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# GENERAL NOTICE

## NOTICE 233 OF 2010

## PROPOSED AMENDMENT TO THE CIVIL AVIATION REGULATIONS, 1997

Under regulations 11.03.02(1)(a) of the Civil Aviation Regulations, the Chairperson of the Civil Aviation Regulation Committee (CARCOM) hereby publishes for comment the proposed amendments to the Civil Aviation Regulations, 1997, as set out in the schedules hereto. Any comments or representations on the proposed amendments should be lodged in writing with the Chairperson of the Regulations Committee, for attention Ms Monica Sonjani or Mr. Herman Wildenboer, Private Bag 73, Halfway House, 1685, fax: (011) 545-1201, or email at sonjanim@caa.co.za or wildenboerh@caa.co.za before or on 12 April 2010.

## SCHEDULE 1

## PROPOSAL FOR THE AMENDMENT OF PART 1 OF THE CIVIL AVIATION REGULATIONS, 1997

### A. PROPOSER

Civil Aviation Authority
Private Bag X73
Halfway House
1685

### B. PROPOSER'S INTEREST

The proposer has been established in terms of the South African Civil Aviation Act, 1998, (Act No. 40 of 1998), to control and regulate civil aviation in South Africa and to oversee the functioning and development of the civil aviation industry, and, in particular, to control, regulate and promote civil aviation safety and security.

### C. GENERAL EXPLANATORY NOTE

Words underlined with a solid line indicate insertions in the existing regulations

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## 1. PROPOSAL FOR THE AMENDMENT OF REGULATION 1.00.1

1.1 Regulation 1.00.1 is hereby amended by the insertion after the definition of "damp runway" of the following definition:

"'**danger area**' means an area of defined dimensions within which activities dangerous to the flight of aircraft may exist at specified times;".

**1.2 Motivation:**

This proposed definition is identical to the one contained in ICAO Annex 4.

## SCHEDULE 2

## PROPOSAL FOR THE SUBSTITUTION OF PART 91 OF THE CIVIL AVIATION REGULATIONS, 1997

### A. PROPOSER

South African Civil Aviation Authority
Private Bag X73
Halfway House
1685

### B. PROPOSER'S INTEREST

The proposer has been established in terms of the South African Civil Aviation Act, 1998, (Act No. 40 of 1998), to control and regulate civil aviation in South Africa and to oversee the functioning and development of the civil aviation industry, and, in particular, to control, regulate and promote civil aviation safety and security.

### C. Motivation

The South Africa aviation regulations are significantly out of date with those used by most of the international community. The International Civil Aviation Organization is responsible for international standards and has produced standards to be implemented by States. This proposal incorporates the standards used by ICAO, resulting in a basic re-write of the existing regulations.

In addition, the broad aviation community saw a need to make other improvements to the regulations, which have been incorporated. Furthermore, errors, omissions and typographical errors were in need of

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correction and additional changes introduced by CARCom needed to be collated in one document. Changes introduced other than those mandated by ICAO were based on internationally accepted best practice.

## D. GENERAL EXPLANATORY NOTE:

Words in strike through indicate deletions from existing regulations.

Words underlined with a solid line indicate insertions to existing regulations.

Deletions are indicated by side comment as are the ICAO references where pertinent.

## PART 91

## GENERAL AVIATION AND OPERATING FLIGHT RULES

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## SUBPART 1:
## GENERAL PROVISIONS

### Applicability

**91.01.1** (1) Subject to the provisions of sub-regulation (2), this Part shall apply to –

(a) aircraft operated within the Republic;

(b) aircraft registered in the Republic and operated internationally;

(c) persons acting as crew members of aircraft registered in the Republic; and

(d) persons who are on board an aircraft operated under this Part.

(2) Additional rules to, and exemptions from, the provisions of this Part, are prescribed, in respect of –

(a) the conveyance of dangerous goods, in Part 92;

(b) corporate aviation operations, in Part 93 [reserved];

(c) operation of non-type certificated aircraft, in Part 94;

(d) commercial operation of non-type certificated aircraft, in Part 96;

(e) parachuting operations, in Part 105;

(f) aeroplanes engaged in commercial air transport operations carrying more than 19 passengers, in Part 121;

(g) helicopters engaged in commercial air transport operations, in Part 127;

(h) helicopters engaged in external-load operations, in Part 133;

(i) aeroplanes engaged in commercial air transport operations carrying 19 or fewer passengers, in Part 135;

(j) operations of balloons, in Part 136 [reserved];

(k) aircraft engaged in aerial work operations, in Part 137; and

(l) aircraft engaged in air ambulance operations, in Part 138.

### Authority of pilot-in-command and crew members

**91.01.2** All persons on board an aircraft shall obey all lawful commands given by the pilot-in-command or a crew member of the aircraft for the purpose of ensuring the safety and security of such aircraft, of persons or property carried therein or good order and discipline on board the aircraft.

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**Authorisation of personnel to taxi aeroplanes**

**91.01.3** No owner or operator of an aeroplane shall permit the taxiing of, and no person shall taxi, an aeroplane on the movement area of an aerodrome unless the person at the controls of the aeroplane –

(a) is the holder of a valid pilot licence; or

(b) has received instruction in the taxiing of an aeroplane from, and has been declared competent to taxi an aeroplane by, the holder of a flight instructor rating or, in the case of a foreign aeroplane, a person authorized by an appropriate authority; and

(c) if the person uses a radio apparatus, such person is authorized to use the radio apparatus; and

(d) is conversant with the aerodrome layout, routes, signs, markings, lighting, air traffic service signals and instructions, phraseology and procedures, if required, and is able to conform to the standards required for safe aeroplane movements at such aerodrome.

**Search and rescue information**

**91.01.4** The pilot-in-command or in the case of an aircraft engaged in commercial air transport operations, the operator, shall ensure that all essential information concerning the search and rescue services in the area over which it is intended that the aircraft will be flown, is available on board the aircraft.

**Information on emergency and survival equipment carried**

**91.01.5** (1) The owner or operator of an aircraft shall have available for immediate communication to rescue coordination centres, a list containing information regarding the emergency and survival equipment carried on board the aircraft.

(2) The minimum information to be contained in the list referred to in sub-regulation (1) shall be as prescribed in Document SA-CATS-OPS 91.

**Method of carriage of persons**

**91.01.6** No person shall be in any part of an aircraft in flight which is not a part designed for the accommodation of persons, unless temporary permission has been granted by the pilot-in-command to access such part of the aircraft –

(a) for the purpose of taking action necessary for the safety of such aircraft or of any person, animal or goods therein; and

(b) in which cargo or stores are carried, being a part which is designed to enable a person to have access thereto while such aircraft is in flight.

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**Admission to flight deck**

**91.01.7** (1) No person other than the assigned flight deck crew shall be carried on the flight deck of a South African registered aircraft except with the permission of the pilot-in-command.

(2) The admission of any person to the flight deck shall not interfere with the operation of the aircraft.

(3) Any person carried on the flight deck shall be made familiar with the applicable safety equipment and pertinent operational procedures.

**Unauthorised carriage**

**91.01.8** No person shall conceal himself, herself or cargo on board an aircraft.

**Portable electronic devices**

**91.01.9** (1) Subject to the provisions of sub-regulation (2), no owner, operator or pilot-in-command of an aircraft or person shall permit the operation of, or operate on board the aircraft during flight time, any portable electronic device which may adversely affect the performance of the systems and equipment of the aircraft.

(2) The provisions of sub-regulation (1) shall not apply to –

(a) a heart pacemaker;

(b) a hearing aid;

(c) a portable voice recorder;

(d) an electric shaver;

(e) portable equipment used to sustain life or similar equipment with the ability to generate an electrical charge for the purpose of pacing or resuscitation; or

(f) any other portable electronic device, the operation of which-

(i) in the case of an aircraft engaged in a commercial air transport operation, the operator; or

(ii) in the case of an aircraft engaged in an operation other than a commercial air transport operation, the pilot-in-command,

has determined will not cause interference with the systems and equipment of the aircraft in which it is to be used.

(3) A portable electronic device referred to in sub-regulation (2)(c), (d) or (f) shall not be used by any person during the critical phases of flight.

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**Endangering safety**

**91.01.10** (1) No person shall, through any act or omission –

(a) endanger the safety of an aircraft or person therein; or

(b) cause or permit an aircraft to endanger the safety of any person or property.

(2) No person shall cause, by any means, a beam of light or other energy source, either visible or not, to be emitted towards any aircraft or air traffic control tower or any person therein such that there would be the potential for causing blindness or otherwise adversely affecting the ability of such person to safely carry out his or her duties.

**Preservation of documents and records**

**91.01.11** The owner or operator of an aircraft who is required to retain any of the documents and records for the specified period referred to in Subpart 3, shall retain such documents for such specified period irrespective of the fact that such owner or operator, before the expiry of such period, ceases to be the owner or operator of the aircraft.

**Use of time**

**91.01.12** (1) For the purposes of reporting and recording time, Coordinated Universal Time (UTC) shall be used and shall be expressed in hours and minutes and, when required, seconds of the 24-hour day beginning at midnight.

(2) A time check shall be obtained from an air traffic services unit, if possible, prior to operating a controlled flight and at such other times during the flight as may be necessary.

(3) Wherever time is utilized in the application of data link communications, it shall be accurate to within 1 second of UTC.

**Additional flight crew member equipment**

**91.01.13** A flight crew member assessed as fit to exercise the privileges of a licence, subject to the use of suitable correcting lenses, shall have a spare set of the correcting lenses readily available when exercising those privileges.

**Carriage of dangerous goods**

**91.01.14** The owner or operator of an aircraft shall not carry dangerous goods during flight time unless such goods are carried in accordance with the provisions prescribed in Part 92.

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**Passenger intoxication and unruly behaviour**

**91.01.15** (1) No person may board an aircraft while under the influence of alcohol or any psychoactive substance such that the safety of the aircraft or its occupants is, or is likely to be, endangered.

(2) No person may consume alcohol or any psychoactive substance while on board an aircraft if, as a result of such consumption, the effects are, or are likely to, endanger the safety of the aircraft or its occupants.

(3) No person may act in any manner that will, or is likely to, endanger the aircraft or its occupants.

**Psychoactive substances**

**91.01.16** (1) Subject to sub-regulation (2), no person shall act in the capacity of any crew member, ground support, servicing or maintenance personnel, or perform any function or participate in any decision-making process that could affect aviation safety, where such person is, or is likely to be impaired by any psychoactive substance.

(2) Where a medication that may be considered to be a psychoactive substance has been prescribed by a medical doctor, the duties in sub-regulation (1) may be undertaken provided an aviation medical examiner so designated in terms of Part 67 certifies what duties may be safely accomplished while taking such medication.

(3) A person who has been prescribed medication that may adversely affect performance or is otherwise of the opinion that his or her performance may be impaired through the use of medication or combinations of medication shall so inform the operator.

## SUBPART 2: CREW

**Crew composition and qualifications**

**91.02.1** (1) The number and composition of the flight crew shall not be less than the number and composition specified in the aircraft flight manual referred to in regulation 91.03.2 or any other document defining the certification of the aircraft.

(2) In the case of aircraft originally certified with a passenger seating capacity greater than 19 and not involved in commercial air transport operations, the Commissioner may require the inclusion of cabin crew members for the safe operation of the aircraft. The complement, training and checking requirements of such crew members shall be as prescribed in Document SA-CATS-OPS 91.

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(3) The flight crew members and, if applicable, the cabin crew members, shall –

(a) be competent and qualified to perform the duties assigned to them;

(b) hold the appropriate valid crew licences, ratings and certificates; and

(c) have the ability to speak and understand the language used for aeronautical radiotelephony communications for the routes being flown.

(4) The flight crew shall include at least one flight crew member who holds a valid radiotelephony operator licence or an equivalent document issued by an appropriate authority, authorising such member to operate the type of radio transmitting equipment to be used.

(5) In the case of a multi-pilot crew, the owner or operator shall designate one pilot among the flight crew as pilot-in-command of the aircraft and the pilot-in-command may delegate the conduct of the flight to another suitably qualified pilot.

(6) The owner or operator shall ensure that each flight and cabin crew member meets the requirements of sub-regulation (3).

(7) Where the Commissioner has determined the need for cabin crew members as prescribed in sub-regulation (2), the owner or operator of that aircraft shall –

(a) ensure each cabin crew member is seated and secured in the seat prescribed by regulation 91.04.14(2) during take-off, landing or as otherwise directed by the pilot-in-command; and

(b) ensure each cabin crew member receives training prior to his or her first flight in that aircraft and annual recurrent training thereafter.

**Crew member emergency duties**

**91.02.2** (1) The owner or operator and, where appropriate, the pilot-in-command of a multi-crew aircraft shall assign to each crew member concerned, the necessary functions to be performed in an emergency or a situation requiring emergency evacuation.

(2) The functions referred to in sub-regulation (1) shall be such as to ensure that any reasonably anticipated emergency can be adequately dealt with and shall take into consideration the possible incapacitation of individual crew members.

**Crew member responsibilities**

**91.02.3** (1) No person shall act as a crew member of an aircraft –

(a) whilst using any psychoactive substance which may affect his or her faculties in any manner that may jeopardize safety;

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(b) if the crew member knows or suspects that he or she is suffering from or, having due regard to the circumstances of the flight to be undertaken, is likely to suffer from fatigue to such an extent that it may endanger the safety of the aircraft or its occupants; or

(c) if the crew member is in any doubt of being able to accomplish his or her assigned duties on board the aircraft.

(2) No crew member shall –

(a) consume any alcohol less than 8 hours prior to commencing standby for operational duty or commencing operational duty, which operational duty shall be deemed to commence at the specified reporting time, if applicable;

(b) commence an operational duty period while the concentration of alcohol in any specimen of blood taken from any part of his or her body, is more than 0,02 gram per 100 millilitres; or

(c) consume alcohol during flight duty or whilst on standby, or within eight hours after an accident or reportable incident involving the aircraft, unless the accident or incident was not related to his or her duties.

(3) No person shall act as a flight crew member of an aircraft if, prior to each flight, the expected flight time exceeds, or is likely to exceed, the permissible aggregate of –

(a) for all flying –

(i) for pilots not subject to an approved flight time and duty period scheme, 10 hours within a 24 hour period;

(ii) 400 hours, during the preceding 90 days;

(iii) 700 hours, during the preceding six months; or

(iv) 1000 hours, during the preceding 12 months;

(b) in the case of flight instructors conducting *ab initio* or any training towards an initial rating or licence, six hours within one calendar day: Provided that, for the purposes of computing flight time in meeting the limitation referred to in paragraph (a)(i), each flight hour spent in such training shall be deemed to be one and one-half (1½) hours flight time;

(c) as part of a multi-pilot crew for a flight to be undertaken wholly or partly under instrument flight rules –

(i) 120 hours, during the preceding 30 days; or

(ii) 300 hours, during the preceding 90 days; or

(d) as the sole pilot of an aircraft for a flight to be undertaken wholly or partly under instrument flight rules,100 hours during the preceding 30 days.

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(4) No person shall act as a cabin crew member of an aircraft for which the Commissioner has determined the need for cabin crew members, as prescribed in regulation 91.02.1(2), if prior to each flight the expected flight time exceeds, or is likely to exceed, the permissible aggregate of –

(a) 400 hours, during the preceding 90 days;

(b) 700 hours, during the preceding six months; or

(c) 1000 hours, during the preceding 12 months.

**Recency**

**91.02.4** (1) A pilot shall not act as pilot-in-command (PIC) of an aircraft, or second-in-command (SIC) of an aircraft required to be crewed by more than one pilot, carrying passengers by day, unless such pilot has personally, within the 90 days immediately preceding the flight, carried out either by day or by night at least three take-offs and three landings in the same class or, if a type-rating is required, type or variant of aeroplane, and in the case of a helicopter three circuits including three take-offs and three landings in the same type of helicopter as that in which such flight is to be undertaken. The landings required by this sub-regulation may be completed in a flight simulation training device (FSTD) approved for the purpose. In the case of a tail-wheel aeroplane, each landing shall be carried out to a full stop.

(2) A pilot shall not act as PIC of an aircraft, or SIC of an aircraft required to be crewed by more than one pilot, carrying passengers by night, unless the pilot has personally, within the 90 days immediately preceding the flight, carried out at least three take-offs and three landings by night in the same class or, if a type-rating is required, type or variant of aeroplane, and in the case of a helicopter three circuits including three take-offs and three landings in the same type of helicopter as that in which such flight is to be undertaken. The landings required by this sub-regulation may be completed in a FSTD approved for the purpose. In the case of a tail-wheel aeroplane, each landing shall be to a full stop.

(3) Where the take-off and landing requirement referred to in sub-regulations (1) and (2) have been satisfied in a multi-engine aircraft, the requirement shall be deemed to have been met in respect of single-engine aircraft as well.

(4) A pilot shall not act as PIC or SIC of an aircraft on an instrument approach to an aerodrome in IMC unless the pilot has, within the 90 days immediately preceding such approach procedure or procedures established by the Commissioner or an appropriate authority –

(a) executed at least two approaches in an aircraft or a FSTD approved for the purpose or a combination of aircraft and FSTD approved for the purpose, either under actual or simulated conditions, with reference to flight instruments only; or

(b) undergone the appropriate skill test as prescribed in regulation 61.15 of Part 61 of these Regulations.

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**Crew members at duty stations**

**91.02.5** (1) In the case of a multi-crew aircraft –

(a) each crew member shall be at his or her assigned station or seat, properly secured by all seat belts and shoulder harnesses provided, during take-off and landing and whenever deemed necessary by the pilot-in-command in the interests of aviation safety: Provided that the shoulder harness of a flight crew member not occupying a pilot seat may be unfastened if it interferes with the performance of his or her duties, but the seat belt must remain fastened;

(b) each crew member shall keep his or her seat belt fastened while at his or her assigned station, during phases of the flight, other than the phases referred to in paragraph (a);

(c) each flight crew member required to be on flight deck duty, shall be at his or her assigned station, during take-off and landing;

(d) all flight crew members on flight deck duty shall remain at their assigned stations during all phases of the flight other than the phases referred to in subparagraph (c): Provided that –

(i) a flight crew member may leave his or her assigned station, in the course of the performance of his or her duties with regard to the operation of the aircraft or for physiological needs; and

(ii) at least one suitably qualified pilot remains at the controls of the aircraft at all times; and

(e) the pilot-in-command or, where applicable, the operator shall ensure that flight and, if applicable, cabin crew members do not perform any activities during critical phases of the flight other than those required for the safe operation of the aircraft.

(2) In the case of a single-pilot aircraft, the pilot-in-command shall, during all phases of the flight, remain at the controls of the aircraft.

**Laws, regulations and procedures**

**91.02.6** (1) .The pilot-in-command of an aircraft shall be familiar with the laws, regulations and procedures pertinent to the performance of his or her duties, prescribed for the areas to be traversed, the aerodromes to be used and the air navigation facilities relating thereto and shall ensure that other members of the flight crew are familiar with such of these laws, regulations and procedures as are pertinent to the performance of their respective duties in the operation of the aircraft.

(2) Subject to sub-regulation (3), the pilot-in-command of an aircraft shall comply with the regulations contained in this Part unless they conflict with the rules published by the State having jurisdiction over the territory over flown:

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Provided that if any regulation of this Part is more restrictive and may be followed without violating the rules of that State, it shall be complied with.

(3) In an emergency situation which endangers, or is likely to endanger the aircraft, persons on board such aircraft, or persons or property on the surface, he or she shall –

(a) take any action which he or she considers necessary under the circumstances; and

(b) if necessary, deviate from any law, regulation and operational procedure of the State within or over the territory of which the aircraft is operated.

(4) If a pilot-in-command deviates from any law, regulation or operational procedure in an emergency situation referred to in sub-regulation (3), he or she shall notify the appropriate authority of the State within or over the territory of which the deviation occurs, of such deviation without delay.

(5) If the appropriate authority of the State within or over the territory of which the deviation occurs, requests the pilot-in-command to submit a report on such deviation, the pilot-in-command shall submit the report containing full details of the deviation –

(a) within the period specified by such appropriate authority, to such appropriate authority; and

(b) if the deviation occurred in a foreign State, within 10 days from the date on which such report is requested by such appropriate authority, to the Commissioner.

