex A - Operations manual content

The AOC operations manual should contain at least the following information, where applicable, as

PART A. GENERAL / BASIC

0 ADMINISTRATION AND CONTROL OF OPERATIONS MANUAL

0.1 Introduction

A. GENERAL / BASIC

0 ADMINISTRATION AND CONTROL OF OPERATIONS MANUAL

0.1 Introduction

- a) A statement that the manual complies with all applicable Authority regulations and requirements and with the terms and conditions of the applicable Air Operator Certificate.
- b) A statement that the manual contains operational instructions that are to be complied with by the relevant personnel in the performance of their duties.
- c) A list and brief description of the various operations manual parts, their contents, applicability and use.
- d) Explanations and definitions of terms and words used in the manual.

0.2 System of amendment and revision

- a) An operations manual shall describe who is responsible for the issuance and insertion of amendments and revisions.
- b) A record of amendments and revisions with insertion dates and effective dates is required.
- c) A statement that handwritten amendments and revisions are not permitted except in situations requiring immediate amendment or revision in the interest of safety.
- d) A description of the system for the annotation of pages and their effective dates.
- e) A list of effective pages and their effective dates.
- f) Annotation of changes (on text pages and, as practicable, on charts and diagrams).
- g) A system for recording temporary revisions.
- h) A description of the distribution system for the manuals, amendments and revisions.
- i) A statement of who is responsible for notifying the Authority of proposed changes and working with the Authority on changes requiring Authority approval.

1.0 ORGANISATION AND RESPONSIBILITIES

1.1 Organisational structure

A description of the organisational structure including the general company organigram and operations department organigram. The relationship between the Operations Department and the other Departments of the company. In particular, the subordination and reporting lines of all Divisions, Departments etc, which pertain to the safety of flight operations, shall be shown. Instructions outlining the responsibilities of operations personnel pertaining to the conduct of flight operations

1.2 Responsible Managers

The name of each manager responsible for flight operations, the maintenance system, crew training and ground operations, shall be listed. A description of their function and responsibilities shall be included.

1.3 Responsibilities and duties of operations management personnel

A description of the duties, responsibilities and authority of operations management personnel pertaining to the safety of flight operations and with compliance with applicable regulations shall be listed.

1.4 Authority, duties and responsibilities of a PIC

A statement defining the authority, duties and responsibilities of the PIC shall be listed.

1.5. Duties and responsibilities of crew members other than the PIC

A statement defining the Authority, duties and responsibilities of all required aircraft crew members shall be listed

2.0 OPERATIONAL CONTROL AND SUPERVISION

2.1 Supervision of the operation by the operator

A description of the system for supervision of the operation by the AOC holder shall be listed. This description shall show how the safety of flight operations and the qualifications of personnel involved in all such operations are supervised and monitored. In particular, the procedures related to the following items shall be described:

- a) Licence and qualification validity;
- b) Competence of operations personnel; and
- c) Control, analysis and storage of records, flight documents, additional information and safety related data.

2.2 System of promulgation of additional operational instructions and information

A description of any system for promulgating information which may be of an operational nature but is supplementary to that in the Operations Manual. The applicability of this information and the responsibilities for its promulgation shall be included.

2.3 Safety Management System

A description of the main aspects of the safety management system, including:

- a) Programmes to identify safety hazards, monitor and assess the safety level achieved and implement remedial action necessary to maintain an acceptable level of safety;
- b) Flight data analysis programme, if applicable;
- c) Flight safety documents system;

2.4 Operational control

A description of the objectives, procedures and responsibilities necessary to exercise operational control with respect to flight safety.

2.5 Powers of the Authority

A description of the powers of the Authority and guidance to staff on how to facilitate inspections by Authority personnel.

3 QUALITY SYSTEM

A description of the quality system adopted including at least:

- a) Quality Policy.
- b) Quality system.
- c) Functions and responsibilities:

4 CREW

4.1 Crew Composition

An explanation of the method for determining crew compositions taking into account of the following:

- a) The type of aircraft being used;
- b) The area and type of operation being undertaken;
- c) The phase of the flight;

- d) The minimum crew requirement and flight duty period planned;
- e) Experience (total and on type), recency and qualification of the crew members; and
- f) The designation of the PIC and, if required by the duration of the flight, the procedures for the relief of the PIC or other members of the flight crew.
- g) The designation of the senior cabin crew member and, if necessitated by the duration of the flight, the procedures for the relief of the senior cabin crew member and any other member of the cabin crew.

