



Section/division:
Telephone number:
Physical address:
Postal address:

Flight Operations
011-545-1000
Ikhaya Lokundiza, 16 Treur Close, Waterfall Park, Bekker Street, Midrand, Gauteng
Private Bag X73, Halfway House 1685

Form Number: CA 121-07
Fax Number: 011-545-1210 or 011-545-1013
Website: www.caa.co.za

PART 121 OPERATIONS MANUAL APPROVAL CHECKLIST

OPERATIONS MANUAL FOR

Operator: _____

Air Service Licence No: _____

Class of Licence : _____

Type of Air Service : _____

Category of Aircraft : _____

THE OM IS COMPLIANT	THE OM IS NON-COMPLIANT
APPROVED	NOT APPROVED

REMARKS

This manual has been **approved/not approved** due to the **non-compliance/compliance** indicated on the attached assessment checklists. Additional information by the Flight Inspector. (Delete which is not applicable)

ADDITIONAL CHECKLISTS	YES	NO
Checklist for DG attached		
Checklist for Security Attached		
Checklist for Airworthiness attached		
Checklist for Avmed attached		
Checklist for Safety Management Manual		
Checklist for Quality Manual Review CA AOC-C-004		

121.04.2	REGULATION	NA	Acceptable	Unacceptable	Note no
1	STRUCTURE OF OPERATIONS MANUAL				
	An operator must ensure that the main structure of the Operations Manual is as follows:				
	Part 1: General				
	This part must comprise all non-type related operational policies and procedures needed for a safe operation and must comply with CARs Part 121, 92, 111, 91,140 and all other applicable CARs.				
	Part 2: Aeroplane operating matters				
	This part must comprise all type-related operational policies and procedures needed for a safe operation. It must take account of the different types of aeroplanes or variants used by the operator.				
	Part 3: Route and Aerodrome instructions and information				
	This part must comprise all instructions and information needed for the area of operation.				
	Part 4: Training				
	This part must comprise all training instruction of personnel required for safe operation.				
	An operator must ensure that the contents of the operations manual are in accordance with paragraph 2 of the technical standard 121.04.2, and relevant to the area and type of operation.				
	An operator must ensure that the Director of Civil Aviation (DCA) approves the detailed structure of the operations manual.				
2.	CONTENTS OF THE OPERATIONS MANUAL				
2.1	PART 1: GENERAL				
2.1.1	Administration and control of the operations manual				
	1. Introduction				
	(a) A statement that the manual complies with Part 121 CARs and with the terms and conditions of the applicable operating certificate.				
	(b) A statement that where any person is confronted with an operational situation not contemplated by the operations manual, such person will be expected to act in accordance with his or her most conservative discretion. Furthermore, where any part of the manual is considered to be repugnant to any provision referred to in subparagraph (a), such person shall comply with the respective legal statute and report the discrepancy to the Operations Manager by the quickest means possible;				
	(c) A statement that the manual contains operational instructions that is to be complied with by the relevant personnel.				
	(d) A list and brief description of the various parts, their contents, applicability and use				
	(e) Explanations and definitions of terms and words needed for the use of the manual				
	(f) provisions for the issuance of an a operations manual in separate parts corresponding to specific aspects of operations, provided in accordance; and				
	(g) a brief description of the operator's manual system that lists all operational and technical manuals developed or adopted by the operator for the purpose of ensuring				

