Statutory Instrument No. 63 of 2022

CIVIL AVIATION ACT
(Cap. 71:01)

CIVIL AVIATION (RULES OF AIR) REGULATIONS, 2022

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IN EXERCISE of the powers conferred on the Minister of Transport and Public Works by section 89 of the Civil Aviation Act and on the recommendation of the Civil Aviation Authority, the following Regulations are hereby made —

PART I — *Preliminary*

Citation

1. These Regulations may be cited as the Civil Aviation (Rules of Air) Regulations, 2022.

Interpretation

2. In these Regulations, unless the context otherwise requires —

"advisory airspace" means an airspace of defined dimensions or designated route, withinwhich air traffic advisory service is available;

"advisory route" means a designated route along which air traffic advisory service is available;

"aerodrome" means a defined area on land or water, including any buildings, installations and equipment, intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft;

"aerodrome control service" means air traffic control service for aerodrome traffic;

"aerodrome control tower" means a unit established to provide ATC service to aerodrome traffic;

"aerodrome traffic" means all traffic on the manoeuvring area of an aerodrome and all aircraft flying in the vicinity of an aerodrome;

"aerodrome traffic zone" means an airspace of defined dimensions established around an aerodrome for the protection of aerodrome traffic;

"aeronautical information publication" means a publication issued by or with the authority of a State and containing aeronautical information of a lasting character essential to air navigation;

"aeronautical station" means a land station in the aeronautical mobile service which in certain instances, may be located, for example, on board a ship or on a platform at sea;

"aeroplane" means a power-driven heavier-than-air aircraft, deriving its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight;

"airborne collision avoidance system (ACAS)" means an aircraft system based on secondary surveillance radar (SSR) transponder signals which operates independently of ground based equipment to provide advice to the PIC on potential conflicting aircraft that are equipped with SSR transponders;

"air traffic" means all aircraft in flight or operating on the manoeuvring area of an aerodrome;

"air traffic advisory service" means a service provided within advisory airspace to ensure separation, in so far as practical, between aircraft which are operating on IFR flight plans;

"air traffic control (ATC) clearance" means authorisation for an aircraft to proceed under conditions specified by an ATC unit;

"air traffic control service" means a service provided for the purpose of —

(*a*) preventing collisions —

(i) between aircraft, and

(ii) on maneuvering area between aircraft and obstructions; and

(*b*) expediting and maintaining an orderly flow of air traffic;

"air traffic control unit" is a generic term meaning variously, area control centre, approach control unit or aerodrome control tower;

"air traffic service" is a generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service);

"air traffic services reporting office" means a unit established for the purpose of receiving reports concerning air traffic services and flight plans submitted before departure;

"air traffic services unit" is a generic term meaning variously, air traffic control unit, flight information centre or air traffic services reporting office;

"alerting service" means a service provided to notify appropriate organizations regarding aircraft in need of search and rescue aid, and assist such organisations as required;

"alternate aerodrome" means an aerodrome to which an aircraft may proceed when it becomes either impossible or inadvisable to proceed to or to land at the aerodrome of intended landing and includes the following —

(*a*) take-off alternate; an alternate aerodrome at which an aircraft can land should this become necessary shortly after take-off and it is not possible to use the aerodrome of departure;

(*b*) en-route alternate; an aerodrome at which an aircraft would be able to land after experiencing an abnormal or emergency condition while en- route;

(*c*) Extended Range Operation by Turbine-engined aeroplanes en-route alternate; a suitable and appropriate alternate aerodrome at which an aeroplane would be able to land after experiencing an engine shutdown or other abnormal or emergency condition while en-route in an Extended Range Operation by Turbine-engined aeroplanes operation; and

(*d*) destination alternate; an alternate aerodrome to which an aircraft may proceed should it become either impossible or inadvisable to land at the aerodrome of intended landing;

"altitude" means the vertical distance of a level, a point or an object considered as a point, measured from mean sea level;

"anti-collision light" means a flashing red or flashing white light showing in all directions for the purpose of enabling the aircraft to be more readily detected by the PIC of distant aircraft;

"approach control service" means air traffic control service for arriving or departing controlled flights;

"approach control unit" means a unit established to provide air traffic control service to controlled flights arriving at, or departing from, one or more aerodromes;

"apron" means a defined area, on a land aerodrome, intended to accommodate aircraft for purposes of loading or unloading passengers, mail or cargo, fuelling, parking or maintenance;

"appropriate air traffic service authority" means the relevant authority designated for providing air traffic services in Botswana;

"area control centre (ACC)" means a unit established to provide air traffic control service to controlled flights in Control Areas under its jurisdiction;

"area control service" means ATC service for controlled flights in control areas under its jurisdiction;

"area navigation (RNAV)" means a method of navigation which permits aircraft operation on any desired flight path within the coverage of ground-or space-based navigation aids or within the limits of the capability of self-contained aids, or a combination of these;

"air traffic services route" means a specified route designed for channelling the flow of traffic as necessary for the provision of air traffic service;

"automatic dependent surveillance-broadcast (ADS-B)" means a means by which aircraft, aerodrome vehicles and other objects can automatically transmit or receive data such as identification, position and additional data, as appropriate, in a broadcast mode via a data link;

"automatic dependent surveillance-contract (ADS-C)" means a means by which the terms of an ADS-C agreement will be exchanged between the ground system and the aircraft, via a data link, specifying under what conditions ADS-C reports would be initiated, and what data would be contained in the reports;

"ceiling" means the height above the ground or water of the base of the lowest layer of cloud below 6 000 metres (20 000 feet) covering more than half the sky;

"changeover point" means the point at which an aircraft navigating on an air traffic service route segment defined by reference to very high frequency omnidirectional radio ranges is expected to transfer its primary navigational reference from the facility behind the aircraft to the next facility ahead of the aircraft;

"clearance limit" means the point to which an aircraft is granted an air traffic control clearance;

"command and control (C2) link" means the data link between the remotely piloted aircraft and the remote pilot station for the purposes of managing the flight;

"control area" means a controlled airspace extending upwards from a specified limit above the earth;

"controlled aerodrome" means an aerodrome at which air traffic control service is provided to aerodrome traffic;

"controlled airspace" means an airspace of defined dimensions within which air traffic control service is provided in accordance with the airspace classification and covers air traffic service airspace Classes A, B, C, D and E as described in these Regulations;

"controlled flight" means any flight which is subject to an air traffic control clearance;

"control zone (CTR)" means a controlled airspace extending upwards from the surface of the earth to a specified upper limit;

"cruise climb" means an aeroplane cruising technique resulting in a net increase in altitude as the aeroplane mass decreases;

"cruising level" means a level maintained during a significant portion of a flight;

"current flight plan (CPL)" means the flight plan, including changes, if any, brought about by subsequent clearances;

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

"data link communications" means a form of communication intended for the exchange of messages via a data link;

"detect and avoid" means the capability to see, sense or detect conflicting traffic or other hazards and take the appropriate action;

"estimated off-block time (EOBT)" means the estimated time at which the aircraft will commence movement associated with departure;

"estimated time of arrival (ETA)" —

(*a*) for IFR flights, means the time at which it is estimated that the aircraft will arrive over that designated point, defined by reference to navigation aids, from which it is intended that an IAP will be commenced, or, if no navigation aid is associated with the aerodrome, the time at which the aircraft will arrive over the aerodrome; and

(*b*) for VFR flights means the time at which it is estimated that the aircraft will arrive over the aerodrome;

"expected approach time (EAT)" means the time at which ATC expects that an arriving aircraft, following a delay, will leave the holding fix to complete its approach for a landing;

"filed flight plan (FPL)" means the flight plan as filed with an air traffic service unit by the PIC or a designated representative, without any subsequent changes;

"flight crew member" means a licensed crew member charged with duties essential to the operation of an aircraft during a flight duty period;

"flight (FLT)" means in the case of —

(*a*) an aeroplane or glider, from the moment it first moves for the purpose of taking off until the moment when it next comes to rest after landing; or

(*b*) an airship or free balloon, from the moment when it first becomes detached from the surface until the moment when it next becomes attached thereto or comes to rest thereon;

"flight information centre (FIC)" means a unit established to provide flight information service and alerting service;

"flight information region (FIR)" means an airspace of defined dimensions within which flight information service and alerting service are provided;

"flight information service (FIS)" means a service provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights;

"flight level (FL)" means a surface of constant atmospheric pressure which is related to a specific pressure datum, 1013.2 hectopascals (hPa), and is separated from other such surfaces by specific pressure intervals;

"flight plan" means specified information provided to air traffic services units, relative to an intended flight or portion of a flight of an aircraft;

"flight visibility" means the visibility forward from the cockpit of an aircraft in flight;

"glider" means a non-power-driven heavier-than-air aircraft, deriving its lift in flight chiefly from aerodynamic reactions on surfaces, which remain, fixed under given conditions of flight;

"ground visibility" means the visibility at an aerodrome, as reported by an accredited observer or by automatic systems;

"heading (HDG)" means the direction in which the longitudinal axis of an aircraft is pointed, usually expressed in degrees from North (true, magnetic, compass or grid);

"heavier-than-air aircraft" means any aircraft deriving its lift in flight chiefly from aerodynamic forces;

"height" means the vertical distance of a level, a point or an object considered as a point, measured from a specified datum;

"helicopter (Hel)" means a heavier-than air aircraft supported in flight chiefly by the reactions of the air on one or more power-driven rotors on substantially vertical axis;

"horizontal plane" means a plane containing longitudinal axis and perpendicular to the plane of symmetry of the plane;

"IFR" is a symbol used to designate the instrument flight rules;

"IFR flight" means a flight conducted in accordance with the Instrument Flight Rules;

"instrument approach operations" means an approach and landing using instruments for navigation guidance based on an instrument approach procedure:

There are two methods for executing instrument approach operations, which are —

(*a*) a two-dimensional (2D) instrument approach operation, using lateral navigation guidance only; and

(*b*) a three-dimensional (3D) instrument approach operation, using both lateral and vertical navigation guidance;

"instrument approach procedure (IAP)" means a series of pre-determined manoeuvres by reference to flight instruments, with specified protection from obstacles from the initial approach fix, or where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and thereafter, if a landing is not completed, to a position at which holding or enroute obstacle clearance criteria apply and is classified as follows —

(*a*) non-precision approach procedure (NPA) – an instrument approach procedure designed for 2D instrument approach operations Type A;

(*b*) approach procedure with vertical guidance (APV) – a performance-based navigation (PBN) instrument approach procedure designed for 3D instrument approach operations Type A; and

(*c*) precision approach (PA) procedure – an instrument approach procedure based on navigation systems (ILS, MLS, GLS and SBAS Cat I) designed for 3D instrument approach operations Type A or B;

"instrument meteorological conditions (IMC)" means meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, less than the minima specified for visual meteorological conditions;

"landing area" means that part of a movement area intended for the landing or take-off of aircraft;

"level" means a generic term relating to the vertical position of an aircraft in flight and meaning variously, height, altitude or flight level;

"longitudinal axis" means a selected axis parallel to the direction of the flight at a normal cruising speed and passing through the centre of gravity of the aeroplane;

"manoeuvring area" means that part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons;

"movement area" means that part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, consisting of the manoeuvring area and the apron;

"night" means the time between 30 minutes after sunset and 30 minutes before sunrise, sunrise and sunset being determined at surface level;

"operator" means a person, organisation or enterprise engaged in or offering to engage in an aircraft operation;

"overtaking aircraft" means an aircraft that approaches another from the rear on a line forming an angle of less than 70 degrees with the plane of symmetry of the latter, so that it is in such a position with reference to the other aircraft that at night it should be unable to see either of the aircraft's left (port) or right (starboard) navigation lights;

"parascending parachute" means a parachute which is towed by cable in such a manner as to cause it to ascend;

"pilot-in-command (PIC)" means the pilot designated by the operator, or in the case of general aviation, the owner as being in command and charged with the safe conduct of a flight;

"pressure-altitude" means an atmospheric pressure expressed in terms of altitude which corresponds to that pressure in the Standard Atmosphere;

"problematic use of substances" means the use of one or more psychoactive substances by aviation personnel in a way that —

(*a*) constitutes a direct hazard to the user or endangers the lives, health or welfare of others; or

(*b*) causes or worsens an occupational, social, mental or physical problem or disorder;

"prohibited area" means an airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is prohibited;

"psychoactive substances" means alcohol, opioids, cannabinoids, sedatives and hypnotics, cocaine, other psychostimulants, hallucinogens, and volatile solvents, whereas coffee and tobacco are excluded;

"radiotelephony (RTF)" means a form of radio communication primarily intended for the exchange of information in the form of speech;

"remote pilot" means a person charged by the operator with duties essential to the operation of a remotely piloted aircraft and who manipulates the flight controls, as appropriate, during flight time;

"remote pilot station" means the component of the remotely piloted aircraft system containing the equipment used to pilot the remotely piloted aircraft;

"remotely piloted aircraft (RPA)" means an unmanned aircraft which is piloted from a remote pilot station;

"remotely piloted aircraft system (RPAS)" means a remotely piloted aircraft, its associated remote pilot station(s), the required command and control links and any other components as specified in the type design;

"repetitive flight plan (RPL)" means a flight plan related to a series of frequently recurring, regularly operated individual flights with identical basic features, submitted by an operator for retention and repetitive use by air traffic service units;

"reporting point (RP)" means a specified geographical location in relation to which the position of an aircraft can be reported;

"restricted area" means an airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is restricted in accordance with certain specified conditions;

"RPA observer" means a trained and competent person designated by the operator who, by visual observation of the remotely piloted aircraft, assists the remote pilot in the safe conduct of the flight;

"runway (RWY)" means a defined rectangular area on a land aerodrome prepared for the landing and take-off of aircraft;

"runway-holding position" means a designated position intended to protect —

(*a*) a runway;

(*b*) an obstacle limitation surface; or

(*c*) an instrument landing system or microwave landing system critical area or sensitive area at which taxiing aircraft and vehicles shall stop and hold, unless otherwise authorized by the aerodrome control tower;

"safety-sensitive personnel" means persons who might endanger aviation safety if they perform their duties and functions improperly including, but not limited to, crew members, aircraft maintenance personnel and air traffic controllers;

"simulated instrument flight" means a flight during which mechanical or optical devices are used in order to reduce the field of vision or the range of visibility from the cockpit of the aircraft;

"signal area" means an area on an aerodrome used for the display of ground signals;

"special visual flight rules (SVFR)" means a VFR flight cleared by air traffic control to operate within a control zone in meteorological conditions below the VMC;

"secondary surveillance radar (SSR)" means a surveillance radar system which uses interrogators and transponders;

"taxiing" means movement of an aircraft on the surface of an aerodrome under its own power, excluding take-off and landing;

"taxiway (TWY)" means a defined path on a land aerodrome established for the taxiing of aircraft and intended to provide a link between one part of the aerodrome and another, including —

(*a*) aircraft stand taxilane – a portion of an apron designated as a taxiway and intended to provide access to aircraft stands only;

(*b*) apron taxiway – a portion of a taxiway system located on an apron and intended to provide a through taxi route across the apron; or

(*c*) rapid exit taxiway (RET) – a taxiway connected to a runway at an acute angle and designed to allow landing aeroplanes to turn off at higher speeds than are achieved on other exit taxiways thereby minimizing runway occupancy times;

"total estimated elapsed time" means, —

(*a*) for IFR flights means the estimated time required from take-off to arrive over that designated point, defined by reference to navigation aids, from which it is intended that an instrument approach procedure will be commenced, or, if no navigation aid is associated with the destination aerodrome, to arrive over the destination aerodrome; and

(*b*) for VFR flights means the estimated time required from take-off to arrive over the destination aerodrome;

"track (tr)" means the projection on the earth's surface of the path of an aircraft, the direction of which path at any point is usually expressed in degrees from North (true, magnetic or grid);

"traffic avoidance advice" means advice provided by an air traffic services unit specifying manoeuvres to assist a pilot to avoid a collision;

"traffic information" means information issued by an air traffic services unit to alert a pilot to other known or observed air traffic which may be in proximity to the position or intended route of flight and to help the pilot avoid a collision;

"transition altitude" means the altitude at or below which the vertical position of an aircraft is controlled by reference to altitudes;

"under command" means, when an aeroplane on the surface of water is able to execute manoeuvres as required by the Convention on the International Regulations for Prevention of Collision at Sea, 1972 for the purposes of avoiding other vessel;

"unmanned free balloon" means a non-power-driven, unmanned, lighter-than-air aircraft in free flight;

"VFR" is a symbol used to designate the visual flight rules;

"VFR flight" means a flight conducted in accordance with the visual flight rules;

"visibility" for aeronautical purposes means the greater of —

(*a*) the greatest distance at which a black object of suitable dimensions, situated near the ground, can be seen and recognized when observed against a bright background; or

(*b*) the greatest distance at which lights in the vicinity of 1000 candelas can be seen and identified against an unlit background;

"visual line-of-sight (VLOS) operation" means an operation in which the remote pilot or RPA observer maintains direct unaided visual contact with the remotely piloted aircraft; and

"visual meteorological conditions (VMC)" means meteorological conditions expressed in terms of visibility distance from cloud, and ceiling, equal to or better than specified minima and the symbol "VMC" shall be used to designate visual meteorological conditions.