4.2 Designation of the PIC

The rules applicable to the designation of a PIC.

4.3 Flight crew incapacitation

Instructions on the succession of command in the event of flight crew incapacitation.

4.4 Operation on more than one type

A statement indicating which aircraft are considered as one type for the purpose of:

- a) Flight crew scheduling; and
- b) Cabin crew scheduling.

5 QUALIFICATION REQUIREMENTS

5.1 Qualifications

A description of the required licence, rating(s), qualification/competency (e.g. for routes and aerodromes), experience, training, checking and recency of experience for operations personnel to conduct their duties. Consideration shall be given to the aircraft type, kind of operation and composition of the crew.

5.2 Flight crew

- a) PIC.
- b) Pilot relieving the PIC.
- c) Co-pilot.
- d) Pilot under supervision.
- e) System panel operator (if applicable).
- f) Operation on more than one type or variant.

5.3 Cabin crew

- a) Senior cabin crew member.
- b) Cabin crew member.
 - 1) Required cabin crew member.
 - 2) Additional cabin crew member and;
 - 3) Cabin crew member during familiarization flights.
- c) Operation on more than one type or variant.

5.4 Training, checking and supervision personnel

- a) For flight crew.
- b) For cabin crew.

5.5 Other operations personnel

6 CREW HEALTH

6.1 Crew health precautions

The relevant regulations and guidance for crew members concerning health including:

- a) Alcohol and other intoxicating liquor;

- b) Narcotics;
- c) Drugs;
- d) Sleeping tablets;
- e) Pharmaceutical preparations;
- f) Immunization;
- g) Scuba diving;
- h) Blood donation;
- i) Meal precautions prior to and during flight;
- j) Sleep and rest; and
- k) Surgical operations.

7 FLIGHT TIME AND DUTY TIME

7.1 Flight and Duty Time Limitations and Rest Requirements

The scheme developed by the operator to comply with CV CAR requirements;

7.2 Exceedances of flight and duty time limitations and/or reductions of rest periods

Conditions under which flight and duty time may be exceeded or rest periods may be reduced and the procedures used to report these conditions.

8 OPERATING PROCEDURES

8.1 Flight Preparation Instructions

As applicable to the operation:

8.1.1 Minimum Flight Altitudes

A description of the method of determination and application of minimum altitudes including:

- a) A procedure to establish the minimum altitudes/flight levels for VFR flights; and
- b) A procedure to establish the minimum altitudes/flight levels for IFR flights.

8.1.2 Criteria of the use of aerodromes

A description of the criteria and responsibilities for authorization of the use of aerodromes taking into account the applicable requirements.

8.1.3 The method for determining aerodrome operating minima

The method for establishing aerodrome operating minima for IFR flights. Reference shall be made to procedures for the determination of the visibility and/or runway visual range (RVR) and for the applicability of the actual visibility observed by the pilots, the reported visibility and the reported RVR.

8.1.4 En-route Operating Minima for VFR Flights

A description of en-route operating minima for VFR flights or VFR portions of a flight and, where single engined aircraft are used, instructions for route selection with respect to the availability of surfaces which permit a safe forced landing.

8.1.5 Presentation and Application of Aerodrome and En-route Operating Minima

8.1.6 Interpretation of meteorological information

Explanatory material on the decoding of MET forecasts and MET reports relevant to the area of operations, including the interpretation of conditional expressions.

8.1.7 Determination of the quantities of fuel, oil and water methanol carried

The specific instructions and methods by which the quantities of fuel, oil and water methanol to be carried are determined and monitored in flight. This section shall also include instructions on the measurement and distribution of the fluid carried on board. Such instructions shall take account of all

circumstances likely to be encountered on the flight, including the possibility of in-flight replanning and failure of one or more of the aircrafts power plants and possible loss of pressurization. The system for maintaining fuel and oil records shall also be described.

8.1.8 Mass and Centre of Gravity

The general principles of mass and centre of gravity including:

- a) Definitions;
- b) Methods, procedures and responsibilities for preparation and acceptance of mass and centre of gravity calculations;
- c) The policy for using standard and/or actual masses;
- d) The method for determining the applicable passenger, baggage and cargo mass;
- e) The applicable passenger and baggage masses for various types of operations and aircraft type;
- f) General instruction and information necessary for verification of the various types of mass and balance documentation in use;
- g) Last Minute Changes procedures;
- h) Specific gravity of fuel, oil and water methanol; and
- i) Seating policy/procedures.