	operations personnel have been provided all information necessary for the performance of their duties. Such description must also indicate which of such manuals will be available on board an aeroplane during flight time.				
	2. System of amendment and revision				
	(a) 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.				
	(c) A statement that handwritten amendments and revisions are not permitted except in situations requiring immediate amendment and revision in the interest s of aviation safety.				
	(d) A description of the system for the annotation of pages and their effective dates.				
	(e) A list of effective pages				
	(f) Annotation of changes (on text pages and, as far as practicable, on charts and diagrams)				
	(g) Temporary revisions				
	(h) A description of the distribution system for the manuals, amendments and revisions.				
2.1.2	Organisation and responsibilities				
SACAR/ SACATS 121.06.2	1. Organizational structure				
	A description of the organizational structure including the general organogram and operations department organogram. The organogram must depict the relationship between the Operations Department and the other Department of the organisation. In particular, the subordination and reporting lines of all divisions, department etc., which pertain to the safety of flight operations, must be shown.				
	2. Nominated Post holders				
	The name of each nominated post holder responsible for flight operations, the maintenance system, flight crew training and ground operations. A description of their function and responsibilities must be included				
	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 the compliance with the applicable CARs.				
	4. Responsibilities of ground handling functions				
	Does the Operator have an organization and management system, including definition of responsibilities and authority, for the management of all ground handling functions associated with:				
	(i) ramp operations,				
	(ii) passenger services,				
	(iii) baggage services,				
	(iv) cabin services,				
	(v) weight and balance control,				
	(vi) ground support equipment and				
	(vii) fuel services				
5. A statement defining the authority, duties and responsibilities of pilot-in-command					
6. A statement defining the duties and responsibilities of flight crew members other than pilot in command					

2.1.3	Operation control and supervision				
SACATS 121.07.13	1) Does the OCS ensure that there is an exercise of authority over the formulation, execution and amendment of an operational flight plan in respect of a flight?				
	(i) Does the operator have a Type A or B OCS				
	(i) A description of the system for supervision of the operation by the operator. This must show how the safety of flight operations and the qualifications of personnel are supervised. In particular, the procedures related to the following items must be described				
	(a) Licence and qualification validity (Part 121 subpart 3)				
	(b) Competence of operations personnel; and				
	(ii) Control, analysis and storage of records, flight documents, additional information and data				
	2) System of promulgation of additional operational instruction and info.				
	(i) 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 must be included.				
	3) Operational Control				
	(i) A description of the procedures and responsibilities necessary to exercise operational control with respect to flight safety				
	(ii) Subcontracting Policy and Procedures (iii) A description of policies and procedures for third parties that perform work on the air service operator's behalf.				
	2.1.4	SAFETY MANAGEMENT SYSTEM			
SACAR 140	A description of the organisation of, roles and responsibilities of the personnel employed in, and policies and procedures associated with the safety management system. The description of the SMS may be contained in a separate manual depending upon the size and complexity of the operator. AS per Part 140 requirements (<i>Complete Safety Management Manual Evaluation Checklist CA 140-05</i>)				
2.1.5	QUALITY MANAGEMENT SYSTEM				
SACAR 121.10.7	A description of the organisation of, roles and responsibilities of the personnel employed in, and policies and procedures associated with the QMS, which may be integrated with the SMS. The description of the QMS may be contained in the SMS manual or a quality management manual (QMM) depending upon the size and complexity of the operator. (<i>Complete Quality Manual Review checklist CA AOC-C-004</i>)				

2.1.6 SACAR 121.02.1	(1) FLIGHT CREW COMPOSITIONS				
	An explanation of the method for determining flight crew compositions taking into account of the following:				
	a) The type of aeroplane being used				
	b) The area and type of ops being undertaken				
	c) The phase of the flight				
	d) The minimum flight crew requirement and flight & duty period planned				
	e) Experience (total and on type), recency and qualification of the flight crew members; and				
	f) The designation of the pilot-in-command and, if necessitated by the duration of the flight, the procedures of the relief of the pilot-in-command or other members of the flight crew				
	(2) Designation of the Pilot-in-command				
	The rules applicable to the designation of the pilot-in-command				
(3) Flight crew incapacitation					
Instruction on the succession of command in the event of flight crew incapacitation					
2.1.7	Qualification Requirements				
	(1) A Description of the required licence rating(s) qualification/competency (e.g. for routes & aerodromes) experience training, checking and recency for operations personnel to conduct their duties. Consideration must be given to the aeroplane type kind of operation and composition of flight crew				
	(2) Flight Deck Crew				
	a) Pilot-in-command				
	b) Co-pilot				
	c) Pilot under supervision				
	d) Operation on more than one type or variant				
	(3) Cabin crew				
	a) Senior Cabin crew member				
	b) Required cabin crew member and additional crew member during familiarization flights.				
	c) Operation on more than one type or variant.				
	(4) Training, checking and supervision personnel				
	a) For flight deck crew				
	b) For cabin crew				
	(5) Other operations personnel				
2.1.8 SACAR 91.02.3	Flight crew health precautions				
	The relevant regulations and guidance to flight 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				