Application of Regulations

3. The provisions of these Regulations, insofar as they are applicable to aircraft, shall apply to —

(*a*) all aircraft within Botswana; and

(*b*) all aircraft registered in Botswana, wherever they may be, to the extent that they do not conflict with the rules published by the State having jurisdiction over the territory overflown.

PART II — *General Flight Rules*

Compliance with rules of air

4. The operation of an aircraft either in flight or on the movement area of an aerodrome shall be in compliance with the general rules and, in addition, when in flight, either with the —

(*a*) visual flight rules; or

(*b*) the instrument flight rules.

Responsibility for compliance with rules of air

5. (1) A PIC of an aircraft shall, whether manipulating the controls or not, be responsible for the operation of the aircraft in accordance with the rules of the air, except that the PIC may depart from these rules in circumstances that render such departure absolutely necessary in the interests of safety.

(2) A PIC of an aircraft shall, before beginning a flight, become familiar with all available information appropriate to the intended operation.

(3) Pre-flight action for all flights shall include a careful study of available current weather reports and forecasts, taking into consideration fuel requirements and an alternative course of action if the flight cannot be completed as planned.

Authority of pilot-in-command of aircraft

6. A PIC of an aircraft shall have final authority as to the disposition of the aircraft while in command.

Dangerous operation of aircraft

7. (1) A PIC or any other person in charge of the aircraft shall not fly an aircraft in such a manner as to cause danger to any person or property on land or water, or in contravention of these Regulations.

(2) A person who contravenes the provisions of subregulation (1) commits an offence (1) and he or she and the owner of the aircraft shall be liable —

(*a*) for a first offence to a fine not exceeding P50 000 or to imprisonment for a term not exceeding five years, or to both, and

(*b*) for a second or subsequent offence to a fine not exceeding P100 000 or to imprisonment for a term not exceeding 10 years, or to both.

(3) In any proceedings against the owner of an aircraft in respect of an offence under this regulation, it shall be a defence to prove that the act constituting the offence was done without the knowledge or consent of the owner.

(4) For the purposes of this regulation, "owner", includes any person by whom the aircraft is hired at the time the offence was committed.

Problematic use of psychoactive substances

8. A person whose function is critical to the safety of aviation (safety-sensitive personnel) shall not —

(*a*) undertake that function while under the influence of any psychoactive substance, by reason of which human performance is impaired; or

(*b*) engage in any kind of problematic use of substances.

Low flying

9. (1) Subject to the provisions of subregulations (2) and (3) —

(*a*) a person shall not fly an aircraft, other than a helicopter, over any congested area of a city, town or settlement below the —

(i) height that would enable the aircraft to alight clear of the area and without danger to persons or property on the surface, in the event of failure of a power unit, or

(ii) height of 1500 feet above the highest fixed object and within 600 metres of the aircraft, whichever is the higher;

(*b*) a person shall not fly a helicopter below such height as would enable it to alight without danger to persons or property on the surface, in the event of failure of a power unit;

(*c*) a person shall not fly a helicopter over a congested area of a city, town or settlement below a height of 1 500 feet above the highest fixed object or within 600 metres of the helicopter, except with the permission, in writing, of the Authority and in accordance with any condition therein specified;

(*d*) a person shall not fly an aircraft —

(i) over, or within 3 000 metres of any assembly in the open air of more than 1 000 persons assembled for the purpose of witnessing or participating in any organised event, except with the permission in writing of the Authority and in accordance with any conditions therein specified and with the consent, in writing, of the organisers of the event,

(ii) below a height that would enable it to land clear of the assembly in the event of the failure of a power unit or if such an aircraft is towing a banner the height shall be calculated on the basis that the banner shall not be dropped within 3 000 metres of the assembly, or

(iii) where a person is charged with an offence under these regulations by reason of a contravention of this subregulation, it shall be a defence to prove that the flight of the aircraft over, or within 3 000 metres of the assembly was made at a reasonable height and for a reason not connected with the assembly or with the event which was the occasion for the assembly; and

(*e*) an aircraft shall not fly less than 500 feet above ground or water.

(2) The provisions of —

(*a*) subregulation (1) (*a*) shall not apply to —

(i) an aircraft while it is landing or taking-off in accordance with normal aviation practice, or

(ii) a glider while it is hill-soaring;

(*b*) subregulation (1) (*d*) and (*e*) shall not apply to a state aircraft;

(*c*) subregulation (1) (*e*) shall not apply to an aircraft which is being used for aerial work operations in accordance with the operating provisions of the Civil Aviation (Aerial Work) Regulations; and

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(*d*) subregulation (1) (*d*) and (*e*) shall not apply to the flight of an aircraft over or within 3 000 metres of an assembly of persons gathered for the purpose of witnessing an event which consists wholly or principally of an aircraft race contest or an exhibition of flying, if the aircraft is taking part in such a race, contest or exhibition or is engaged in a flight arranged by, or made with the consent in writing of, the organisers of the event, and the races, contest, exhibition or flight is approved by the Authority.

(3) Nothing in this regulation shall prohibit any aircraft from —

(*a*) taking off or landing;

(*b*) flying for the purpose of checking navigational aids or procedures in accordance with normal aviation practice at a licensed or certificated aerodrome in Botswana or at any aerodrome in any other state;

(*c*) flying in such a manner as may be necessary for the purpose of saving life; or

(*d*) practising approaches to landing, such practising is confined to the airspace customarily used by aircraft when landing or taking off in accordance with normal aviation practice at the aerodrome concerned.

(4) The provisions of this regulation shall not apply to any captive balloon or kite.

Formation flights

10. A person shall not fly an aircraft in a formation flight except by pre-arrangement among the PICs of the aircraft taking part in the flight and, for a formation flight in controlled airspace, in accordance with the conditions prescribed by the appropriate air traffic service authority, which conditions shall include —

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

(*b*) the separation between aircraft in the flight shall be the responsibility of the flight leader and the PIC 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 flight and during join-up and break-away; and

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

Unmanned free balloons

11. A person who operates an unmanned free balloon shall operate the balloon in such a manner as to minimise hazards to any person, property or other aircraft and in accordance with the conditions set out in Schedule 3.

Acrobatic manoeuvres

12. A person shall not acrobatically fly an aircraft —

(*a*) over any city, town or settlement;

(b) over an open air assembly of persons;

(*c*) below an altitude of 1500 feet above the surface;

(*d*) when the flight visibility is less than five kilometres;

(*e*) in manoeuvres exceeding a bank of sixty degrees or pitch of thirty degrees from level flight attitude unless all occupants of the aircraft are wearing parachutes packed by a qualified parachute rigger in the past 12 months;

(*f*) within controlled airspace except with the consent of the appropriate ATC; or

(*g*) except under conditions prescribed by the Authority and as indicated by relevant information, advice or clearance from the appropriate air traffic service unit.

Right-hand traffic rule

13. A person flying an aircraft and in sight of the ground and following a road, railway, river, cordon fence or any other line of landmark, shall keep the road, river, cordon fence or other line of landmark on his or her left.

Prohibited areas and restricted areas

14. (1) A person shall not operate an aircraft in a prohibited area or a restricted area, the particulars of which prohibited area have been duly published, except in accordance with the conditions of the restrictions or by permission of the Authority.

(2) Any person who contravenes the provisions of subregulation (1) commits an offence and is liable to a fine not exceeding P100 000 or a term of imprisonment not exceeding 10 years, or to both.

Flights over game parks, game reserves and national parks

15. Subject to the provisions of regulation 14, a person shall not operate an aircraft, except for the purpose of take-off or landing, below 1 000 feet, above ground level when operating the aircraft over game parks, game reserves and national parks.

Cruising levels

16. (1) The cruising level at which a flight or a portion of a flight is to be conducted shall be in terms of —

(*a*) flight levels at or above the lowest usable flight level or altitudes if below the transition altitude; or

(*b*) altitudes, for flights below the lowest usable flight level or, where applicable, at or below the transition altitude.

(2) Subject to subregulation (5), in order to comply with IFR, an aircraft when in level flight at or above 3 000 feet over land or water within controlled airspace shall be flown at a level appropriate to its magnetic track as set out in Schedule 1.

(3) Subject to subregulation (5), in order to comply with IFR, an aircraft when in level flight at or above 3 000 feet over land or water outside controlled airspace shall be flown at a level appropriate to its magnetic track, as set out in Schedule 1.

(4) A VFR flights in level cruising flight when operated at or above 3 000 feet from the ground or water shall be conducted at a flight level appropriate to its magnetic track as set out in Schedule 1, except where otherwise indicated in ATC clearances or specified by the Authority.

(5) The level of flight shall be measured by an altimeter set according to the system notified, or in the case of flight over a state other than Botswana, otherwise published by the competent authority, in relation to the area over which the aircraft is flying.

Altimeter settings

17. A person operating an aircraft registered in Botswana shall set the aircraft altimeter to maintain the cruising altitude for flight level reference in accordance with the procedure notified by —

(*a*) the aeronautical information publication; or

(*b*) the State where the aircraft may be.

Dropping, spraying, towing and parachute descents

18. A person shall not —

(*a*) drop any article, substance or spray any substance from the aircraft in flight;

(*b*) tow an aircraft or other object; or

(*c*) make a parachute descent other than an emergency descent,

except in accordance with conditions prescribed by the Authority and as indicated by relevant information, advice and clearance from the appropriate air traffic service unit.

Proximity to other aircraft

19. A person shall not operate an aircraft in such proximity to other aircraft as to create a collision hazard.

Remotely piloted aircraft

20. A person shall operate a remotely piloted aircraft in such a manner as to minimise any hazard to any person, property or other aircraft, and as set out in Schedule 2 and as specified by the Authority.

Right-of-way rules in air operations

21. (1) A PIC of an aircraft who has the right-of-way shall maintain the aircraft's heading and speed.

(2) A PIC operating an aircraft shall maintain vigilance so as to see and avoid other aircraft, and where this regulation gives another aircraft the right-of-way, the PIC shall give way to that aircraft and shall not pass over, under, or ahead of it unless well clear and taking into account the effect of aircraft wake turbulence.

(3) An aircraft in distress has the right-of-way over all other air traffic.

(4) Where two aircraft are converging at approximately the same level, the aircraft that has the other aircraft on its right shall give way, except as follows —

(*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; or

(*d*) power-driven aircraft shall give way to aircraft which are seen to be towing other aircraft or objects.

(5) An aircraft towing or refueling other aircraft has the right-of-way over all other engine-driven aircraft, except for aircraft in distress.

(6) Where two aircraft are approaching head-on or nearly so, and there is danger of collision, each PIC shall alter course to the right.

(7) An aircraft that 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 other 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 this obligation until it is entirely past and clear.

(8) An aircraft in flight, or operating on the ground, shall give way to aircraft landing or in the final stages of an approach to land.

(9) When two or more heavier-than-air aircraft are approaching an aerodrome for the purpose of landing, aircraft at the higher level shall give way to aircraft at the lower level, but the latter shall not take advantage of this rule to cut in front of another which is in the final stages of an approach to land, or to overtake that aircraft.

(10) When an ATC unit has communicated to any aircraft an order of priority for landing, the aircraft shall approach to land in that order, and when the PIC of an aircraft is aware that another aircraft is making an emergency landing, the PIC shall give way to that aircraft, notwithstanding that the PIC may have received permission to land, and shall not attempt to land until the PIC receives further permission to do so.

(11) A power-driven heavier-than-air aircraft shall give way to gliders.

(12) An aircraft taxiing on the manoeuvring area of an aerodrome shall give way to aircraft taking off or about to take off.

(13) Nothing in these Regulations shall relieve the PIC of an aircraft from the responsibility of taking such action, including collision avoidance manoeuvres based on resolution advisories provided by ACAS equipment, as will best avert collision.

(14) A PIC who causes a collision while taxing commits an offence and is liable to a fine not exceeding P15 000 or to a term of imprisonment not exceeding nine months, or to both.

Right-of-way rules in ground operations

22. (1) This regulation shall apply to aircraft and vehicles on the movement area of a land aerodrome.

(2) Notwithstanding any ATC clearance, it shall remain the duty of the PIC of an aircraft to take all possible measures to ensure that the aircraft does not collide with any other aircraft or with any vehicle.

(3) An emergency vehicle proceeding to the assistance of aircraft in distress shall be accorded priority over all other surface movement traffic.

(4) In normal ground operations —

(*a*) an aircraft and a vehicle shall give way to an aircraft which is taking off or landing;

(*b*) a vehicle towing an aircraft shall give way to an aircraft which is landing, taking off or taxing;

(*c*) a vehicle which is not towing an aircraft shall give way to an aircraft; and

(*d*) a vehicle shall give way to a vehicle towing an aircraft.

(5) Subject to the provisions of subregulation (4) and regulation 27 (4), in the case of a possible danger of collision between two aircraft —

(*a*) where the two aircraft are approaching head-on or approximately so, each aircraft shall stop or where practicable alter its course to the right so as to keep well clear;

(*b*) where the two aircraft are on converging course, the one which has the other on its right shall give way;

(*c*) an aircraft which is being overtaken shall have the right-of-way, and the overtaking aircraft shall keep out of the way of the other aircraft by altering its course to the left until that other aircraft has been passed and is clear, notwithstanding any change in the relative position of the two aircraft;

(*d*) an aircraft taxiing on the manoeuvring area of an aerodrome shall give way to an aeroplane taking off or about to take off;

(*e*) an aircraft taxiing on the manoeuvring area shall stop and hold at all runway-holding positions unless otherwise authorised by the aerodrome control tower; and

(*f*) an aircraft taxiing on the manoeuvring area shall stop and hold at all lighted stop bars and may proceed further when the lights are switched off.

(6) Subject to the provisions of subregulation (4) (*b*), a vehicle shall —

(*a*) overtake another vehicle so that the other vehicle is on the left of the overtaking vehicle; and

(*b*) keep to the left when passing another vehicle which is approaching head-on or approximately so.

Right-of-way rules in water operations

23. (1) A person operating an aircraft on water shall, in so far as possible —

(*a*) keep clear of all vessels in the vicinity;

(*b*) avoid impeding the navigation of all vessels in the vicinity; and

(*c*) give way to any vessel or other aircraft that is given the right-of-way by this regulation.

(2) Where an aircraft and another aircraft, or an aircraft and a vessel, are on crossing courses, the aircraft or vessel to the other's right has the right-of-way.

(3) Where aircraft and another aircraft, or an aircraft and a vessel, are approaching head-on, or nearly so, each shall alter its course to the right to keep well clear.

(4) An aircraft that is being overtaken has the right-of-way, and the aircraft overtaking shall alter course to the right to keep well clear of the aircraft being overtaken.

(5) Where an aircraft and another aircraft, or an aircraft and a vessel, approach in a manner that involves a risk of collision, each aircraft or vessel shall proceed with careful regard to existing circumstances, including the limitations of the respective craft.

Coordinated Universal Time

24. (1) A PIC flying an aircraft shall use Coordinated Universal Time (UTC) which shall be expressed in hours, minutes and seconds of the 24 hour day beginning at midnight.

(2) A PIC shall obtain a time check prior to operating a controlled flight and at such other times during the flight as may be necessary, the time check shall be obtained from an air traffic service unit unless other arrangements have been made by the operator or by the Authority.

(3) Wherever time is utilised in the application of data link communications, it shall be accurate to within one second of Coordinated Universal Time (UTC).

PART III — *Lights and other signals to be shown or made by aircraft and aerodrome*

Display of lights and signals for aerodrome traffic

25. (1) An aerodrome control tower shall use the lights and pyrotechnic signals set out in Schedule 5 and illustrated in Figure A1-1 thereof.

(2) A PIC shall acknowledge aerodrome control tower signals as follows —

(*a*) when in flight —

(i) during the hours of daylight, by rocking the aircraft's wings, except that this signal shall not be expected on the base and final legs of the approach, and

(ii) during the hours of darkness, by flashing on and off twice the aircraft's landing lights or, if not so equipped, by switching on and off twice its navigation lights; and

(*b*) when on the ground —

(i) during the hours of daylight by, moving the aircraft's ailerons or rudder, and

(ii) during the hours of darkness, by flashing on and off twice the aircraft's landing lights or, if not so equipped, by switching on and off twice its navigation lights.

(3) An aerodrome authority shall use the visual ground signals as shown in Figures A1-2 to A1-11 during the situations set out in Schedule 5.

Failure of lights by night

26. In the event of the failure of any light which is required by these Regulations to be displayed at night, if the light cannot be immediately repaired or replaced, the PIC —

(*a*) shall not depart from the aerodrome; and

(*b*) if in flight, shall land as soon as, in the PIC's opinion, he or she can safely do so, unless authorised by an appropriate ATC unit to continue the flight.

Conditions for lights to be displayed by aircraft

27. (1) A PIC, when operating an aircraft during the period from sunset to sunrise or any other period which may be provided by the Authority, shall display —

(*a*) anti-collision lights intended to attract attention to the aircraft; and

(*b*) navigation lights intended to indicate the relative path of the aircraft to an observer and other lights shall not be displayed if they are likely to be mistaken for these lights.