8.1.9 ATS Flight Plan

Procedures and responsibilities for the preparation and submission of the air traffic services flight plan. Factors to be considered include the means of submission for both individual and repetitive flight plans.

8.1.10 Operational Flight Plan

Procedures and responsibilities for the preparation and acceptance of the operational flight plan. The use of the operational flight plan shall be described including samples of the operational flight plan formats in use.

8.1.11 Operator's Aircraft Technical Log

The responsibilities and the use of the AOC holder's Aircraft Technical Log shall be described, including samples of the format used.

8.1.12 List of documents, forms and additional information to be carried on board

8.2 Ground Handling Instructions

8.2.1 Fuelling procedures

A description of fuelling procedures, including:

- a) Safety precautions during refuelling and defuelling including when an APU is in operation or when a turbine engine is running and the prop-brakes are on;
- b) Safety precautions during refuelling and defuelling when passengers are embarking, on board or disembarking; and
- c) Precautions to be taken to avoid mixing fuels, and
- d) Method to ensure that the required amount of fuel is loaded.

8.2.2 Aircraft, passengers and cargo handling procedures related to safety

A description of the handling procedures to be used when allocating seats and embarking and disembarking passengers and when loading and unloading the aircraft. Further procedures, aimed at achieving safety whilst the aircraft is on the ramp, shall also be given. Handling procedures must include:

- a) Children/infants, sick passengers and Persons with Reduced Mobility;
- b) Transportation of inadmissible passengers, deportees or persons in custody;
- c) Permissible size and weight of hand baggage;
- d) Loading and securing of items in the aircraft;

- e) Special loads and classification of load compartments;
- f) Positioning of ground equipment;
- g) Operation of aircraft doors;
- h) Safety on the ramp, including fire prevention, blast and suction areas;
- i) Start-up, ramp departure and arrival procedures;
- j) Servicing of aircraft;
- k) Documents and forms for aircraft handling; and
- l) Multiple occupancy of aircraft seats.

8.2.3 Procedures for the refusal of embarkation

Procedures to ensure that persons who appear to be intoxicated or who demonstrate by manner or physical indications that they are under the influence of drugs are refused embarkation. This does not apply to medical patients under proper care.

8.2.4 De-icing and Anti-icing on the ground

A description of the de-icing and anti-icing policy and procedures for aircraft on the ground. These shall include descriptions of the types and effects of icing and other contaminants on aircraft whilst stationary, during ground movements and during take-off. In addition, a description of the fluid types used must be given including:

- a) Proprietary or commercial names;
- b) Characteristics;
- c) Effects on aircraft performance;
- d) Hold-over times; and
- e) Precautions during usage.

8.2.5 Ground handling arrangements

A list of ground handling arrangements

8.3 Flight Procedures

8.3.1 VFR/IFR Policy and Procedures

A description of VFR/IFR procedures, including:

- a) A description of the policy for allowing flights to be made under VFR, or of requiring flights to be made under IFR, or of changing from one to the other.
- b) Conditions required to commence or to continue an instrument approach;
- c) Instructions for the conduct of precision and non-precision instrument approach procedures;
- d) Instructions on the clarification and acceptance of ATC clearances, particularly where terrain clearance is involved;
- e) Stabilized approach procedure;

8.3.2 Navigation Procedures

A list the navigational equipment to be carried, including any requirements relating to operations where performance-based navigation is prescribed, and a description of all navigation procedures relevant to the type(s) and area(s) of operation. Consideration shall be given to:

- a) Standard navigational procedures including policy for carrying out independent cross-checks of keyboard entries where these affect the flight path to be followed by the aircraft;
- b) MNPS and POLAR navigation and navigation in other designated areas;
- c) RNAV;
- d) In-flight replanning;
- e) Procedures in the event of system degradation; and
- f) RVSM.
- g) Long range navigation;
- h) EDTO, considering engine failure and the nomination and utilization of diversion aerodromes.

8.3.3 Altimeter setting procedures

Shall including use , where appropriate of:

- Metric altimetry and conversion tables, and
- QFE operating procedures

8.3.4 Altitude alerting system procedures

A description of altitude alerting system procedures. Instructions on the maintenance of altitude awareness and the use of automated or flight crew altitude call-out.