	Note: see document SA-CATS-67				
2.1.9	Flight time limitations				
SACATS 121.02.13	(1) Flight and Duty period limitations and rest requirements <ul style="list-style-type: none"> A Description of the flight time and duty period limitation and rest requirements prescribed in the Technical Standards as applicable to the operation. (Including Flight Ops Officers and Flight Followers) 				
	(2) Exceedances of flight time and duty period limitation and/or reduction of rest periods. <ul style="list-style-type: none"> Conditions under which flight time and duty period may be exceed or rest period may be reduced and the procedures used to report these modifications. 				
2.1.10	Operating Procedures				
	(1) Flight preparation instructions				
	a) Minimum flight altitudes; a description of the method of determination and application of minimum altitudes including:				
	I. A procedure to establish the minimum altitudes/FL for VFR flights; and				
	II. A procedure to establish the minimum altitudes/FL for IFR flights.				
	b) Criteria for determination of the usability of aerodromes				
	c) the method for establishing aerodrome operating minima for IFR flights in accordance with TS 91.07.5. Reference must be made to procedures for the determination of the visibility and/or runway visual range and for the applicability of the actual visibility observed by the pilots, the reported visibility and the reported runway visual range;				
	d) en route operating minima for IFR and VFR flights or VFR portions of a flight;				
	e) presentation and application of aerodrome and en route operating minima, including the increase of aerodrome operating minima in case of degradation of approach or aerodrome facilities				
	f) Interpretation of meteorological information; Explanatory material on the decoding of MET forecast and MET reports relevant to the area of operations, including the including the interpretation of conditional expressions.				
	g) the methods by which the quantities of fuel, oil and water methanol to be carried, are determined and monitored in flight. This section must also include instructions on the measurement and distribution of the fluid carried on board. Such instructions must take account of all circumstances likely to be encountered on the flight, including the possibility of in-flight replanning and of failure of one or more of the aeroplane's power plants or loss of pressurisation. The system for maintaining fuel and oil records must also be described				
	h) Mass and Centre of gravity; the general principle including: -				

	I. Definitions;				
	II. Methods, procedures and responsibilities for preparation and acceptance of mass and Centre of gravity calculations				
	III. The policy for using either standard and/or actual masses				
	IV. The method of determining the applicable passenger, baggage and cargo masses				
	V. The applicable passenger and baggage masses for various types of operations and aeroplane type				
	VI. General instruction and information necessary for verification of the various types of mass and balance documentations in use				
	VII. Last minute changes procedures				
	VIII. Specific gravity of fuel, oil and water methanol; and				
	IX. Seating policy/procedure				
	i) ATS flight plan				
	Procedures and responsibilities for the preparation and submission of the air traffic service flight plan. Factors to be considered include the means of submission for both individual and repetitive flight plans.				
	j) Operational Flight Plan				
	Procedure and responsibilities for the preparation and acceptance of the operational flight plan. The use of the operational flight plan must be described including samples of the operational flight plan formats in use				
	k) Operator's flight folio				
	the responsibilities and the use of the operator's flight folio must be described, including samples of the format used. A technical log may be used in place of a flight folio, if it contains the required information as per TS 91.03.5; and				
	l) List of documents, forms and additional information to be carried as per CAR 121.04.1.				
	(2) Ground handling instructions				
	a) Fuel Procedures; a description including: -				
	I. Safety precautions during refueling and defueling including when an APU is in operation or when a turbine engine is running and the prop-brakes are on;				
	II. Refueling and defueling when passengers are embarking, on-board or disembarking; and				
	III. Precautions to be taken to avoid mixing fuels.				
	IV. A company specific fuel policy.				
	b) a description of the handling procedures to be used when allocating seats and embarking and disembarking passengers and when loading and unloading the aeroplane. Further procedures, aimed at achieving safety whilst the aeroplane is on the apron, must also be given. Handling procedures must include –				
	(i) disembarking of persons;				