(6) Where a report was filed in terms of sub-regulation (5) and in the opinion of the Commissioner the pilot-in-command exercised all due diligence to prevent the commission of an offence and acted appropriately in the interest of safety, the Commissioner may deem that no contravention of South African regulations occurred.

**Duties of pilot-in-command regarding flight preparation**

**91.02.7** (1) The pilot-in-command (PIC) of an aircraft shall not commence a flight unless he or she is satisfied that –

(a) the aircraft is airworthy;

(b) the instruments and navigation, communication and other equipment required for the particular type of operation to be undertaken, are installed and are serviceable and functioning correctly, except as provided for in the Minimum Equipment List (MEL), if any;

(c) the aircraft has been released to service in accordance with Part 43;

(d) the mass of the aircraft at any time does not exceed the maximum certificated mass calculated from the performance information provided



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in the aircraft flight manual referred to in regulation 91.03.2, in terms of which the operating limitations referred to in Subpart 9 are complied with;

(e) the load carried by the aircraft is properly secured, fit to be conveyed in accordance with Part 92 and is so distributed that the centre of gravity is within the limits prescribed in the aircraft flight manual referred to in regulation 91.03.2;

(f) an air traffic service flight plan, referred to in regulation 91.03.4, has been properly completed and filed with the appropriate air traffic service unit, if such flight plan is required in terms of regulation 91.03.4;

(g) all the documents and forms required to be carried on board are carried as specified in regulation 91.03.1;

(h) a check has been completed indicating that the operating limitations referred to in Subpart 8 will not be exceeded;

(i) the search and rescue information, referred to in regulation 91.01.4, is available on board;

(j) the requirements in respect of fuel, oil, oxygen, weather, minimum safe altitudes, aerodrome operating minima and availability of alternate aerodromes for the route being flown and any likely alternatives, whether flown under instrument or visual flight rules, are complied with;

(k) the aerodrome operating minima are not less than the operating minima of the aerodrome being operated to or from, established by the appropriate authority of the State in which the aerodrome is located, unless such appropriate authority approves lower aerodrome operating minima;

(l) current and suitable IFR or VFR, as applicable, charts and related publications required to –

(i) depart the place of origin;

(ii) operate on the route to the destination, or other route that a flight could reasonably be expected to be diverted to; and

(iii) arrive at the destination or any alternate,

are carried on board;

(m) the external surfaces are checked prior to take-off for any deposit which might adversely affect the performance or controllability of the aircraft, unless otherwise permitted in the aircraft flight manual referred to in regulation 91.03.2, and if such deposit is found, to have it removed;

(n) according to the information available to him or her –

(i) in respect of an aeroplane, the condition of the runway intended to be used will not prevent a safe take-off and departure or a safe

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landing at the destination aerodrome or alternate aerodrome, as applicable; and

(ii) the weather at the departure and arrival aerodromes and *en route*, including any possible alternate aerodromes or routes, will not preclude safe completion of the flight;

(o) the RVR or visibility in the take-off direction of the aircraft is equal to, or better than, the applicable minimum;

(p) the flight crew members are properly qualified for the specific operation to be undertaken, except that for commercial air operations, the air operator shall ensure that the flight crew are properly qualified;

(q) an adequate and suitable aerodrome is available for take-off, *en route* and destination, should it become inadvisable to continue to or land at the destination aerodrome; and

(r) if flight in reduced vertical separation minima (RVSM) airspace is contemplated –

(i) the aircraft has been approved by the Commissioner for RVSM operations;

(ii) the crew has been trained and is otherwise qualified for the flight;

(iii) the minimum required equipment pertaining to height-keeping and alerting systems is installed and serviceable; and

(iv) no airframe or operating restrictions prevent operation in the particular RVSM airspace.

(2) The PIC of an aircraft shall –

(a) not commence a flight unless he or she has ascertained through the relevant Notice to Airmen (NOTAM), Aeronautical Information Circular (AIC), Integrated Aeronautical Information Publication (IAIP) or IAIP Supplement (IAIP SUP) that the aerodromes, navigation aids and communication facilities are adequate for the manner in which the flight is to be conducted;

(b) prior to take-off from an aerodrome at which an air traffic service unit is in operation, determine through the aeronautical information services available from the unit or any other reliable source, that the unserviceability of any aerodrome, navigation aids or communication facilities required for such flight, will not prejudice the safe conduct of the flight; and

(c) advise an air traffic service unit, as soon as it is practical to do so, of any inadequate facilities encountered in the course of operations.

(3) Where a load and trim sheet is required in terms of these regulations, the load and trim sheet shall be acceptable to and countersigned by the PIC before a

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flight commences: Provided that if the load and trim sheet is submitted to the PIC by electronic data transfer, commencement of the flight shall be deemed to be the acceptance thereof by such PIC.

**Duties of pilot-in-command regarding flight operations**

**91.02.8** (1) The pilot-in-command (PIC) of an aircraft shall, whether manipulating the controls or not, be responsible for –

(a) the operation, safety and security of the aircraft, crew members, passengers and cargo in accordance with these Regulations while he or she is in command;

(b) operational control of the aircraft unless otherwise provided for in terms of Part 93, 121, 127 or 135 under an approved operational control system;

(c) the conduct of crew members and passengers carried; and

(d) the maintenance of discipline by all persons on board.

(2) The PIC of the aircraft shall have the authority–

(a) to give such commands he or she deems necessary in the interest of the safety of the aircraft, persons or property; and

(b) to disembark any person or cargo which in his or her opinion, represents a potential hazard to the safety of the aircraft, persons or property.

(3) The PIC of the aircraft shall ensure that all passengers are informed as to –

(a) when and how oxygen equipment is to be used, if the carriage of oxygen is required;

(b) the location and use of life jackets or equivalent individual flotation devices, where the carriage thereof is required;

(c) the location and method of opening emergency exits;

(d) when seat belts are to be fastened;

(e) when smoking is prohibited;

(f) when portable electronic devices may be used;

(g) the existence and location of the passenger safety features card, if carried on board; and

(h) before take-off, the location and general manner of use of the relevant emergency equipment carried for collective use and, when an emergency arises, instruct the passengers to take such emergency action as may be appropriate.

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(4) The PIC of an aircraft shall –

(a) ensure that the pre-flight inspection has been carried out, and that the checklists, and where applicable, the flight deck procedures and other instructions regarding the operation of the aircraft, the limitations contained in the aircraft flight manual referred to in regulation 91.03.2 or equivalent certification document, are fully complied with at the appropriate times during a flight;

(b) decide whether or not to accept an aircraft with unserviceabilities allowed by the Configuration Deviation List (CDL) or Minimum Equipment List (MEL), where applicable;

(c) determine that aircraft performance will permit the take-off and departure to be carried out safely;

(d) ensure that, before take-off and landing and whenever, by reason of turbulence, any emergency occurring during a flight or whenever deemed necessary in the interest of aviation safety the precaution is considered necessary, the pilot-in-command shall ensure that –

(i) all persons on board the aircraft are secured in their seats by means of the seat belts or shoulder harnesses provided; and

(ii) equipment and baggage are properly secured and all exit and escape paths are unobstructed.

(e) when replanning, whilst in flight, to proceed along a route or to a destination other than the route or destination originally planned, shall amend the operational flight plan, if such a plan was required in terms of regulation 91.02.7(1)(f), and notify the nearest air traffic service unit (ATSU) of such change;

(f) not continue towards the aerodrome of intended landing unless the latest available information indicates that at the expected time of arrival, a landing can be effected at that aerodrome or at least one destination alternate aerodrome, in compliance with the operating minima established in accordance with regulation 91.07.5;

(g) report any accident or incident involving the aircraft in accordance with Part 12, unless the pilot-in-command is incapacitated or an operator has established another means of reporting accidents or incidents, in which case the operator shall initiate the report;

(h) report any dangerous goods accident or incident involving the aircraft in accordance with Part 92;

(i) if the aircraft is endangered in flight by a near collision with any other aircraft or object, faulty air traffic procedure or lack of compliance with applicable procedures by an ATSU or a flight crew member or a failure of air traffic service facilities, submit an air traffic service incident report as prescribed by regulation 12.02.2;

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(j) record any technical defect and the exceeding of any technical limitation which occurred while he or she was responsible for the flight, in the flight folio;

(k) if a potentially hazardous condition such as bird accumulation, an irregularity in a ground or navigation facility, meteorological phenomena, a volcanic ash cloud or a greater than normal radiation level is observed during flight, notify an ATSU as soon as possible;

(l) if the aircraft is equipped with an ELT, prior to engine shut-down at the end of each flight as part of the post-flight checks, tune the VHF receiver to 121,5 MHz to listen for ELT activation. If the ELT has been activated inadvertently as the result of a hard landing or for other reasons, this shall be reported–

(i) immediately through the nearest ATSU to the rescue coordination centre; and

(ii) in the appropriate flight log as maintenance may be required before it is returned to service; and

(m) report any occurrence of height keeping errors encountered in a reduced vertical separation minima (RVSM) environment, as prescribed in paragraph (7) of section 8 of technical standard 91.07.31 of Document SA-CATS-OPS 91.

(5) The PIC of the aircraft shall ensure that –

(a) breathing oxygen is available to crew members and passengers if flights in a non-pressurised aircraft are contemplated above 10 000 feet and up to 12 000 feet in excess of 120 minutes intended flight time, or above 12 000 feet; and

(b) breathing oxygen is carried in sufficient quantities for all flights at such altitudes where a lack of oxygen might result in impairment of faculties of crew members or harmfully affect passengers.

(6) The PIC of the aircraft shall not –

(a) require a crew member to perform any duties during a critical phase of the flight, except those duties required for the safe operation of the aircraft;

(b) permit any activity during a critical phase of the flight which could distract any crew member from the performance of his or her duties or which could interfere in any way with the proper conduct of those duties; and

(c) commence a flight in the event a crew member is incapacitated by any cause such as injury, fatigue, sickness or the effects of any psychoactive substance or continue a flight beyond the nearest suitable aerodrome in the event of a flight crew member becoming unable to perform any essential duties as a result of fatigue, sickness or lack of oxygen.

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(7) The PIC of an aircraft which is being subjected to unlawful interference –

(a) shall notify the appropriate ATSU of this fact, any significant circumstances associated therewith and any deviation from the current flight plan necessitated by the circumstances, in order to enable the ATSU to give priority to the aircraft and to minimize conflict with other aircraft;

(b) shall attempt to land as soon as practicable at the nearest suitable aerodrome or at a dedicated aerodrome assigned by the appropriate authority unless considerations aboard the aircraft dictate otherwise; and

(c) immediately following the incident unless unable, in which case the owner or operator of the aircraft shall report the act of unlawful interference with the operation of the aircraft or the authority of the pilot-in-command –

(i) if the act of unlawful interference occurs within the Republic, to the Commissioner; or

(ii) if the act of unlawful interference occurs within or over the territory of a foreign State, to the appropriate authority of the State and the Commissioner.

(8) The PIC of an aircraft, that is equipped with a flight deck door, shall ensure that at all times from the moment the passenger entry doors are closed in preparation for departure until they are opened on arrival, that the flight deck door is closed and locked from within the flight deck.

## SUBPART 3:
## DOCUMENTATION AND RECORDS

### Documents to be carried on board

**91.03.1** The owner or operator of an aircraft shall ensure that the following documents, or certified true copies thereof, are carried on board the aircraft on each individual flight –

(a) If the aircraft is engaged in an international flight –

(i) the certificate of registration;

(ii) the certificate of airworthiness;

(iii) the appropriate licence and medical certificate of each crew member;

(iv) the general declaration;

(v) the aircraft radio station licence;

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(vi) if passengers are carried, the passenger manifest, unless the information is included in the general declaration referred to in subparagraph (iv);

(vii) if cargo is carried, a manifest and detailed declaration of the cargo;

(viii) the certificate of release to service;

(ix) the navigation log when a navigator is carried;

(x) the aircraft flight manual, referred to in regulation 91.03.2, or an equivalent document, which document shall include the statements referred to in technical standard 91.07.31 5(5)(a) of Document SA-CATS-OPS 91, if flight in reduced vertical separation minima (RVSM) airspace is contemplated;

(xi) the mass and balance report;

(xii) the flight folio;

(xiii) the Minimum Equipment List (MEL), if applicable;

(xiv) the noise certificate, if such certificate has been issued for the type of aircraft; and

(xv) a list of visual signals and procedures for use by intercepting and intercepted aircraft;

(xvi) if a flight in RVSM airspace is contemplated –

(aa) a valid RVSM licence endorsement issued by the Commissioner; and

(bb) if applicable, a valid RVSM operational approval for the particular RVSM airspace.

(b) if the aircraft is engaged in a domestic flight –

(i) the certificate of registration;

(ii) the certificate of airworthiness;

(iii) the appropriate licence and medical certificate of each crew member;

(iv) the aircraft radio station licence;

(v) the certificate of release to service;

(vi) the aircraft flight manual referred to in regulation 91.03.2 or an equivalent document;

(vii) the mass and balance report;

(viii) the flight folio;

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(ix) the MEL, if applicable;

(x) the noise certificate, if such certificate has been issued for the type of aircraft; and

(xi) the list of visual signals and procedures for use by intercepting and intercepted aircraft.

**Aircraft flight manual**

**91.03.2** (1) The owner or operator of an aircraft shall keep an approved aircraft flight manual for each aircraft of which he or she is the owner or operator and shall keep such manual current with amendments and implement changes issued by an appropriate authority.

(2) The flight crew members of the aircraft shall, on each flight, operate such aircraft in accordance with the aircraft flight manual, unless an unforeseen emergency dictates otherwise.

**Aircraft checklists**

**91.03.3** (1) The owner or operator of an aircraft shall establish and make available to the flight crew and other personnel in his or her employ needing the information, a checklist system for the aircraft, to be used by such flight crew and other personnel for all phases of the operation under normal, abnormal and emergency conditions.

(2) The pilot-in-command shall ensure the checklists used on board the aircraft are complied with and utilised having due regard to human factors principles.

(3) The checklists required in terms of sub-regulation (1) shall be designed having due regard to human factors principles as prescribed in Document SA-CATS-OPS 91.

**Air traffic service flight plan and associated procedures**

**91.03.4** (1) The owner or operator of an aircraft shall ensure that an air traffic service flight plan is completed if required in terms of sub-regulation (4).

(2) The items to be contained in the air traffic service flight plan referred to in sub-regulation (1) shall be as prescribed Document SA-CATS-OPS 91.

(3) The air traffic service flight plan shall be filed with the appropriate air traffic service unit (ATSU) unless other arrangements have been made for submission of repetitive flight plans and such unit shall be responsible for transmitting such air traffic service flight plan to all ATSUs concerned with the flight.

(4) The air traffic service flight plan shall be filed in respect of –

(a) all flights to be conducted in controlled or advisory airspace: Provided that this requirement shall not apply in respect of –

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(i) a local flight;

(ii) a flight crossing an airway or advisory routes at right angles; or

(iii) a VFR flight entering or departing from an aerodrome traffic zone or control zone, from or to an unmanned aerodrome and where no other controlled or advisory airspace will be entered during the flight;

(b) an international flight;

(c) all flights undertaken in terms of a Class I or Class II licence issued in terms of the Air Services Licensing Act, No. 115 of 1990 or the International Air Services Act, No. 60 of 1993;

(d) any flight within or into designated areas, or along designated routes, when so required by the appropriate ATS authority to facilitate the provision of flight information, alerting and search and rescue services; and

(e) any flight within or into designated areas, or along designated routes, when so required by the appropriate ATS authority to facilitate coordination with appropriate military units or with air traffic service units in adjacent States in order to avoid the possible need for interception for the purpose of identification.

(5) An ATSU may instruct a flight for which an air traffic service flight plan is required in terms of sub-regulation (4) and for which an air traffic service flight plan has not been filed, to clear or to remain clear of controlled airspace, and not to cross the border of the Republic or to enter its airspace until such time as the required air traffic service flight plan has been filed.

(6) Unless otherwise authorized by the responsible ATSU, an air traffic service flight plan for a flight to be conducted in controlled or advisory airspace, shall be filed –

(a) for domestic flights, at least 30 minutes before departure;

(b) for international flights, at least 60 minutes before departure; or

(c) if filed during flight while outside controlled or advisory airspace for a flight to be conducted in such airspace, it shall be filed with the responsible ATSU at least 10 minutes before the aircraft is estimated to reach the intended point of entry into the controlled or advisory airspace or the point of crossing the airway or advisory route.

(7) The pilot-in-command (PIC) of an aircraft operating an IFR or controlled VFR flight shall ensure that all changes which become applicable to an air traffic service flight plan before departure or in flight are reported, as soon as practicable, to the responsible ATSU. For other VFR flights, changes regarding fuel endurance or total number of persons carried on board shall, as a minimum, be reported.

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(8) If an air traffic service flight plan has been filed with an ATSU prior to departure, and is not activated with an ATSU within one hour of original estimated time of departure or amended estimated time of departure, the air traffic service flight plan shall be regarded as cancelled and a new air traffic service flight plan shall be filed.

(9) Where an ATSU is not in operation at the aerodrome of intended landing, a report of arrival as prescribed in Document SA-CATS-OPS 91 shall be submitted to an ATSU, by the quickest means of communication available, immediately after landing, in respect of a flight for which an air traffic service flight plan was submitted and not as yet closed or for which search and rescue notification was requested and designated with a particular ATSU.

(10) When communication facilities at the arrival aerodrome are inadequate and alternate arrangements for the handling of arrival reports on the ground are not available, the PIC shall, prior to landing the aircraft or immediately thereafter, if practicable, transmit to the appropriate ATSU, a message comparable to an arrival report, in respect of a flight for which an air traffic service flight plan was submitted and not as yet closed or for which a search and rescue notification was requested with a nominated ATSU.

(11) Subject to the provisions of sub-regulation (12), the PIC shall ensure that the aircraft adheres to the current air traffic service flight plan filed for a controlled flight, unless a request for a change has been made and accepted by the ATSU responsible for the controlled airspace in which the aircraft is operating, or unless an emergency situation arises which necessitates immediate action, in which event the responsible ATSU shall, as soon as circumstances permit, be notified of the action taken and that such action was taken under emergency authority.

(12) In the event of a controlled flight inadvertently deviating from its current air traffic service flight plan, the following action shall be taken –

(a) if the aircraft is off track, action shall be taken forthwith to adjust the heading of the aircraft to regain track as soon as practicable;

(b) if the average true airspeed at cruising level between reporting points varies, or is expected to vary, from that given in an air traffic service flight plan by approximately five per cent of the true airspeed, the responsible ATSU shall be so informed;

(c) if the estimated time at the next applicable reporting point, flight information regional boundary, or aerodrome of intended landing, whichever comes first, is found to be in error in excess of three minutes from that notified to the responsible ATSU, a revised estimated time shall be notified to such air traffic service unit as soon as possible; or

(d) if the aircraft deviates from its altitude, action shall be taken forthwith to correct the altitude of the aircraft.

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(13) When an automatic dependent surveillance (ADS) agreement is in place, the ATSU shall be informed automatically via data link whenever changes occur beyond the threshold values stipulated by the ADS event contract.

(14) If prior to departure it is anticipated that, subject to a reclearance in flight, a decision may be taken to proceed to a revised destination aerodrome, the appropriate ATSUs shall be so notified by the insertion in the flight plan of information concerning the revised route, where known, and the revised destination. The revised destination shall be subject to the fuel and oil provisions of regulation 91.07.12.

**Flight folio**

**91.03.5** (1) The owner or operator of a South African registered aircraft shall ensure that the aircraft carries a flight folio or any other similar document which meets the requirements of and contains the information as prescribed in Document SA-CATS-OPS 91, at all times.

(2) The flight folio shall be kept up-to-date and maintained in a legible manner by the pilot-in-command.

(3) All entries shall be made immediately upon completion of the occurrence to which they refer.

(4) In the case of maintenance being undertaken on the aircraft, the entry shall be certified by the person taking responsibility for the maintenance performed.

(5) The owner or operator shall retain the flight folio for a period of five years calculated from the date of the last entry therein.