8.3.5 Ground Proximity Warning System/Terrain Avoidance warning System

Policy, instructions and procedures required for the avoidance of controlled flight into terrain, including limitations on high rate of descent near the surface (The related training requirements are covered in **D 2.1**)

8.3.6 Policy and procedures for the use of TCAS/ACAS

Policy, instructions, procedures for the avoidance of collisions and the use of TCAS/ACAS (The related training requirements are covered in **D 2.1**)

8.3.7 Policy and procedures for in-flight fuel management

8.3.8 Adverse and potentially hazardous atmospheric conditions

Procedures for operating in, and/or avoiding, adverse and potentially hazardous atmospheric conditions including:

- a) Thunderstorms;
- b) Icing conditions;
- c) Turbulence;
- d) Wind shear;
- e) Jetstream;
- f) Volcanic ash clouds;
- g) Heavy precipitation;
- h) Sand storms;
- i) Mountain waves; and
- j) Significant Temperature inversions.

8.3.9 Wake Turbulence

Wake turbulence separation criteria, taking into account aircraft types, wind conditions and runway location.

8.3.10 Crew members at their stations

The requirements for crew members to occupy their assigned stations or seats during the different phases of flight or whenever deemed necessary in the interest of safety and procedures for controlled rest on the flight deck.

8.3.11 Use of safety belts for crew and passengers

The requirements for crew members and passengers to use safety belts and/or harnesses during the different phases of flight or whenever deemed necessary in the interest of safety.

8.3.12 Admission to Flight Deck

The conditions for the admission to the flight deck of persons other than the flight crew. The policy regarding the admission of Inspectors from the Authority must also be included.

8.3.13 Use of vacant crew seats

The conditions and procedures for the use of vacant crew seats.

8.3.14 Incapacitation of crew members

Procedures to be followed in the event of incapacitation of crew members in flight. Examples of the types of incapacitation and the means for recognizing them must be included.

8.3.15 Cabin Safety Requirements

Procedures covering:

- a) Cabin preparation for flight, in-flight requirements and preparation for landing including procedures for securing the cabin and galleys;
- b) Procedures to ensure that passengers are seated where, in the event that an emergency evacuation is required, they may best assist and not hinder evacuation from the aircraft;
- c) Procedures to be followed during passenger embarkation and disembarkation;
- d) Procedures when refuelling/defuelling with passengers embarking, on board or disembarking;
- e) Smoking on board; and
- f) Use of portable electronic equipment and cellular telephones

8.3.16 Passenger briefing procedures

The contents, means and timing of passenger briefing.

8.3.17 Procedures for aircraft operated above 15 000 m (49 000 ft)

Procedures for the use of cosmic or solar radiation detection equipment and for recording its readings including actions to be taken in the event that limit values specified in the Operations Manual are exceeded. Procedures in the event that a decision to descend is taken, covering:

- a) The necessity of giving appropriate ATS unit prior warning of the situation and of obtaining a provisional descent clearance; and
- b) The action to be taken in the event that communication with the ATS unit cannot be established or is interrupted.

8.3.18 Instructions on the use of Autopilot and Autothrottle in IMC

8.3.19 Procedures related to interception of civil aircraft

Information and instructions relating to the interception of civil aircraft including:

- a) procedures, as prescribed in Part 8, for pilots-in-command of intercepted aircraft; and
- b) visual signals for use by intercepting and intercepted aircraft, as contained in Part 8.

8.4 All Weather Operations.

A description of the operational procedures associated with All Weather Operations.

8.5 EDTO

A description of the EDTO operational procedures.

8.6 Use of the Minimum Equipment and Configuration Deviation List(s)

8.7 Non revenue flights

Procedures and limitations for:

- a) Training flights;
- b) Test flights;
- c) Delivery flights;
- d) Ferry flights;
- e) Demonstration flights; and
- f) Positioning flights, including the kind of persons who may be carried on such flights.

8.8 Oxygen Requirements

An explanation of the conditions under which oxygen must be provided and used and the amount of oxygen determined in accordance with CV CAR 7.

- a) Flight crew;
- b) Cabin crew; and
- c) Passengers.