(ii)	sick passengers and persons with reduced mobility;				
(iii)	transportation of inadmissible passengers, deportees or persons in custody;				
(iv)	permissible size and weight of hand baggage;				
(v)	loading and securing of items in the aeroplane;				
(vi)	special loads and classification of load compartments;				
(vii)	positioning of ground equipment;				
(viii)	operation of aeroplane doors;				
(ix)	safety on the apron, including fire prevention, blast and suction areas;				
(x)	start-up, ramp departure and arrival procedures;				
(xi)	servicing of aeroplanes;				
(xii)	documents and forms for aeroplane handling; and				
(xiii)	multiple occupancy of aeroplane seats;				
(c)	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, except medical patients under proper care, are refused embarkation;				
(d)	a description of the de-icing and anti-icing policy and procedures for aeroplanes on the ground. These must include descriptions of the types and effects of icing and other contaminants on aeroplanes whilst stationary during ground movements and during take-off. In addition, a description of the fluid types used must be given including –				
	(i) proprietary or commercial names;				
	(ii) characteristics;				
	(iii) effects on aeroplane performance;				
	(iv) hold-over times; and				
	(v) Precautions during usage.				
(e)	Does the Operator who uses the services of an external ground handling agent or service provider, have a contract with the agent or provider that specifies details for applicability of, and compliance with the operation standards of the Operator?				
(f)	Does the Operator have a process to ensure applicable external ground handling agents or service providers receive current manuals and revisions on a timely basis?				
(g)	Does the Operator have a surveillance or oversight programme applicable to external ground handling agents or service providers to ensure that all ground handling operations performed for the Operator are conducted in conformity with Operator and applicable Regulatory requirements?				
(3) Flight procedures					
(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) a description of all navigation procedures relevant to the type(s) and area(s) of operation and equipment required to operate therein. Consideration must be given to –				
(i) standard navigation procedures including policy for carrying out independent cross-checks of keyboard entries where these affect the flight path to be followed by the aeroplane;				
(ii) RVSM as contemplated in technical standard 91.04.31 in Document SA-CATS 91;				
(iii) RNP, MNPS and POLAR navigation and navigation in other designated areas;				
(iv) RNAV;				
(v) In-flight replanning; and				
(vi) Procedures in the event of system degradation				
(c) circumstances in which a radio listening watch is maintained				
(d) instructions on –				
(i) the use of normal checklists and the timing of such use;				
(ii) departure contingency procedures;				
(ii) altimeter setting procedures;				
(iii) altitude alerting system procedures;				
(iv) established approach procedure and the limitation on high rates of descent near the surface;				
(v) the conduct of instrument approaches and the conditions required to commence or to continue an instrument approach;				
(vi) CRM procedures at night or in IMC;				
(e) TAWS/Ground proximity warning system procedures				
(f) Policy and procedures for the use of TCAS/ACAS				
(g) Policy and procedures for in-flight fuel management.				
(h) Procedures for operating in, and/or avoiding, and/or recording and reporting of special, routine and non-routine meteorological observations during any phase of flight and potentially hazardous atmospheric conditions including –				
I. Thunderstorms;				
II. Icing conditions;				
III. Turbulence;				
IV. Windshear;				
V. Jetstream;				
VI. Volcanic ash clouds;				
VII. Heavy precipitation;				
VIII. Sand storms;				
IX. Mountain waves; and				
X. Significant temperature inversions.				
(i) Wake turbulence				
Wake turbulence separation criteria, taking into account aeroplane types, wind conditions and runway location				
(j) procedures in the event that a decision to descend is taken while en route, covering –				
(i) the necessity of giving the appropriate ATS unit prior warning of the situation				