(2) From sunset to sunrise or during any other period provided by the Authority —

(*a*) an aircraft moving on the movement area of an aerodrome shall display navigation lights intended to indicate the relative path of the aircraft to an observer and other lights shall not be displayed if they are likely to be mistaken for these lights;

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

(*c*) an aircraft operating on the movement area of an aerodrome shall display lights intended to attract attention to the aircraft; and

(*d*) an aircraft on the movement area of an aerodrome whose engines are running shall display lights which indicate that fact.

(3) An aircraft in flight and fitted with anti-collision lights to meet the requirements of subregulation (1) (*a*) shall display such lights also outside the period specified in subregulation (1).

(4) An aircraft —

(*a*) operating on the movement area of an aerodrome and fitted with anti-collision lights to meet the requirement of subregulation (2) (*c*); or

(*b*) on the movement area of an aerodrome and fitted with lights in accordance with subregulation (2) (*d*),

shall display such lights beyond the period provided for under subregulation (2).

(5) Without prejudice to subregulations (1), (2), (3) and (4), a PIC shall be permitted to switch off or reduce the intensity of any flashing lights fitted in accordance with subregulations (1), (2), (3) and (4) if they do or are likely to —

(*a*) adversely affect the satisfactory operation of an aircraft; or

(*b*) subject another aircraft or ATC tower to harmful dazzle.

Balloons, kites, airships, gliders and parascending parachutes

28. (1) A person shall not —

(*a*) fly a captive balloon or kite at a height of more than 200 feet above the ground level or within 60 metres of any vessel, vehicle or structure;

(*b*) fly a captive balloon within three nautical miles of an aerodrome;

(*c*) fly a balloon exceeding six feet in any linear dimension at any stage of its flight, including any basket or other equipment attached to the balloon, in controlled airspace; or

(*d*) fly a kite within three nautical miles of an aerodrome; moor an airship; fly a free balloon at night; or launch a glider or parascending parachute by winch and cable or by ground tow to a height of more than 200 feet above ground level;

without the permission in writing of the Authority, and in accordance with any conditions that may be attached to the permission granted.

(2) A captive balloon when in flight shall not be left unattended unless it is fitted with a device which ensures automatic deflation if it breaks.

Captive balloons and kites by day

29. A person flying a captive balloon or kite by day at a height exceeding 200 feet above the surface shall ensure that the captive balloon or kite displays lights as follows —

(*a*) a group of two steady lights consisting of a white light placed 12 feet above a red light, both being of at least five candelas and showing in all directions, the white light being placed not less than 15 feet or more than 30 feet below the basket, or, if there is no basket, below the lowest part of the balloon or kite;

(*b*) on the mooring cable, at intervals of not more than 1000 feet measured from the group of lights referred to in paragraph (*a*), groups of two lights of the colour and power and in the relative positions specified in that paragraph, and, if the lowest group of lights is obscured by cloud, an additional group below the cloud base; and

(*c*) on the surface, a group of three flashing lights arranged in a horizontal plane at the apexes of a triangle, approximately equilateral, each side of which measured at least 80 feet, one side of the triangle shall be approximately at right angles to the horizontal projection of the cable and shall be delimited by two red lights, the third light shall be a green light placed in such a way that the triangle encloses the object on the surface to which the balloon or kite is moored.

Captive balloons and kites by night

30. (1) A captive balloon, while flying at night, at a height exceeding 200 feet above the surface, shall have attached to its mooring cable at intervals of not more than 600 feet measured from the basket, or, if there is no basket, from the lowest part of the balloon, tubular streamers not less than sixteen inches in diameter and six feet in length, and marked with alternate bands of red and white twenty inches wide.

(2) A kite flown in the circumstances referred to in subregulation (1) shall have attached to its mooring cable either —

(*a*) tubular streamers provided for under subregulation (1); or

(*b*) at intervals of not more than 300 feet measured from the lowest part of the kite, not less than thirty streamers of thirty two inches long and one foot wide at their widest part and marked with alternate bands of red and white four inches wide.

Airships by day and night

31. (1) Except as provided in subregulation (2), an airship while flying at night shall display the following steady lights —

(*a*) a white light of at least five candelas showing through angles of 110 degrees from dead ahead to each side in the horizontal plane;

(*b*) a green light of at least five candelas showing to the starboard side through an angle of 110 degrees from dead ahead in the horizontal plane;

(*c*) a red light of at least five candelas showing to the port side through an angle of 110 degrees from dead ahead in the horizontal plane; and

(*d*) a white light of at least five candelas showing through angles of 70 degrees from dead ahead astern to each side in the horizontal plane.

(2) A person flying an airship at night shall ensure that the airship displays, if it is not under command, or has its engines voluntarily stopped, or is being towed, the following steady lights —

(*a*) the white lights referred to in subregulation (1) (*a*) and (*d*);

(*b*) two red lights, each of at least five candelas and showing in all directions suspended below the control car so that one is at least 12 feet above the other and at least twenty five feet below the control car; and

(*c*) if an airship is making way but not otherwise, the green and red lights referred to in subregulation (1) (*b*) and (*c*).

(3) An airship while picking up its moorings, notwithstanding that it is not under command, shall display only the lights provided for under subregulation (1).

(4) An airship, while moored within Botswana by night, shall —

(*a*) when moored to a mooring mast, at or near the rear, display a white light of at least five candelas showing in all directions; and

(*b*) display a white light of at least five candelas showing through angles of 70 degrees from dead astern to each side in the horizontal plane.

(5) An airship while flying by day, if it is not under command, or has its engines voluntarily stopped, or is being towed, shall display two black balls suspended below the control car so that one is at least 12 feet above the other and at least 25 feet below the control car.

(6) For the purpose of this regulation —

(*a*) an airship shall be deemed not to be under command when it is in simulated instrument flight conditions and unable to execute a manoeuvre which it may be required to execute by or under these Regulations; and

(*b*) an airship shall be deemed to be making way when it is not moored and is in motion relative to the air.

Anti-collision light

32. (1) When operating by day, an aircraft fitted with an anti-collision light shall display such light in flight.

(2) An aircraft shall display, when stationary on the apron by day or night with engines running, a red anti-collision light when fitted.

(3) When operating by night all aircraft shall display anti-collision lights, intended to attract attention to the aircraft.

(4) When operating an anti-collision light, the light shall be a flashing or rotating red light which shall show in all directions within 30 degrees above and 30 degrees below the horizontal plane of the aircraft.

(5) In the event of a failure of anti-collision light when flying by day, an aircraft may continue to fly provided that the lights are repaired at the earliest practicable opportunity.

Simulated instrument flight conditions

33. (1) A person shall not operate an aircraft in simulated instrument flight conditions unless —

(*a*) that aircraft has fully functioning dual controls;

(*b*) a qualified pilot occupies a control seat to act as safety pilot for the person who is flying under simulated instrument conditions; and

(*c*) the safety pilot has adequate vision forward and to each side of the aircraft, or a competent observer in communication with the safety pilot shall occupy a position in the aircraft from which the observer's field of vision adequately supplements the vision of the safety pilot.

(2) A person shall not engage in simulated instrument flight conditions during commercial air transport operations.

Practice instrument approaches

34. An aircraft shall not carry out instrument approach practices when flying in visual meteorological conditions unless —

(*a*) the appropriate ATC unit has previously been informed that the flight is to be made for the purpose of instrument approach practice; and

(*b*) if the flight is not being carried out in simulated instrument flight conditions, an observer approved by the Authority is carried in such a position in the aircraft that the observer has an adequate field of vision and can readily communicate with the PIC flying the aircraft.

Aerodromes not having air traffic control units

35. (1) A person shall not fly within a zone which the PIC knows or ought reasonably to know to be the aerodrome traffic zone of an aerodrome which does not have an ATC unit, except for the purpose of taking off, landing or observing the signals in the signals area with a view to landing, and an aircraft flying within such a zone for the purpose of observing the signals shall remain clear of cloud and at least 500 feet above the level of the aerodrome.

(2) A PIC flying in the zone referred to in subregulation (1) or moving on such an aerodrome shall —

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

(*b*) conform to the pattern of traffic formed by other aircraft, or keep clear of the airspace in which the pattern is formed;

(*c*) make all turns to the left unless ground signals indicate otherwise or obstacles on the ground require otherwise; and

(*d*) take-off and land in the direction indicated by the ground signals or, if no such signals are displayed, into the wind, unless good aviation practice demands otherwise.

(3) A person shall not land an aircraft on a runway at an aerodrome unless the runway is clear of other aircraft.

(4) Where a take-off or a landing is confined to a runway —

(*a*) an aircraft when landing shall leave clear on its left any aircraft which has already landed or is already landing or is about to take off, and if such aircraft is obliged to turn, it shall turn to the left after the PIC of the aircraft has satisfied himself that such action will not interfere with other traffic movements; and

(*b*) an aircraft about to take-off shall take up position and manoeuvre in such a way as to leave clear on its left any aircraft which is already taking off or is about to take-off.

(5) An aircraft after landing shall move clear of the landing area in use as soon as it is possible to do so.

Aerodromes having air traffic control units

36. (1) A PIC shall not fly the aircraft within a zone which the PIC knows or ought reasonably to know to be the aerodrome having an ATC unit except for the purpose of taking off, landing or observing the signals area with a view to landing, unless the PIC has the permission of the appropriate ATC unit.

(2) A PIC flying in the aerodrome traffic zone of an aerodrome having an ATC unit or moving on the manoeuvring area of such an aerodrome shall —

(*a*) maintain a continuous listening watch on the appropriate radio frequency notified for ATC communications at the aerodrome, or if this is not possible, cause a watch to be kept for such instructions as may be issued by visual means; and

(*b*) not taxi, take off or land except with the permission of the ATC unit.

Operations on or in vicinity of aerodrome

37. (1) A person shall not operate an aircraft to, from, through, or on an aerodrome having an operational control tower unless two-way communication is maintained between that person and the control tower.

(2) When arriving at an aerodrome, a PIC shall establish communications required by subregulation (1), prior to entering the vicinity of a controlled aerodrome.

(3) When departing from an aerodrome, a PIC shall establish communications with the control tower prior to taxi.

(4) A person shall not, at any aerodrome with an operating control tower, operate an aircraft on a runway or taxiway or take-off or land an aircraft, unless an appropriate clearance has been received from the ATC unit.

(5) A person who take-off against an instruction or clearance under subregulation (4) commits an offence and is liable to a fine not exceeding P50 000 or a term of imprisonment not exceeding five years, or to both.

(6) A clearance to "taxi to" —

(*a*) the takeoff runway —

(i) is not a clearance to cross or taxi on to that runway, and

(ii) authorises the PIC to cross other runways during the taxi to the assigned runway; and

(*b*) from any other point on the aerodrome is a clearance to cross all runways that intersect the taxi route to the assigned point.

(7) If a two-way communication is lost, a PIC may continue a VFR flight operation and land if —

(*a*) the weather conditions are at or above basic VFR minimums; and

(*b*) clearance to land is received by light signals.

(8) During IFR operations, the two-way communications failure procedures prescribed in regulations 62 and 63 shall apply.

(9) An aircraft operated on or in the vicinity of an aerodrome shall, whether or not within an aerodrome traffic zone —

(*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 or after taking off, unless otherwise instructed; and

(*d*) land or take-off into the wind unless safety, the runway configuration, or air traffic considerations determine that a different direction is preferable.

Access to and movement in manoeuvring area

38. (1) A person shall not enter the manoeuvring area of an aerodrome or drive a vehicle on the manoeuvring area of an aerodrome without the permission of the aerodrome control tower in the case of a controlled aerodrome, or in the case of an uncontrolled aerodrome, the person in charge of the aerodrome, and in accordance with any conditions subject to which that permission may have been granted.

(2) A person shall not move, or move a vehicle on the manoeuvring area of an aerodrome having an ATC unit without the permission of that unit and in accordance with any conditions subject to which that permission may have been granted.

(3) Any permission granted for the purpose of this regulation may be granted either in respect of persons or vehicles generally or in respect of any particular person or vehicle or any class of persons or vehicles.

Universal aviation signals

39. (1) Where a signal is given or displayed, or whenever any marking provided for under regulations 25, 44, 45 and 46 is displayed by any person in an aircraft, or at an aerodrome, or at any other place which is being used by aircraft for landing or take-off, the signal shall, when given or displayed, have the meaning assigned to it, and no other signals likely to be confused with them shall be used.

(2) Upon observing or receiving any of the signals provided for under subregulation (1), a PIC shall take the action that may be required by the interpretation of the signal specified in these Regulations.

(3) A signalman shall be responsible for providing standard marshalling signals to an aircraft in a clear and precise manner using the signals shown in these Regulations.

(4) A person shall not guide an aircraft unless that person is trained, and qualified and approved by the Authority to carry out the functions of a signalman.

(5) A signalman shall wear a distinctive fluorescent identification vest to allow the flight crew member to identify that the signalman is the person responsible for the marshalling operation.

(6) For signalling, a participating ground staff member shall use —

(*a*) daylight-fluorescent wands, marshalling bats or gloves, during daylight hours; and

(*b*) illuminated wands, at night or in low visibility.

Misuse of signals and markings

40. (1) A signal or marking to which a meaning is given by these Regulations, or which is required by these Regulations to be used in circumstances or for a purpose therein specified, and which is given or displayed —

(*a*) by any person in an aircraft;

(*b*) at an aerodrome; or

(*c*) at any other place which is being used by aircraft for landing or take-off, shall not be used except with that meaning, or for that purpose.

(2) A person in an aircraft or on an aerodrome or at any place at which an aircraft is taking off or landing shall not make any signal which may be confused with a signal specified in these Regulations.

Distress signals

41. (1) The following signals, used either together or separately, mean that grave and imminent danger threatens, and immediate assistance is requested —

(*a*) a signal made by radiotelegraphy or by any other signalling method consisting of the group SOS (• • • — — — • • • in the Morse Code);

(*b*) an RTF distress signal consisting of the spoken words MAYDAY, MAYDAY, MAYDAY;

(*c*) a distress message sent via data link which transmits the intent of the words MAYDAY, MAYDAY, MAYDAY;

(*d*) rockets or shells throwing red lights, fired one at a time at short intervals; or

(*e*) a parachute flare showing a red light.

(2) A provision in these Regulations shall not prevent the use by an aircraft in distress of any means at its disposal to attract attention and make known its position.

Urgency signals

42. (1) The following signals, used either together or separately, mean that an aircraft wishes to give notice of difficulties which compel it to land without requiring immediate assistance —

(*a*) the repeated switching on and off of the landing lights; or

(*b*) the repeated switching on and off of the navigation lights in such manner as to be distinct from flashing navigation lights.

(2) The following signals, used either together or separately, mean that an aircraft has a very urgent message to transmit concerning the safety of a vehicle, train, ship, vessel or aircraft, or of some person on board or within sight —

(*a*) signal made by radiotelegraphy or by any other signalling method consisting of the group XXX;

(*b*) a signal sent by RTF consisting of the spoken words PAN, PAN, PAN; or

(*c*) an urgency message sent via data link which transmits the intent of the words PAN, PAN, PAN.

Aircraft interception and interception signals

43. (1) Where an aircraft is intercepted, a PIC of the intercepted aircraft shall comply with the command of the intercepting aircraft, by interpreting and responding to visual signals set out in Schedule 4.

(2) The intercepting aircraft shall interpret visual signals from an intercepted aircraft in accordance with Schedule 4.

Visual signals to warn unauthorised aircraft entering notified airspace

44. A PIC shall take such remedial action as may be necessary, when by day or night, a series of projectiles is discharged from the ground at intervals of ten seconds, each showing, on bursting, red and green lights or stars indicating to an unauthorised aircraft that it is flying in or about to enter a restricted, prohibited or danger area.

Marshalling signals – signalman to pilot

45. (1) The marshalling signals shown in Figures 1 to 28 set out in Schedule 6 shall be used from a signalman to a PIC of an aircraft.

(2) The signals are designed for use by the signalman, with hands illuminated as necessary to facilitate observation by the PIC, and facing the aircraft in a position —

(*a*) for fixed-wing aircraft, the signalman shall be positioned forward of the left-wing tip within view of the PIC; and

(*b*) for helicopters, where the signalman can best be seen by the PIC.

(3) The meaning of the relevant signals shall remain the same if a marshalling bat, illuminated wand or torchlight is held.

(4) A signal marked with an asterisk are designed for use to a hovering helicopter.

(5) Prior to using a signal, as shown in Figures 1 to 28 set out in Schedule 6, a signalman shall ascertain that the area within which an aircraft is to be guided is clear of objects.

Marshalling signals – pilot to signalman

46. A PIC shall use the signals shown in Schedule 6 when communicating with a signalman on the ground.

PART V — *Flight plans*

Pre-flight action

47. (1) A PIC shall, before commencing a flight, be familiar with all available information appropriate to the intended operation.

(2) Pre-flight action by a PIC, for a flight away from the vicinity of the place of departure, and for every flight under the IFR, shall include —

(*a*) a careful study of available weather reports and forecasts to determine the fuel requirements; and

(*b*) an alternative course of action if the flight cannot be completed as planned.