9 DANGEROUS GOODS AND WEAPONS

9.1 Transport of Dangerous Goods

Information, instructions and general guidance on the transport of dangerous goods including:

- a) Operator's policy on the transport of dangerous goods;
- b) Guidance on the requirements for acceptance, labeling, handling, stowage and segregation of dangerous goods;
- c) Special notification requirements in the event of an accident or occurrence when dangerous goods are being carried;
- d) Procedures for responding to emergency situations involving dangerous goods;
- e) Duties of all personnel involved; and
- f) Instructions on the carriage of the operator's employees.

9.2 Transport of weapons

The conditions under which weapons, munitions of war and sporting weapons may be carried.

10 SECURITY

10.1 Security Instructions and Guidance

Security instructions and guidance of a non-confidential nature which must include the authority and responsibilities of operations personnel. Policies and procedures for handling and reporting crime on board such as unlawful interference, sabotage, bomb threats, and hijacking must also be included. The search procedure checklist in accordance with CV CAR 9.D.125.

10.2 Preventative Security Matters and training

A description of preventative security measures and training.

(Note: Parts of the security instructions and guidance may be kept confidential.)

11 HANDLING, NOTIFYING AND REPORTING OCCURRENCES

Procedures for the handling, notifying and reporting of occurrences. This section shall include:

- a) Definitions of occurrences and the relevant responsibilities of all persons involved;
- b) Illustrations of forms used for reporting all types of d
- c) s (or copies of the forms themselves), instructions on how they are to be completed, the addresses to which they should be sent and the time allowed for this to be done;
- d) The descriptions of which company departments, Authorities or other institutions have to be notified by which means and in which sequence in case of an accident;
- e) Procedures for verbal notification to air traffic service units of incidents involving ACAS RAs, bird hazards and hazardous conditions;
- f) Procedures for submitting written reports on air traffic incidents, ACAS RAs, bird strikes, dangerous goods incidents or accidents, and unlawful interference;
- g) Reporting procedures to ensure compliance with CV CAR §8.E.105 b) and 8.E.1110-1115. These procedures must include internal safety related reporting procedures to be followed by crew members, designed to ensure that the PIC is informed immediately of any incident that has endangered, or may have endangered, safety during flight and that he is provided with all relevant information.

12 RULES OF THE AIR

Rules of the Air including:

- a) Visual and instrument flight rules;
- b) Territorial application of the Rules of the Air;

- c) Communication procedures including COM-failure procedures;
- d) Information and instructions relating to the interception of civil aircraft;
- e) The circumstances in which a radio listening watch is to be maintained;
- f) Distress and urgency signals;
- g) Time system used in operation;
- h) ATC clearances, adherence to flight plan and position reports;
- i) Visual signals used to warn an unauthorized aircraft flying in or about to enter a restricted, prohibited or danger area;
- j) Procedures for pilots observing an accident or receiving a distress transmission;
- k) The ground/air visual codes for use by survivors, description and use of signal aids; and

13 LEASING

A description of the operational arrangements for leasing, associated procedures and management responsibilities.

PART B. AEROPLANE OPERATING MATTERS – TYPE RELATED

Taking account of the differences between types, and variants of types, under the following headings:

0 GENERAL INFORMATION AND UNITS OF MEASUREMENT

0.1 General Information (e.g. aircraft dimensions), including a description of the units of measurement used for the operation of the aircraft type concerned and conversion tables.

1. LIMITATIONS

1.1 Certification and Operational Limitations

A description of the certified limitations and the applicable operational limitations including:

- (a) Certification status (e.g. FAR 23, FAR 25, etc)
- (b) Passenger seating configuration for each aircraft type including a pictorial presentation;
- (c) Types of operation that are approved (e.g. IFR/VFR, CAT II/III, flights in known icing conditions etc.);
- (d) Crew composition;
- (e) Mass and centre of gravity;
- (f) Speed limitations;
- (g) Flight envelopes;
- (h) Wind limits including operations on contaminated runways;
- (i) Performance limitations for applicable configurations;
- (j) Runway slope;
- (k) Limitations on wet or contaminated runways;
- (l) Airframe contamination; and
- (m) System limitations

2 NORMAL PROCEDURES

2.1 Functions And Normal Procedures

The normal procedures and duties assigned to the crew, the appropriate checklists, the system for use of the checklists and a statement covering the necessary co-ordination procedures between flight and cabin crew. The following normal procedures and duties shall be included:

- (a) Pre-flight;
- (b) Pre-departure and loading;
- (c) Altimeter setting and checking;
- (d) Taxi, Take-Off and Climb;
- (e) Noise abatement;

- (f) Cruise and descent;
- (g) Approach, landing preparation and briefing;
- (h) VFR approach;
- (i) Instrument approach;
- (j) Visual approach and circling;
- (k) Missed approach;
- (l) Normal landing;
- (m) Post landing; and
- (n) Operation on wet and contaminated runways.