	and of obtaining a provisional descent clearance; and				
(ii)	the action to be taken in the event that communication with the ATS unit cannot be established or is interrupted;				
(k)	Flight crew members at their stations				
	The requirements for flight crew members to occupy their assigned stations or seats during the different phases of flight or whenever deemed necessary in the interests of aviation safety.				
(l)	Use of safety belts for flight crew and passengers				
	The requirement for flight crew and passengers to use safety belts and/or harnesses during the different phases of flight or whenever deemed necessary in the interest of aviation safety.				
(m)	Admission to flight deck				
	The conditions for the admission to the flight deck of persons other than the flight crew.				
(n)	Use of vacant flight crew seats				
	The conditions and procedures for the use of vacant flight crew seats				
(o)	Incapacitation of flight crew members				
	Procedures to be followed in the event of incapacitation of a flight crew members in flight. Examples of the types of incapacitation and the means for recognizing them must be included.				
(p)	Procedure covering –				
	I. pilot-in-command to report promptly to ATC a suspected communicable disease. The report required by CAR 91.07.21 to the air traffic control shall contain, in addition to the person suspected of being infected, the following details –				
	(i) aircraft identification;				
	(ii) departure aerodrome including all technical or other stops;				
	(iii) destination aerodrome;				
	(iv) estimated time of arrival;				
	(v) number of persons on board;				
	(vi) number of suspected cases on board; and				
	(vii) nature of the public health risk, if known.				
	II. Cabin preparation for flight, in-flight requirements and preparation for landing including procedures for securing cabin and galleys;				
	III. 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 aeroplane;				
	IV. procedures to be followed during passenger embarkation and disembarkation;				
	V. procedures in the event of fuelling with passengers on board or embarking and disembarking; and				
	VI. smoking on board;				
(q)	Passenger Briefing procedures				
	The contents, means and timing of passenger				

	briefing in accordance with CAR 91.07.20 and 121.07.42				
	(r) lists of the survival and emergency equipment required for each route or area of operation and the procedures to ensure such equipment has been inspected and/or is functioning properly prior to departure;				
	(s) information and instructions relating to the interception of civil aircraft including –				
	I. procedures for pilots-in-command of intercepted aircraft; and				
	II. visual signals for use by intercepting and intercepted aircraft;				
	(t) procedures for aeroplanes operated whenever required cosmic or solar radiation detection equipment is carried;				
	(u) 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; and				
	(v) procedures for the use of head-up displays (HUD) and enhanced vision systems (EVS) equipment as applicable.				
	(4) All weather operations				
	(5) Extended Diversion Time Operations (ETOPS applies)				
	(6) Use of the minimum equipment and configuration deviation list(s).				
	(7) Development and use of standard operating procedures (SOPs) whether stand alone or as part of an aeroplane operating manual (AOM)				
	(8) 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) Oxygen requirements				
	a) An explanation of the condition under which oxygen must be provided and used.				
	b) The oxygen requirements specified for: -				
	I. Flight deck crew				
	II. Cabin crew				
	III. passengers				
2.1.11	Dangerous Goods and weapons (DG section to approve)				
Part 92	(1) Information instruction and general guidance on the conveyance of dangerous good including				
	a) Operator's policy on the conveyance of dangerous goods;				
	b) Guidance on the requirements for acceptance, labeling, handling, stowage				

	and segregation of dangerous goods;				
	c) Procedures for responding to emergency situations involving dangerous goods;				
	d) Duties of all personnel involved as referred to in a Part 92; and				
	e) Instruction on the carriage of the operator's employees.				
	(2) The conditions under which weapons, munitions of war and sporting weapons may be carried.				
2.1.12	Security (Avsec to approve)				
Part 111	(1) 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				
	(2) A description of preventative security measures and training Note: Parts of the security instructions and guidance may be kept confidential.				
2.1.13	Handling of aviation Accidents and Incidents				
	Procedures for the handling, notifying and reporting of aviation accidents and incidents, this section must: -				
	(1) Definitions of aviation accidents and incidents and the relevant responsibilities of all persons involved;				
	(2) The description of which operator departments, authorities or other institutions have to be notified by which means and in which sequence in case of an aviation accident.				
	(3) Special notification requirements in the event of an aviation accident or incident when dangerous goods are being carried;				
	(4) A description of the requirements to report specific aviation accidents and incidents				
	(5) The forms used for reporting and the procedure for submitting them to the relevant authority must also be included; and				
	(6) If the operator develops additional safety related reporting procedures for its own internal use, a description of the applicability and related forms to be used.				
	(7) Has the air operator established procedures for the retention of flight recorder records and flight recorders in safe custody pending their disposition to the accident or incident investigating team?				
2.1.14	Rules of the Air				
	Rules of the Air including: -				
	(1) Visual and instrument flight rules				
	(2) Territorial application of the rules of the air				
	(3) Communication procedures including COM-failure procedures				
	(4) Information and instructions relating to the interception of civil aeroplanes				
	(5) The circumstances in which a radio listening watch is to be maintained				
	(6) Signals				