**Fuel record**

**91.03.6** (1) The owner of operator of an aircraft shall maintain fuel records for each flight undertaken by the aircraft under the control of such owner or operator.

(2) The pilot-in-command of the aircraft shall enter the fuel and oil records referred to in sub-regulation (1) in the flight folio.

**Certificate of release to service**

**91.03.7** (1) No owner or operator of an aircraft shall operate –

(a) a South African registered aircraft without holding a valid certificate of release to service signed by the holder of an appropriately rated aircraft maintenance engineer licence or aircraft maintenance organisation approval; or

(b) a foreign aircraft without holding a valid certificate, equivalent to the certificate referred to in paragraph (a), issued by an appropriate authority.

(2) The owner or operator shall –

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(a) ensure that one copy of the certificate of release to service or equivalent certificate is carried on board the aircraft to which it relates and, in the case of a South African registered aircraft, a second copy shall be filed at the normal station of the aircraft; and

(b) retain the certificate of release to service for a period of 12 months calculated from the date of issue of such certificate of release to service.

**Flight recorder records**

**91.03.8** (1) The owner or operator of an aircraft on which a flight recorder is carried, shall –

(a) in the case of an accident or incident involving such aircraft, preserve the original recording, as retained by the flight recorder, for a period of not less than 60 days calculated from the date of the accident or incident, or until permission for disposal of such recording has been given by the investigator-in-charge or an appropriate authority, whichever is the latter date; and

(b) when the Commissioner so directs, preserve the original recording, as retained by the flight recorder, for a period of not less than 60 days calculated from the date of such direction or until permission for disposal of such recording has been given by the Commissioner.

(2) If an aircraft is required under this Part to be fitted with a flight data recorder, the owner or operator of the aircraft shall –

(a) have the recording for the period of operating time as required by sub-regulations (1)(a) and (b): Provided that for the purpose of testing and maintaining a flight data recorder one hour of the oldest recorded material at the time of testing may be erased;

(b) keep a recording of at least one representative flight made within the preceding 12 months which includes a take-off, climb, cruise, descent, approach and landing, together with a means of identifying the recording with the flight to which it relates; and

(c) keep a document which represents the information necessary to retrieve and convert the stored data into engineering units.

(3) The owner or operator of an aircraft on which a flight recorder is carried shall, within a reasonable time after being requested to do so by the Commissioner or an appropriate authority, produce any recording made by such flight recorder which is available or has been preserved.

(4) A cockpit voice recorder recording may be used for purposes other than for the investigation of an accident or incident only with the consent of all the flight crew members concerned.

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(5) The flight data recorder recordings may be used for purposes other than the investigation of an accident or incident which is subject to mandatory reporting, only when such recordings are –

(a) used by the owner or operator for airworthiness or maintenance purposes only;

(b) de-identified; or

(c) disclosed under secure procedures.

**Logbooks**

**91.03.9** (1) The following logbooks shall be kept in respect of South African registered aircraft and in respect of other specified equipment for the purpose of recording therein the maintenance history of the equipment to which each relates =

(a) an aircraft logbook for each aircraft;

(b) an engine logbook for each aircraft engine; and

(c) a propeller logbook for each propeller.

(2) The provisions of sub-regulation (1) shall not apply to aircraft which do not qualify for the issue of a certificate of airworthiness.

(3) Logbooks to be kept in terms of sub-regulation (1) shall conform to such format as the Commissioner may from time to time prescribe in an AIC.

(4) Logbooks should preferably be kept at the aircraft's base of operation. Details in respect of maintenance carried out while away from base shall be transferred to the appropriate logbook or logbooks within 48 hours after the return of the aircraft to its base of operation or entered within 48 hours on completion of any maintenance performed on the aircraft or installed equipment at a base other than its base of operation.

(5) All logbooks to be kept and maintained in terms of the preceding sub-regulations shall on demand be made available at all times for inspection by an authorised officer.

(6) The logbooks required to be kept in accordance with this Part shall be preserved in a safe place at all times and for a period of 6 (six) months after the date of destruction of the airframe, engine or propeller for which they were kept.

(7) Logbooks shall not be carried in the aircraft to which they relate unless the aircraft is flown to a place where the logbooks are required for compliance with maintenance to the aircraft. Where a logbook is carried on board an aircraft, a suitable record of the last inspection performed shall be maintained at the base of operation of the aircraft.

(8) Entries in the logbooks required to be kept in accordance with this Part shall be made and signed by the holder of an appropriate licence or by a person

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approved by the Commissioner, except that matters that could not have come to the notice of the holder of an appropriate licence holder or an approved person, shall be entered and signed by the pilot-in-command.

(9) Any record kept for the purpose of compiling a logbook or any other technical data relating to the airworthiness of an aircraft or component shall be produced when called for in the event of any inspection or investigation.

(10) All entries made in logbooks shall furnish the information and particulars provided for in the relevant logbook.

(11) When repairs to an aircraft, aircraft engine or component or fixed or removable equipment have been required in consequence either of damage caused by a forced landing or of defects which have occasioned a forced landing or any other incident, the entry or entries made in the relevant logbook or books in respect of such repairs shall state that they have been so required and shall identify the forced landing or incident in question.

(12) The logbooks referred to in this Part shall be kept up to date and maintained in ink in a legible manner and reasonable condition and in accordance with the "Instructions for use" in the relevant logbook.

(13) In the event that required maintenance records have been lost or destroyed, alternative proof should be provided that the tasks in question have been performed.

## SUBPART 4:
## INSTRUMENTS AND EQUIPMENT

### Use and installation of instruments and equipment

**91.04.1** (1) Instruments on an aircraft which are used by a pilot shall be so arranged in such a manner that the pilot can see their indications readily from his or her station, with the minimum practicable deviation from the position and line of vision which he or she normally assumes when looking forward along the flight path.

(2) If a single instrument or item of equipment in an aircraft is required to be operated by more than one pilot, such single instrument or item of equipment shall be installed in such a manner that it can be readily seen and operated from each pilot station.

(3) An aircraft shall be equipped with means for indicating the adequacy of the power being supplied to the required flight instruments.

(4) Placards and instrument markings, containing those operating limitations required by the type certificate or by regulation to be visible to the flight crew, shall be displayed in the aircraft.

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(5) An operator shall ensure that a flight does not commence unless the instruments and equipment required under the Regulations are functioning and are in a condition for safe operation of the kind being conducted, except as provided for in a minimum equipment list.

(6) The operator shall not be required to obtain approval for the –

(a) fuses referred to in regulation 91.04.2;

(b) intrinsically safe electric torches referred to in regulation 91.04.3(1)(d);

(c) accurate time piece referred to in regulations 91.04.4 and 91.04.5;

(d) first aid equipment referred to in regulation 91.04.16;

(e) megaphones referred to in regulation 91.04.24; and

(f) survival equipment referred to in regulation 91.04.29.

**Circuit protection devices**

**91.04.2** (1) No owner or operator of an aircraft in which fuses are used, shall operate the aircraft unless there are spare fuses available for use in flight equal to at least ten per cent or three, whichever is the greater, of the number of fuses of each rating required for complete circuit protection, which spare fuses shall be accessible to the flight crew during flight.

(2) If the ability to reset a circuit breaker or replace a fuse is essential to safety in flight, such circuit breaker or fuse shall be located and identified in such a manner that it can be readily reset or replaced in flight.

(3) No person shall deactivate a circuit breaker in flight other than in accordance with the aircraft flight manual referred to in regulation 91.03.2.

**Aircraft operating lights**

**91.04.3** (1) No owner or operator of an aircraft shall operate such aircraft by night unless, in addition to the equipment specified in regulation 91.04.5(1), the aircraft is equipped with –

(a) serviceable navigation lights;

(b) either –

(i) two serviceable landing lights; or

(ii) one single serviceable landing light housing with two separately energized filaments;

(c) a serviceable rotating beacon or strobe light; and

(d) a serviceable electrical torch for each required crew member, readily accessible to such crew member when seated at his or her designated station.

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(2) Power supplied from the electrical system of the aircraft shall –

(a) provide adequate illumination for all instruments and equipment, used by the flight crew and essential for the safe operation of the aircraft; and

(b) be adequate to provide illumination in all passenger compartments, if any.

(3) No owner or operator of a helicopter shall operate the helicopter by night unless such helicopter is equipped with –

(a) in the case of a flight by night within 10 nautical miles, a light or lights providing adequate illumination both forward and downward to facilitate safe approaches, landings and take-offs; or

(b) in the case of a flight by night of more than 10 nautical miles, two landing lights or a single light having two separately energised filaments which are capable of providing adequate illumination both forward and downward to facilitate safe approaches, landings and take-offs.

(4) No owner or operator of a seaplane or an amphibious aircraft shall operate the seaplane or amphibious aircraft unless it is equipped with –

(a) the instruments and equipment referred to in sub-regulation (1), (2) or (3), as the case may be; and

(b) when operating on water by night, display lights to conform with the International Regulations for Prevention Collisions at Sea.

(5) The navigation lights to be displayed by aircraft by night, on the water or on the manoeuvring area of an aerodrome, shall be as prescribed in technical standard 91.06.10 of Document SA-CATS-OPS 91.

**Flight, navigation and associated equipment for aircraft operated under VFR**

**91.04.4** No owner or operator of an aircraft shall operate the aircraft in accordance with VFR, unless such aircraft is equipped with the following functioning equipment –

(a) a magnetic compass;

(b) an accurate time-piece showing the time in hours, minutes, and seconds;

(c) a sensitive pressure altimeter with a subscale setting, calibrated in hectopascal, adjustable for any barometric pressure setting likely to be encountered during flight;

(d) an airspeed indicator;

(e) if so required for use in airspace designated by the Commissioner, a pressure-altitude reporting transponder, unless authorised by the responsible air traffic service unit; and



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(f) if to be operated by night, a chart holder in an easily readable position which can be illuminated.

**Flight, navigation and associated equipment for aircraft operated under IFR**

**91.04.5** (1) No owner or operator of an aircraft shall operate the aircraft in accordance with IFR, unless such aircraft is equipped with functioning navigation equipment appropriate to the route to be flown and –

(a) a magnetic compass;

(b) an accurate time-piece showing the time in hours, minutes and seconds;

(c) for large aeroplanes, two independent sensitive pressure altimeter systems with subscale settings, calibrated in hectopascal, adjustable for any barometric pressure setting likely to be encountered during flight and for all other aircraft, one sensitive pressure altimeter with subscale settings, calibrated in hectopascal, adjustable for any barometric pressure setting likely to be encountered during flight;

(d) an airspeed indicator system with heated pitot tube or equivalent means for preventing malfunctioning due to either condensation or icing;

(e) a vertical-speed indicator;

(f) a stabilised direction indicator;

(g) a turn-and-bank indicator, or a turn co-ordinator incorporating a slip indicator;

(h) an attitude indicator and for large aeroplanes for which an individual certificate of airworthiness was first issued after 1 January 1975, an emergency power supply, independent of the main electrical generating system, for the purpose of operating and illuminating, for a minimum period of 30 minutes, an attitude indicator, clearly visible to the pilot-in-command. The emergency power supply shall be automatically operative after the total failure of the main electrical generating system and clear indication shall be given on the instrument panel that the attitude indicator(s) is being operated by emergency power;

(i) a means of indication, in the cockpit or in the flight deck, the outside air temperature in degrees Celsius;

(j) a chart holder in an easily readable position which can be illuminated for operations by night;

(k) a means of measuring and displaying whether the supply of power to the gyroscopic instruments is adequate; and

(l) a pressure-altitude reporting transponder.

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(2) No owner or operator shall operate in reduced vertical separation minima (RVSM) airspace unless the aircraft is equipped as specified in technical standard 91.04.34 of Document SA-CATS-OPS 91.

(3) No owner or operator of a large pressurised aeroplane shall operate the aeroplane when carrying passengers at night or under instrument meteorological conditions unless it is equipped with operative weather-detecting equipment capable of detecting thunderstorms whenever the aeroplane is being operated in areas where such conditions may be expected to exist along the route.

**Additional equipment for single-pilot operation under IMC or at night**

**91.04.6** (1) No owner or operator of an aircraft shall conduct single-pilot operations in an aircraft under instrument meteorological conditions or at night unless such aircraft has been certificated for single-pilot operations and –

(a) the single pilot flying is equipped with a headset with boom microphone or equivalent and has a transmit button positioned in such a way that it may be operated without the pilot having to remove his or her hands from the control wheel, joy stick or cyclic stick;

(b) the aircraft is equipped with a means of displaying charts that enables them to be readable in all ambient light conditions;

(c) if the aircraft is flown under instrument meteorological conditions, such aircraft has been certificated for single pilot IFR operations and is equipped with a serviceable automatic flight control system with at least altitude hold and heading mode; or

(d) in the case of a helicopter, if it is flown at night under visual meteorological conditions, such helicopter is equipped with a serviceable automatic flight control system with at least altitude and heading mode or similar equipment: Provided that this requirement shall not apply to a helicopter operated in the circuit of the aerodrome of departure or over densely populated, well-lighted areas in accordance with the provisions of regulation 91.06.32(2) but not higher than 3 500 feet above the prescribed minimum height.

(2) Nothing in this regulation shall be construed as meaning that a flight under IFR or at night for the purpose of flight instruction conducted by an appropriately rated flight instructor would be a single-pilot operation, or that such a training flight, if conducted in terms of any of the Parts 93, 121, 127 or 135 would be required to be operated by two qualified pilots.

**Mach number indicator**

**91.04.7** No owner or operator of an aircraft with speed limitations expressed in terms of Mach number shall operate the aircraft unless such aircraft is equipped with a Mach number indicator.

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**Radio altimeter**

**91.04.8** No owner or operator of a helicopter shall operate the helicopter on a flight over water at a distance from land corresponding to more than 10 minutes at normal cruise speed, unless such helicopter is equipped with a radio altimeter with an audio voice warning or other aural means of notifying the flight crew when operating below a preset height and with a visual warning capable of alerting the flight crew when operating below a preset height selectable by the flight crew.

**Equipment for operations in icing conditions**

**91.04.9** (1) No owner or operator of an aircraft shall operate the aircraft in forecast or actual icing conditions unless such aircraft is certificated and equipped to operate in icing conditions.

(2) The owner or operator shall not operate the aircraft in forecast or actual icing conditions by night unless such aircraft is equipped with a means to illuminate or detect the formation of ice.

(3) The means of illumination referred to in sub-regulation (2), shall be of a type which does not cause glare or reflection which may handicap flight deck crew members in the performance of their duties.

**Flight recorders**

**91.04.10** (1) For the purposes of this regulation, any reference to the initial date of a type certificate (TC) or certificate of airworthiness (C of A) means the first time that TC or C of A was issued for that aircraft type.

(2) No owner or operator shall operate an aircraft engaged in international general aviation operations which –

(a) is an aeroplane with a maximum certificated mass (MCM) exceeding 27 000 kg for which the individual certificate of airworthiness was first issued on or after 1 January 1989 unless such aeroplane is equipped with a Type I flight data recorder (FDR) that complies with the requirements prescribed in Document SA-CATS-OPS 91;

(b) is an aeroplane with a MCM exceeding 5 700 kg for which the individual certificate of airworthiness was first issued on or after 1 January 2005 unless such aeroplane is equipped with a Type IA FDR that complies with the requirements prescribed in Document SA-CATS-OPS 91;

(c) is a helicopter with a MCM exceeding 7 000 kg, or having a passenger seating configuration of more than nineteen, for which the individual certificate of airworthiness was first issued on or after 1 January 1989 unless such helicopter is equipped with a Type IV FDR that complies with the requirements prescribed in Document SA-CATS-OPS 91; or

(d) is a helicopter with a MCM exceeding 3 180 kg for which the individual certificate of airworthiness is first issued after 1 January 2016 unless

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such helicopter is equipped with a Type IVA FDR that complies with the requirements prescribed in Document SA-CATS-OPS 91.

(3) A turbine-engine aeroplane with a MCM exceeding 27 000 kg of which the prototype was type certificated by an appropriate authority after 30 September 1969, may not be operated in general aviation operations within the Republic of South Africa unless such aeroplane is equipped with a Type II FDR that complies with the requirements prescribed in Document SA-CATS-OPS 91.

(4) No owner or operator shall operate –

(a) an aeroplane with a maximum certificated mass exceeding 5 700 kilograms and to which an individual certificate of airworthiness was first issued on or after 1 January 1987;

(b) a turbine engine aeroplane to which an individual certificate of airworthiness was first issued before 1 January 1987 and is of a type for which the prototype was certified by an appropriate authority after 30 September 1969, which is an aeroplane with a maximum certificated mass exceeding 27 000 kilograms; or

(c) a helicopter with a maximum certificated mass exceeding 7 000 kilograms,

unless such aeroplane or helicopter is equipped with a cockpit voice recorder (CVR) which complies with the requirements prescribed in Document SA-CATS-OPS 91.

(5) No owner or operator shall operate a turbine engine aeroplane for which a type certificate was first issued on or after 1 January 2016 and required to be operated by more than one pilot unless such aeroplane is equipped with either a CVR or a cockpit audio recording system (CARS).

(6) No owner or operator shall operate an aircraft for which the individual certificate of airworthiness is first issued on or after 1 January 2016 and which is required to be fitted with a CVR or for aeroplanes, a CARS, unless the CVR or CARS, as applicable, is provided with an independent power source that complies with the requirements prescribed in Document SA-CATS-OPS 91.

(7) No owner or operator shall operate an aircraft for which the individual certificate of airworthiness was first issued on or after 1 January 2016, which utilises any data link communications and is required to carry a CVR, unless all data link communications messages to and from the aircraft are recorded on a data link recorder (DLR) or other flight recorder. The minimum recording duration shall be equal to the duration of the CVR and shall be correlated to the recorded cockpit audio.

(8) No owner or operator shall operate an aircraft which is modified on or after 1 January 2016 to install and utilise any data link communications and is required to carry a CVR, unless the data link communications messages are recorded on a DLR or other flight recorder.

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(9) The FDR required by this regulation shall be capable of retaining the information recorded during at least –

(a) in the case of an aeroplane, the last 25 hours of its operation; or

(b) in the case of a helicopter, the last 10 hours of its operation.

(10) The CVR or CARS required by this regulation shall be capable of retaining information recorded during at least the last 30 minutes of the aircraft's operation until 1 January 2016, and thereafter during at least the last 2 hours of its operation;

(11) No owner or operator shall use the following mediums to record any information or data required to be recorded by this regulation –

(a) engraving metal foil, photographic film and analogue using frequency modulation (FM) in FDRs;

(b) from 1 January 2016, magnetic tape in FDRs and magnetic tape and wire in CVRs.

(12) The flight recorder shall not be switched off during flight.

(13) Each flight recorder installed in an aircraft shall be located and installed in such a manner that maximum practicable protection is provided, in order that, in the event of an accident or incident, the recorded data may be recovered in a preserved and intelligible state. Flight recorders shall meet the installation, crashworthiness and fire protection specifications prescribed in Document SA-CATS-OPS 91.

(14) The owner or operator of the aircraft shall ensure that retrieving the recorded data from the storage medium will be readily possible.

(15) The pilot-in-command, owner or operator shall ensure, to the extent possible, in the event the aircraft becomes involved in an accident or incident, that –

(a) all related flight recorder records, and if possible the associated flight recorders, are preserved and retained in safe custody pending their disposition to the accident or incident investigation team;

(b) the flight recorders are deactivated upon completion of flight time following an accident or incident; and

(c) the flight recorders are not reactivated before their disposition to the accident or incident investigation team.

(16) An owner or operator shall ensure that the quality assurance programme of the organisation responsible for the maintenance of his or her aircraft includes verification of the measurement range, recording interval and accuracy of parameters on installed flight recorder equipment.

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(17) An owner or operator shall ensure that documentation concerning parameter allocation, conversion equations, periodic calibration and other serviceability/maintenance information is maintained by the organisation responsible for the maintenance of his or her aircraft. The documentation shall be sufficient to ensure that accident investigation authorities have the necessary information to read out the data in engineering units.

(18) The owner or operator of the aircraft shall –

(a) conduct daily and annual inspections of each flight recorder as specified in Document SA-CATS-OPS 91; and

(b) record and retain the results of such check for a period of five years calculated from the date of such check.