(3) A PIC who is unable to communicate by radio with an ATC unit at the aerodrome of destination shall not begin a flight to an aerodrome within a CTR if –

(*a*) the information which it is reasonably practicable for the PIC to obtain indicates that he or she will arrive at that aerodrome when the ground visibility is less than eight kilometres; or

(*b*) the cloud ceiling is less than five kilometres,

unless the PIC has obtained from an ATC unit at that aerodrome permission to enter the aerodrome traffic zone.

Flight plan

48. A person shall not commence a flight, if he or she has not submitted a flight plan, except as authorised by the Authority.

Submission of flight plan

49. (1) An information relating to an intended flight or portion of a flight, to be provided to air traffic service units, shall be in the form of a flight plan.

(2) A PIC shall, prior to operating one of the following, submit a flight plan —

(*a*) any flight, or portion thereof, to be provided with ATC service;

(*b*) any IFR flight within advisory airspace;

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

(*d*) any flight within or into designated areas, or along designated routes, when so required by the appropriate air traffic service authority to facilitate co-ordination with appropriate military units or with ATC units in adjacent states in order to avoid the possible need for interception for the purpose of identification;

(*e*) any flight across international borders; and

(*f*) any flight departing from a manned aerodrome.

(3) A PIC shall submit a flight plan before departure to the appropriate air traffic services reporting office or during flight, transmit to the appropriate air traffic service unit or air-ground control radio station unless arrangements have been made for submission of repetitive flight plans.

(4) Unless otherwise provided for by the Authority, a PIC shall submit a flight plan to the appropriate air traffic service unit —

(*a*) at least 60 minutes before departure for IFR flights or 30 minutes for VFR flights; or

(*b*) if submitted during flight, at a time which shall ensure its receipt by the appropriate ATC unit at least 10 minutes before the aircraft is estimated to reach —

(i) the intended point of entry into a CTA or advisory airspace, or

(ii) the point of crossing an AWY or advisory route.

(5) Where a through flight plan, containing such particulars as may be notified is submitted to and accepted by an air traffic service unit in respect of a flight through a number of intermediate aerodromes, this regulation shall be deemed to have been satisfied in respect of each sector of the flight.

(6) An ATC unit may exempt the PIC from the requirements of this regulation in respect of an intended flight which is to be made in a notified local flying area and in which the aircraft will return to the aerodrome of departure without making an intermediate landing.

(7) In order to comply with the IFR, before an aircraft either takes off from a point within any controlled airspace, or enters any controlled airspace, or in other circumstances provided for this purpose, the PIC shall cause a flight plan to be communicated to the appropriate ATC unit and shall obtain an ATC clearance based on that flight plan.

(8) The PIC shall after he or she has flown in controlled airspace, unless he or she has requested the appropriate ATC unit to close his or her flight plan, forthwith inform that unit when the aircraft lands within or leaves that controlled airspace.

Completion of flight plan

50. A flight plan submitted under these Regulations shall contain information, as applicable —

(*a*) on relevant items up to and including an alternate aerodrome regarding the whole route or the portion thereof for which the flight plan is submitted; and

(*b*) on all other items when so provided for by the Authority or when otherwise deemed necessary by the person submitting the flight plan.

Contents of flight plan

51. A person filing an IFR or VFR flight plan shall include in it the following information —

(*a*) aircraft identification;
(*b*) flight rules and type of flight;
(*c*) number and type of aircraft and wake turbulence category;
(*d*) equipment;
(*e*) departure aerodrome;
(*f*) EOBT;
(*g*) cruising speed;
(*h*) cruising level;
(*i*) route to be followed;
(*j*) destination aerodrome and total estimated elapsed time;
(*k*) alternate aerodrome;
(*l*) fuel endurance;
(*m*) total number of persons on board;
(*n*) emergency and survival equipment; and
(*o*) any other information that may be necessary.

Changes to flight plan

52. (1) Where a change occurs to a flight plan submitted for an IFR flight or a VFR flight operated as a controlled flight, the PIC shall report that change as soon as practicable to the appropriate air traffic service unit.

(2) In the case of a VFR flight other than that operated as a controlled flight, the PIC shall report significant changes to a flight plan as soon as practicable to the appropriate air traffic service unit.

(3) Any information submitted prior to departure regarding fuel endurance or total number of persons carried on board, if incorrect at the time of departure, shall be reported to the air traffic service unit.

(4) A PIC of an aircraft who has caused notice of the aircraft's intended arrival at any aerodrome to be given to the air traffic service unit or other authority at that aerodrome shall ensure that the air traffic service unit or other authority at that aerodrome is informed as quickly as possible of any change of intended destination and any estimated delay in arrival of 45 minutes or more.

Closing flight plan

53. (1) A PIC shall make a report of arrival in person or by radio, via data link or other means of communication to the appropriate air traffic service unit immediately after landing at the destination aerodrome, unless ATC automatically closes the flight plan.

(2) Where a flight plan has been submitted only in respect of a portion of a flight, other than the remaining portion of a flight to destination, the PIC shall, when required, close it by an appropriate report to the relevant air traffic service unit.

(3) Where no air traffic service unit exists at the arrival aerodrome, the PIC shall contact the nearest air traffic service unit to close the flight plan immediately after landing.

(4) Where a communication facility at the arrival aerodrome are known to be inadequate and alternate arrangements for the handling of arrival reports on the ground are not available, the PIC shall immediately prior to landing, transmit to the appropriate air traffic service unit, a message comparable to an arrival report, where such a report is required.

(5) The transmission referred to in subregulation (4) shall be made to the aeronautical station serving the air traffic service unit in charge of the flight information region in which the aircraft is operated.

(6) A PIC shall include the following elements of information in his or her arrival reports —

(*a*) aircraft identification;

(*b*) departure aerodrome;

(*c*) destination aerodrome, in the case of a diversionary landing;

(*d*) arrival aerodrome; and

(*e*) time of arrival.

PART VI — *Air traffic control services*

Air traffic control clearances

54. (1) A PIC shall not commence a flight in an aircraft unless he or has obtained an ATC clearance prior to operating a controlled flight, or a portion of a flight as a controlled flight.

(2) A PIC shall request an ATC clearance referred to in subregulation (1) through the submission of a flight plan to an air traffic control unit.

(3) Where a PIC has requested a clearance involving priority, that PIC shall submit a report explaining the necessity for such priority, if requested by the appropriate air traffic control unit.

(4) A person operating an aircraft at 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.

(5) The PIC of an aircraft shall fly in conformity with the ATC clearance issued for the flight as amended by any further instructions given by an ATC unit, and with the holding and IAPs, notified in relation to the aerodrome of destination, unless the PIC —

(*a*) is able to fly in uninterrupted visual meteorological conditions for so long as he/she remains in controlled airspace; and

(*b*) has informed the appropriate ATC unit of his intention to continue the flight in compliance with VFR and has requested that unit to cancel his/her IFR flight plan.

(6) Where an emergency arises which requires an immediate deviation from an ATC clearance, the PIC of the aircraft shall, as soon as possible, inform the appropriate ATC unit of the deviation.

(7) A PIC who —

(*a*) fails to adhere to a taxi clearance or instruction issued under subregulation (1) commits an offence and is liable to a fine not exceeding P50 000 or a term of imprisonment not exceeding five years, or to both;

(*b*) operates within a restricted or prohibited area or within a positive CTA without clearance commits an offence and is liable to a fine not exceeding P100 000 or a term of imprisonment not exceeding 10 years, or to both; or

(*c*) who deviates from an IAP commits an offence and is liable to a fine not exceeding P50 000 or a term of imprisonment not exceeding five years, or to both.

Potential re-clearance in flight

55. If prior to departure, a PIC anticipates that, depending on fuel endurance and subject to re-clearance in flight, a decision may be taken to proceed to a revised destination aerodrome, he or she shall notify the appropriate ATC units by the insertion, in the flight plan, of information concerning the revised route, where known, and the revised destination.

Adherence to current flight plan

56. (1) A PIC shall, except as provided for in regulations 54 and 58, adhere to the current flight plan or the applicable portion of a current flight plan submitted for a controlled flight unless —

(*a*) a request for a change has been made and clearance obtained from the appropriate ATC unit; or

(*b*) unless an emergency situation arises which necessitates immediate action by the PIC.

(2) In the event where PIC acts in accordance with the provisions of subregulation (1) (*b*), he or she shall, as soon as circumstances permit, after such emergency authority is exercised, notify the appropriate ATC unit of the action taken and that this action has been taken under an emergency situation.

(3) Subregulation (1) shall not prohibit a PIC from cancelling an IFR clearance when operating in visual meteorological conditions or cancelling a controlled flight clearance when operating in airspace that does not require controlled flight.

(4) A PIC shall not, when operating in airspace requiring controlled flight, operate contrary to ATC instructions, except in an emergency.

(5) A PIC who deviates from an ATC clearance or instructions in an emergency shall notify the ATC of that deviation as soon as possible.

Route to be flown

57. (1) Unless otherwise authorised or directed by the appropriate ATC unit, a PIC of a controlled flight shall, in so far as practicable —

(*a*) when on an established air traffic service route, operate along the defined centre line of that route; or

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

(2) A PIC shall notify the appropriate ATC unit of any deviation from the requirements in subregulation (1).

(3) A PIC of a controlled flight operating along an air traffic service route defined by reference to very high frequency omnidirectional range (VOR) shall change over for primary navigation guidance from the facility behind the aircraft to that ahead of it at, or as close as operationally feasible to, the change-over point, where established.

Deviations from current flight plan

58. (1) A PIC of an aircraft shall take the following action in the event that a controlled flight inadvertently deviates from its CPL current flight plan —

(*a*) if the aircraft is off track, the PIC shall adjust the heading of the aircraft to regain track as soon as practicable;

(*b*) the PIC shall inform the appropriate ATC unit if the average true airspeed at cruising level between reporting points varies from that given in the flight plan or is expected to vary by plus or minus five per cent of the true airspeed;

(*c*) the PIC shall notify the appropriate ATC unit and give a revised estimated time as soon as possible if the time estimate for the next applicable reporting point is found to be in error in excess of three minutes from that notified to ATC unit, or such other period of time as is prescribed by the appropriate air traffic service authority or on the basis of air navigation regional agreements; and

(*d*) if —

(i) there is a deviation from ATC assigned Mach number or indicated airspeed, the PIC shall inform the appropriate air traffic services unit immediately,

(ii) the sustained Mach number or true airspeed at cruising level varies by plus or minus Mach 0.02 or more, or plus or minus 19 km/h (10 kt) true airspeed or more from the current flight plan, the PIC shall inform the appropriate air traffic services unit, or

(iii) the time estimate for the next applicable reporting point, flight information region boundary or destination aerodrome, whichever comes first, changes in excess of two minutes from that previously notified to air traffic services, or such other period of time as is prescribed by the appropriate air traffic service authority or on the basis of regional air navigation agreements, except where ADS-C is activated and serviceable in airspace where ADS-C services are provided, the flight crew member shall notify the appropriate air traffic services unit as soon as possible.

(2) Where an ADS-C agreement is in place, air traffic service unit shall be informed automatically via data link whenever changes occur beyond the threshold values stipulated by the ADS event contract.

(3) A request for current flight plan changes shall include information as indicated hereunder —

(*a*) change of cruising level: aircraft identification, requested new cruising level and cruising Mach number or true airspeed at this level and revised time estimates, when applicable at subsequent reporting points or flight information region boundaries;

(*b*) change of Mach number or true airspeed: aircraft identification and requested Mach number or true airspeed;

(*c*) change of route —

(i) Destination unchanged: aircraft identification, flight rules, description of new route of flight including related flight plan data beginning with the position from which requested change of route is to commence, revised time estimates and any other pertinent information,

(ii) destination changed: aircraft identification, flight rules, description of revised route of flight to revised destination aerodrome including related flight plan data, beginning with the position from which requested change of route is to commence, revised time estimates, alternate aerodrome and any other pertinent information; or

(*d*) when it becomes evident that flight in VMC in accordance with its current flight plan will not be practicable, a VFR flight operated as a controlled flight shall —

(i) request an amended clearance enabling the aircraft to continue in VMC to destination or to an alternative aerodrome, or to leave the airspace within which an ATC clearance is required,

(ii) if clearance in accordance with subparagraph (i) cannot be obtained, continue to operate in VMC and notify the appropriate ATC unit of the action being taken either to leave the airspace concerned or to land at the nearest suitable aerodrome,

(iii) if operated within a control zone, request authorisation to operate as a special VFR flight, or

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

Air traffic control clearance-intended changes

59. A PIC requesting for ATC clearance changes shall include the following information in the request —

(*a*) for change of cruising level —

(i) aircraft identification,

(ii) requested new cruising level and cruising speed at this level, and

(iii) revised time estimates, when applicable, at subsequent flight information region boundaries; or

(*b*) for change of route —

(i) destination unchanged –

(*aa*) aircraft identification;

(*bb*) flight rules;

(*cc*) description of new route of flight including related flight plan data beginning with the position from which requested change of route is to commence;

(*dd*) revised time estimates; and

(*ee*) any other pertinent information, or

(ii) destination changed –

(*aa*) aircraft identification;

(*bb*) flight rules;

(*cc*) description of revised route of flight to revised destination aerodrome including related flight plan data, beginning with the position from which requested change of route is to commence;

(*dd*) revised time estimate;

(*ee*) alternate aerodrome; and

(*ff*) any other relevant information.

Position reports

60. (1) A PIC of a controlled flight shall report to the appropriate ATC unit, as soon as possible —

(*a*) the time and level of passing a designated compulsory reporting point, except that while the aircraft is under radar control, only the passing of those reporting points specifically requested by an ATC unit need be reported, together with any other required information, unless exempted from this requirement by the appropriate ATC unit under conditions specified by the Authority;

(*b*) any unforecasted weather conditions encountered; and

(*c*) any other information relating to the safety of flight, such as hazardous weather or abnormal radio station indications.

(2) A PIC of a controlled flight shall make position reports in relation to additional points when requested by the appropriate ATC unit.

(3) In the absence of a designated reporting point, a PIC of a controlled flight shall make a position report at intervals provided for by the Authority or specified by the appropriate ATC unit.

(4) A PIC of a controlled flight providing position information to the appropriate ATC unit via data link communications shall only provide voice position reports when requested.

(5) A PIC of a controlled flight shall, except when landing at a controlled aerodrome, advise the appropriate ATC unit as soon as the flight ceases to be subject to ATC service.

Communications

61. (1) A person operating an aircraft as a controlled flight shall maintain a continuous air-ground voice communication watch on the appropriate radio frequency of, and establish two-way communication as required, with the appropriate ATC unit.

(2) An automatic signalling device may be used to satisfy the requirement to maintain a continuous listening watch, if authorised by the Authority.

Communication failure-air-to-ground

62. (1) Where a PIC is unable to establish contact with an aeronautical ground station in order to comply with regulation 61 the PIC shall attempt to establish communications with the appropriate ATC unit using all other available means.

(2) Where an aircraft forms part of the aerodrome traffic at a controlled aerodrome, the PIC shall keep watch for instructions that may be issued by visual signals.

(3) Where an aircraft is equipped with SSR transponder, the PIC shall select Mode A, Code 7600.

(4) If a PIC is unable to establish communication in accordance with subregulation (1) and is in visual meteorological conditions, the PIC shall —

(*a*) continue to fly in visual meteorological conditions; and

(*b*) land at the nearest suitable aerodrome and report his or her arrival by the most expeditious means to the appropriate ATC unit; or

(*c*) if considered advisable, complete an IFR flight in accordance with subregulation (5).

(5) Where a PIC is unable to establish communication in accordance with subregulation (1) and is in IMC or when the PIC of an IFR flight considers it inadvisable to complete the flight in accordance with subregulation (4) (*a*) and (*b*), the PIC shall —

(*a*) in airspace where radar is not used in the provision of ATC, maintain the last assigned speed and level, or minimum flight altitude if higher, for a period of 20 minutes following the PIC's failure to report the aircraft's position over a compulsory reporting point and thereafter adjust level and speed in accordance with the filed flight plan;

(*b*) proceed according to the current flight plan route to the appropriate designated navigation aid or fix serving the destination aerodrome and, when required to ensure compliance with subparagraph (*c*) below, hold over this aid or fix until commencement of descent;

(*c*) commence descent from the navigation aid or fix specified in sub-paragraph (*b*) at, or as close as possible to the EAT last received and acknowledged or, if no EAT has been received and acknowledged, at or as close as possible to the ETA resulting from the CPL;

(*d*) complete a normal instrument approach procedure as specified for the designated navigation aid or fix;

(*e*) land, if possible, within 30 minutes after the ETA specified in subparagraph (*e*) or the last acknowledged EAT, whichever is later; and

(*f*) if unable to land as specified in sub-paragraph (*e*), the PIC shall not approach to land visually but shall leave the vicinity of the aerodrome and any associated controlled airspace at the specified altitude on a specified route, and if no altitude or route is specified the PIC shall fly at the last assigned altitude or minimum sector altitude, whichever is the higher, to avoid areas of dense traffic, and then the PIC shall either —

(i) fly to an area in which flight may be continued in visual meteorological conditions and land at a suitable aerodrome there, or

(ii) select a suitable area in which to descend through cloud, fly visually to a suitable aerodrome and land as soon as practicable.