	(7) Time system used in operation				
	(8) ATC clearance, adherence to flight plan and position reports				
	(9) Visual signals used to warn unauthorized aeroplanes flying in or about to enter a restricted, prohibited or danger area				
	(10) Procedures for pilots observing an aviation accident or receiving a distress transmission				
	(11) The ground/air visual codes for use by survivors, description and use of signal aids				
	(12) Distress and urgency signals				
PART 2 2.2	AEROPLANE OPERATING MATTERS – TYPE RELATED Taking account of the differences between types and variants of types under the following headings				
2.2.1	General information and units of measurement				
	General information (e.g. aeroplane dimensions) including a description of the units of measurement used for the operation of the aeroplane type concerned and conversion tables				
2.2.2	Limitations				
	A description of the certified limitations and the applicable operational limitations including: -				
	1. Certification status				
	2. Passengers seating configuration for each aeroplane type including a pictorial presentation				
	3. Types of operations that are approved (e.g IFR/VFR, CAT II/III, etc.)				
	4. Flight crew composition;				
	5. Mass and Centre of gravity;				
	6. Speed limitations;				
	7. Flight envelope(s);				
	8. Wind limits including operations on contaminated runways;				
	9. Performance limitations for applicable configurations;				
	10. Runway slope;				
	11. Limitations on wet or contaminated runways;				
	12. Airframe contamination; and				
13. System limitations					
2.2.3	Normal procedures				
	The normal procedures and duties to the flight crew the appropriate check-list, the system for use of the check-list and a statement covering the necessary coordination procedures between flight deck crew and cabin crew. The following normal procedures and duties must be included-				
	1. Pre-flight;				
	2. Pre-departure;				
	3. Altimeter setting and checking;				
	4. Taxi, take-off and climb;				
	5. Noise abatement;				
	6. Cruise and descent;				
	7. Approach, landing preparation and briefing;				
	8. VFR approach;				
9. Instrument approach;					

	10. Visual approach and circling;				
	11. Missed approach;				
	12. Normal landing;				
	13. Post landing; and				
	14. Operation on wet and contaminated runways				
2.2.4	Abnormal and emergency procedures				
	The abnormal and emergency and duties assigned to the flight crew the appropriate check list, the system for use of the check list and a statement covering the necessary coordination procedures between flight crew and cabin crew. The following abnormal and emergency procedures and duties must be included: -				
	1. Flight crew incapacitation				
	2. Fire and smoke drills				
	3. Unpressurised and partially pressurised flight				
	4. Exceeding structural limits such as overweight landing				
	5. Exceeding cosmic radiation limits				
	6. Lightning strikes				
	7. Distress communications and alerting ATC to emergencies				
	8. Engine failure				
	9. System failure				
	10. Guidance for diversion in case of serious technical failure				
	11. Ground proximity warning				
	12. TCAS warning				
	13. Windshear				
	14. Emergency landing/ditching				
	15. Emergency Evacuations				
2.2.5	Performance				
	1. Performance data must be provided in a form in which it can be used without difficulty				
	2. Performance material which provides the necessary data for compliance with the performance requirements prescribed in part 1 of this technical standard must be included to allow the determination: -				
	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 climbouts				
	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 in-flight failure of a system or device, if it affects the landing distance				
	i) Brake energy limits				
	j) Speeds applicable for the various flight stages (also considering wet or				