(19) The CVR and FDR referred to in this regulation may be combined.

(20) An aircraft may commence a flight with the FDR inoperative: Provided that –

(a) for aircraft with an approved Minimum Equipment List (MEL), the aircraft is operated in accordance with that MEL and such MEL incorporates the provisions of paragraph (b) below; or

(b) for aircraft without an approved MEL –

(i) the aircraft shall not depart from an aerodrome where repairs or replacements to such flight data recorder can be made;

(ii) the aircraft does not exceed six further consecutive flights with the flight data recorder unserviceable;

(iii) not more than 48 hours have elapsed since the flight data recorder became unserviceable; and

(iv) any cockpit voice recorder is combined with the flight data recorder.

(21) An aircraft may commence a flight with the CVR or CARS inoperative: Provided that –

(a) for aircraft with an approved Minimum Equipment List (MEL), the aircraft is operated in accordance with such MEL; or

(b) for aircraft without an approved MEL –

(i) the aircraft shall not take-off from an aerodrome where repairs or replacements to such cockpit voice recorder can be made;

(ii) the aircraft does not exceed six further consecutive flights with the cockpit voice recorder unserviceable;

(iii) not more than 48 hours have elapsed since the cockpit voice recorder became unserviceable; and

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(iv) any flight data recorder required to be carried, is operative, unless the flight data recorder is combined with a cockpit voice recorder.

**91.04.11 Deleted**

**91.04.12 Deleted**

**91.04.13 Deleted**

**Seats, seat safety belts, harnesses and child restraint devices**

**91.04.14** (1) No owner or operator of an aircraft shall operate the aircraft unless such aircraft is equipped, as applicable, with –

(a) a seat or berth for each person who is aged two years or more;

(b) a safety belt with or without a diagonal shoulder strap, or a safety harness, for use in each passenger seat for each passenger who is aged two or more;

(c) a restraining belt for use in each passenger berth;

(d) a child restraint device for each passenger who is less than two years of age;

(e) a safety harness for each flight crew member seat, incorporating a device which will automatically restrain the occupant's torso in the event of rapid deceleration; and

(f) a safety harness for each cabin crew member seat:

Provided that a safety belt with one diagonal shoulder strap is permitted if the fitting of a safety harness is not reasonably practical.

(2) Seats for cabin crew members shall, where possible, be located near floor-level emergency exits and additional cabin crew member seats required shall be located such that a cabin crew member may best be able to assist passengers in the event of an emergency evacuation. Seats shall be forward or rearward facing within 15° of the longitudinal axis of the aircraft.

(3) If the pilot-in-command cannot see all the passenger seats in the aircraft from his or her own seat, a means of indicating to all passengers and cabin crew members that seat belts should be fastened, shall be installed.

(4) All safety harnesses and safety belts shall have a single point release.

**Stowage of articles, baggage and cargo**

**91.04.15** No owner or operator of an aircraft shall operate the aircraft unless all articles, baggage and cargo carried on board, except those items in use by either the flight crew or by passengers, if such use is not prohibited by the pilot-in-command in the interest of the safety of the aircraft or its occupants, are placed –

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(a) in a manner which prevents movement likely to cause injury or damage and does not obstruct aisles and exits; or

(b) in stowages designed to prevent movement likely to cause injury or damage.

**First aid and universal precaution kits**

**91.04.16** (1) No owner or operator of an aircraft used in general aviation operations shall operate the aircraft unless such aircraft is equipped with the first aid kit consisting of the medical supplies as prescribed in Document SA-CATS-OPS 91.

(2) The owner or operator shall carry out periodical inspections of the first aid kit specified in sub-regulation (1) to ensure that, as far as practicable, the contents thereof are in a condition necessary for their intended use.

(3) The contents of the first aid kit specified in sub-regulation (1) shall be replenished at regular intervals, in accordance with instructions contained on their labels, or as circumstances require.

(4) The first aid kit specified in sub-regulation (1) shall be readily accessible to the crew or passengers.

(5) No owner or operator of an aircraft used in general aviation operations for which the maximum certificated passenger seating is 20 or more and on which is carried a cabin attendant shall operate the aircraft unless such aircraft is equipped with universal precaution kits specified in Document SA-CATS-OPS 91.

(6) The contents of the universal precaution kits specified in sub-regulation (5) shall be as prescribed in Document SA-CATS-OPS 91.

**First aid oxygen**

**91.04.17** (1) No owner or operator of an aircraft in respect of which the carriage of a cabin crew member is required in terms of this Part, shall operate the aircraft unless such aircraft is equipped with the appropriate supply of first aid oxygen prescribed in Document SA-CATS-OPS 91.

(2) The conditions, rules, requirements, procedures or standards for first aid oxygen shall be as prescribed in Document SA-CATS-OPS 91.

**Supplemental oxygen in the case of pressurised aircraft**

**91.04.18** (1) No owner or operator of a pressurised aircraft shall operate the aircraft unless such aircraft is equipped with the supplemental oxygen as prescribed in Document SA-CATS-OPS 91 and such oxygen is used continuously whenever the circumstances prevail for which its supply has been prescribed in this regulation.

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(2) No owner or operator of a pressurised aircraft shall operate the aircraft above 25 000 feet unless all flight crew members have available at their flight duty station a quick-donning type of oxygen mask which will readily supply oxygen upon demand.

**Supplemental oxygen in the case of non-pressurised aircraft**

**91.04.19** (1) No owner or operator of a non-pressurised aircraft shall operate the aircraft at altitudes between 10 000 feet and 12 000 feet for longer than 120 minutes intended flight time, or above 12 000 feet, unless such aircraft is equipped with the supplemental oxygen as prescribed in Document SA-CATS-OPS 91 and such oxygen is used continuously whenever these circumstances prevail.

(2) The conditions, rules, requirements, procedures or standards for supplemental oxygen shall be as prescribed in Document SA-CATS-OPS 91.

**Flight crew protective breathing equipment**

**91.04.20** (1) No owner or operator of a pressurised aeroplane shall operate the aeroplane or an unpressurised aeroplane with a maximum certificated mass exceeding 5 700 kilograms and a maximum approved passenger seating configuration of more than 19 seats, at altitudes above 12 000 feet, unless such aeroplane –

(a) is equipped with equipment to protect the eyes, nose and mouth of each flight crew member while on flight deck duty and to provide oxygen for a period of at least 15 minutes;

(b) has sufficient portable protective breathing equipment to protect the eyes, nose and mouth of all cabin crew members required to be carried in terms of this Part and to provide breathing gas for a period of at least 15 minutes; and

(c) if no cabin crew member is carried, is equipped with portable protective breathing equipment to protect the eyes, nose and mouth of one member of the flight crew and to provide breathing gas for a period of at least 15 minutes.

(2) The supply for protective breathing equipment may be provided by supplemental oxygen referred to in regulation 91.04.18 or 91.04.19.

(3) Protective breathing equipment intended for use by flight deck crew, shall be conveniently located on the flight deck and be easily accessible for immediate use by each required flight deck crew member at his or her assigned duty station.

(4) Protective breathing equipment intended for use by cabin crew shall be installed adjacent to each required cabin crew member duty station.

(5) Additional, easily accessible portable protective breathing equipment shall be provided and located at, or adjacent to, the hand fire extinguishers referred to in regulation 91.04.21: Provided that where the fire extinguisher is

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located inside a cargo compartment, the protective breathing equipment shall be stowed outside, but adjacent to, the entrance to such compartment.

(6) Protective breathing equipment, while in use, shall not prevent communication, where required.

**Hand-held fire extinguishers**

**91.04.21** No owner or operator of an aircraft shall operate the aircraft unless such aircraft is equipped with the appropriate hand fire extinguishers as prescribed in Document SA-CATS-OPS 91.

**Crash axes and crowbars**

**91.04.22** (1) No owner or operator of an aeroplane with a maximum certificated mass exceeding 5 700 kilograms or a maximum approved passenger seating configuration of more than nine seats, shall operate the aeroplane unless such aeroplane is equipped with at least one crash axe or crowbar located on the flight deck.

(2) If the maximum approved passenger seating configuration is more than 200 seats, an additional crowbar shall be carried in the aeroplane and located out of sight in or near the most rearward galley area.

**Marking of break-in points**

**91.04.23** The owner or operator of an aircraft shall ensure that, if areas of the fuselage suitable for break-in by rescue crews in emergency, are marked on the aircraft, such areas shall be marked in accordance with the requirements as prescribed in Part 47.

**Megaphones**

**91.04.24** No owner or operator of an aircraft with a maximum approved passenger seating configuration of more than 60 seats and which is carrying one or more passengers, shall operate the aircraft unless such aircraft is equipped with the appropriate portable battery-powered megaphones as prescribed in Document SA-CATS-OPS 91.

**Emergency lighting**

**91.04.25** No owner or operator shall operate the aircraft unless such aircraft is equipped with the appropriate emergency lighting system as prescribed in Document SA-CATS-OPS 91.

**Emergency locator transmitters**

**91.04.26** (1) Except as provided in sub-regulation (3), no owner or operator of an aircraft specified in Document SA-CATS-OPS 91 shall operate such aircraft unless it is equipped with one or more approved emergency locator transmitters (ELTs).

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(2) The number and type of emergency locator transmitters, the manner in which these shall be carried, the specifications to which they shall adhere, the frequencies on which they shall be able to transmit and the manner in which they are to be maintained shall be as prescribed in Document SA-CATS-OPS 91.

(3) The following aircraft are exempted from the requirement prescribed in sub-regulation (1) –

(a) aircraft engaged in flights remaining within a radius of 50 nautical miles from their point of departure;

(b) aircraft engaged in the aerial application of chemicals or other substances for agricultural purposes, and on flights incidental thereto;

(c) a new aircraft on a flight for a purpose associated with its manufacture and preparation for delivery, but not when on its delivery flight;

(d) an aircraft flown for the purpose of moving it to a place to have an approved ELT fitted, or a fitted ELT repaired, removed or overhauled: Provided that only the required flight crew members may be carried on board;

(e) an aircraft of which the ELT has been temporarily removed for inspection, repair, modification or replacement: Provided the necessary logbook entries have been made, a placard stating "ELT not installed or carried" has been installed in a position easily visible to the flight crew, and a period of 90 days is not exceeded;

(f) aircraft certified for research and development purposes;

(g) aircraft used for showing compliance with regulations, or in crew training, air racing, air display or market surveys;

(h) aircraft with an approved seating configuration of not more than one person;

(i) aircraft exempted in terms of Part 94; and

(j) any aircraft on a flight or a series of flights for which an exemption in writing has been granted by the Commissioner.

(4) The Commissioner shall maintain a register of all aircraft equipped with 406 MHz ELTs, which shall contain the following particulars –

(a) the nationality and registration marks of the aircraft;

(b) particulars of the manufacturer's designation and serial number of the aircraft;

(c) the full name and contact details of the registered owner of the aircraft;

(d) the make and model number/s of the ELT/s;

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(e) the 15-digit Unique Identification Number (UIN) provided by the manufacturer of the ELT, or the aircraft's Mode S transponder code; and

(f) the name/s and contact details of the person/s who know/s the aircraft's itinerary and who may be contacted 24 hours a day.

(5) On the payment of the appropriate fee as prescribed in Part 187, an excerpt of the ELT register shall be furnished by the Commissioner to any person who requests such an excerpt.

(6) For the registration, deregistration and changing of an ELT, the fee as prescribed in Part 187 is payable.

**Life jackets and other flotation devices**

**91.04.27** (1) No owner or operator of –

(a) an aeroplane other than an aeroplane referred to in paragraph (b), shall operate the aeroplane –

(i) when flying over water and beyond gliding distance of land in the case of the aeroplane not capable of continuing the flight to an aerodrome with the critical power-unit becoming inoperative at any point along the route or any planned diversion;

(ii) when taking off or landing at an aerodrome where the take-off or approach path is so disposed over water that in the event of an incident, there would be a likelihood of a ditching,

unless such aeroplane is equipped with a flotation device or a life jacket containing a survivor locator light, for each person on board, stowed in a position easily accessible, with safety belt fastened, from the seat or berth of the person for whose use it is provided, and an individual infant flotation device, containing a locator survival light for use by each infant on board;

(b) a seaplane or an amphibious aeroplane shall operate the seaplane or amphibious aeroplane unless such seaplane or amphibious aeroplane is equipped with –

(i) a flotation device or a life jacket containing a survivor locator light, for each person on board, stowed in a position easily accessible, with safety belt fastened, from the seat or berth of the person for whose use it is provided, and an individual infant flotation device, containing a survivor locator light, for use by each infant on board; and

(ii) life jackets, other than the life jackets referred to in subparagraph (i), for 20 per cent of the number of persons on board such seaplane or amphibious aeroplane, located in the passenger compartment near the emergency exits and readily accessible;

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(c) a helicopter shall operate the helicopter over water beyond autorotative distance from land, other than only for take-off and initial climb, or final approach and landing, unless –

(i) each person on board is wearing a life jacket containing a survivor locator light; and

(ii) an individual infant flotation device containing a locator survival light for use by each infant on board, stowed in a position easily accessible for the person in which care the infant is; and

(d) a helicopter when taking off or landing at an aerodrome where the take-off or approach path is so disposed over water that in the event of an incident, there would be a likelihood of a ditching, unless such helicopter is equipped with a life jacket containing a survivor locator light, for each person on board, stowed in a position easily accessible, with safety belt fastened, from the seat of the person for whose use it is provided, and an individual infant flotation device, containing a locator survival light for use by each infant on board.

(2) No owner or operator shall operate the following helicopters over water unless such helicopter is certificated as an amphibian helicopter or for ditching or is equipped with permanent or rapidly deployable emergency flotation equipment =

(a) a performance Class 3 helicopter operating below a height that would permit the helicopter to complete an autorotation to a landing on land in the event of an engine failure;

(b) a performance Class 1 or 2 helicopter operating in a hostile environment more than 10 minutes from land that would be unable to maintain flight to a suitable landing site in the event of an engine failure; or

(c) a performance Class 1 helicopter operating in a non-hostile environment at a distance from land equivalent to 30 minutes at normal cruising speed or 50 nautical miles, whichever is the lesser:

Provided that in the case of aerial spraying operations over water, the owner or operator may apply to the Commissioner for an exemption in terms of Part 11.

(3) Sea state shall be an integral part of ditching information.

**Life rafts and survival radio equipment for extended over-water flights**

**91.04.28** No owner or operator of an aircraft shall operate the aircraft over water at a distance equivalent to 30 minutes at normal cruising speed or 50 nautical miles, whichever is the lesser, away from land unless such aircraft –

(a) is equipped with life rafts sufficient to accommodate all persons on board; and

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(b) is equipped with the survival equipment and complies with the provisions as prescribed in Document SA-CATS-OPS 91.

**Survival equipment**

**91.04.29** No owner or operator of an aircraft shall operate an aircraft over areas where search and rescue would be especially difficult, unless such aircraft is equipped with the appropriate survival equipment and complies with the provisions as prescribed in Document SA-CATS-OPS 91.

**Seaplanes, amphibious aeroplanes and amphibious helicopters**

**91.04.30** No owner or operator of a seaplane, amphibious aeroplane or amphibious helicopter shall operate the seaplane, amphibious aeroplane or amphibious helicopter on water, unless it is equipped with –

(a) a sea anchor and other equipment necessary to facilitate mooring, anchoring or manoeuvring such seaplane, amphibious aeroplane or amphibious helicopter on water, appropriate to its size, mass and handling characteristics; and

(b) equipment for making the sound signals prescribed in the International Regulations for Preventing Collisions at Sea, where applicable.

**Airborne Collision Avoidance System**

**91.04.31** (1) Except as otherwise provided for in Part 121 and Part 135, no owner or operator may operate a turbine-engine aeroplane of a maximum certificated take-off mass in excess of 15 000 kg or authorized to carry more than 30 passengers, for which the individual certificate of airworthiness was first issued after 1 January 2007, unless such aeroplane is equipped with an airborne collision avoidance system (ACAS) that meets the specifications prescribed in Document SA-CATS-OPS 91.

(2) No owner or operator of an aeroplane required to be equipped with ACAS shall operate such aeroplane unless he or she has completed the training and checking as specified in Document SA-CATS-OPS 91.

(3) ACAS training shall be provided through an approved training programme.

(4) Whenever an aircraft is equipped with an airborne collision avoidance system, such system shall –

(a) meet the specifications in, and function in accordance with, the relevant provisions of Document SA-CATS-OPS 91; and

(b) when serviceable, be activated at all times during flight in all airspace, including oceanic, international, foreign and domestic airspace, even if in terms of these regulations the carriage of ACAS equipment is not compulsory for that particular type of aircraft or the type of operation.

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(5) Whenever an ACAS becomes unserviceable during flight when operation of ACAS is mandatory, the pilot-in-command of that aeroplane shall inform the responsible air traffic service unit as soon as is practical.

(6) No pilot may act as pilot-in-command of a South African-registered aircraft during any period while an airborne collision avoidance system is activated unless such pilot is ACAS-current.

(7) When a flight crew receives a traffic avoidance instruction from an air traffic service unit (ATSU) that is in conflict with the resolution advisory message issued by the aircraft's approved ACAS, the ACAS resolution advisory takes priority over the ATSU instruction.

(8) Document SA-CATS-OPS 91 contains instructions in respect of ACAS operational use and event reporting.

(9) For the purpose of this regulation, an ACAS-current pilot means a pilot who, –

(a) within the immediately preceding 12 months, completed initial ACAS II training;

(b) within the immediately preceding two (2) years, completed initial ACAS training and subsequently completed ACAS II renewal training more than 9 months and less than 12 months after the earlier training; or

(c) within the immediately preceding 12 months, completed a session of ACAS II cyclic training.

**Cabin pressurisation**

**91.04.32** No owner or operator shall operate a pressurized aeroplane, for which the individual certificate of airworthiness was first issued on or after 1 January 1990, above 25 000 feet unless such aeroplane is equipped with a device to provide positive warning to the flight crew of any dangerous loss of pressurization.

**Terrain awareness and warning systems**

**91.04.33** (1) From 1 January 2012, the owner or operator of a turbine-engine aeroplane of a maximum certificated take-off mass in excess of 5 700 kg or authorized to carry more than nine passengers operating according to the instrument flight rules shall be equipped with a terrain awareness and warning systems (TAWS) which has a predictive terrain avoidance function that meets the requirements specified in Document SA-CATS-OPS 91.

(2) Except as provided in sub-regulation (3), each terrain awareness and warning system TAWS required by sub-regulation (1) shall be functioning properly prior to flight.

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(3) An aircraft may be operated without a functioning TAWS –

(a) as provided for in an approved minimum equipment list (MEL); or

(b) if repairs cannot be effected at the aerodrome last operated into, the aircraft is flown by the most direct routing to the nearest owner's or operator's facility where the repairs can be made.

(4) A TAWS shall automatically provide a timely and distinctive warning to the flight crew when the aeroplane is in potentially hazardous proximity to the earth's surface.

(5) A TAWS shall provide, as a minimum, warnings of at least the following circumstances –

(a) excessive descent rate;

(b) excessive altitude loss after take-off or go-around; and

(c) unsafe terrain clearance.

(6) A TAWS installed in turbine-engine aeroplanes of a maximum certificated take-off mass in excess of 5 700 kg or authorized to carry more than nine passengers for which the individual certificate of airworthiness was first issued after 1 January 2011 shall provide, as a minimum, warnings of at least the following circumstances –

(a) excessive descent rate;

(b) excessive terrain closure rate;

(c) excessive altitude loss after take-off or go-around;

(d) unsafe terrain clearance while not in the landing configuration as follows =

(i) gear not locked down; or

(ii) flaps not in a landing position; and

(e) excessive descent below the instrument glide path.

**Reduced Vertical Separation Minima operations**

**91.04.34** (1) Except as provided in an air traffic services unit clearance to climb or descend through reduced vertical separation minima (RVSM) airspace, no pilot-in-command shall enter RVSM airspace unless –

(a) for such aircraft a valid RVSM approval certificate has been issued by the Commissioner;

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(b) the prescribed minimum equipment is serviceable; and

(c) the flight crew has completed and passed the RVSM training prescribed by the regulation.