(6) Where a PIC is unable to establish communication in accordance with subregulation (1) and is in IMC or when the PIC of an IFR flight considers it inadvisable to complete the flight in accordance with subregulation (4) (*a*) and (*b*), the PIC shall —

(*a*) in airspace where radar is used in the provision of ATC, maintain the last assigned speed and level, or minimum flight altitude if higher, for a period of seven minutes following —

(i) the time the last assigned level or minimum flight altitude is reached,

(ii) the time the transponder is set to Mode A, Code 7600, or

(iii) the PIC's failure to report the aircraft's position over a compulsory reporting point, whichever is later, and thereafter adjust level and speed in accordance with the filed flight plan;

(*b*) when being radar vectored or having been directed by ATC to proceed offset using Area Navigation without a specified limit, rejoin the CPL current flight plan route no later than the next significant point, taking into consideration the applicable minimum flight altitude; and

(*c*) the provisions of subregulation 5 (*b*), (*c*), (*d*), (*e*) and (*f*) shall apply.

Communication failure-ground-to-air

63. (1) Where an aeronautical station is unable to establish contact with a PIC after a call on the frequency on which the PIC is believed to be listening, the station shall —

(*a*) request other aeronautical stations to render assistance by calling the PIC and relaying traffic information, if necessary; or

(*b*) request the PIC of other aircraft on the route to attempt to establish Communication with the aircraft and relay traffic information, if necessary.

(2) The provisions of subregulation (1) shall also be applied —

(*a*) on request of the air traffic service unit concerned; or

(*b*) when an expected communication from a PIC has not been received within 30 minutes of a communication failure being suspected.

(3) Where an attempt under subregulation (1) fail, the aeronautical station shall transmit messages addressed to the PIC, other than messages containing an ATC clearance, by blind transmission on the frequency on which the PIC is believed to be listening.

Unlawful interference of aircraft

64. (1) A PIC of an aircraft which is being subjected to an unlawful interference shall endeavour to notify the appropriate air traffic service unit of —

(*a*) the unlawful interference;

(*b*) any significant circumstances associated with the unlawful interference; and

(*c*) any deviation from the CPL necessitated by the circumstances, in order to enable the air traffic service unit to give priority to the aircraft and to minimize conflict with other aircraft.

(2) A PIC shall, when and if possible, operate the SSR Mode A, Code 7500 to indicate that the aircraft is being subjected to an unlawful interference, and where circumstances require, a SSR Mode A, Code 7700 to indicate that it is threatened by grave and imminent danger and requires immediate assistance.

(3) Where an air traffic service unit knows or believes that an aircraft is being subjected to an unlawful interference, no reference shall be made in air traffic service air-ground communications to the nature of the emergency unless it has first been referred to in communications from the aircraft involved and it is certain that such reference will not aggravate the situation.

Lawful interception of aircraft

65. (1) Interception of a civil aircraft shall —

(*a*) be undertaken only as a last resort;

(*b*) if undertaken, be limited to determining the identity of the aircraft, unless it is necessary to return the aircraft to its planned track, direct it beyond the boundaries of national airspace, guide it away from a prohibited, restricted or danger area or instruct it to effect a landing at a designated aerodrome;

(*c*) not be undertaken for practice of interception of civil aircraft;

(*d*) ensure that navigational guidance and related information will be given to an intercepted aircraft by RTF, whenever radio contact can be established; or

(*e*) ensure that, in the case where an intercepted civil aircraft is required to land in the territory overflown, the aerodrome designated for the landing is suitable for the safe landing of the aircraft type concerned.

(2) A PIC of a civil aircraft when intercepted shall immediately —

(*a*) follow the instructions given by the intercepting aircraft, interpreting and responding to visual signals in accordance with the specifications in regulation 43;

(*b*) notify, if possible, the appropriate air traffic service unit;

(*c*) attempt to establish radio communication with the intercepting aircraft or with the appropriate intercepting control unit, by making a general call on the emergency frequency 121.5 MHz, giving the identity of the intercepted aircraft and the nature of the flight, and if no contact has been established and if practicable, repeat this call on the emergency frequency 243 MHz;

(*d*) if equipped with SSR transponder, select Mode A, Code 7700, unless otherwise instructed by the appropriate air traffic service unit; or

(*e*) if equipped with ADS-B or ADS-C, select the appropriate emergency functionality, if available, unless otherwise instructed by the appropriate air traffic services unit.

(3) If any instruction received by radio from any sources conflict with those given by the intercepting aircraft by visual signals, the PIC of the intercepted aircraft shall request immediate clarification while continuing to comply with the visual instructions given by the intercepting aircraft.

(4) If any instruction received by radio from any sources conflict with those given by the intercepting aircraft by radio, the PIC of the intercepted aircraft shall request immediate clarification while continuing to comply with the radio instructions given by the intercepting aircraft.

(5) In intercepting a civil aircraft, the intercepting aircraft shall take due account of the performance limitations of civil aircraft, the need to avoid flying in such proximity to the intercepted aircraft that a collision hazard may be created and the need to avoid crossing the intercepted aircraft's flight path or to perform any other manoeuvre in such a manner that the wake turbulence may be hazardous, particularly if the intercepted aircraft is a light aircraft.

(6) A PIC of intercepting aircraft equipped with a SSR transponder shall suppress the transmission of pressure-altitude information (in Mode C replies or in the AC field of Mode S replies) within a range of at least 37 kilometres of the aircraft being intercepted in order to prevents the ACAS in the intercepted aircraft from using resolution advisories in respect of the interceptor, while the ACAS traffic advisory information will remain available.

(7) If radio contact is established during interception but communication in a common language is not possible, attempts shall be made to convey instructions, acknowledgement of instructions and essential information by using the phrases and pronunciations shown in Table A2-1 in Schedule 8 and transmitting each phrase twice.

PART VII — *Miscellaneous Provisions*

Reporting of hazardous conditions

66. A PIC shall, on encountering with hazardous conditions in the course of a flight, or as soon as possible thereafter, send, to the appropriate air traffic service unit by the quickest means available, information containing such particulars of the hazardous conditions as may be pertinent to the safety of other aircraft.

Classification of airspace Cap. 71:01 (Sub. Leg.)

67. Air traffic service airspaces classification in Botswana is shown in the aeronautical information publication and classified and designated as set out in Schedule 7 and the Civil Aviation (Air Traffic Services) Regulations.

Flight in Class A airspace

68. A PIC shall, in relation to flights in visual meteorological conditions in Class A airspace, comply with regulations 56 and 71 as if the flights were IFR flights but shall not elect to continue the flight in compliance with the VFR for the purposes of regulation 71.

Coordination of activities potentially hazardous to civil aircraft

69. (1) A person shall not carry out activities that are potentially hazardous to aircraft whether flying over Botswana or over the territorial waters of Botswana without approval from the Authority.

(2) Notwithstanding the generality of subregulation (1) —

(*a*) a person shall not intentionally project, or cause to be projected, a laser beam or other directed high intensity light at an aircraft in such a manner as to create a hazard to aviation safety, damage to the aircraft or injury to its crew or passengers;

(*b*) a person using or planning to use lasers or other directed high-intensity lights outdoors in such a manner that the laser beam or other light beam may enter navigable airspace with sufficient power to cause an aviation hazard shall provide written notification to the competent authority; and

(*c*) a PIC shall not deliberately operate an aircraft into a laser beam or other directed high-intensity light unless flight safety is ensured.

(3) A person shall not release into the atmosphere any radioactive material or toxic chemicals which could affect the safety of aircraft.

PART VIII — *Visual Flight Rules*

Weather limitations for visual flight rules flights

70. (1) A person shall not commence a flight to be conducted in accordance with VFR unless —

(*a*) available current meteorological reports, or a combination of current reports and forecasts, indicate that the meteorological conditions along the route allow VFR operations; or

(*b*) part of the route to be flown under VFR, shall, at the appropriate time, allow VFR operations.

(2) Any person who contravenes the provision of subregulation (1) commits an offence and is liable to a fine not exceeding P50 000 or a term of imprisonment not exceeding five years, or to both.

Visual meteorological conditions

71. Except when operating a SVFR flight, a person shall conduct a flight so that the aircraft is flown in conditions of visibility and distance from clouds equal to or greater than those specified in Schedule 9.

Visual flight rules within control zone

72. A PIC of a VFR flight shall not take off or land at an aerodrome within a CTR, or enter the aerodrome traffic zone or traffic pattern when —

(*a*) the ceiling is less than 1 500 feet; or

(*b*) the ground visibility is less than five kilometres,

except when a VFR clearance is obtained from an ATC unit.

Minimum safe visual flight rules altitudes

73. A VFR flight shall not be flown, except when necessary for take-off or landing, or except by permission from the Authority —

(*a*) over congested areas of cities, towns or settlements or over an open-air assembly of persons at a height less than 1 500 feet above the highest obstacle within a radius of 600 metres from the aircraft; or

(*b*) elsewhere than specified in paragraph (*a*), at a height less than 500 feet above the ground or water.

Air traffic control clearances for visual flight rules flights

74. A PIC of a VFR flight shall comply with the provisions of regulations 54, 55, 56, 58, 59, 60 and 61 when —

(*a*) operating within Class C airspace;

(*b*) forming part of aerodrome traffic at controlled a aerodrome; or

(*c*) operating as a special VFR flight.

Weather deterioration below visual meteorological conditions

75. A PIC of a VFR flight operated as a controlled flight shall, when it becomes evident that flight in visual meteorological conditions in accordance with its current control flight plan will not be practicable —

(*a*) request an amended clearance enabling the aircraft to continue in visual meteorological conditions to its destination or to an alternative aerodrome, or to leave the airspace within which an ATC clearance is required;

(*b*) if clearance cannot be obtained in accordance with paragraph (*a*), continue to operate in visual meteorological conditions and notify the appropriate ATC unit of the action being taken either to leave the airspace concerned or to land at the nearest suitable aerodrome;

(*c*) if operating within a CTR, request authorisation to operate as a SVFR; or

(*d*) request clearance to operate in IFR, if currently rated for IFR operations.

Visual flight rules flight within designated areas

76. A PIC operating a VFR flight within or into areas, or along routes, designated by the Authority in accordance with regulation 49 (2) (*c*) or (*d*) shall maintain continuous air-ground voice communication watch on the appropriate communication channel of, and report its position as necessary to, the air traffic service unit providing FIS.

Choice of visual flight rules or instrument flight rules

77. (1) A person shall, subject to regulation 68, fly an aircraft in accordance with VFR or IFR:

Provided that —

(*a*) an aircraft flying at night shall be flown in accordance with the IFR, or, in a CTR, in accordance with the IFR or the provisions of regulation 78; and

(*b*) irrespective of meteorological conditions, the PIC shall, when operating at or above flight level 150, fly in accordance with IFR.

(2) Unless authorised by the appropriate air traffic service authority, VFR flights shall not be operated —

(*a*) above flight level 145;

(*b*) at night; or

(*c*) at supersonic or transonic speeds.

(3) An authorisation for VFR flights to operate above FL 290 shall not be granted in areas where a vertical separation minimum of 300 m (1 000 ft) is applied above FL 290.

Special visual flight rules flight

78. (1) A PIC flying an aircraft in a CTR, in the case of a SVFR flight shall remain clear of cloud and in sight of the ground or water and shall fly the aircraft in accordance with any instructions given by the appropriate ATC unit.

(2) A PIC flying a SVFR flight shall not fly in a CTR when the flight visibility is less than 1 500 metres or the ceiling is less than 500 feet.

Changing from visual flight rules to instrument flight rules

79. A PIC operating in VFR who wishes to change to IFR shall —

(*a*) where a flight plan was submitted, communicate the necessary changes to be effected to the CPL; or

(*b*) when so required by the provisions of regulation 49, submit a flight plan to the appropriate ATC unit and obtain a clearance prior to proceeding to operate in IFR when in controlled airspace.

PART IX — *Instrument Flight Rules*

Aircraft equipment

80. (1) A PIC shall ensure that an aircraft is equipped with suitable instruments and with navigation equipment appropriate to the route to be flown to enable the operation of an IFR flight.

(2) A PIC who operates an aircraft without the required equipment in accordance subregulation (1), commits an offence and is liable to a fine not exceeding P50 000 or to a term of imprisonment not exceeding five years, or to both.

Instrument flight rules flights in controlled airspace

81. A PIC of an aircraft operating an IFR flight in controlled airspace shall —

(*a*) fly the aircraft at a cruising level, or, if authorised to employ cruise climb techniques between two levels or above a level, selected from —

(i) Schedule 1 in areas where, on the basis of regional air navigation agreements and in accordance with conditions specified therein, a vertical separation minimum of 1000 feet is applied between flight level 290 and flight level 410 inclusive, or

(ii) a modified table of cruising levels, when so provided as set out in Schedule 1 for flight above FL410; except that the correlation of levels to track prescribed therein shall not apply whenever otherwise indicated in ATC clearances or provided for by the Authority in the Aeronautical Information Publication; and

(*b*) comply with the provisions of regulations 54, 55, 56, 58, 59, 60 and 61.

Instrument flight rules flights outside controlled airspace

82. A PIC operating an IFR flight outside a controlled airspace —

(*a*) shall fly at a cruising level selected from Schedule 1;

(*b*) within or into areas, or along routes specified in regulation 49 (2) (c) or (*d*), shall maintain a listening watch on the appropriate communication channel and establish two-way communication, as necessary with air traffic service unit providing FISs; and

(*c*) shall report the aircraft's position as required by the provisions of regulation 60.

Malfunction reports-operation under instrument flight rules in controlled airspace

83. (1) A PIC of an aircraft operated in controlled airspace under IFR shall report as soon as practical to ATC unit any malfunctions of navigation, approach, or communication equipment occurring in flight.

(2) A PIC shall include in each report specified in subregulation (1) —

(*a*) the aircraft identification;

(*b*) the equipment affected;

(*c*) the degree to which the capability of the PIC to operate under IFR in the ATC system is impaired; and

(*d*) the nature and extent of assistance desired from ATC unit.

Minimum flight altitudes for instrument flight rules operations

84. (1) A PIC shall, except when necessary for take-off or landing, fly an IFR flight at a level which is not below the minimum flight altitude established by the authority of the State whose territory is overflown.

(2) A PIC shall, where the authority of a State whose territory is overflown has not established a minimum flight attitude —

(*a*) operate an IFR flight for flights over high terrain or in mountainous areas, at a level which is at least 2 000 feet above the highest obstacle located within eight kilometres of the estimated position of the aircraft; or

(*b*) operate an IFR flight for flights elsewhere than as specified in paragraph (*a*), at a level which is at least 1 000 feet above the highest obstacle located within eight kilometres of the estimated position of the aircraft.

Change from instrument flight rules flight to visual flight rules flight

85. (1) A PIC electing to change from IFR flight to VFR flight shall notify the appropriate ATC unit specifically, that the IFR flight is cancelled and then communicate the changes to be made to the CPL.

(2) Where a PIC operating under IFR is flying in or encounters visual meteorological conditions, the PIC shall not cancel the IFR flight unless it is anticipated, and intended, that the flight shall be continued for a reasonable period of time in uninterrupted visual meteorological conditions.

(3) A PIC who contravenes the provisions of this regulation commits an offence and is liable to a fine not exceeding P50 000 or a term of imprisonment not exceeding five years, or to both.

PART X — *Offences and Penalties*

Offences and penalties

86. (1) A person who contravenes any directive issued under these Regulations commits an offence.

(2) Where any provision of these Regulations is contravened in relation to an aircraft, the operator of that aircraft and the PIC, if the operator or the PIC is not the person who contravened that provision shall, without prejudice to the liability of any other person under these Regulations for that contravention, be deemed to have contravened that provision unless the operator of the aircraft or the PIC proves that the contravention occurred without the operator of the aircraft or the PIC's consent or connivance and that the operator of the aircraft or the PIC exercised all due diligence to prevent the contravention.

(3) Any person who commits an offence or unlawful act for which no specific penalty has been provided for shall be liable to a fine not exceeding P100 000, or to a term of imprisonment not exceeding 10 years, for each offence.