2.2 Specific Flight Deck Procedures

- (a) Determining airworthiness of aircraft
- (b) Obtaining flight release
- (c) Initial cockpit preparation
- (d) Standard operating procedures
- (e) Cockpit discipline
- (f) Standard call-outs
- (d) Communications
- (e) Flight safety
- (f) Push-back and towing procedures
- (g) Taxi guidelines and ramp signals
- (h) Take-off and climb out procedures
- (i) Choice of runway
- (j) Take-off in limited visibility
- (k) Take-off in adverse weather
- (l) Use and limitations of weather radar
- (m) Use of landing lights
- (n) Monitoring of flight instruments
- (o) Power settings for take-off
- (p) Malfunctions during take-off
- (q) Rejected take-off decision
- (r) Climb, best angle, best rate
- (s) Sterile cockpit procedures
- (t) En route and holding procedures
- (u) Cruise control
- (v) Navigation log book
- (w) Descent, approach and landing procedures
- (x) Standard call-outs
- (y) Reporting maintenance problems
- (z) How to obtain maintenance and service en route

3 ABNORMAL AND EMERGENCY PROCEDURES

3.1 Abnormal and Emergency Procedures and Duties

The abnormal and emergency procedures and duties assigned to the crew, the appropriate check-lists, the system for use of the check-lists and a statement covering the necessary co-ordination procedures between flight and cabin crew. The following abnormal and emergency procedures and duties shall be included:

- (a) Crew Incapacitation;
- (b) Fire and Smoke Drills;
- (c) Unpressurised and partially pressurised flight;
- (d) Exceeding structural limits such as overweight landing;
- (e) Exceeding cosmic radiation limits;
- (f) Lightning Strikes;

- (g) Distress Communications and alerting ATC to Emergencies;
- (h) Engine failure;
- (i) System failures;
- (j) Guidance for Diversion in case of Serious Technical Failure;
- (k) Ground Proximity Warning;
- (l) TCAS Warning;
- (m) Windshear;
- (n) Emergency Landing/Ditching;
- (o) Departure contingency procedures.
- (p) Fuel Jettisoning and Overweight Landing:
 - 1) General considerations and policy;
 - 2) Fuel jettisoning procedures and precautions.
- (q) Emergency Procedures:
 - 1) Emergency descent;
 - 2) Low fuel;
 - 3) Dangerous goods incident or accident.
- (r) Interception procedures;
- (s) Emergency signal for cabin crew members;
- (t) Communication Procedures;
- (u) Radio listening watch.

4 PERFORMANCE

Performance data shall be provided in a form in which it can be used without difficulty.

4.1 Performance Data

Performance material which provides the necessary data to allow the flight crew to comply with the approved aircraft flight manual performance requirements shall be included to allow the determination of-

- (a) Take-off climb limits - Mass, Altitude, Temperature;
- (b) Take-off field length (dry, wet, contaminated);
- (c) Net flight path data for obstacle clearance calculation or, where applicable, take-off flight path;
- (d) The gradient losses for banked climb outs;
- (e) En route climb limits;
- (f) Approach climb limits;
- (g) Landing climb limits;
- (h) Landing field length (dry, wet, contaminated) including the effects of an inflight failure of a system or device, if it affects the landing distance;
- (i) Brake energy limits; and
- (j) Speeds applicable for the various flight stages (also considering wet or contaminated runways).

4.1.1. Supplementary Performance Data covering flights in icing conditions

Any certificated performance related to an allowable configuration, or configuration deviation, such as anti-skid inoperative, shall be included.

4.1.2. Other Acceptable Performance Data

If performance data, as required for the appropriate performance class, is not available in the approved AFM, then other data acceptable to the Authority shall be included. Alternatively, the operations manual may contain cross-reference to the approved data contained in the AFM where such data is not likely to be used often or in an emergency.