(2) The requirements for the issue of an RVSM approval certificate, including minimum equipment, maintenance and crew training requirements, are those as specified in Document SA-CATS-OPS 91.

(3) An application for an RVSM approval certificate for a South African registered aircraft shall be made to the Commissioner in the format prescribed in Document SA-CATS-OPS 91 and shall be accompanied by –

(a) in the case of a commercial air transport operator, two copies of the proposed relevant amendments to –

(i) the operations manual;

(ii) the aircraft maintenance schedule; and

(iii) the maintenance control manual; and

(b) in the case of a general aviation operator, the aircraft maintenance schedule.

(4) In considering an application, contemplated in sub-regulation (3), the Commissioner may conduct the investigation deemed necessary to ascertain that the applicant has complied with the requirements prescribed in Document SA-CATS-OPS 91 for RVSM operations.

(5) If the Commissioner is not so satisfied, he or she shall notify the applicant thereof, stating the reasons in the notification, and grant the applicant the opportunity to rectify any shortcoming within the period determined by the Commissioner, after which period the Commissioner shall grant or refuse the application concerned.

(6) If the Commissioner is satisfied that the applicant has complied with the relevant requirements, the RVSM approval certificate shall be issued in the format as prescribed in Document SA-CATS-OPS 91.

(7) The Commissioner shall maintain a register of all RVSM approval certificates issued in terms of this regulation and –

(a) the register shall contain the following particulars –

(i) the make, model and registration marks of the aircraft;

(ii) the full name of the owner of the aircraft or, if a licensed air operator, the name of the licence holder and the air service licence number;

(iii) the postal address of the certificate holder; and

(iv) the date on which the certificate was issued;

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(b) the particulars, referred to in paragraph (a), shall be recorded in the register within 30 days from the date on which the certificate is issued by the Commissioner;

(c) the register shall be kept in a safe place at the office of the Commissioner or location he or she may approve; and

(d) a copy of the register may be furnished by the Commissioner, on payment of the appropriate fee as prescribed in Part 187, to any person who requests the copy.

(8) If a RVSM approval certificate is lost, stolen, damaged or destroyed, the holder thereof, or an aircraft maintenance organisation approved under Part 145 and responsible for the servicing and maintenance of the aircraft, may apply to the Commissioner for the issue of a duplicate of the RVSM approval certificate and –

(a) an application, referred to in this sub-regulation, shall –

(i) be made in the appropriate form as prescribed in Document SA-CATS-OPS 91; and

(ii) be accompanied by –

(aa) the data package referred to in Section 6 of TS 91.07.31 in Document SA-CATS-OPS 91; and

(bb) the appropriate fee as prescribed in Part 187; and

(b) a duplicate of the original RVSM approval certificate shall be reissued.

(9) The holder of an RVSM approval certificate endorsed for operations within RVSM airspace shall –

(a) report within 24 hours to the Commissioner any occurrence involving poor height-keeping in an RVSM environment as specified in Document SA-CATS-OPS 91; and

(b) make an effective, timely response to each height-keeping error.

## SUBPART 5:
## COMMUNICATION AND NAVIGATION

### Communication equipment

**91.05.1** (1) Except with prior written approval by the Commissioner, no owner or operator of an aircraft shall operate or allow the aircraft to be operated in designated airspace or under instrument flight rules unless such aircraft is equipped with radio communication equipment capable of –

(a) two-way communication at any time during the flight on such frequencies as may be prescribed by the appropriate authority; and

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(b) receiving meteorological information at any time during flight.

(2) The radio communication equipment referred to in sub-regulation (1) shall be capable of providing for communication on the aeronautical emergency frequency 121.5 MHz.

(3) All flight crew members involved in large aeroplane operations and who are required to be on flight deck duty shall communicate through boom or throat microphones below the transition level/altitude.

(4) The radio communication equipment in the aircraft shall be installed and be of a type as prescribed in Document SA-CATS-OPS 91.

(5) The provisions of this regulation shall not be applicable to the owners or operators of a parachute, a hang-glider or a paraglider.

**Navigation equipment**

**91.05.2** (1) No owner or operator of an aircraft shall operate the aircraft unless such aircraft is equipped with navigation equipment enabling it to proceed in accordance with its flight plan, including approaches at the planned destination or any alternate aerodromes, and the appropriate air traffic service requirements: Provided that the provisions of this regulation shall not apply to flights operated in accordance with VFR, if such flights can be accomplished by visual reference to landmarks. Such landmarks for helicopter operations shall be no further apart than 60 nautical miles.

(2) The aircraft shall be equipped as prescribed in Document SA-CATS-OPS 91 and with sufficient navigation equipment to ensure that in the event of the failure of one item of equipment at any stage of the flight, the remaining equipment enables such aircraft to proceed with such flight and installed such that the failure of any single unit required for either navigation or communications purposes or both will not result in the failure of another unit required for navigation or communications purposes.

(3) No person shall operate an aircraft in airspace where minimum navigation performance or performance-based navigation specifications apply, unless the aircraft is equipped with navigation equipment that meets the performance specifications as prescribed in Document SA-CATS-OPS 91.

(4) In an aircraft required to be operated by two pilots, the navigation equipment referred to in sub-regulation (3) shall be visible and usable by each pilot seated at his or her duty station.

(5) No person may use inertial navigation or reference systems for navigation unless approved under Parts 93, 121, 127 or 135, as applicable.

(6) No person may operate an aircraft under IFR using any system required for navigation unless such system is maintained, checked and inspected under an approved procedure.

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(7) An owner or operator shall not use a navigation system based on electronic data unless –

(a) procedures are implemented that ensure the timely distribution and insertion of current and unaltered electronic navigation data to all aircraft that require it;

(b) the source of the data is –

(i) the manufacturer of the aircraft;

(ii) the manufacturer of the navigation system; or

(ii) a supplier satisfactory to the aircraft or navigation system manufacturer or the Commissioner; and

(c) procedures are implemented to verify the accuracy and validity of the data received.

**Use of global navigation satellite system**

**91.05.3** (1) No owner or operator of an aircraft shall operate an aircraft using a global navigation satellite system (GNSS) as a means of navigation unless –

(a) the GNSS equipment meets the airworthiness criteria prescribed in Document SA-CATS-OPS 91;

(b) all flight crew members required by regulation or the type certificate of the aircraft being flown have received the training and checking specified in Document SA-CATS-OPS 91; and

(c) the procedures specified in Document SA-CATS-OPS 91 are followed.

(2) In order to fly published GNSS arrivals, departures and approach procedures; the pilot-in-command shall ensure that –

(a) the air navigation routes to be flown are contained in the database of the aircraft; and

(b) the information contained in the aircraft database is current.

(3) The pilot-in-command shall fly the instrument departure of a flight management system (FMS) equipped aircraft without the capability of manually setting the course direction indicator (CDI), with the aid of a flight director.

(4) Helicopter-only GNSS departure procedures shall be flown at 70 knots or less.

(5) Upon clearance for the approach by the appropriate air traffic service unit (ATSU), the pilot shall select the appropriate aerodrome, the runway approach procedure and the initial approach fix on the GNSS receiver to determine the validity of the receiver autonomous integrity monitoring (RAIM) for such approach.

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**Operational criteria for the use of RNAV/BARO VNAV systems**

**91.05.4** (1) An owner or operator may not conduct area navigation/barometric (RNAV/BARO) vertical navigation (VNAV) operations unless approved by the Commissioner in terms of the operational provisions specified in Document SA-CATS-OPS 91.

(2) An aircraft equipped with a RNAV/BARO VNAV system approved by the Commissioner for the appropriate level of RNAV/BARO VNAV operations, may be used to conduct RNAV/BARO VNAV approaches if –

(a) the RNAV/BARO VNAV equipment is serviceable;

(b) the aircraft and aircraft systems are appropriately certified for the intended RNAV/BARO VNAV approach operations and the aircraft is equipped with an integrated Lateral Navigation (LNAV) system with an accurate source of barometric altitude; and

(c) the VNAV altitudes and all relevant procedural and navigational information are retrieved from a current navigation database whose integrity is supported by approved appropriate quality assurance measures.

## SUBPART 6:
## RULES OF THE AIR

### Division One: Flight Rules

**Landing on roads**

**91.06.1** No pilot shall use a public road as a place of landing or take-off in an aircraft, except –

(a) in the case of an emergency involving the safety of the aircraft or its occupants;

(b) for the purpose of saving human lives; or

(c) when involved in civil defence or law-enforcement operations: Provided that at all times reasonable care is taken for the safety of others with due regard to the prevailing circumstances.

**Dropping objects, spraying or dusting**

**91.06.2** Except in an emergency or unless granted special permission by the Commissioner or approved by an air traffic service unit (ATSU), no article shall be dropped from an aircraft in flight other than –

(a) fine sand or clean water used as ballast; or

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(b) chemical substances for the purpose of spraying, dusting or cloud seeding.

**Picking up objects**

**91.06.3** The pilot-in-command of an aircraft in flight shall not permit objects to be picked up except with the prior written approval of the Commissioner.

**Towing**

**91.06.4** The pilot-in-command of an aircraft in flight shall not permit anything to be towed by the aircraft except with the prior written approval of the Commissioner.

**Operation of vehicle- or vessel-towed aircraft**

**91.06.5** (1) Except with the prior written approval of the Commissioner and subject to such conditions as he or she may impose, an aircraft which is intended, for purposes of flight, to be towed by a vehicle or vessel traveling on the surface or to be moored on the surface, shall not –

(a) be flown higher than 150 feet above the surface on which the towing vehicle or vessel is travelling or to which such aircraft is moored;

(b) be flown closer than five nautical miles from the boundary of an aerodrome; or

(c) take-off from, land on or be flown above any public road.

(2) The provisions of sub-regulation (1)(a) and (b) shall not apply to the winching or towing of gliders at the aerodrome of departure.

**Proximity and formation flights**

**91.06.6** (1) No pilot shall operate an aircraft in formation flight while carrying passengers for commercial purposes or, except as provided in sub-regulation (2), –

(a) in such proximity to other aircraft so as to create a collision hazard;

(b) in formation flight, except by arrangement with the pilot-in-command of each aircraft in the formation; or

(2) Formation flight in controlled airspace may be approved by an air traffic service unit: Provided –

(a) the formation operates as a single aircraft with regard to navigation and position reporting;

(b) separation between aircraft in the flight shall be the responsibility of the flight leader and the pilots-in-command of the other aircraft in the flight and shall include periods of transition when aircraft are manoeuvring to attain their own separation within the formation and

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during join-up and breakaway; and

(c) a distance not exceeding 1 km (0.5 NM) laterally and longitudinally and 30 m (100 ft) vertically from the flight leader shall be maintained by each aircraft.

(3) Formation flight for display purposes may be approved by the Commissioner.

**Right of way**

**91.06.7** (1) An aircraft which has the right-of-way, shall maintain its heading and speed, but nothing in these provisions shall relieve the pilot-in-command of an aircraft from the responsibility of taking such action as will best avert collision, including collision avoidance manoeuvres based on resolution advisories provided by Airborne Collision Avoidance System equipment.

(2) An aircraft which is obliged, by the provisions of this Subpart, to keep out of the way of another aircraft, shall avoid passing over or under the other aircraft, or crossing ahead of such aircraft, unless passing well clear, taking into account the effects of wake turbulence.

(3) When two aircraft are approaching head-on or approximately so and there is danger of collision, each aircraft shall alter its heading to the right.

(4) When two aircraft are converging at approximately the same level, the aircraft which has the other aircraft on its right, shall give way, except in the following circumstances –

(a) power-driven heavier-than-air aircraft shall give way to airships, gliders and balloons;

(b) airships shall give way to gliders and balloons;

(c) gliders shall give way to balloons;

(d) power-driven aircraft shall give way to aircraft which are –

(i) seen to be towing other aircraft or objects;

(ii) carrying an underslung load or are engaged in winching operations; and

(iii) being towed or tethered.

(5) An aircraft which is being overtaken has the right-of-way and the overtaking aircraft, whether climbing, descending or in horizontal flight, shall keep out of the way of the overtaken aircraft by altering its heading to the right, and no subsequent change in the relative positions of the two aircraft shall absolve the overtaking aircraft from its obligation until such aircraft is entirely past and clear: Provided that where a right-hand circuit is being followed at an aerodrome, the overtaking aircraft shall alter its heading to the left.

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(6) An aircraft in flight or operating on the ground or water, shall give way to other aircraft landing or on final approach to land.

(7) When two or more heavier-than-air aircraft are approaching an aerodrome for the purpose of landing, the aircraft at the higher level shall give way to the aircraft at the lower level, but –

(a) the latter aircraft shall not take advantage of this provision to cut in front of another aircraft which is on final approach to land, or to overtake such aircraft; and

(b) power-driven heavier-than-air aircraft shall give way to gliders in all circumstances.

(8) An aircraft about to take-off, shall not attempt to do so until there is no apparent risk of collision with other aircraft.

(9) An aircraft which is aware that another aircraft is compelled to land, shall give way to such aircraft.

(10) For the purposes of this regulation, an overtaking aircraft is an aircraft which approaches another aircraft from the rear on a line forming an angle of less than 70 degrees with the plane of symmetry of the latter aircraft, and will therefore be in such position with reference to the other aircraft, that by night it should be unable to see either of the other aircraft's wingtip navigation lights.

**Following line features**

**91.06.8** An aircraft flying at or below 1 500 feet above the surface and following a power line, a road, a railway line, a canal, a coastline or any other line feature within one nautical mile of such line feature, shall fly to the right of such line, road, railway line, canal, coastline or other line feature, except when the aircraft is instructed to do otherwise by an air traffic service unit.

**Aircraft speed**

**91.06.9** (1) Unless otherwise authorised by the Commissioner, no person shall, outside controlled airspace and below flight level 100, fly an aircraft at an indicated air speed of more than 250 knots.

(2) Unless otherwise authorised or required by an air traffic service unit, no person shall fly an aircraft within a control zone or an aerodrome traffic zone at an indicated air speed of more than –

(a) 160 knots, in the case of a reciprocating-engine aircraft; or

(b) 200 knots, in the case of a turbine-powered aircraft:

Provided that if the minimum safe indicated air speed for a particular flight is greater than the maximum indicated air speed prescribed in this regulation, the aircraft may be flown at the minimum safe indicated air speed.

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**Lights to be displayed by aircraft**

**91.06.10** (1) Except as provided by sub-regulation (4) and unless the aircraft was initially type-certificated without such lights, all aircraft shall display –

(a) while operating in flight during the day and at all times at night, anti-collision lights intended to attract attention to the aircraft;

(b) while operating during night, navigation lights intended to indicate the relative path of the aircraft to an observer;

(c) while operating on the movement area of an aerodrome, lights intended to attract attention to the aircraft, as specified in the Integrated Aeronautical Information Publication (IAIP); and

(d) while operating with engines running on the movement area of an aerodrome, display a rotating beacon to indicate that fact.

(2) Except as provided by sub-regulation (4) –

(a) all aircraft moving on the movement area of an aerodrome during night shall display navigation lights intended to indicate the relative path of the aircraft to an observer; and

(b) unless stationary and otherwise adequately illuminated, all aircraft on the movement area of an aerodrome during night shall display lights intended to indicate the extremities of their structure.

(3) In respect of sub-regulations (1) (b) and (2) (a), other lights shall not be displayed if they are likely to be mistaken for these lights.

(4) A pilot shall be permitted to switch off or reduce the intensity of any flashing lights fitted to meet the requirements of sub-regulations (1), (2) and (3) if they do or are likely to –

(a) adversely affect the satisfactory performance of duties; or

(b) subject an outside observer to harmful dazzle.

(5) The lights which have to be displayed by aircraft by day, night, on water or on the manoeuvring area of an aerodrome, shall be as prescribed in Document SA-CATS-OPS 91.

**Taxi rules**

**91.06.11** (1) Aircraft which are landing or taking off, shall be given right of way by other aircraft and by vehicles.

(2) An aircraft shall, after landing, unless otherwise authorised or instructed by an air traffic service unit, be moved clear of the runway in use, as soon as it is safely possible to do so.

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(3) A vehicle which is towing an aircraft shall be given right of way by vehicles and by other aircraft which are not landing or taking off.

(4) An aircraft shall be given right of way by a vehicle which is not towing an aircraft.

(5) An aircraft or vehicle which is obliged by the provisions of this regulation to give right of way to another aircraft, shall, if necessary in the circumstances in order to do so, reduce its speed or stop.

(6) If danger of collision exists between an aircraft or vehicle and another aircraft or vehicle, such of the following procedures as may be appropriate in the circumstances, shall be applied:

(a) When the two are approaching head-on or nearly head-on, each shall turn to the right;

(b) when one is overtaking the other, the one which is overtaking shall keep out of the way of the other by turning to the right, and no subsequent change in the relative positions of the two shall absolve the one which is overtaking from this obligation, until it is finally past and clear of the other;

(c) when the two are converging, the one which has the other on its right, shall give way to the other and shall avoid crossing ahead of the other unless passing well clear of it.

(7) A vehicle moving along a runway or taxiway, shall as far as practicable keep to the right side of the runway or taxiway.

(8) When an aircraft is being towed, the person in charge of the towing vehicle shall be responsible for compliance with the provisions of this regulation.

(9) An aircraft operated on a controlled aerodrome shall not taxi on the manoeuvring area without clearance from the aerodrome control tower and shall comply with any instructions given by that unit.

(10) An aircraft taxiing on the manoeuvring area of an uncontrolled aerodrome shall taxi in accordance with the ground control procedures which may be in force at such aerodrome.

(11) While taxiing, an aircraft shall –

(a) stop and hold at all runway-holding positions unless otherwise authorized by the aerodrome control tower; and

(b) stop at all lighted stop bars and may proceed further when the lights are switched off.

(12) Nothing in this regulation shall relieve the pilot-in-command of an aircraft or the person in charge of a vehicle, from the responsibility for taking such action as will best aid to avert collision.

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**Operation on and in the vicinity of aerodrome**

**91.06.12** (1) The pilot-in-command of an aircraft operated on or in the vicinity of an aerodrome, shall be responsible for compliance with the following rules –

(a) observe other aerodrome traffic for the purpose of avoiding collision;

(b) conform with or avoid the pattern of traffic formed by other aircraft in operation;

(c) make all turns to the left when approaching for a landing and after taking off, unless otherwise instructed by an air traffic service unit, or unless a right hand circuit is in force: Provided that a helicopter may, with due regard to other factors and when it is in the interest of safety, execute a circuit to the opposite side;

(d) land and take off, as far as practicable, into the wind unless safety, the runway configuration or air traffic considerations dictate that a different direction is preferable, or unless otherwise instructed by an air traffic service unit; and

(e) fly across the aerodrome or its environs at a height of not less than 2 000 feet above the level of such aerodrome: Provided that if circumstances require such pilot-in-command to fly at a height of less than 2 000 feet above the level of the aerodrome, he or she shall conform with the traffic pattern at such aerodrome.

(2) If an aerodrome control tower is in operation, the pilot-in-command shall also, whilst the aircraft is within the aerodrome traffic zone –

(a) maintain a continuous radio watch on the frequency of the aerodrome control tower responsible for providing aerodrome control service at the aerodrome, establish two way radio communication as necessary for aerodrome control purposes and obtain such clearances for his or her movements as may be necessary for the protection of aerodrome traffic; or

(b) if this is not possible, keep a watch for and comply with such clearances and instructions as may be issued by visual means.

(3) If an aerodrome flight information service unit is in operation, the pilot-in-command shall also, whilst the aircraft is within the aerodrome traffic zone –

(a) maintain a continuous radio watch on the frequency of the aerodrome flight information service unit responsible for providing aerodrome flight information service at the aerodrome, establish two-way radio communication as necessary for aerodrome flight information service purposes and obtain information in respect of the surface wind, runway in use and altimeter setting and in respect of aerodrome traffic on the manoeuvring area and in the aerodrome traffic zone; or

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(b) if this is not possible, keep a watch for visual signals which may be displayed or may be issued by the aerodrome flight information service unit.

(4) An aircraft which is unable to communicate by radio shall, before landing at an aerodrome, make a circuit of the aerodrome for the purpose of observing the traffic, and reading such ground markings and signals as may be displayed thereon, unless it has the consent of the appropriate air traffic service unit to do otherwise.