Revocation of S.I. No. 24 of 2012

87. The Civil Aviation (Rules of the Air and Air Traffic Services) Regulations are hereby revoked.

SCHEDULES

SCHEDULE 1
(Regs. 16 (2), 16 (3) 16 (4), 81 (a) (i) and (ii) and 82 (a))

CRUISING LEVELS

The cruising levels to be observed when so required by these regulations are as follows —

RVSM – FEET

(*a*) In areas where feet are used for altitude and where, in accordance with regional air navigation agreements, a vertical separation minimum of 1000 ft is applied between FL 290 and FL 410 inclusive:*

TRACK**											
From 000 degrees to 179 degrees***						From 180 degrees to 359 degrees***					
IFR Flights			VFR Flights			IFR Flights			VFR Flights		
Level			Level			Level			Level		
FL	Feet	Metres	FL	Feet	Metres	FL	Feet	Metres	FL	Feet	Metres
010	1 000	300	..	..	..	020	2 000	600	..	..	..
030	3 000	900	035	3 500	1 050	040	4 000	1 200	045	4 500	1 350
050	5 000	1 500	055	5 500	1 700	060	6 000	1 850	065	6 500	2 000
070	7 000	2 150	075	7 500	2 300	080	8 000	2 450	085	8 500	2 600
090	9 000	2 750	095	9 500	2 900	100	10 000	3 050	105	10 500	3 200
110	11 000	3 350	115	11 500	3 500	120	12 000	3 650	125	12 500	3 800
130	13 000	3 950	135	13 500	4 100	140	14 000	4 250	145	14 500	4 400
150	15 000	4 550	155	15 500	4 700	160	16 000	4 900	165	16 500	5 050
170	17 000	5 200	175	17 500	5 350	180	18 000	5 500	185	18 500	5 650
190	19 000	5 800	195	19 500	5 950	200	20 000	6 100	205	20 500	6 250
210	21 000	6 400	215	21 500	6 550	220	22 000	6 700	225	22 500	6 850
230	23 000	7 000	235	23 500	7 150	240	24 000	7 300	245	24 500	7 450
250	25 000	7 600	255	25 500	7 750	260	26 000	7 900	265	26 500	8 100
270	27 000	8 250	275	27 500	8 400	280	28 000	8 550	285	28 500	8 700
290	29 000	8 850				300	30 000	9 150			
310	31 000	9 450				320	32 000	9 750			
330	33 000	10 050				340	34 000	10 350			
350	35 000	10 650				360	36 000	10 950			
370	37 000	11 300				380	38 000	11 600			
390	39 000	11 900				400	40 000	12 200			
410	41 000	12 500				430	43 000	13 100			
450	45 000	13 700				470	47 000	14 350			
490	49 000	14 950				510	51 000	15 550			
etc.	etc.	etc.				etc.	etc.	etc.			

* Except when, on the basis of regional air navigation agreements, a modified table of cruising levels based on a nominal vertical separation minimum of 1 000 ft (300 m) is prescribed for use, under specified conditions, by aircraft operating above FL 410 within designated portions of the airspace.

** Magnetic track, or in polar areas at latitudes higher than 70 degrees and within such extensions to those areas as may be prescribed by the appropriate ATS authorities, grid tracks as determined by a network of lines parallel to the Greenwich Meridian superimposed on a polar stereographic chart in which the direction towards the North Pole is employed as the Grid North.

*** Except where, on the basis of regional air navigation agreements, from 090 to 269 degrees and from 270 to 089 degrees is prescribed to accommodate predominant traffic directions and appropriate transition procedures to be associated therewith are specified.

Note.— Guidance material relating to vertical separation is contained in the Manual on Implementation of a 300 m (1 000 ft) Vertical Separation Minimum Between FL 290 and FL 410 Inclusive *(Doc 9574).*

(*b*) In areas where metres are used for altitude and where, in accordance with regional air navigation agreements, a vertical separation minimum of 300 m is applied between 8 900 m and 12 500 m inclusive:*

TRACK[1]											
From 000 degrees to 179 degrees[***]						From 180 degrees to 359 degrees[***]					
IFR Flights			VFR Flights			IFR Flights			VFR Flights		
Level			Level			Level			Level		
Standard Metric	Metres	Feet	Standard Metric	Metres	Feet	Standard Metric	Metres	Feet	Standard Metric	Metres	Feet
0030	300	1 000	–	–	–	0060	600	2 000	–	–	–
0090	900	3 000	0105	1 050	3 500	0120	1 200	3 900	0135	1 350	4 400
0150	1 500	4 900	0165	1 650	5 400	0180	1 800	5 900	0195	1 950	6 400
0210	2 100	6 900	0225	2 250	7 400	0240	2 400	7 900	0255	2 550	8 400
0270	2 700	8 900	0285	2 850	9 400	0300	3 000	9 800	0315	3 150	10 300
0330	3 300	10 800	0345	3 450	11 300	0360	3 600	11 800	0375	3 750	12 300
0390	3 900	12 800	0405	4 050	13 300	0420	4 200	13 800	0435	4 350	14 300
0450	4 500	14 800	0465	4 650	15 300	0480	4 800	15 700	0495	4 950	16 200
0510	5 100	16 700	0525	5 250	17 200	0540	5 400	17 700	0555	5 550	18 200
0570	5 700	18 700	0585	5 850	19 200	0600	6 000	19 700	0615	6 150	20 200
0630	6 300	20 700	0645	6 450	21 200	0660	6 600	21 700	0675	6 750	22 100
0690	6 900	22 600	0705	7 050	23 100	0720	7 200	23 600	0735	7 350	24 100
0750	7 500	24 600	0765	7 650	25 100	0780	7 800	25 600	0795	7 950	26 100
0810	8 100	26 600	0825	8 250	27 100	0840	8 400	27 600	0855	8 550	28 100
0890	8 900	29 100				0920	9 200	30 100			
0950	9 500	31 100				0980	9 800	32 100			
1010	10 100	33 100				1040	10 400	34 100			
1070	10 700	35 100				1100	11 000	36 100			
1130	11 300	37 100				1160	11 600	38 100			
1190	11 900	39 100				1220	12 200	40 100			
1250	12 500	41 100				1310	13 100	43 000			
1370	13 700	44 900				1430	14 300	46 900			
1490	14 900	48 900				1550	15 500	50 900			
etc	etc	etc.				etc.	etc.	etc.			

* Except when, on the basis of regional air navigation agreements, a modified table of cruising levels based on a nominal vertical separation minimum of 1 000 ft (300 m) is prescribed for use, under specified conditions, by aircraft operating above FL 410 within designated portions of the airspace.

** Magnetic track, or in polar areas at latitudes higher than 70 degrees and within such extensions to those areas as may be prescribed by the appropriate ATS authorities, grid tracks as determined by a network of lines parallel to the Greenwich Meridian superimposed on a polar stereographic chart in which the direction towards the North Pole is employed as the Grid North.

*** Except where, on the basis of regional air navigation agreements, from 090 to 269 degrees and from 270 to 089 degrees is prescribed to accommodate predominant traffic directions and appropriate transition procedures (to be associated therewith) are specified.

Note.— Guidance material relating to vertical separation is contained in the Manual on Implementation of a 300 m (1 000 ft) Vertical Separation Minimum Between FL 290 and FL 410 Inclusive *(Doc 9574).*

Non-RVSM – FEET

(*c*) In other areas where feet are the primary unit of measurement for altitude:

TRACK[1]											
From 000 degrees to 179 degrees[2]						From 180 degrees to 359 degrees[2]					
IFR Flights			VFR Flights			IFR Flights			VFR Flights		
Level			Level			Level			Level		
FL	Feet	Metres	FL	Feet	Metres	FL	Feet	Metres	FL	Feet	Metres
010	1 000	300	–	–	–	020	2 000	600	–	–	–
030	3 000	900	035	3 500	1 050	040	4 000	1 200	045	4 500	1 350
050	5 000	1 500	055	5 500	1 700	060	6 000	1 850	065	6 500	2 000
070	7 000	2 150	075	7 500	2 300	080	8 000	2 450	085	8 500	2 600
090	9 000	2 750	095	9 500	2 900	100	10 000	3 050	105	10 500	3 200
110	11 000	3 350	115	11 500	3500	120	12 000	3 650	125	12 500	3 800
130	13 000	3 950	135	13 500	4 100	140	14 000	4 250	145	14 500	4 400
150	15 000	4 550	155	15 500	4 750	160	16 000	4 900	165	16 500	5 050
170	17 000	5 200	175	17 500	5 350	180	18 000	5 500	185	18 500	5 650
190	19 000	5 800	195	19 500	5 950	200	20 000	6 100	205	20 500	6 250
210	21 000	6 400	215	21 500	6 550	220	22 000	6 700	225	22 500	6 850
230	23 000	7 000	235	23 500	7 150	240	24 000	7 300	245	24 500	7 450
250	25 000	7 600	255	25 500	7 750	260	26 000	7 900	265	26 500	8 100
270	27 000	8 250	275	27 500	8 400	280	28 000	8 550	285	28 500	8 700
290	29 000	8 850	300	30 000	9 150	310	31 000	9 450	320	32 000	9 750
330	33 000	10 050	340	34 000	10 350	350	35 000	10 650	360	36 000	10 950
370	37 000	11 300	380	38 000	11 600	390	39 000	11 900	400	40 000	12 200
410	41 000	12 500	420	42 000	12 800	430	43 000	13 100	440	44 000	13 400
450	45 000	13 700	460	46 000	14 000	470	47 000	14 350	480	48 000	14 650
490	49 000	14 950	500	50 000	15 250	510	51 000	15 550	520	52 000	15 850
etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.

[1] Magnetic track, or in polar area at latitudes higher than 70 degrees and within such extensions to those areas as may be prescribed by the appropriate ATS authorities, grid tracks as determined by a network of lines parallel to the Greenwich Meridian superimposed on a polar stereographic chart in which the direction towards the North Pole is employed as the Grid North.

[2] Except where, on the basis of regional air navigation agreements, from 000 to 269 degrees and from 270 to 089 degrees is prescribed to accommodate predominant traffic directions and appropriate transition procedures to be associated therewith are specified.

Note. – Guidance material relating to vertical separation is contained in the Manual on Implementation of a 300 m (1 000 ft) Vertical Separation Minimum Between FL 290 and FL 410 Inclusive *(Doc 9574).*

Non-RVSM – METRES

(*d*) In other areas where metres are the primary unit of measurement for altitude:

TRACK*											
From 000 degrees to 179 degrees**						From 180 degrees to 359 degrees**					
IFR Flights			VFR Flights			IFR Flights			VFR Flights		
Level			Level			Level			Level		
Standard Metric	Metres	Feet	Standard Metric	Metres	Feet	Standard Metric	Metres	Feet	Standard Metric	Metres	Feet
0030	300	1 000	–	–	–	0060	600	2 000	–	–	–
0090	900	3 000	0105	1 050	3 500	0120	1 200	4 000	0135	1 350	4 500
0150	1 500	5 000	0165	1 650	5 500	0180	1 800	6 000	0195	1 950	6 500
0210	2 100	7 000	0225	2 250	7 500	0240	2 400	8 000	0255	2 550	8 500
0270	2 700	9 000	0285	2 850	9 500	0300	3 000	10 000	0315	3 150	10 500
0330	3 300	11 000	0345	3 450	11 500	0360	3 600	12 000	0375	3 750	12 500
0390	3 900	13 000	0405	4 050	13 500	0420	4 200	14 000	0435	4 350	14 500
0450	4 500	15 000	0465	4 650	15 500	0480	4 800	16 000	0495	4 950	16 500
0510	5 100	17 000	0525	5 250	17 500	0540	5 400	18 000	0555	5 550	18 500
0570	5 700	19 000	0585	5 850	19 500	0600	6 000	20 000	0615	6 150	20 500
0630	6 300	21 000	0645	6 450	21 500	0660	6 600	22 000	0675	6 750	22 500
0690	6 900	23 000	0705	7 050	23 500	0720	7 200	24 000	0735	7 350	24 500
0750	7 500	25 000	0765	7 650	25 500	0780	7 800	26 000	0795	7 950	26 500
0810	8 100	27 000	0825	8 250	27 500	0840	8 400	28 000	0855	8 550	28 500
0870	8 900	29 500	0928	9 200	30 500	0950	9 500	31 500	0950	9 800	32 500
1010	10 100	33 500	1040	10 400	34 500	1070	10 700	35 500	1100	11 000	36 500
1130	11 300	37 500	1160	11 600	38 500	1190	11 900	39 500	1220	12 200	40 500
1250	12 500	41 500	1280	12 800	42 500	1310	13 100	43 000	1370	13 400	44 000
1370	13 700	44 900	1400	14 000	46 000	1430	14 300	46 900	1460	14 600	47 900
1490	14 900	48 900	1520	15 200	49 900	1550	15 500	50 900	1580	15 800	51 900
etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.	etc.

* Magnetic track, or in polar areas at latitudes higher than 70 degrees and within such extensions to those areas as may be prescribed by the appropriate ATS authorities, grid tracks as determined by a network of lines parallel to the Greenwich Meridian superimposed on a polar stereographic chart in which the direction towards the North Pole is employed as the Grid North.

** Except where, on the basis of regional air navigation agreements, from 090 to 269 degrees and from 270 to 089 degrees is prescribed to accommodate predominant traffic directions and appropriate transition procedures to be associated therewith are specified.

Note.— Guidance material relating to vertical separation is contained in the Manual on Implementation of a 300 m (1 000 ft) Vertical Separation Minimum Between FL 290 and FL 410 Inclusive *(Doc 9574).*

SCHEDULE 2
(reg. 20)

REMOTELY PILOTED AIRCRAFT SYSTEMS

1.0 General operating rules

1.1 A remotely piloted aircraft system (RPAS) engaged in international air navigation shall not be operated in Botswana without appropriate authorisation from the State from which the take-off of the remotely piloted aircraft (RPA) is made.

1.2 An RPA shall not be operated across the territory of another State without special authorisation issued by each State in which the flight is to operate. This authorisation may be in the form of agreements between Botswana and another State.

1.3 The authorisation and coordination referred to in 1.1 and 1.2 shall be obtained prior to take-off if there is reasonable expectation, when planning the operation, that the aircraft may enter the airspace concerned.

1.4 An RPAS shall be operated in accordance with conditions specified by the Authority, the State of the Operator, if not Botswana, and the State(s) in which the flight is to operate.

1.5 Flight plans shall be submitted in accordance with these regulations or as otherwise prescribed by the Authority or the State(s) in which the flight is to operate.

1.6 RPAS shall meet the performance and equipment carriage requirements for the specific airspace in which the flight is to operate.

2.0 Certificates and licensing

Note 1.— Pending the coming into force of international Standards respecting particular categories, classes or types of aircraft, certificates issued or rendered valid, under national regulations, by an ICAO Contracting State in which the aircraft is registered shall be recognized by Botswana for the purposes of flight over Botswana territory, including landings and take-offs.

Note 2. — Certification and licensing Standards are not yet developed. Thus, in the meantime, any certification and licensing need not be automatically deemed to comply with the SARPs of the related ICAO Annexes; including Annex 1, 6 and 8; until such time as the related RPAS SARPs are developed.

2.1 An RPAS shall be approved, taking into account the interdependencies of the components, in accordance with national regulations and in a manner that is consistent with the provisions of related Annexes. In addition —

(*a*) an RPA shall have a certificate of airworthiness issued in accordance with national regulations and in a manner that is consistent with the provisions of Annex 8; and

(*b*) the associated RPAS components specified in the type design shall be certificated and maintained in accordance with national regulations and in a manner that is consistent with the provisions of related ICAO Annexes.

2.2 An operator shall have an RPAS operator certificate issued by the Authority and in a manner that is consistent with the applicable requirements.

2.3 Remote pilots shall be licensed, or have their licences rendered valid, as my be provided for by the Authority

3.0 Request for authorisation

3.1 The request for authorisation referred to in 1.2 above shall be made to the Authority not less than seven days before the date of the intended flight unless otherwise specified.

3.2 Unless otherwise specified the request for authorisation shall include the following –

(*a*) name and contact information of the operator;

(*b*) RPA characteristics (type of aircraft, maximum certificated take-off mass, number of engines, wing span);

(*c*) copy of certificate of registration;

(*d*) aircraft identification to be used in radiotelephony, if applicable;

(*e*) copy of the certificate of airworthiness;

(*f*) copy of the RPAS operator certificate;

(*g*) copy of the remote pilot(s) licence;

(*h*) copy of the aircraft radio station licence, if applicable;

(*i*) description of the intended operation (to include type of operation or purpose), flight rules, visual line-of-sight (VLOS) operation if applicable, date of intended flight(s), point of departure, destination, cruising speed(s), cruising level(s), route to be followed, duration/frequency of flight;

(*j*) take-off and landing requirements;

(*k*) RPA performance characteristics, including –

(i) operating speeds;

(ii) typical and maximum climb rates;

(iii) typical and maximum descent rates;

(iv) typical and maximum turn rates;

(v) other relevant performance data (e.g. limitations regarding wind, icing, precipitation); and

(vi) maximum aircraft endurance;

(*l*) communications, navigation and surveillance capabilities –

(i) acronautical safety communications frequencies and equipment, including –

(*aa*) ATC communications, including any alternate means of communication;

(*bb*) command and control links (C2) including performance parameters and designated operational coverage area;

(*cc*) communications between remote pilot and RPA observer, if applicable,

(ii) navigation equipment, and

(iii) surveillance equipment (e.g. SSR transponder, ADS-B out);

(m) detect and avoid capabilities;

(*n*) emergency procedures, including –

(i) communications failure with ATC,

(ii) C2 failure, and

(iii) remote pilot/RPA observer communications failure, if applicable;

(*o*) number and location of remote pilot stations as well as handover procedures between remote pilot stations, if applicable;

(*p*) document attesting noise certification as prescribed by the Authority, if applicable;

(*q*) confirmation of compliance with national security standards, to include security measures relevant to the RPAS operation, as appropriate;

(*r*) payload information/description; and
(*s*) proof of adequate insurance/liability coverage.

3.3 When certificates or other documents identified in 3.2 above are issued in a language other than English, an English translation shall be included.

3.4 After authorisation has been obtained from the Authority, air traffic services notification and coordination shall be completed as prescribed by the Authority.