4.2 Additional Performance Data.

Additional performance data where applicable including:

- (a) All engine climb gradients;
- (b) Drift-down data;

- (c) Effect of de-icing/anti-icing fluids;
- (d) Flight with landing gear down; .
- (e) For aircraft with 3 or more engines, one engine inoperative ferry flights; and
- (f) Flights conducted under the provisions of a configuration deviation list (CDL).

5.0 FLIGHT PLANNING

5.1 Flight Planning Data

Data and instructions necessary for pre-flight and in-flight planning including factors such as speed schedules and power settings. Where applicable, procedures for engine(s) out operations, EDTO and flights to isolated airports shall be included.

5.2 Fuel Calculations

The method for calculating fuel needed for the various stages of flight.

6.0 MASS AND BALANCE

6.1 Calculating Mass and Balance

Instructions and data for the calculation of mass and balance including:

- (a) Calculation system (e.g. Index system);
- (b) Information and instructions for completion of mass and balance documentation, including manual and computer generated types;
- (c) Limiting masses and centre of gravity of the various for the types, variants or individual aircraft used by the operator; and
- (d) Dry operating mass and corresponding centre of gravity or index.

7.0 LOADING

7.1 Loading Procedures

Procedures and provisions for loading and securing the load in the aircraft.

7.2 Loading Dangerous Goods

The operations manual shall contain a method to notify the PIC when dangerous goods are loaded in the aircraft.

8 CONFIGURATION DEVIATION LIST

The Configuration Deviation List(s) (CDL), if provided by the manufacturer, taking account of the aircraft types and variants operated and the specific operations authorized, including any requirements relating to operations where performance-based navigation is prescribed. Procedures to be followed when an aircraft is being dispatched under the terms of its CDL.

9 MINIMUM EQUIPMENT LIST

The Minimum Equipment List (MEL) taking account of the aircraft types and variants operated and the specific operations authorized, including any requirements relating to operations where performance-based navigation is prescribed.

10 SURVIVAL AND EMERGENCY EQUIPMENT INCLUDING OXYGEN

10.1 List of Survival Equipment to be Carried

A list of the survival equipment to be carried for the routes to be flown and the procedures for checking the serviceability of this equipment prior to take-off. Instructions regarding the location, accessibility and use of survival and emergency equipment and its associated check list(s) shall also be included.

10.2 Oxygen Usage

The procedure for determining the amount of oxygen required and the quantity that is available. The flight profile, number of occupants and possible cabin decompression shall be considered. The information provided shall be in a form in which it can be used without difficulty.

10.3 Emergency Equipment Usage

A description of the proper use of the following emergency equipment:

- (a) Life jackets
- (b) Life rafts
- (c) Medical kits/first aid kits
- (d) Survival kits
- (e) Emergency locator transmitter (ELT)
- (f) Visual signalling devices
- (g) Evacuation slides
- (h) Emergency lighting

11 EMERGENCY EVACUATION PROCEDURES

11.1 Instructions for Emergency Evacuation

Instructions for preparation for emergency evacuation including, crew co-ordination and emergency station assignment.

11.2 Emergency Evacuation Procedures

A description of the duties of all members of the crew for the rapid evacuation of an aircraft and the handling of the passengers in the event of a forced landing, ditching or other emergency.

12 AIRCRAFT SYSTEMS

A description of the aircraft systems, related controls and indications and operating instructions.

PART C ROUTE AND AERODROME INSTRUCTIONS

1 Instructions and Information

Instructions and information relating to communications, navigation and aerodromes including minimum flight levels and altitudes for each route to be flown and operating minima for each airport planned to be used, including:

- (a) Minimum flight level/altitude for each route to be flown;
- (b) Operating minima for departure, destination and alternate aerodromes; Increase of aerodrome operating minima in case of degradation of approach or aerodrome facilities.
- (c) Communication facilities and navigation aids;
- (d) Runway data and aerodrome facilities;
- (e) Approach, missed approach and departure procedures including noise abatement procedures;
- (f) Communications-failure procedures;
- (g) Search and rescue facilities in the area over which the aircraft is to be flown;
- (h) A description of the aeronautical charts that shall be carried on board in relation to the type of flight and the route to be flown, including the method to check their validity;
- (i) Availability of aeronautical information and MET services;
- (j) En route COM/NAV procedures, including holding;
- (k) Aerodrome categorisation for flight crew competence qualification.
- (l) special aerodrome limitations (performance limitations and operating procedures, etc)

2. Appropriate information from the aerodrome specific operating specifications, including for each aerodrome—

- a) Its location (domestic and international operations);
- b) Its designation (regular, alternate, provisional, etc.) (domestic and flag operations only);

- c) The types of aircraft authorised (domestic and flag operations only);
 - d) Instrument approach procedures;
 - e) Landing and takeoff minimums; and
 - f) Any other pertinent information.
3. Appropriate information from the en route operations specifications, including for each approved route the types of aircraft authorised, the type of operation such as VFR, IFR, day, night, etc., and any other pertinent information.