**Signals**

**91.06.13** (1) The pilot-in-command of an aircraft in flight shall, upon observing or receiving any of the signals as prescribed in Document SA-CATS-OPS 91, take such action as may be required by the interpretation of the signal as prescribed in Document SA-CATS-OPS 91.

(2) No person may perform the functions of a signalman unless trained and qualified to carry out such functions as contained in Document SA-CATS-OPS 91.

(3) Any person acting as a signalman shall be responsible for providing the standard marshalling signals, as prescribed in Document SA-CATS-OPS 91, to aircraft in a clear and precise manner.

**Water operations**

**91.06.14** (1) When two aircraft or an aircraft and a vessel are approaching one another and there is a risk of collision, the aircraft shall proceed with careful regard to existing circumstances and conditions including the limitations of the respective craft.

(2) An aircraft which has another aircraft or a vessel on its right shall give way so as to keep well clear.

(3) An aircraft approaching another aircraft or a vessel head-on, or approximately so, shall alter its heading to the right to keep well clear.

(4) An aircraft or vessel which is being overtaken has the right of way, and the one overtaking shall alter its heading to keep well clear.

(5) Aircraft landing on or taking off from the water shall, insofar as practicable, keep well clear of all vessels and avoid impeding their navigation.

(6) All aircraft on the water shall display lights between sunset and sunrise as prescribed in technical standard 91.06.10 of Document SA-CATS-OPS 91.

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(7) In areas in which the International Regulations for Preventing Collisions at Sea are in force, aircraft operated on the water shall comply with the provisions thereof.

**Reporting position**

**91.06.15** (1) The pilot-in-command of an aircraft –

(a) flying in controlled airspace;

(b) flying in advisory airspace; or

(c) on a flight for which alerting action is being provided,

shall ensure that reports are made to the responsible air traffic service unit, as soon as possible, of the time and level of passing each compulsory reporting point, together with any other required information, and he or she shall further ensure that position reports are similarly made in relation to additional reporting points, if so requested by the responsible air traffic service unit and that, in the absence of designated reporting points, position reports are made at the intervals specified by the responsible air traffic service unit or published by the Commissioner in terms of Part 175 for that area.

(2) Controlled flights providing position information to the appropriate air traffic service unit via data link communications shall only provide voice position reports when requested.

**Mandatory radio communication in controlled airspace**

**91.06.16** The pilot-in-command of an aircraft to be operated in or crossing a controlled airspace shall ensure that, before the aircraft enters such airspace, two-way radio contact is established with the responsible air traffic service unit on the designated radio frequency, and shall ensure, while the aircraft is within, and until it leaves, the controlled airspace, that continuous radio watch is maintained and that such further two-way radio communication as such air traffic service unit may require, is established: Provided that –

(a) the air traffic service unit may permit an aircraft not capable of maintaining continuous two-way radio communication, to fly in the control area, terminal control area, control zone or aerodrome traffic zone for which it is responsible, if traffic conditions permit, in which case the flight shall be subject to such conditions as such air traffic service unit deems necessary to ensure the safety of other air traffic; and

(b) in the case of radio failure, a flight for which an air traffic service flight plan was filed and activated by the air traffic service unit on receipt of a departure time, may continue in controlled airspace if the communication failure procedures specified in Document SA-CATS-OPS 91 are complied with.

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**Mandatory radio communication in advisory airspace**

**91.06.17** The pilot-in-command of an aircraft to be operated in advisory airspace shall ensure that, before the aircraft approaches or enters such airspace –

(a) two-way radio communication with the responsible air traffic service unit is established on the designated radio frequency;

(b) if such communication is not possible, two-way radio communication is established with any air traffic service unit which is capable of relaying messages to and from the responsible air traffic service unit; or

(c) if such communication is not possible, broadcasts are made on the designated radio frequency giving information on the aircraft's intention to enter the airspace, and such pilot-in-command shall ensure that, while the aircraft is within the advisory airspace and until it departs therefrom, a continuous radio watch is maintained on the designated radio frequency and that –

(i) such further two-way radio communication as the responsible air traffic service unit may require, is established with any other air traffic service unit which is capable of relaying messages to and from such responsible air traffic service unit;

(ii) if such communication is not possible, such further two-way radio communication is established with any other air traffic service unit which is capable of relaying messages to and from the responsible air traffic service unit, as such responsible air traffic service unit may require; or

(iii) if such communication is not possible, broadcasts are made on the designated radio frequency giving information on passing reporting points and when leaving the airspace concerned: Provided that –

(aa) an aircraft maintaining a Selcal watch while operating within an advisory route in the Johannesburg flight information region and whose Selcal call-sign has been communicated to the Johannesburg flight information centre, shall be deemed to be maintaining a continuous radio watch; and

(bb) in the case of a radio failure, a flight for which an air traffic service flight plan was filed and activated by an air traffic service unit on receipt of a departure time, may continue in advisory airspace if the communication failure procedures specified in technical standard 91.06.16 of Document SA-CATS-OPS are complied with.

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**Compliance with rules of the air and air traffic control clearances and instructions**

**91.06.18** (1) The operation of an aircraft either in flight or on the movement area of an aerodrome shall be in compliance with the general operating rules in this Part and, in addition, when in flight, either with –

(a) the visual flight rules (VFR); or

(b) the instrument flight rules (IFR).

(2) The pilot of an aircraft shall –

(a) comply with any air traffic control clearance which is obtained, unless the pilot obtains an amended clearance;

(b) operate the aircraft in accordance with any instruction issued by an air traffic service unit (ATSU) in an area in which an air traffic control service is provided; and

(c) when deviating from an air traffic control clearance or instruction, notify the ATSU of the deviation, as soon as practicable.

(3) The pilot of an aircraft shall include the information specified in Document SA-CATS-OPS 91 when requesting a deviation from an air traffic control clearance or flight planned altitude or route.

(4) Nothing in these Regulations shall relieve the pilot-in-command of an aircraft from the responsibility of taking such action, including collision avoidance manoeuvres based on resolution advisories by airborne collision avoidance system (ACAS) equipment, as will best avert a collision.

**Prohibited areas**

**91.06.19** (1) The Commissioner may by notice in the Integrated Aeronautical Information Publication (IAIP) declare any area to be a prohibited area and shall, for the purposes of the prohibition contained in sub-regulation (2), when so declaring an area to be a prohibited area –

(a) specify a height above the ground surface of such area; or

(b) specify an altitude in respect of such area, as the Commissioner may deem expedient, in the notice in question.

(2) No person shall fly any aircraft whatsoever in the air space above a prohibited area –

(a) below the height specified in terms of sub-regulation (1)(a); or

(b) below the altitude specified in terms of sub-regulation (1)(b), as the case may be, in respect of the prohibited area in question.

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**Restricted areas**

**91.06.20** (1) The Commissioner may by notice in the Integrated Aeronautical Information Publication (IAIP) declare any area to be a restricted area and shall, when so declaring an area to be a restricted area, specify in the notice in question –

(a) the nature and extent of the restriction applicable in respect of the area in question; and

(b) the authorisation under which flights in such restricted area shall be permitted.

(2) No person shall, in contravention of a restriction contemplated in sub-regulation (1)(a), fly any aircraft to which the said restriction applies, in any restricted area, unless the flight in question has been permitted by virtue of an authorisation contemplated in sub-regulation (1)(b).

**Division Two: Visual Flight Rules**

**Visibility and distance from cloud**

**91.06.21** Every VFR flight shall be so conducted that the aircraft is flown with visual reference to the surface by day and to identifiable objects by night and at no time above more than three eighths of cloud within a radius of five nautical miles of such aircraft and –

(a) in the case of aircraft excluding helicopters, under conditions of visibility and distance from cloud equal to, or greater than, the conditions specified in tables 1 and 2 –

Table 1

| Airspace | Flight visibility | Distance from clouds | Ground visibility and ceiling |
|---|---|---|---|
| Control zones (1) | Five km | Horizontally: 2 000 feet<br>Vertically: 500 feet | No aircraft shall take-off from, land at, or approach to land at an aerodrome or fly within the control zone when the ground visibility at the aerodrome concerned is less than five km and the ceiling is less than 1 500 feet. (1) |
| Within an aerodrome traffic zone (which does not also comprise a control zone or part of a control zone) | Five km | Horizontally: 2 000 feet<br>Vertically: 500 feet | No aircraft shall take-off from, land at or approach to land at an aerodrome or fly within the aerodrome traffic zone when the ground visibility within such aerodrome traffic zone is less than five km and the ceiling is less than 1 500 feet. (2) |

Footnotes –

(1) Minima not applicable to special VFR flights.

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(2) When a pilot in an aircraft maintains two-way radio communication with the aerodrome control tower or aerodrome flight information service unit, the pilot may, in respect of a cross-country flight, leave or enter the aerodrome traffic zone, as the case may be, when the ground visibility is equal to or greater than five km and the ceiling is equal to or higher than 500 feet.

(3) VFR flight not permitted at transonic or supersonic speed.

Table 2

| Altitude band | Airspace class[1] | Flight visibility | Distance from cloud |
|---|---|---|---|
| At and above 10 000 ft (3 050 m) above MSL | C F G | 8 km | 1 500 m horizontally 1 000 ft (300 m) vertically |
| Below 10 000 ft (3 050 m) AMSL and above 3 000 ft (900 m) above MSL, or above 1 000 ft (300 m) above terrain, whichever is the higher | C F G | 5 km | 1 500 m horizontally 1 000 ft (300 m) vertically |
| At and below 3 000 ft (900 m) above MSL, or 1 000 ft (300 m) above terrain, whichever is the higher | C | 5 km | 1 500 m horizontally 1 000 ft (300 m) vertically |
| | F G | 5 km | Clear of cloud and with the surface in sight |

Footnote –

(1) VFR flight not permitted in Class A airspace.

(b) in the case of helicopters, under conditions of visibility and distance from cloud equal to, or greater than, those conditions specified in the following tables: Provided that the limitations as contained in the tables shall not prevent a helicopter from conducting hover-in-ground-effect or hover-taxi operations if the visibility is not less than 100 m –

Table 3

| Airspace | Flight visibility | Distance from clouds | Ground visibility and ceiling |
|---|---|---|---|
| Control zones [1] | Two and a half km | Horizontally: 1 000 feet Vertically: Clear of cloud | Except in a case mentioned in footnote (1) no helicopter shall take-off from, land at, or approach to land at an aerodrome or fly within the control zone when the ground visibility at the aerodrome concerned is less than 2,5 km and the ceiling is less than 600 feet. |
| Within an aerodrome | Two | Horizontally: | No helicopter shall take-off from, land |

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| | | | |
|---|---|---|---|
| traffic zone (which does not also comprise a control zone or part of a control zone) | and a half km | 1 000 feet Vertically: Clear of cloud | at, or approach to land at an aerodrome or fly within the aerodrome traffic zone when the ground visibility at the aerodrome concerned is less than 2,5 km and the ceiling is less than 600 feet. |

Footnote –

(1) Minima not applicable to special VFR flights.

Table 4

| Altitude band | Airspace class(1) | Flight visibility | Distance from cloud |
|---|---|---|---|
| At and above 10 000 ft (3 050 m) above MSL | C F G | 8 km | 1 500 m horizontally 1 000 ft (300 m) vertically |
| Below 10 000 ft (3 050 m) AMSL and above 3 000 ft (900 m) above MSL, or above 1 000 ft (300 m) above terrain, whichever is the higher | C F G | 5 km | 1 500 m horizontally 1 000 ft (300 m) vertically |
| At and below 3 000 ft (900 m) above MSL, or 1 000 ft (300 m) above terrain, whichever is the higher | C | 5 km | 1 500 m horizontally 1 000 ft (300 m) vertically |
| | F G | 5 km | Clear of cloud and with the surface in sight |

Footnote –

(1) VFR flight not permitted in Class A airspace.

**Special VFR weather minima**

**91.06.22** (1) A pilot in command may conduct special VFR operations in weather conditions below the conditions prescribed in regulation 91.06.21 within a control zone –

(a) under the terms of an air traffic control clearance;

(b) by day only;

(c) with a cloud ceiling of at least 600 feet and visibility of at least 1 500m;

(d) in an aircraft equipped with two way radio equipment capable of communicating with an air traffic service unit on the appropriate frequency; and

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(e) if leaving the control zone, in accordance with instructions issued by an air traffic service unit prior to departure.

(2) A pilot-in-command of a Class 1 or a Class 2 helicopter may within a control zone (CTR) under the terms of an air traffic control clearance conduct special VFR operations for the purpose of an over-water operation in weather conditions below the minima prescribed in regulation 91.06.21 –

(a) by day or by night;

(b) when clear of clouds;

(c) with a cloud ceiling of at least 300 feet;

(d) a flight visibility of at least 900 metres; and

(e) if leaving a CTR, in accordance with instructions issued by the responsible air traffic service unit prior to departure;

(f) provided that –

(i) the flight is only conducted over water;

(ii) the special VFR clearance is only valid in the CTR; and

(iii) the minima do not apply to any flight over any portion of land situated in the CTR.

**VFR flight determination and weather deterioration**

**91.06.23** (1) Outside a control zone or an aerodrome traffic zone, the ascertainment of whether or not weather conditions permit flight in accordance with VFR, shall be the responsibility of the pilot-in-command of an aircraft.

(2) Whenever weather conditions do not permit a pilot to maintain the minimum distance from cloud and the minimum visibility required by VFR, the pilot shall –

(a) if in controlled airspace, request an amended clearance enabling the aircraft to continue in VMC to the nearest suitable aerodrome, or to leave the airspace within which an ATC clearance is required;

(b) if no clearance in accordance with paragraph (a) can be obtained, continue to operate in VMC and land at the nearest suitable aerodrome, notifying the appropriate ATC unit of the action taken;

(c) if operating within a control zone, request authorization to operate as a special VFR flight; or

(d) request clearance to operate in accordance with the instrument flight rules.

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## Division Three: Instrument Flight Rules

### Compliance with IFR

**91.06.24** A flight conducted above flight level 200 shall be flown in compliance with IFR as prescribed in this Subpart.

### Aircraft equipment

**91.06.25** Aircraft shall be equipped with suitable instruments and radio navigation apparatus appropriate to the route to be flown and in accordance with the provisions of Subpart 5.

### Change from IFR flight to VFR flight

**91.06.26** (1) The pilot-in-command of an aircraft who elects to change the conduct of flight of the aircraft from compliance with IFR to compliance with VFR shall, if a flight plan was submitted for the flight, notify the air traffic service unit concerned that the IFR flight is cancelled and communicate to such air traffic service unit the intended changes to be made to the current flight plan.

(2) When an aircraft operating under IFR is flown in or encounters visual meteorological conditions, the pilot-in-command shall not cancel its IFR flight unless it is anticipated, and intended, that the flight will be continued for a reasonable period in uninterrupted visual meteorological conditions.

### IFR procedures

**91.06.27** (1) Unless otherwise authorised by the responsible air traffic service unit, aircraft flown in compliance with the rules contained in this Division, shall comply with IFR procedures applicable in the relevant airspace.

(2) Unless otherwise authorized by the appropriate ATS authority, or directed by the appropriate air traffic control unit, controlled flights shall, insofar as practicable –

(a) when on an established ATS route, operate along the defined centre line of that route; or

(b) when on any other route, operate directly between the navigation facilities and/or points defining that route.

(3) An aircraft operating along an ATS route segment defined by reference to very high frequency omnidirectional radio ranges shall change over for its primary navigation guidance from the facility behind the aircraft to that ahead of it at, or as close as operationally feasible to, the changeover point, where established.

(4) Subject to the provisions of regulation 91.06.25, the pilot-in-command of an aircraft may execute, or endeavour to execute, a cloud-break or let-down procedure at an aerodrome or nominate an aerodrome as an alternate aerodrome: Provided that the requirements relating to cloud-break or let-down

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procedures and to flights under IMC, as published by the Commissioner in the NOTAM, can be complied with.

**Division Four: Specific Provisions Regarding Aircraft**

**Foreign military aircraft**

**91.06.28** No foreign military aircraft shall fly over or land in the Republic except on the express invitation or with the express permission of the Minister, but any such aircraft so flying over or landing in the Republic shall be exempt from these Regulations to such extent and on such conditions as are specified in the invitation or permission.

**Identification and interception of aircraft**

**91.06.29** (1) No person shall institute in-flight surveillance against, give an interception signal in connection with or give an instruction to land to a civilian aircraft suspected to be in contravention of the Act except –

(a) on instruction by the Minister, the Commissioner, an authorized officer or authorized person designated in terms of section 5(4) of the Act, or

(b) if the person is a member of the South African Police Services or South African National Defence Force, acting within the course and scope of his or her duties; and

(c) the in-flight surveillance, interception signal or instruction to land is in the public interest.

(2) The in-flight surveillance, interception signal or instruction to land must be executed in a manner that does not unduly affect aviation safety.

(3) The intercepted aircraft must follow out the instructions of the intercepting aircraft as prescribed in Document SA-CATS-OPS 91.

(4) When the aircraft is intercepted, the pilot-in command (PIC) must immediately establish radio contact with the intercepting aircraft on 121,5 MHz.

(5) If the intercepting aircraft cannot establish radio contact with or contact in any other practical way the intercepted aircraft, visual signals as prescribed in Document SA-CATS-OPS 91 must be used.

(6) The PIC of a civil aircraft flying in South African airspace when intercepted shall comply with the procedures specified in this regulation.

(7) The PIC of a civil aircraft flying in foreign airspace when intercepted shall comply with the interception procedures of that country.

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**Division Five: Air Traffic Rules**

**Air traffic service procedures**

**91.06.30** The pilot-in-command of an aircraft to be operated in controlled airspace shall –

(a) ensure that an air traffic service flight plan is submitted and changes thereto are notified as prescribed in regulation 91.03.4;

(b) ensure that radio contact is established with the responsible air traffic service unit and that radio communication is maintained as prescribed in regulation 91.06.16 except where such communication is accomplished using air data link; and

(c) for flight in controlled airspace, obtain and comply with air traffic control clearances and instructions: Provided that –

(i) the pilot-in-command of an aircraft may deviate from an air traffic control clearance in exceptional circumstances, but such deviation shall be reported to the responsible air traffic service unit as soon as possible; and

(ii) the pilot-in-command of an aircraft may propose an amendment to an air traffic control clearance, but such amendment shall not be applied until acceded to by the responsible air traffic service unit.

**Priority**

**91.06.31** (1) An air traffic service unit may, with regard to arrivals and departures, give priority to aircraft operating in accordance with air traffic service flight plan clearance over aircraft not so engaged.

(2) Whenever an aircraft has requested a clearance involving priority, a report explaining the necessity for such priority shall be submitted if requested by the appropriate air traffic services unit.

**Division Six: Heights and Instrument Approach and Departure Procedures**

**Minimum heights**

**91.06.32** (1) Except when necessary for taking off or landing, or except with prior written approval of the Commissioner, no aircraft –

(a) shall be flown over built-up areas or over an open-air assembly of persons at a height less than 1 000 feet above the highest obstacle, within a radius of 2 000 feet from the aircraft;

(b) when flown elsewhere than specified in paragraph (a), shall be flown at a height less than 500 feet above the ground or water; and

(c) shall circle over or do repeated overflights over an open-air assembly of persons at a height less than 3 000 feet above the surface.

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(2) Except when necessary for take-off or landing, or with the express permission of the Commissioner, an aircraft shall at night, in IMC or when operated in accordance with IFR, be flown –

(a) at a height of at least 1 000 feet above the highest terrain or obstacle where the height of such terrain or obstacle does not exceed 5 000 feet above sea level within five nautical miles of the aircraft in flight; or

(b) at a height of at least 2 000 feet above the highest terrain or obstacle located within five nautical miles of the aircraft in flight where the height of such terrain or obstacle exceeds 5 000 feet above sea level: Provided that within areas determined by the Commissioner the minimum height may be reduced to 1 000 feet above the highest terrain or obstacle located within 5 nautical miles of the aircraft in flight, and provided furthermore that the aircraft is flown in accordance with such procedures as the Commissioner may determine.