Note 3. — A request for authorisation does not satisfy the requirement to file a flight plan with the air traffic services units.

3.5 Changes to the authorisation shall be submitted for consideration to the Authority. If the changes are approved, all affected authorities shall be notified by the operator.

3.6 In the event of a flight cancellation, the operator or remote pilot shall notify all appropriate authorities as soon as possible.

SCHEDULE 3
(reg. 11)

UNMANNED FREE BALLOONS

1. Classification of unmanned free balloons
Unmanned free balloons shall be classified as —
(*a*) light: an unmanned free balloon which carries a payload of one or more packages with a combined mass of less than 4kg, unless qualifying as a heavy balloon in accordance with (*c*) (ii), (iii) or (iv) below;
(*b*) medium: an unmanned free balloon which carries a payload of two or more packages with a combined mass of 4kg or more, but less than 6kg, unless qualifying as a heavy balloon in accordance with (*c*) (ii), (iii) or (iv) below; or
(*c*) heavy: an unmanned free balloon which carries a payload which —
(i) has a combined mass of 6kg or more;
(ii) includes a package of 3kg or more;
(iii) includes a package of 2kg or more with an area density of more than 13g per square centimetre; or
(iv) uses a rope or other device for suspension of the payload that requires an impact force of 230 N or more to separate the suspended payload from the balloon.

Note 1.— The area density referred to in (c) (iii) is determined by dividing the total mass in grams of the payload package by the area in square centimetres of its smallest surface.

Note 2.— See Figure A5-1.

1. General operating rules
2.1 An unmanned free balloon shall not be operated without appropriate authorisation from the State from which the launch is made.
2.2 An unmanned free balloon, other than a light balloon used exclusively for meteorological purposes and operated in the manner prescribed by the appropriate authority, shall not be operated across the territory of another State without appropriate authorisation from the other State concerned.
2.3 The authorisation referred to in 2.2 —
(*a*) shall be obtained prior to the launching of the balloon if there is reasonable expectation, when planning the operation that the balloon may drift into airspace over the territory of another State; and
(*b*) may be obtained for a series of balloon flights or for a particular type of recurring flight, e.g. atmospheric research balloon flights.
2.4 An unmanned free balloon shall be operated in accordance with conditions specified by the State of Registry and the State(s) expected to be overflown.

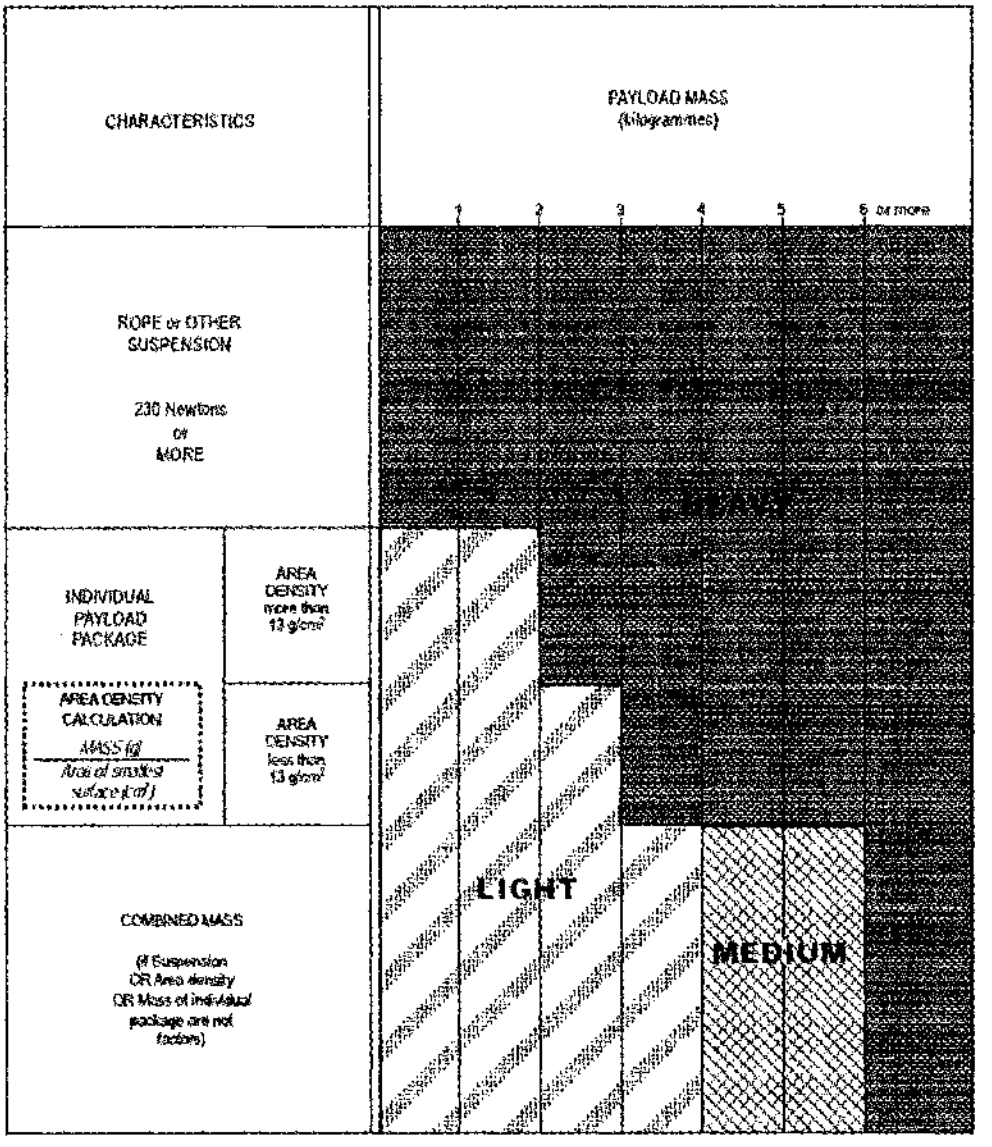


Figure A5-1. Classification of unmanned free balloons

2.5 An unmanned free balloon shall not be operated in such a manner that impact of the balloon, or any part thereof, including its payload, with the surface of the earth, creates a hazard to persons or property not associated with the operation.

2.6 A heavy unmanned free balloon shall not be operated over the high seas without prior coordination with the appropriate air traffic service authority.

1. Operating limitations and equipment requirements

3.1 A heavy unmanned free balloon shall not be operated without authorisation from the appropriate air traffic service authority at or through any level below 18 000 m (60 000 ft) pressure-altitude at which —

(*a*) there are clouds or obscuring phenomena of more than four oktas coverage; or

(*b*) the horizontal visibility is less than 8km.

3.2 A heavy or medium unmanned free balloon shall not be released in a manner that will cause it to fly lower than 300m (1 000 ft) over the congested areas of cities, towns or settlements or an open-air assembly of persons not associated with the operation.

3.3 A heavy unmanned free balloon shall not be operated unless —

(*a*) it is equipped with at least two payload flight-termination devices or systems, whether automatic or operated by telecommand, that operate independently of each other;

(*b*) for polyethylene zero-pressure balloons, at least two methods, systems, devices, or combinations thereof, that function independently of each other are employed for terminating the flight of the balloon envelope;

(Note.-- Superpressure balloons do not require these devices as they quickly rise after payload discharge and burst without the need for a device or system designed to puncture the balloon envelope. In this context a superpressure balloon is a simple non-extensible envelope capable of withstanding a differential of pressure, higher inside than out. It is inflated so that the smaller night-time pressure of the gas still fully extends the envelope. Such a superpressure balloon will keep essentially constant level until too much gas diffuses out of it); and

(*c*) the balloon envelope is equipped with either a radar reflective device(s) or radar reflective material that will present an echo to surface radar operating in the 200 MHz to 2 700 MHz frequency range, and/or the balloon is equipped with such other devices as will permit continuous tracking by the operator beyond the range of ground-based radar.

3.4 A heavy unmanned free balloon shall not be operated under the following conditions –

(*a*) in an area where ground-based SSR equipment is in use, unless it is equipped with a secondary surveillance radar transponder, with pressure-altitude reporting capability, which is continuously operating on an assigned code, or which can be turned on when necessary by the tracking station; or

(*b*) in an area where ground-based ADS-B equipment is in use, unless it is equipped with an ADS-B transmitter, with pressure-altitude reporting capability, which is continuously operating or which can be turned on when necessary by the tracking station.

3.5 An unmanned free balloon that is equipped with a trailing antenna that requires a force of more than 230 N to break it at any point shall not be operated unless the antenna has coloured pennants or streamers that are attached at not more than15 m intervals.

3.6 A heavy unmanned free balloon shall not be operated below 18 000 m (60 000 ft) pressure-altitude between sunset and sunrise or such other period between sunset and sunrise (corrected to the altitude of operation) as may be prescribed by the appropriate air traffic service authority, unless the balloon and its attachments and payload, whether or not they become separated during the operation, are lighted.

3.7 A heavy unmanned free balloon that is equipped with a suspension device (other than a highly conspicuously coloured open parachute) more than 15 m long shall not be operated between sunrise and sunset below 18 000 m (60 000 ft) pressure-altitude unless the suspension device is coloured in alternate bands of high conspicuity colours or has coloured pennants attached.

4. Termination

The operator of a heavy unmanned free balloon shall activate the appropriate termination devices required by 3.3 (*a*) and (*b*) above —

(*a*) when it becomes known that weather conditions are less than those prescribed for the operation;
(*b*) if a malfunction or any other reason makes further operation hazardous to air traffic or to persons or property on the surface; or
(*c*) prior to unauthorized entry into the airspace over another State's territory.

5. Flight notification

5.1 Pre-flight notification

5.1.1 Early notification of the intended flight of an unmanned free balloon in the medium or heavy category shall be made to the appropriate air traffic services unit not less than seven days before the date of the intended flight.

5.1.2 Notification of the intended flight shall include such of the following information as may be required by the appropriate air traffic services unit —

(*a*) balloon flight identification or project code name;
(*b*) balloon classification and description;
(*c*) SSR code, aircraft address or NDB frequency, as applicable;
(*d*) operator's name and telephone number;
(*e*) launch site;
(*f*) estimated time of launch (or time of commencement and completion of multiple launches);
(*g*) number of balloons to be launched and the scheduled interval between launches (if multiple launches);
(*h*) expected direction of ascent;
(*i*) cruising level(s) (pressure-altitude);
(*j*) the estimated elapsed time to pass 18 000 m (60 000 ft) pressure-altitude or to reach cruising level if at or below 18 000 m (60 000 ft), together with the estimated location;

(Note.— If the operation consists of continuous launchings, the time to be included is the estimated time at which the first and the last in the series will reach the appropriate level (e.g. 122136Z–130330Z));

(*k*) the estimated date and time of termination of the flight and the planned location of the impact/recovery area. In the case of balloons carrying out flights of long duration, as a result of which the date and time of termination of the flight and the location of impact cannot be forecast with accuracy, the term "long duration" shall be used:

(Note.— If there is to be more than one location of impact/recovery, each location is to be listed together with the appropriate estimated time of impact. If there is to be a series of continuous impacts, the time to be included is the estimated time of the first and the last in the series (e.g. 070330Z–072300Z)).

5.1.3 Any changes in the pre-launch information notified in accordance with 5.1.2 above shall be forwarded to the air traffic services unit concerned not less than 6 hours before the estimated time of launch, or in the case of solar or cosmic disturbance investigations involving a critical time element, not less than 30 minutes before the estimated time of the commencement of the operation.

5.2 Notification of launch

Immediately after a medium or heavy unmanned free balloon is launched the operator shall notify the appropriate air traffic services unit of the following —

(*a*) balloon flight identification;
(*b*) launch site;
(*c*) actual time of launch;
(*d*) estimated time at which 18 000m (60 000 ft) pressure-altitude will be passed, or the estimated time at which the cruising level will be reached if at or below 18 000 m (60 000 ft), and the estimated location; and
(*e*) any changes to the information previously notified in accordance with 5.1.2 (g) and (h).

5.3 Notification of cancellation

The operator shall notify the appropriate air traffic services unit immediately when it is known that the intended flight of a medium or heavy unmanned free balloon, previously notified in accordance with 5.1, has been cancelled.

6. Position recording and reports

6.1 The operator of a heavy unmanned free balloon operating at or below 18 000 m (60 000 ft) pressure-altitude shall monitor the flight path of the balloon and forward reports of the balloon's position as requested by air traffic services. Unless air traffic services require reports of the balloon's position at more frequent intervals, the operator shall record the position every two hours.

6.2 The operator of a heavy unmanned free balloon operating above 18 000 m (60 000 ft) pressure-altitude shall monitor the flight progress of the balloon and forward reports of the balloon's position as requested by air traffic services. Unless air traffic services require reports of the balloon's position at more frequent intervals, the operator shall record the position every 24 hours.

6.3 If a position cannot be recorded in accordance with 6.1 and 6.2, the operator shall immediately notify the appropriate air traffic services unit. This notification shall include the last recorded position. The appropriate air traffic services unit shall be notified immediately when tracking of the balloon is re-established.

6.4 One hour before the beginning of planned descent of a heavy unmanned free balloon, the operator shall forward to the appropriate air traffic service unit the following information regarding the balloon –

(*a*) the current geographical position;
(*b*) the current level (pressure-altitude);
(*c*) the forecast time of penetration of 18 000m (60 000 ft) pressure-altitude, if applicable;
(*d*) the forecast time and location of ground impact.

6.5 The operator of a heavy or medium unmanned free balloon shall notify the appropriate air traffic services unit when the operation is ended.

SCHEDULE 4
(reg. 43)

SIGNALS FOR USE IN THE EVENT OF INTERCEPTION

2.1 Signals initiated by intercepting aircraft and responses by intercepted aircraft

Series	*INTERCEPTING Aircraft Signals*	*Meaning*	*INTERCEPTED Aircraft Responds*	*Meaning*
1	DAY or NIGHT — Rocking aircraft and flashing navigational lights at irregular intervals (and landing lights in the case of a helicopter) from a position slightly above and ahead of, and normally to the left of, the intercepted aircraft (or to the right if the intercepted aircraft is a helicopter) and, after acknowledgement, a slow level turn, normally to the left (or to the right in the case of a helicopter) on the desired heading. *Note 1.— Meteorological conditions or terrain may require the intercepting aircraft to reverse the positions and direction of turn given above in Series 1.* *Note 2.— If the intercepted aircraft is not able to keep pace with the intercepting aircraft, the latter is expected to fly a series of race-track patterns and to rock the aircraft each time it passes the intercepted aircraft.*	You have been intercepted Follow me.	DAY or NIGHT — Rocking aircraft, flashing navigational lights at irregular intervals and following. *Note.— Additional action required to be taken by intercepted aircraft is prescribed in Chapter 3, 3.8.*	Understood, will comply.
2	DAY or NIGHT — An abrupt breakaway manoeuvre from the intercepted aircraft consisting of a climbing turn of 90 degrees or more without crossing the line of flight of the intercepted aircraft.	You may proceed.	DAY or NIGHT — Rocking the aircraft.	Understood, will comply.
3	DAY or NIGHT — Lowering landing gear (if fitted), showing steady landing lights and overflying runway in use or, if the intercepted aircraft is a helicopter, overflying the helicopter landing area. In the case of helicopters, the intercepting helicopter makes a landing approach, coming to a hover near to the landing area.	Land at this aerodrome.	DAY or NIGHT — Lowering landing gear, (if fitted), showing steady landing lights and following the intercepting aircraft and, if, after overflying the runway in use or helicopter landing area, landing is considered safe, proceeding to land.	Understood, will comply.

2.2 Signals initiated by intercepted aircraft and responses by intercepting aircraft

Series	*INTERCEPTED Aircraft Signals*	*Meaning*	*INTERCEPTING Aircraft Responds*	*Meaning*
4	DAY or NIGHT — Raising landing gear (if fitted) and flashing landing lights while passing over runway in use or helicopter landing area at a height exceeding 300 m (1 000 ft) but not exceeding 600 m (2 000 ft) (in the case of a helicopter, at a height exceeding 50 m (170 ft) but not exceeding 100 m (330 ft)) above the aerodrome level, and continuing to circle runway in use or helicopter landing area, if unable to flash landing lights, flash any other lights available.	Aerodrome you have designated is inadequate.	DAY or NIGHT — If it is desired that the intercepted aircraft follow the intercepting aircraft to an alternate aerodrome, the intercepting aircraft raises its landing gear (if fitted) and uses the Series 1 signals prescribed for intercepting aircraft. If it is decided to release the intercepted aircraft, the intercepting aircraft uses the Series 2 signals prescribed for intercepting aircraft.	Understood, follow me. Understood, you may proceed.
5	DAY or NIGHT — Regular switching on and off of all available lights but in such a manner as to be distinct from flashing lights.	Cannot comply.	DAY or NIGHT — Use Series 2 signals prescribed for intercepting aircraft.	Understood.
6	DAY or NIGHT — Irregular flashing of all available lights.	In distress	DAY or NIGHT — Use Series 2 signals prescribed for intercepting aircraft.	Understood.