PART D TRAINING

1.0 Training Syllabi And Checking Programmes

1.1 General Requirements

Training syllabi and checking programmes for all operations personnel assigned to operational duties in connection with the preparation and/or conduct of a flight.

1.2 Flight Crew

The training syllabi and checking programmes for flight crew members shall include:

- (a) A written training programme acceptable to the Authority that provides for initial, transition, difference, and recurrent training, as appropriate, for flight deck crew members for each type of aircraft flown by that crew member. This written training programme shall include both normal and emergency procedures training applicable for each type of aircraft flown by the crewmember.
- (b) Adequate ground and flight training facilities and properly qualified instructors required to meet training objectives and needs.
- (c) A current list of approved training materials, equipment, training devices, simulators, and other required training items needed to meet the training needs for each type and variation of aircraft flown by the AOC holder.
- (d) Adequate numbers of ground, flight, and check pilots to ensure adequate training and flight testing of flight crew members.
- (e) A record system acceptable to the Authority to show compliance with appropriate training and currency requirements.

1.3 Cabin Crew

The training syllabi and checking programmes for cabin crew members shall include:

- (a) Basic initial ground training covering duties and responsibilities.
- (b) Appropriate Authority rules and regulations.
- (c) Appropriate portions of the AOC holder's operating manual.
- (d) Appropriate emergency training as required by the Authority and the AOC holder's operating manual.
- (e) Appropriate flight training.
- (f) Appropriate recurrent, upgrade, or difference training, as required, to maintain currency in both type and any variance the crew member may be required to work in.
- (g) Maintain a training record system acceptable to the Authority to show compliance with all required training.

1.4 All Aircraft Crew

A written training programme shall be developed for all aircraft crew members in the emergency procedures appropriate to each make and model of aircraft flown in by the crew member. Areas shall include:

- (a) Instruction in emergency procedures, assignments, and crew co-ordination.
- (b) Individual instruction in the use of onboard emergency equipment such as fire extinguishers, emergency breathing equipment, first aid equipment and its proper use, emergency exits and evacuation slides, and the aircraft's oxygen system including the use of portable emergency

oxygen bottles. Flight deck crewmembers shall also practice using their emergency equipment designed to protect them in case of a cockpit fire or smoke.

- (c) Training shall also include instruction in potential emergencies such as rapid decompression, ditching, fire fighting, aircraft evacuation, medical emergencies, hijacking, and disruptive passengers.
- (d) Scheduled recurrent training to meet Authority requirements.

1.5 All Operations Personnel

The training syllabi and checking programmes for all operations personnel shall include:

- (a) Training in the safe transportation and recognition of all dangerous goods permitted by the Authority to be shipped by air. Training shall include the proper packaging, marking, labelling, and documentation of dangerous articles and magnetised materials.
- (b) All appropriate security training required by the Authority.
- (c) A method of providing any required notification of an accident or incident involving dangerous good.

1.6 Operations Personnel Other Than Aircraft Crew

Operations personnel other than aircraft crew (e.g., flight operations officer, handling personnel etc.), a written training programme shall be developed that pertains to their respective duties. The training programme shall provide for initial, recurrent, and any required upgrade training.

2.0 Procedures for Training and Checking

2.1 Proficiency Checking Procedures

Procedures to be applied in the event that personnel do not achieve or maintain the required standards.

2.2 Procedures Involving the Simulation of Abnormal or Emergency Situations

Procedures to ensure that abnormal or emergency situations requiring the application of part or all of abnormal or emergency procedures, and simulation of IMC by artificial means, are not simulated during commercial air transportation flights.

3.0. Document Retention

3.1 Documentation To Be Stored And Storage Periods

An AOC holder shall retain all documentation required by appropriate Authority or the Authority of a foreign country in which the AOC holder is operating for the time specified by the respective Authority or for the time period needed to show compliance with appropriate regulations or his operations manual, whichever is longer.