	contaminated runways)				
	<p>3. Supplementary data covering flights in icing conditions</p> <p>Any certificated performance related to an allowable configuration, or configuration deviation, such as anti-skid inoperative, must be included. If performance data, as required for the appropriate performance class, is not available in the approved AFM, then other data acceptable to the DCA must 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.</p>				
	Additional performance data Where applicable, including: -				
	a) All engine climb gradient				
	b) Drift-down data				
	c) Effect of de-icing/anti-icing fluids				
	d) Flight with landing gear down				
	e) For aeroplanes with 3 or more engines, one engine inoperative ferry flights; and				
	f) Flights conducted under the provision of the CDL				
CATS 121.04.5	OPERATIONAL FLIGHT PLAN				
	1) An operator must ensure that the operational flight plan used and the entries made during flight contain the following items: -				
	a. Aeroplane registration;				
	b. Aeroplane type and variant;				
	c. Date of flight;				
	d. Flight identification;				
	e. Names of flight crew members;				
	f. Duty assignment of flight crew members;				
	g. Place of departure;				
	h. Time of departure (actual off-block time, take-off time)				
	i. Place of Arrival (planned and actual);				
	j. Time of arrival (actual landing and on-block time)				
	k. Type of operation (ETOPS, VFR, Ferry flight, etc.)				
	l. Route and route segments with checkpoints/waypoints, distance, time and tracks;				
	m) Planned cruising speed and flying times between check-points/waypoints. Estimated and actual times overhead;				
	n) Safe altitudes and minimum levels;				
	o) Planned altitudes and flight levels;				
p) Fuel calculations (records of in-flight fuel checks)					
q) Fuel on board when starting engines					
r) Alternate(s) for destination and, where applicable, take-off and en route, including information required in subparagraph (l),(m),(n) and (o) above;					
s) Initial ATS flight plan clearance and subsequent re-clearance;					

	t) In-flight re-planning calculations; and				
	u) Relevant meteorological information.				
	2) Items which are readily available in other documentation or from an acceptable source or which are irrelevant to the type of operation may be omitted from the operational flight plan.				
	3) An operator must ensure that the operational flight plan and its use is described in the operations manual. An operator must ensure that all entries in the operational flight plan are made concurrently and that they are permanent in nature.				
2.2.6	Flight Planning				
	1. 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/ETOPS and flights to isolated aerodromes must be included				
	2. The method for calculating fuel needed for the various stages of flight in accordance with TS 121.07.23				
2.2.7	Mass and balance				
	Instructions and data for the calculation of the mass and balance including: -				
	1. Calculation system (e.g. index system)				
	2. Information and instruction for completion of mass and balance documentation, including manual and computer generated types;				
	3. Limiting masses and Centre of gravity of the various versions; and				
	4. Dry operating mass and corresponding Centre of gravity or index.				
121.04.9	LOAD AND TRIM SHEET				
	1. The load and trim sheet must contain the following information				
	a) The aeroplane registration and type;				
	b) The flight identification number and date;				
	c) Identify of the pilot-in-command;				
	d) Identify the person who prepared the document;				
	e) Dry operating mass and the corresponding CG of the aeroplane;				
	f) The mass of the fuel at take-off and the mass of trip fuel;				
	g) The mass of consumables other than fuel;				
	h) The components of the load including passengers, baggage, freight and ballast;				
	i) The take-off mass, landing mass and zero fuel mass;				
	j) The load distribution;				
	k) The applicable aeroplane CG position; and				
	l) The limiting mass and CG values				
	2. The person superintending the loading of an aeroplane must certify that the load distribution is in accordance with the requirements prescribed				