**Semi-circular rule**

**91.06.33** (1) Unless otherwise directed by an air traffic service unit, the pilot-in-command of an aircraft in level flight shall fly at an altitude or flight level, as appropriate, selected according to magnetic track from the table as prescribed in Document SA-CATS-OPS 91.

(2) Aircraft flown in accordance with VFR at a height of less than 1 500 feet above the surface, shall not be required to comply with the provisions of sub-regulation (1), unless if otherwise directed by an air traffic service unit.

(3) A flight conducted from flight level 200 and above, shall be flown in compliance with IFR.

**Aerodrome approach and departure procedures**

**91.06.34** (1) When an instrument approach to, or instrument departure from, an aerodrome is necessary, the pilot-in-command of an aircraft shall use the instrument approach and departure procedure as published by the Commissioner in the Aeronautical Information Circular, Integrated Aeronautical Information Publication (IAIP), IAIP Supplement or NOTAM or otherwise approved by the Commissioner.

(2) No pilot-in-command of an aircraft may execute, or endeavour to execute an instrument approach or instrument departure at an aerodrome unless –

(a) the provisions of regulation 91.06.25 are complied with;

(b) the flight is conducted in accordance with procedures for instrument approach or instrument departure authorised by the Commissioner for the specific aerodrome and manoeuvre to be executed;

(c) the requirements for flights conducted under IMC authorised by the Commissioner are complied with; and

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(d) where applicable, has received a clearance for the approach from the relevant air traffic services unit.

(3) No pilot-in-command of an aircraft may nominate an aerodrome as an alternate aerodrome unless –

(a) there is a procedure for an instrument approach authorised by the Commissioner;

(b) the aircraft complies with the requirements of regulation 91.06.25; and

(c) there is reasonable certainty that the requirements for flights conducted under IMC authorised by the Commissioner will be complied with.

## SUBPART 7:
## FLIGHT OPERATIONS

### Routes and areas of operation

**91.07.1** The owner or operator of an aircraft shall ensure that –

(a) operations are only conducted along such routes or within such areas, for which approval or authorisation has been obtained, where required, from the appropriate authority concerned;

(b) all flights are planned and conducted in accordance with any mandatory routings that have been published for any airspace being operated in, unless otherwise authorised in an air traffic control clearance;

(c) the performance of the aircraft intended to be used, is adequate to comply with minimum flight altitude requirements; and

(d) the instruments and equipment of the aircraft intended to be used, comply with the minimum requirements for the planned operation and will enable the flight crew to control the flight path of the aircraft, carry out any required procedural manoeuvres and observe the operating limitations of the aircraft in the expected operating conditions.

### Minimum flight altitudes

**91.07.2** (1) No pilot-in-command shall operate an aircraft at altitudes below –

(a) altitudes, established by the owner or operator, which provide the required terrain clearance, taking into account the operating limitations referred to in Subpart 9; and

(b) the minimum altitudes referred to in Subpart 6;

except when necessary for take-off and landing.

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(2) The method of establishing minimum flight altitudes referred to in sub-regulation (1)(a) shall be as prescribed in Document SA-CATS-OPS 91.

(3) Where the minimum flight altitudes established by the appropriate authority of a foreign State are higher than the minimum flight altitudes prescribed in this regulation, the minimum flight altitudes established by such appropriate authority shall apply in respect of a South African registered aircraft flying in the airspace of the foreign State concerned.

**Use of aerodromes**

**91.07.3** (1) No pilot shall use, and no owner or operator shall authorise the use of, an aerodrome as a destination or alternate destination aerodrome, unless such aerodrome is adequate for the type of aircraft and operation concerned.

(2) Except in an emergency, no pilot-in-command of an aircraft shall take-off or land by night, unless the place of take-off or landing is equipped with night flying facilities.

**Helicopter landings and take-offs**

**91.07.4** (1) No pilot-in-command of a helicopter shall land at or take-off from any place unless the place is so situated to permit the helicopter, in the event of an emergency arising during such landing or take-off, to land without undue hazard to persons or property on the surface.

(2) No pilot-in-command of a helicopter shall land on, or take-off from, any building, structure or place in the area of jurisdiction of a local government, unless such building, structure or place has been approved for the purpose by the Commissioner: Provided that this restriction shall not apply –

(a) to a helicopter landing on, or taking off from, a building, structure or place within an industrial area, a commercial warehouse area or an open farm land which is suitable for such purposes and in respect of which helicopter the pilot-in-command is the holder of a valid commercial or airline transport pilot licence (helicopter) or, in the case of the holder of a private pilot licence (helicopter), with the written permission of the Commissioner, unless specifically prohibited by the local government; or

(b) to a helicopter engaged in an emergency medical service operation referred to in Part 138, or undertaking of a flight necessary for the exercising of any power in terms of any law.

(3) The pilot-in-command of a helicopter shall ensure that any place used for landing, take-off or hover –

(a) shall have –

(i) physical characteristics;

(ii) obstacle limitation surfaces; and

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(iii) visual aids,

commensurate with the ambient light conditions and the characteristics of the helicopter being operated;

(b) allows the helicopter to operate clear of obstacles and without causing nuisance to third parties through its rotor wash; and

(c) has a surface area suitable for touch-down and lift-off.

(4) A local government may after consultation with the Commissioner, extend the scope of the provisions of sub-regulation (2)(a) to include other places in its area of jurisdiction.

(5) The Commissioner may, in the interests of aviation safety, impose conditions or institute restrictions as to the use of any building, structure or place for the landing or take-off of helicopters, or require special flight procedures to be adopted at, or special routes to be followed to or from, such building, structure or place by helicopters, and the Commissioner may impose different conditions, institute different restrictions or require different special flight procedures to be adopted in respect of different buildings, structures or places.

(6) Nothing in this regulation shall be construed as conferring any right to land at any building, structure or place against the wishes of the owner of, or any other person who has an interest in, the building, structure or place or as prejudicing the rights or remedies of any person in respect of any injury to persons or property caused by the helicopter or its occupants.

**Aerodrome operating minima**

**91.07.5** (1) No pilot-in-command of an aircraft shall use an aerodrome as a destination or alternate aerodrome, unless the operating minima for such aerodrome, established by the appropriate authority of the State in which the aerodrome is situated, can be complied with.

(2) The aerodrome operating minima for a specific type of approach and landing procedure shall be applicable if –

(a) the ground equipment shown on the respective instrument approach and landing chart required for the intended procedure, is operative;

(b) the aircraft systems required for the type of approach, are operative;

(c) the required aircraft performance criteria are complied with; and

(d) the flight crew is qualified to conduct the type of approach.

(3) In determining or establishing the aerodrome operating minima applicable to any particular operation, the owner or operator shall take into account –

(a) the type, performance and handling characteristics of the aircraft;

(b) the composition of the flight crew, their competence and experience;

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(c) the surface condition, dimensions and characteristics of the runways or touch-down areas which may be selected for use;

(d) the adequacy and performance of the available visual and non-visual ground aids;

(e) the equipment available in the aircraft for the purpose of navigation or control of the flight path, as appropriate, during the take-off, approach, flare, landing or missed approach;

(f) the obstacles in the approach and missed approach areas and the climb-out areas and necessary clearance;

(g) the obstacle clearance altitude or height for the instrument approach procedures;

(h) the means to determine and report meteorological conditions; and

(i) the availability and adequacy of emergency services.

(4) The aerodrome operating minima are those prescribed in Document SA-CATS-OPS 91 and no pilot shall conduct operations in weather conditions lower than such minima unless approved by the Commissioner to do so.

**Threshold crossing height**

**91.07.6** The pilot-in-command of an aircraft being used to conduct an instrument approach, shall ensure that the aircraft crosses the threshold by a safe margin and in the required landing configuration and attitude.

**Pre-flight selection of aerodromes**

**91.07.7** (1) The owner or operator of an aircraft shall select destination or alternate aerodromes in accordance with regulation 91.07.5 when planning a flight.

(2) The owner or operator shall select a departure, destination or alternate aerodrome only when the serviceability status of the aerodrome permits safe operation of the type of aircraft concerned.

(3) The owner or operator shall select and specify in the air traffic service flight plan, referred to in regulation 91.03.4, a take-off alternate aerodrome, if it would not be possible for the aircraft to return to the aerodrome of departure due to meteorological or performance reasons.

(4) The take-off alternate aerodrome referred to in sub-regulation (3), shall be located within –

(a) twenty (20) minutes flying time from the departure aerodrome in the case of single-engine aircraft;

(b) except as provided in paragraph (c), one hour flight time at the one-engine cruising speed according to the aircraft flight manual referred to in

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regulation 91.03.2, in still-air standard conditions based on the actual take-off mass for a twin-engine aircraft;

(c) for aeroplanes authorized for extended range twin-engine operations (ETOPS) under Parts 93, 121 or 135, the approved ETOPS diversion time, up to a maximum of two hours of flight time, subject to any minimum equipment list restriction, at the published one-engine-inoperative cruising speed in still-air standard conditions based on the actual take-off mass; or

(d) two hours flight time at one-engine inoperative cruising speed according to the aircraft flight manual referred to in regulation 91.03.2, in still-air standard conditions based on the actual take-off mass for three-engine and four-engine aircraft:

Provided that if the aircraft flight manual referred to in regulation 91.03.2 does not contain a one-engine inoperative cruising speed as referred to in paragraphs (b) and (c), the speed to be used for calculation shall be the speed which is achieved with the remaining engine or engines set at maximum continuous power.

(5) The owner or operator of a helicopter shall select at least one destination alternate aerodrome for each IFR flight, unless the meteorological conditions prevailing are such that, for the period from one hour before until one hour after the expected time of arrival at the destination aerodrome, the approach from the minimum sector safe altitude and landing can be made in VMC.

(6) The owner or operator of an aeroplane shall select at least one destination alternate aerodrome for each IFR flight unless –

(a) the meteorological conditions prevailing are such that, for the period from one hour before until one hour after the expected time of arrival at the destination aerodrome, the approach from the minimum sector safe altitude and landing can be made in VMC; or

(b) the destination aerodrome is isolated and no adequate destination alternate aerodrome exists, and –

(i) a standard instrument approach procedure is prescribed for the aerodrome of intended landing and the associated navigation aids will be functional from two hours before time of arrival; and

(ii) for aeroplanes, available current meteorological information indicates that the following meteorological conditions will exist from two hours before time of arrival –

(aa) a cloud base of at least 1 000 ft above the minimum associated with the instrument approach procedure; and

(bb) visibility of at least 5.5 km or of 4 km more than the minimum associated with the procedure, whichever is greater.

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(7) Except as provided in sub-regulations (10) and (13), when planning a flight, the owner or operator shall only select an aerodrome as a destination or alternate aerodrome if the appropriate weather reports or forecasts, or a combination thereof, are at or above the applicable planning minima for a period of one hour before to one hour after the estimated time of arrival of the aircraft at the aerodrome.

(8) The owner or operator of a helicopter shall select at least one destination alternate aerodrome for each IFR flight unless –

(a) available current meteorological information indicates that the following meteorological conditions will exist from two hours before to two hours after the estimated time of arrival, or from the actual time of departure to two hours after the estimated time of arrival, whichever is the shorter period –

(i) a cloud base of at least 400 ft above the minimum associated with the instrument approach procedure; and

(ii) visibility of at least 1.5 km more than the minimum associated with the procedure. or

(b) the heliport of intended landing is isolated and no suitable alternate is available and –

(i) an instrument approach procedure is prescribed for the isolated heliport of intended landing; and

(ii) a point of no return (PNR) is determined in case of an offshore destination.

(9) Suitable offshore alternates for helicopters may be specified subject to the following –

(a) the offshore alternates shall be used only after passing a PNR. Prior to a PNR, onshore alternates shall be used;

(b) mechanical reliability of critical control systems and critical components shall be considered and taken into account when determining the suitability of the alternate;

(c) one-engine inoperative performance capability shall be attainable prior to arrival at the alternate;

(d) to the extent possible, deck availability shall be guaranteed; and

(e) weather information must be reliable and accurate.

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(10) The owner or operator of an aircraft shall select two destination alternate aerodromes for IFR flights when the appropriate weather reports or forecasts for the destination aerodrome, or any combination thereof, indicate that during a period commencing one hour before and ending one hour after the estimated time of arrival, the weather conditions will be below the applicable planning minima or no weather information is available at the destination aerodrome.

(11) The owner or operator of an aircraft shall specify the destination alternate aerodrome, if required, in the air traffic service flight plan referred to in regulation 91.03.3.

(12) The owner or operator shall specify *en route* alternate aerodromes for extended-range operations with twin-engine aeroplanes and shall specify such *en route* alternate aerodromes in the air traffic service flight plan referred to in regulation 91.03.4.

(13) In addition to the provisions of sub-regulation (10), an owner or operator may conduct a flight in accordance with IFR to a destination for which there is no aviation weather report or forecast available: Provided the requirements specified in Document SA-CATS-OPS 91 are met.

**Planning minima for IFR flights**

**91.07.8** (1) The owner or operator of an aircraft shall not select an aerodrome as a take-off alternate aerodrome for a flight to be conducted, wholly or partly in accordance with IFR under IMC unless the appropriate weather reports or forecasts, or any combination thereof, indicate that, during a period commencing one hour before and ending one hour after the estimated time of arrival at the aerodrome, the weather conditions will be at or above the applicable landing minima prescribed in regulation 91.07.5.

(2) The ceiling shall be taken into account when the only approaches available are non-precision or circling approaches.

(3) Any limitation related to one-engine inoperative operations shall be taken into account.

(4) Except as provided in regulation 91.07.7(13), the owner or operator of an aircraft shall only select the destination aerodrome or destination alternate aerodrome, if required, if the appropriate weather reports or forecasts, or any combination thereof, indicate that, during a period commencing one hour before and ending one hour after the estimated time of arrival at the aerodrome, the weather conditions will be at, or above, the applicable planning minima as follows =

(a) planning minima for a destination aerodrome –

(i) runway visual range (RVR) or visibility specified in accordance with regulation 91.07.5; and

(ii) for non-precision approach or a circling approach, the ceiling at, or above, minimum descent altitude/height (MDA/H); and

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(b) planning minima for a destination alternate aerodrome shall be as prescribed in Document SA-CATS-OPS 91.

(5) The owner or operator of an aircraft shall not select an aerodrome as an *en route* alternate aerodrome unless the appropriate weather reports or forecasts, or any combination thereof, indicate that, during a period commencing one hour before and ending one hour after the estimated time of arrival at the aerodrome, the weather conditions will be at or above the planning minima as prescribed in Document SA-CATS-OPS 91.

**Meteorological conditions**

**91.07.9** (1) On a flight to be conducted in accordance with IFR, the pilot-in-command of an aircraft shall not –

(a) commence take-off; or

(b) continue beyond the in-flight decision point,

unless information is available indicating that conditions will, at the estimated time of arrival of such aircraft, be at, or above, the applicable aerodrome operating minima –

(i) at the destination aerodrome; or

(ii) where a destination alternate aerodrome is required, at the destination aerodrome and one destination alternate aerodrome or at two destination alternate aerodromes.

(2) On a flight conducted in accordance with VFR, the pilot-in-command of an aircraft shall not commence take-off unless current meteorological reports, or a combination of current reports and forecasts, indicate that the meteorological conditions along the route, or that part of the route to be flown under VFR, shall, at the appropriate time, be such as to render compliance with the provisions prescribed in this Part possible.

**VFR operating minima**

**91.07.10** The owner or operator of an aircraft shall ensure that –

(a) VFR flights are conducted in accordance with the visual flight rules prescribed in Subpart 6; and

(b) special VFR flights are not commenced when the visibility is less than the visibility prescribed in regulation 91.06.22(1).

**Mass and balance**

**91.07.11** (1) The owner or operator of an aircraft shall ensure that, during any phase of the operation, the loading, mass and the centre of gravity of the aircraft complies with the limitations specified in the approved aircraft flight manual referred to in regulation 91.03.2 or the operations manual referred to in Part 93,

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Part 121, Part 127 or Part 135, as the case may be, if the limitations therein are more restrictive.

(2) The owner or operator shall establish the mass and the centre of gravity of the aircraft by actual weighing prior to initial entry into operation and thereafter at intervals of five years.

(3) The accumulated effects of modifications and repairs on the mass and balance of the aircraft, shall be accounted for and properly documented by the owner or operator.

(4) The aircraft shall be weighed in accordance with the provisions of sub-regulation (2), if the effect of modifications on the mass and balance is not accurately known.

(5) The owner or operator shall determine the mass of all operating items and flight crew members included in the dry operating mass of the aircraft, by weighing or by using the appropriate standard mass as prescribed in Document SA-CATS-OPS 91.

(6) The influence of the mass of the operating items and flight crew members referred to in sub-regulation (5) on the centre of gravity of the aircraft shall be determined by the owner or operator of such aircraft.

(7) The owner or operator shall establish the mass of the traffic load, including any ballast, by actual weighing, or determine the mass of the traffic load in accordance with the appropriate standard passenger and baggage mass as prescribed in Document SA-CATS-OPS 91.

(8) The owner or operator shall determine the mass of the fuel load by using the actual specific gravity or, if approved by the Commissioner, a standard specific gravity.

**Fuel supply**

**91.07.12** (1) The pilot-in-command of an aircraft shall not commence a flight unless he or she is satisfied that the aircraft carries at least the planned amount of fuel to complete the flight safely, taking into account operating and meteorological conditions and the expected delays.

(2) The pilot-in-command shall ensure that the amount of usable fuel remaining in flight is not less than the fuel required to proceed to an aerodrome or, in the case of a helicopter, a suitable landing place, where a safe landing can be made.

(3) If the usable fuel on board the aircraft is less than the final reserve fuel, the pilot-in-command of such aircraft, shall –

(a) in the case of an aeroplane, declare an emergency; or

(b) in the case of a helicopter, land as soon as possible.

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(4) The method of calculating the amount of fuel to be carried for each flight shall be as prescribed in Document SA-CATS-OPS 91.

**Refuelling or defuelling with passengers on board**

**91.07.13** (1) Except as provided for in Parts 93, 121, 127 and 135, the owner or operator of an aircraft shall ensure that the aircraft is not refuelled or defuelled with aviation gasoline or wide-cut type fuel when passengers are embarking, on board or disembarking such aircraft.

(2) In cases other than the cases referred to in sub-regulation (1), necessary precautions shall be taken and the aircraft shall be properly manned by qualified personnel ready to initiate and direct an evacuation of such aircraft by the most practical and expeditious means available.

**Smoking in aircraft**

**91.07.14** (1) No person shall smoke in a South African registered aircraft or in any foreign registered aircraft when in or over the Republic.

(2) In all South African registered aircraft, notices shall be displayed in a prominent place in all passenger and flight crew compartments, indicating that smoking is prohibited.

**Instrument approach and departure procedures**

**91.07.15** (1) The owner or operator of an aircraft shall ensure that the instrument approach and departure procedures, established by the appropriate authority of the State in which the aerodrome to be used, is located, are used.

(2) Notwithstanding the provisions prescribed in sub-regulation (1), a pilot-in-command may accept an air traffic control clearance to deviate from a published approach or departure route: Provided that –

(a) obstacle clearance criteria are observed and full account is taken of the operating conditions; and

(b) the final approach is flown visually..

(3) The owner or operator of an aircraft shall ensure that the appropriate temperature corrections to all published altitudes are applied when conducting approaches at an aerodrome in temperatures below standard.

**Noise abatement procedures**

**91.07.16** No person shall operate an aircraft contrary to noise abatement procedures established for an aerodrome in terms of the provisions of the regulations of the State into or out of which the aircraft is being flown.

**Submission of air traffic service flight plan**

**91.07.17** The owner or operator of an aircraft shall ensure that a flight is not commenced unless an air traffic service flight plan referred to in regulation

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91.03.4, has been filed, or adequate information has been deposited in order to permit alerting services to be activated, if required.

**Seats, safety belts and harnesses**

**91.07.18** (1) Before take-off and landing, and whenever deemed necessary in the interests of aviation safety, the pilot-in-command of an aircraft shall ensure that each person on board such aircraft occupies a seat or berth with his or her safety belt or harness, where provided, properly secured.

(2) The pilot-in-command shall ensure that multiple occupancy of aircraft seats does not occur other than by one adult and one infant who is properly secured by a child restraint device.

**Passenger seating**

**91.07.19** (1) The owner or operator of an aircraft shall ensure that passengers are seated where, in the event that an emergency evacuation is required, such passengers may best assist and not hinder evacuation from the aircraft.

(2) The owner or operator of an aircraft shall ensure that if a disabled passenger is carried together with other passengers, such passenger shall not be positioned in such a way that access to emergency exits is blocked.

(3) Passengers may be carried in an aircraft, other than an air ambulance aircraft operated and equipped in terms of Part 138, on a stretcher only if such stretcher and the manner in which it is secured to the aircraft have been approved by the Commissioner and the condition of the passenger does not require the attention of an aviation health care provider or require the passenger to be connected to any external medical equipment.

(4) In the case of an emergency medical situation, where no air ambulance aircraft operated and equipped in terms of Part 138 can be made available within a reasonable time span at or near the place where the situation exists, an aircraft owner or operator may disregard sub-regulations (1), (2) and (3) in the interest of saving human life.

(5) Any non-standard emergency transport in terms of sub-regulation (4) shall be reported by the operator to the Commissioner on the appropriate form as described in Document SA-CATS-OPS 138, explaining the reasons for the deviation from regulation 91.07.19, within fourteen days of the flight having taken place.

**Passenger movements and briefing**

**91.07.20** (1) The owner or operator of an aircraft shall take reasonable steps to provide for the safe movement of his or her passengers to or from the aircraft while on the aerodrome movement area.

(2) The owner or operator of an aircraft shall ensure that –

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(a) passengers are verbally briefed about safety matters, parts or all of which may be given by an audio-visual presentation; and

(b) in an emergency during flight, passengers are instructed in such emergency action as may be appropriate to the circumstances.

(3) The owner or operator shall ensure that, before take-off –

(a) passengers are briefed, to the extent applicable, on –

(i) the smoking prohibition;

(ii) when the back of the seat is to be in the upright position and the tray table stowed;

(iii) the location of emergency exits;

(iv) the location and use of floor proximity escape path markings;

(v) the stowage of carry-on baggage;

(vi) any restrictions on the use of portable electronic devices; and

vii) the location and the contents of the safety briefing card; and

(b) passengers receive, to the extent applicable, a demonstration of –

(i) the use of safety belts or safety harnesses, including the manner in which the safety belts or safety harnesses are to be fastened and unfastened;

(ii) the location and use of oxygen equipment; and

(iii) the location and use of life jackets.

(4) The owner or operator shall ensure that, after take-off, passengers are reminded of –

(a) the smoking prohibition; and

(b) the use of safety belts or safety harnesses.

(5) The owner or operator shall ensure that, before landing, passengers are reminded of –

(a) the smoking prohibition;

(b) the use of safety belts or safety harnesses;

(c) when the back of the seat is to be in the upright position and the tray table stowed, if applicable;

(d) the re-stowage of carry-on baggage; and

(e) any restrictions on the use of portable electronic devices.

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(6) The owner or operator of an aircraft shall ensure that, after landing, passengers are reminded of –

(a) the smoking prohibition while on board the aircraft and any prohibitions after disembarkment; and

(b) the use of safety belts or safety harnesses.

**Passenger health and safety**

**91.07.21** (1) The pilot-in-command of an aircraft shall notify air traffic control or the South African Port Health Authority (PHA), as applicable, where it appears that any person displays the symptoms of a communicable disease as provided in Document SA-OPS-CATS 91.

(2) Immediately upon landing, a report shall be made to the PHA containing the information contained in Document SA-OPS-CATS 91.

**Emergency equipment**

**91.07.22** (1) The owner or operator of an aircraft shall ensure that emergency equipment, carried or installed in the aircraft in order to meet the requirements prescribed in this Part and the Minimum Equipment List (MEL), is in such condition that it will satisfactorily perform its design function.

(2) The pilot-in-command of the aircraft shall ensure that the emergency equipment concerned remains easily accessible for immediate use by the flight crew.

**Illumination of emergency exits**

**91.07.23** When an aircraft, which is equipped with an emergency lighting system referred to in regulation 91.04.25, is in flight and below 1 000 feet above ground level, or on the ground with passengers on board –

(a) the emergency lighting system shall be switched on; or

(b) the normal cabin lighting system shall be switched on and the emergency lighting shall be armed.

**Use of supplemental oxygen**

**91.07.24** (1) The pilot-in-command of an aircraft shall ensure that flight crew members engaged in performing duties essential to the safe operation of an aircraft in flight, use supplemental oxygen –

(a) continuously when the flight deck pressure altitude exceeds 10 000 feet for more than 120 minutes intended flight time, and

(b) at all times when the flight deck pressure altitude exceeds 12 000 feet.

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(2) The pilot-in-command of an aircraft shall ensure that, with the exception of supersonic aeroplanes, when a flight is conducted above FL 410, at least one pilot at a pilot station wears an oxygen mask when the other pilot leaves the flight deck for any reason.

**Approach and landing conditions**

**91.07.25** Before commencing an approach to land, the pilot-in-command of an aircraft shall satisfy himself or herself that, according to the information available to him or her, the weather at the aerodrome and the condition of the runway or touch-down area intended to be used, will not prevent a safe approach, landing or missed approach, having regard for the performance information contained in the aircraft flight manual referred to in regulation 91.03.2 or similar document.

**Approach ban**

**91.07.26** (1) Except as provided for in sub-regulation (3), when operating in IMC and in accordance with IFR, the pilot-in-command (PIC) of an aircraft may commence an approach regardless of the reported runway visual range (RVR) or visibility, but the approach shall not be continued beyond the final approach fix (FAF) or equivalent published position, or, in the case of a non-precision approach, below 1 000 feet above the aerodrome, unless the reported RVR or visibility for the runway or touch-down area is equal to, or better than, the applicable operating minima.

(2) Where RVR is not available, the PIC may derive an RVR value by converting the reported visibility in accordance with the provisions as prescribed in section 8 of technical standard 91.07.5 of Document SA-CATS-OPS 91.

(3) The PIC may continue the approach to decision altitude/height or minimum descent altitude/height if –

(a) at the time the RVR report is received, the aircraft has passed the FAF inbound or, where there is no FAF, the point where the final approach course is intercepted or, in the case of a non-precision approach, below 1 000 feet above the aerodrome;

(b) the aircraft is on a training flight where a landing is not intended and the appropriate air traffic control unit is informed that a missed approach procedure will be initiated at or above the decision height or minimum descent altitude, as appropriate; or

(c) the RVR is varying between distances less than and greater than the minimum RVR.

(4) The PIC may continue the approach below decision altitude/height or minimum descent altitude/height and the landing may be completed: Provided that the required visual reference is established at the decision altitude/height or minimum descent altitude/height and is maintained.

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(5) Where no FAF or equivalent published position exists for a precision approach, the PIC shall decide whether to continue or abandon the approach before descending below 1 000 feet above the aerodrome on the final approach segment.

**In-flight testing on passenger- and cargo-carrying flights**

**91.07.27** The owner or operator of an aircraft, when passengers or cargo are on board such aircraft, shall ensure that no person –

(a) simulates emergency situations in the aircraft affecting the flight characteristics of such aircraft;

(b) conducts flight testing for the initial skills test or renewal of an instrument rating;

(c) conducts any flight or skills test other than a route proficiency test; or

(d) conducts any skills test for a class or type rating.

**Turning helicopter rotors**

**91.07.28** (1) Except as provided for in sub-regulation (2), no person engaged in helicopter operations shall permit helicopter rotors to be turned under power without a qualified pilot at the controls of such helicopter.

(2) A licensed aircraft maintenance engineer, who has undergone instruction from a qualified Grade II or higher qualified helicopter flight instructor on the ground-running of the relevant helicopter type, and thereafter has been certified as competent to undertake such a task by the instructor in his or her aircraft maintenance engineer's Record of Experience (TV2/308), may turn helicopter rotors under power for the purposes of blade tracking on condition that –

(a) the collective has been locked in the down position; and

(b) ground-runs are carried out when the helicopter is stationary, and wind conditions do not require major cyclic inputs.

**Starting and running of engines**

**91.07.29** (1) Except when the brakes are serviceable and are fully applied, chocks shall be placed in front of the wheels of an aeroplane before starting the engine or engines, and a competent person shall be seated at the controls when the engine or engines are running.

(2) Where the pilot of an aeroplane is the only person present and it has been necessary for chocks to be used, he or she shall ensure that the chocks are removed prior to starting the engine, unless the aircraft is equipped with a parking brake, in which case the parking brake shall be set before the pilot removes the chocks.

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(3) Except as provided in sub-regulation (2), the pilot seat of an aircraft shall not be left unattended while the engines are running and such person shall be qualified to occupy the pilot seat.

**Acrobatic flights**

**91.07.30** (1) No aircraft shall be flown acrobatically so as to endanger air traffic.

(2) Except by individual permission from the Commissioner, aircraft shall not be flown acrobatically –

(a) unless the manoeuvre can be concluded and the aircraft brought on an even keel at a height of not less than 2 000 feet above the ground or water;

(b) within a five nautical mile distance of an aerodrome reference point of an aerodrome licensed and approved in terms of Part 139 unless at a height not less than 4 000 feet above ground level;

(c) in the vicinity of air traffic services routes; or

(d) over any populous area or public gathering.

**Simulated instrument flight in aircraft**

**91.07.31** (1) The owner or operator of an aircraft shall ensure that no person operates the aircraft in simulated instrument flight in visual meteorological conditions unless –

(a) the other aircraft control seat is occupied by a safety pilot who possesses at least a private pilot licence with category and class ratings appropriate to the aircraft being flown;

(b) the safety pilot has adequate vision forward and to each side of the aircraft, or there is a competent observer in the aircraft who adequately supplements the vision of the safety pilot; and

(c) except in the case of lighter-than-air aircraft, the aircraft is fitted with fully functioning dual controls: Provided that simulated instrument flight may be conducted in a single-engine aircraft, equipped with a single, functioning throw-over control wheel in place of fixed dual controls of the elevator and ailerons, when –

(i) the safety pilot has determined that the flight can be conducted safely; and

(ii) the person manipulating the controls has at least a private pilot licence with appropriate category, class and type ratings.

(2) When simulated instrument flight is being practised by a pilot, at least one of the two pilots shall hold the appropriate valid type rating in respect of the aircraft being flown and shall act as the pilot-in-command.

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(3) When a simulated instrument flight takes place at night in VMC, the safety pilot shall be the holder of a valid instrument rating.

(4) When simulated instrument flight is being practised for the purpose of obtaining an instrument rating, the safety pilot shall be an appropriately rated flight instructor.

**Aeroplane operating procedures**

**91.07.32** Unless otherwise specified in an air traffic control instruction, the pilot-in-command of an aircraft shall climb or descend to an assigned altitude or flight level at a rate less than 1 500 ft/min throughout the last 1 000 ft of climb or descent to the assigned altitude or flight level.

**Head-up displays and enhanced vision systems**

**91.07.33** No owner or operator shall use a head-up display or enhanced vision system while operating in accordance with the instrument flight rules unless he or she meets the requirements specified in Document SA-CATS-OPS 91 and is approved to do so by the Commissioner.

**Electronic flight bags**

**91.07.34** No owner or operator shall use an electronic flight bag unless he or she meets the requirements specified in Document SA-CATS-OPS 91 and is approved to do so by the Commissioner.

## SUBPART 8:
## PERFORMANCE OPERATING LIMITATIONS

**General provisions**

**91.08.1** (1) The owner or operator of an aircraft shall ensure that, under all conditions that could reasonably be expected to be encountered, the aircraft is operated in compliance with –

(a) the terms and conditions of the certificate of airworthiness and aircraft flight manual issued in respect of such aircraft;

(b) the operating limitations, the markings and placards as prescribed by the appropriate authority of the State of Registry; and

(c) the mass limitations prescribed in Part 21 or as imposed by compliance with the applicable noise certification standards under which the aircraft was certified unless otherwise authorized in exceptional circumstances by the competent authority of the State in which the aerodrome is situated for a certain aerodrome or a runway where there is no noise disturbance problem.

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(2) In complying with sub-regulation (1), the owner or operator shall take account of airframe configuration, environmental conditions and the operation of systems which may have an effect on the performance of the aircraft, when appropriate, including aircraft mass, operating procedures, the pressure altitude appropriate to the elevation of the aerodrome, temperature, wind, runway gradient and condition of runway.

(3) The operator of an aircraft engaged in a commercial air transport operation, shall comply with the provisions of the appropriate regulations in Part 121, Part 127 or Part 135, as the case may be.

**Helicopter operating limitations**

**91.08.2** (1) Except as provided in Part 127, performance Class 3 helicopters shall only be operated in conditions of weather and light, and over such routes and diversions therefrom, which may permit a safe forced landing to be executed in the event of an engine failure.

(2) The provisions of sub-regulation (1) shall apply to performance Class 2 helicopters prior to the take-off decision point or after passing the landing decision point.

(3) Only performance Class 1 helicopters shall be permitted to operate from elevated heliports in built-up urban areas.

**Helicopter performance classification**

**91.08.3** For performance purposes, helicopters are classified as follows:

(a) Class 1 helicopter – a helicopter with performance such that, in case of critical power unit failure, the helicopter is able to safely continue the flight to an appropriate landing, unless the failure occurs prior to reaching the take-off decision point or after passing the landing decision point, in which cases the helicopter must be able to land within the rejected take-off or landing area;

(b) Class 2 helicopter – a helicopter with performance such that, in case of critical power unit failure, the helicopter is able to safely continue the flight, except when the failure occurs early during the take-off manoeuvre or late in the landing manoeuvre, in which case a forced landing may be required; and

(c) Class 3 helicopter – a helicopter with performance such that, in case of power unit failure at any point in the flight profile, a forced landing has to be performed.

**Aeroplane performance classification**

**91.08.4** For performance purposes, aeroplanes are classified as follows –

(a) Class A aeroplanes –

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(i) multi-engine aeroplanes powered by turbo-propeller engines with a maximum certificated mass exceeding 5 700 kilograms; and

(ii) multi-engine turbojet-powered aeroplanes;

(b) Class B aeroplanes – propeller-driven aeroplanes, other than single-engine aeroplanes, with a maximum certificated mass of 5 700 kilograms or less;

(c) Class C aeroplanes – aeroplanes powered by two or more reciprocating engines with a maximum certificated mass exceeding 5 700 kilograms; and

(d) Class D aeroplanes – single-engine aeroplanes.

**Performance limitations Class A and Class C aeroplanes**

**91.08.5** (1) No owner or operator of a Class A or C aeroplane shall start a take-off unless the aeroplane is able, in the event of a critical power-unit failing at any point in the take-off, either to discontinue the take-off and stop within either the accelerate-stop distance available or the runway available, or to continue the take-off and clear all obstacles along the flight path by an adequate margin until the aeroplane is in a position to safely transition to the *en route* phase of flight.

(2) The adequate margin referred to in sub-regulation (1) shall be determined as prescribed in Document SA-CATS-OPS 91.

(3) For the purposes of sub-regulation (1), in determining the length of the runway available, account shall be taken of the loss, if any, of runway length due to alignment of the aeroplane prior to take-off.

(4) No owner or operator of a Class A or C aeroplane shall operate such aeroplane unless it is able, in the event of the critical engine becoming inoperative at any point along the route or planned diversions there from, to continue the flight to an aerodrome at which the requirements of sub-regulation (5) can be met, without flying below the minimum obstacle clearance altitude at any point.

(5) No owner or operator of a Class A or C aeroplane shall operate such aeroplane unless it is able, at the aerodrome of intended landing and at any alternate aerodrome, after clearing all obstacles in the approach path by a safe margin, be able to land, with assurance that it can come to a stop or, for a seaplane, to a satisfactorily low speed, within the landing distance available. Allowance shall be made for expected variations in the approach and landing techniques, if such allowance was not made during the establishment of the aeroplane's performance data.

(6) An owner or operator may, in meeting the requirements of sub-regulations (4) and (5), make allowance for normal fuel consumption and if applicable, the ability to jettison fuel *en route*.

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(7) An owner or operator of aeroplanes without approved performance data may submit an alternative means of meeting the requirements of sub-regulations (1), (4) and (5) to the Commissioner for approval.

## SUBPART 9: MAINTENANCE

### General

**91.09.1** (1) No owner, operator or pilot-in-command of an aircraft shall operate the aircraft unless such aircraft is maintained and released to service in accordance with the provisions of Part 43.

(2) An owner or operator may assign the responsibility for the maintenance and release of his or her aircraft to an approved maintenance organisation by means of a written agreement.

### Aeroplane maintenance programme

**91.09.2** Each owner or operator shall ensure that the aeroplane is maintained in accordance with an aeroplane maintenance programme as specified in Document SA-CATS-GMR.

### Maintenance responsibilities

**91.09.3** (1) The owner or operator of an aircraft, or maintenance organisation so assigned in accordance with regulation 91.09.01(2), shall ensure that, in accordance with procedures acceptable to the Commissioner –

(a) the aircraft is maintained in an airworthy condition;

(b) the operational and emergency equipment necessary for an intended flight is serviceable; and

(c) the certificate of airworthiness of the aircraft remains valid.

(2) The owner or operator shall not operate the aircraft unless it is maintained and released to service under a system acceptable to the Commissioner.

(3) When the maintenance release is not issued by an approved maintenance organization in accordance with the provisions of Part 145, the person signing the maintenance release shall be licensed in accordance with the provisions of Part 66.

(4) The owner or operator shall ensure that the maintenance of the aircraft is performed in accordance with a maintenance programme acceptable to the Commissioner.

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**Maintenance records**

**91.09.4** (1) The owner or operator of an aircraft, or maintenance organisation so assigned in accordance with regulation 91.09.01(2), shall ensure that the following records are kept for the periods mentioned in sub-regulation (2) –

(a) the total time in service (hours, calendar time and cycles, as appropriate) of the aircraft and all life-limited components;

(b) the current status of compliance with all applicable mandatory continuing airworthiness information;

(c) appropriate details of modifications and repairs;

(d) the time in service (hours, calendar time and cycles, as appropriate) since the last overhaul of the aircraft or its components subject to a mandatory overhaul life;

(e) the current status of the aircraft's compliance with the maintenance programme; and

(f) the detailed maintenance records to show that all requirements for the signing of a maintenance release have been met.

(2) The records in sub-regulations (1)(a) to (e) shall be kept for a minimum period of 90 days after the unit to which they refer has been permanently withdrawn from service and the records in sub-regulation (1)(f) for a minimum period of one year after the signing of the maintenance release.

(3) In the event of a temporary change of owner or lessee, the records shall be made available to the new owner or lessee. In the event of any permanent change of owner or lessee, the records shall be transferred to the new owner or lessee.

**Modifications and repairs**

**91.09.5** All modifications and repairs shall comply with airworthiness requirements acceptable to the Commissioner. Procedures shall be established to ensure that the substantiating data supporting compliance with the airworthiness requirements are retained.

**Maintenance release**

**91.09.6** (1) A maintenance release shall be completed and signed, as prescribed by the Commissioner, to certify that the maintenance work performed has been completed satisfactorily and in accordance with data and procedures acceptable to the Commissioner.

(2) A maintenance release shall contain a certification including –

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(a) basic details of the maintenance performed;

(b) the date such maintenance was completed;

(c) when applicable, the identity of the approved maintenance organization;

(d) the identity of the authorized person or persons signing the release;

(e) the expiry date of the release where a calendar limit exists;

(f) the hours at which the release will expire;

(g) if the maintenance program makes provision for such, the hours or time by which the inspection may be extended.

(3) An owner shall, notwithstanding an extension as contemplated in sub-regulation (2)(g), ensure that a maintenance release remains valid by meeting the requirements of sub-regulation (2)(d) and (e) or (f), as applicable, with respect to such extension.

**Continuing airworthiness information**

**91.09.7** An owner or operator of an aeroplane of a maximum certificated take-off mass in excess of 5 700 kg shall monitor and assess maintenance and operational experience with respect to continuing airworthiness and provide such information as required by the Commissioner and shall report said information to him or her using a reporting system the Commissioner has developed for that purpose.

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