	in the operations manual or flight manual and that the maximum certified mass has not been exceeded.				
	3. The load and trim sheet must be signed by the pilot-in-command unless the load and trim sheet is sent to the aeroplane by electronic data transfer. When the load and trim sheet is sent to the aeroplane by electronic data transfer, a copy of the final load and trim sheet, as accepted by the pilot-in-command must be available on the ground.				
2.2.8	Loading				
	Procedures and provisions for loading and securing the load in the aeroplane				
2.2.9	Configuration deviation list				
	The Configuration Deviation List (CDL), if provided by the manufacturer taking account of the aeroplane types and variants operated including procedures to be followed when an aeroplane is being dispatched under the terms of its CDL				
2.2.10	Minimum Equipment List ((MEL)				
	The MEL taking account of the aeroplane types and variants operated and the type(s)/area(s) of operation.				
2.2.11	Survival and emergency equipment including oxygen				
	1. 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 checklist(s) must also be included.				
	2. 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 must be considered. The information provided must be in a form in which it can be used without difficulty.				
121.04.7	RECORDS OF EMERGENCY AND SURVIVAL EQUIPMENT				
	1. Emergency and survival equipment list The minimum information to be contained in an emergency and survival equipment list, is prescribed in CAR 91.01.5				
2.2.12	Emergency Evacuation Procedures				
	1. Instructions for preparation for emergency evacuation including flight crew coordination and emergency station assignment.				
	2. A description of the duties of all crew members for the rapid evacuation of an aeroplane and the handling of the passengers in the event of a forced landing, rejected take-off, ditching or other emergency				
2.2.13	Aeroplane Systems				
	A description of the aeroplane system, related controls and indications and operating instructions.				
PART 3	ROUTE AND AERODROME INSTRUCTIONS AND INFORMATION				
2.3	Instructions and information relating to communications, navigations and aerodromes including minimum flight levels and altitudes for each route to be flown and				

	operating minima for each aerodrome planned to be used including: -				
	1. Minimum flight level/altitude;				
	2. Operating minima for departure, destination and alt aerodrome;				
	3. instructions for determining aerodrome operating minima for instrument approaches using HUD and EVS;				
	4. Communication facilities and navigation aids;				
	5. Runway data and aerodrome facilities;				
	6. Approach, missed approach and departure procedures including noise abatement procedure;				
	7. COM-failure procedures;				
	8. Search and Rescue facilities in the area over which the aeroplane is to be flown;				
	9. A description of the aeronautical charts that must be carried on board in relation to the type of flight and the route to be flown, including the method to check their validity;				
	10. Availability of aeronautical information and MET services;				
	11. En route COM/NAV procedures including holding; and				
	12. Aerodrome categorization for flight crew competence qualification.				
	13. Instruction on the clarification and acceptance on ATC clearances, particularly where terrain clearance is involved.				
PART 4	TRAINING				
	1. Training syllabi and checking programmes for all operations personnel assigned to operational duties in connection with the preparation and/or conduct of a flight. Training should be concise and detailed and should cover the following aspects: -				
	a) Conversion training and the curriculum used.				
	b) Recurrent training and the curriculum used.				
	c) Simulator training and curriculum used.				
	2. Training syllabi and checking programmes must include: -				
	a) for flight deck crew, all relevant items prescribed in Parts 61 and 63 and Subpart 3 of Part 121;				
	b) for cabin crew, all relevant items prescribed in Part 64 and Subpart 3 of Part 121;				
	c) For operations personnel concerned, including flight crew members;				
	I. All relevant items prescribed in Part 92				
	II. All relevant items regarding operators security				
	a) For operations personnel other than flight crew members (e.g. dispatchers/ Flight operations officers, handling personnel, flight followers) all other relevant items pertaining to their duties as per subpart 3 of Part 121				
	b) Does the operator have training programmes that include initial and recurrent training to ensure that employees engaged in ground handling operations establish and retain their effectiveness in carrying out assigned duties?				

	3. Procedures				
	c) Procedures for training and checking				
	d) Procedures to be applied in the event that personnel do not achieve or maintain the required standards.				
	e) Procedures to ensure that abnormal or emergency situations requiring the application of part or all of abnormal				
	f) or emergency procedures and simulation of IMC by artificial means, are not simulated during commercial flights.				
2.4	4. Description of documentation to be stored and storage periods.				