SCHEDULE 5
(*reg. 25 (1)*)

SIGNALS FOR AERODROME TRAFFIC

4.1 Light and pyrotechnic signals

4.1.1 Instructions

Light		*From Aerodrome Control to:*	
		Aircraft in flight	*Aircraft on the ground*
Directed towards aircraft concerned (see Figure A1-1)	Steady green	Cleared to land	Cleared for take-off
	Steady red	Give way to other aircraft and continue circling	Stop
	Series of green flashes	Return for landing*	Cleared to taxi
	Series of red flashes	Aerodrome unsafe, do not land	Taxi clear of landing area in use
	Series of white flashes	Land at this aerodrome and proceed to apron*	Return to starting point on the aerodrome
Red pyrotechnic		Notwithstanding any previous instructions, do not land for the time being	

* *Clearances to land and to taxi will be given in due course.*

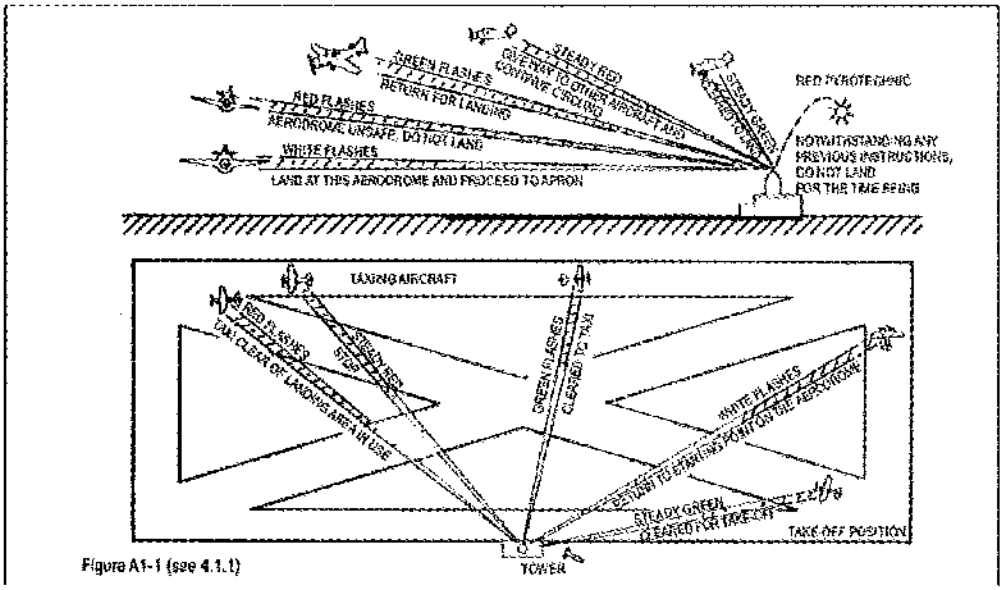


Figure A1-1 (see 4.1.1)

4.1.2 Acknowledgement by an aircraft —

(*a*) when in flight —

(i) during the hours of daylight by rocking the aircraft's wings,

Note.— This signal should not be expected on the base and final legs of the approach.

(ii) during the hours of darkness by flashing on and off twice the aircraft's landing lights or, if not so equipped, by switching on and off twice its navigation lights; and

(*b*) When on the ground —

(i) during the hours of daylight by moving the aircraft's ailerons or rudder, and

(ii) during the hours of darkness by flashing on and off twice the aircraft's landing lights or, if not so equipped, by switching on and off twice its navigation lights.

4.2 Visual ground signals

Note.— For details of visual ground aids, see Annex 14.

4.2.1 Prohibition of landing

A horizontal red square panel with yellow diagonals (Figure A1-2) when displayed in a signal area indicates that landings are prohibited and that the prohibition is liable to be prolonged.

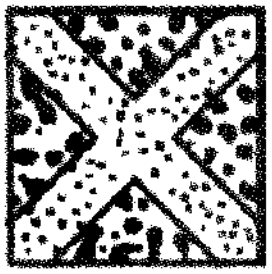


Figure A1-2

4.2.2 Need for special precautions while approaching or landing

A horizontal red square panel with one yellow diagonal (Figure A1-3) when displayed in a signal area indicates that owing to the bad state of the manoeuvring area, or for any other reason, special precautions must be observed in approaching to land or in landing.

Figure A1-3

4.2.3 Use of runways and taxiways

4.2.3.1 A horizontal white dumb-bell (Figure A1-4) when displayed in a signal area indicates that aircraft are required to land, take off and taxi on runways and taxiways only.

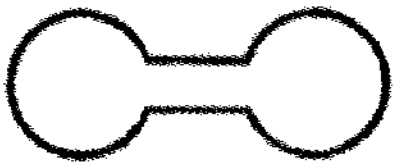


Figure A1-4

4.2.3.2 The same horizontal white dumb-bell as in 4.2.3.1 but with a black bar placed perpendicular to the shaft across each circular portion of the dumb-bell (Figure A1-5) when displayed in a signal area indicates that aircraft are required to land and take off on runways only, but other manoeuvres need not be confined to runways and taxiways.

Figure A1-5

Crosses of a single contrasting colour, yellow or white (Figure A1-6), displayed horizontally on runways and taxiways or parts thereof indicate an area unfit for movement of aircraft.

Figure A1-6

4.2.5.1 A horizontal white or orange landing T (Figure A1-7) indicates the direction to be used by aircraft for landing and take-off, which shall be in a direction parallel to the shaft of the T towards the cross arm.

Note.— When used at night, the landing T is either illuminated or outlined in white lights.

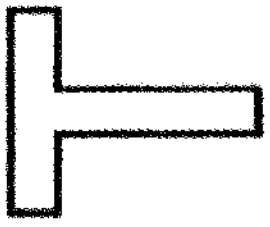


Figure A1-7

4.2.5.2 A set of two digits (Figure A1-8) displayed vertically at or near the aerodrome control tower indicates to aircraft on the manoeuvring area the direction for take-off, expressed in units of 10 degrees to the nearest 10 degrees of the magnetic compass.

Figure A1-8

4.2.6 Right-hand traffic

When displayed in a signal area, or horizontally at the end of the runway or strip in use, a right-hand arrow of conspicuous colour (Figure A1-9) indicates that turns are to be made to the right before landing and after take-off.

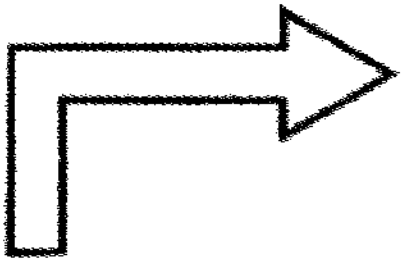


Figure A1-9

4.2.7 Air traffic services reporting office

The letter C displayed vertically in black against a yellow background (Figure A1-10) indicates the location of the air traffic services reporting office.

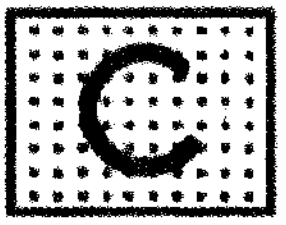


Figure A1-10

4.2.8 Glider flights in operation

A double white cross displayed horizontally (Figure A1-11) in the signal area indicates that the aerodrome is being used by gliders and that glider flights are being performed.

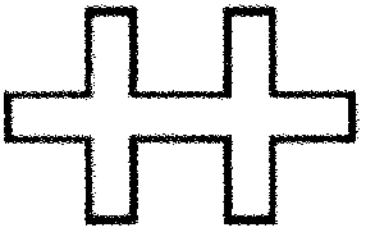


Figure A1-11

SCHEDULE 6
(reg. 45 (1), 45 (5) and (46))

MARSHALLING SIGNALS

5.1 From a signalman to an aircraft

Note 1.— These signals are designed for use by the signalman, with hands illuminated as necessary to facilitate observation by the pilot, and facing the aircraft in a position —

(a) for fixed-wing aircraft, on left side of aircraft, where best seen by the pilot; and

(b) for helicopters, where the signalman can best be seen by the pilot.

Note 2.— The meaning of the relevant signals remains the same if bats, illuminated wands or torchlights are held.

Note 3.— The aircraft engines are numbered, for the signalman facing the aircraft, from right to left (i.e. No. 1 engine being the port outer engine).

Note 4.— Signals marked with an asterisk (*) are designed for use to hovering helicopters.

Note 5.— References to wands may also be read to refer to daylight-fluorescent table-tennis bats or gloves (daytime only).

Note 6. — References to the signalman may also be read to refer to marshaller.

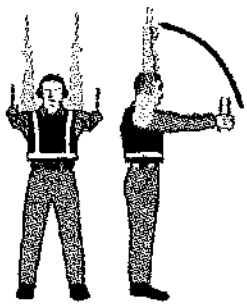
5.1.1 Prior to using the following signals, the signalman shall ascertain that the area within which an aircraft is to be guided is clear of objects which the aircraft, in complying with 3.4.1, might otherwise strike.

Note.— The design of many aircraft is such that the path of the wing tips, engines and other extremities cannot always be monitored visually from the flight deck while the aircraft is being manoeuvred on the ground

1. Wingwalker/guide

Raise right hand above head level with wand pointing up; move left-hand wand pointing down toward body.

Note.— This signal provides an indication by a person positioned at the aircraft wing tip, to the pilot/ marshaller/ push-back operator, that the aircraft movement on/off a parking position would be unobstructed.

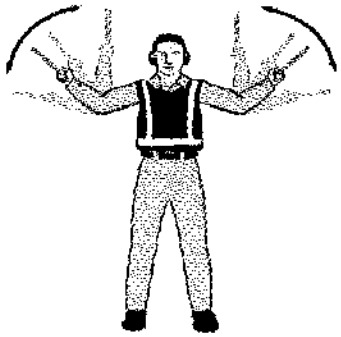


2. Identify gate

Raise fully extended arms straight above head with wands pointing up.

3. Proceed to next signalman or as directed by tower/ground control

Point both arms upward; move and extend arms outward to sides of body and point with wands to direction of next signalman or taxi area.

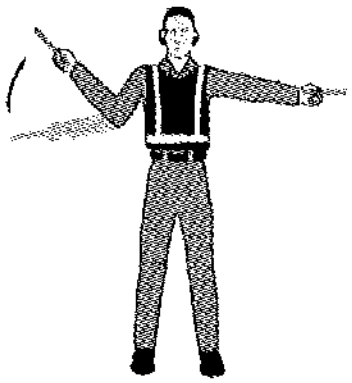


4. Straight ahead

Bend extended arms at elbows and move wands up and down from chest height to head.

5 a). Turn left
(from pilot's point of view)

With right arm and wand extended at a 90-degree angle to body, make "come ahead" signal with left hand. The rate of signal motion indicates to pilot the rate of aircraft turn.

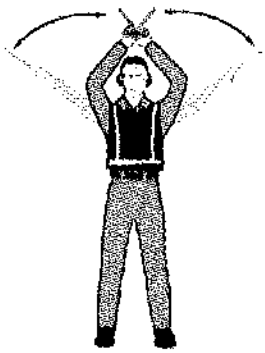


5 b). Turn right
(from pilot's point of view)

With left arm and wand extended at a 90-degree angle to body, make "come ahead" signal with right hand. The rate of signal motion indicates to pilot the rate of aircraft turn.

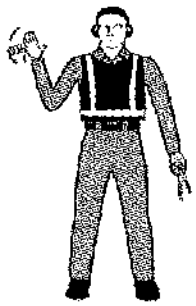
6 a). Normal stop

Fully extend arms and wands at a 90-degree angle to sides and slowly move to above head until wands cross.



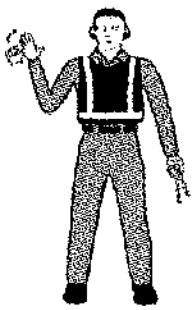
6 b). Emergency stop

Abruptly extend arms and wands to top of head, crossing wands.



7 a). Set brakes

Raise hand just above shoulder height with open palm. Ensuring eye contact with flight crew, close hand into a fist. **Do not** move until receipt of "thumbs up" acknowledgement from flight crew.



7 b). Release brakes

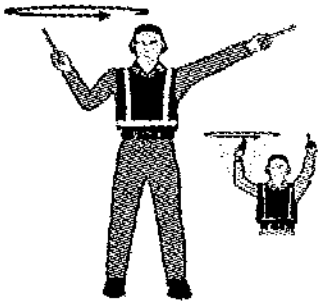
Raise hand just above shoulder height with hand closed in a fist. Ensuring eye contact with flight crew, open palm. **Do not** move until receipt of "thumbs up" acknowledgement from flight crew.

8 a). Chocks inserted

With arms and wands fully extended above head, move wands inward in a "jabbing" motion until wands touch. **Ensure** acknowledgement is received from flight crew.

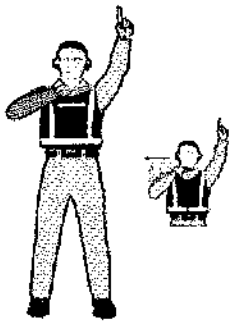
8 b). Chocks removed

With arms and wands fully extended above head, move wands outward in a "jabbing" motion. **Do not** remove chocks until authorized by flight crew.



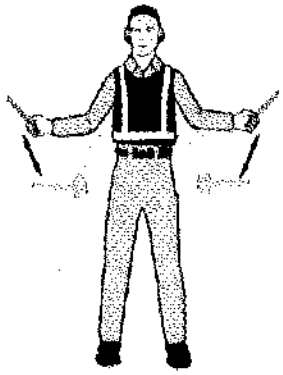
9. Start engine(s)

Raise right arm to head level with wand pointing up and start a circular motion with hand; at the same time, with left arm raised above head level, point to engine to be started.



10. Cut engines

Extend arm with wand forward of body at shoulder level; move hand and wand to top of left shoulder and draw wand to top of right shoulder in a slicing motion across throat.



11. Slow down

Move extended arms downwards in a "patting" gesture, moving wands up and down from waist to knees.

12. Slow down engine(s) on indicated side

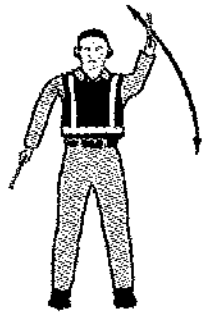
With arms down and wands toward ground, wave either *right* or *left* wand up and down indicating engine(s) on *left* or *right* side respectively should be slowed down.

13. Move back

With arms in front of body at waist height, rotate arms in a forward motion. To stop rearward movement, use signal 6 a) or 6 b).

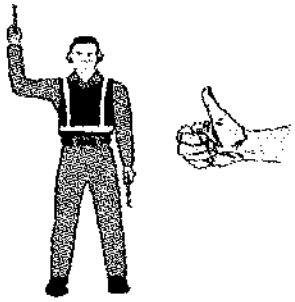
14 a). Turns while backing (for tail to starboard)

Point left arm with wand down and bring right arm from overhead vertical position to horizontal forward position, repeating right-arm movement.



14 b). Turns while backing (for tail to port)

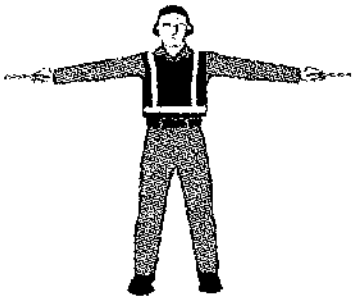
Point right arm with wand down and bring left arm from overhead vertical position to horizontal forward position, repeating left-arm movement.



15. Affirmative/all clear

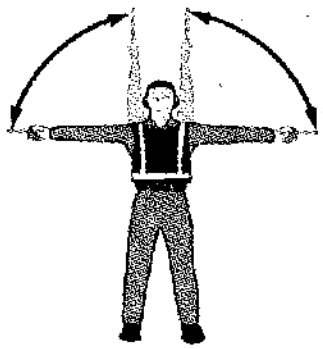
Raise right arm to head level with wand pointing up or display hand with "thumbs up"; left arm remains at side by knee.

Note.— This signal is also used as a technical/ servicing communication signal.



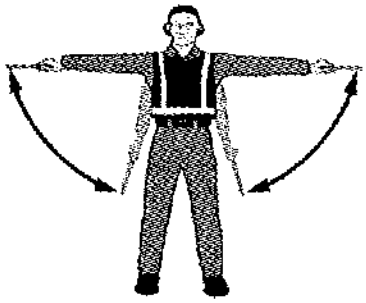
***16. Hover**

Fully extend arms and wands at a 90-degree angle to sides.



***17. Move upwards**

Fully extend arms and wands at a 90-degree angle to sides and, with palms turned up, move hands upwards. Speed of movement indicates rate of ascent.

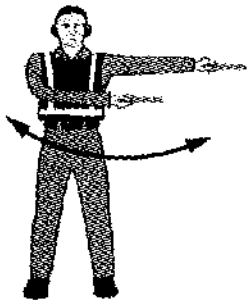


***18. Move downwards**

Fully extend arms and wands at a 90-degree angle to sides and, with palms turned down, move hands downwards. Speed of movement indicates rate of descent.

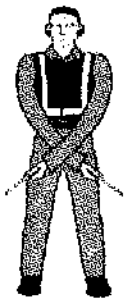
***19 a). Move horizontally left (from pilot's point of view)**

Extend arm horizontally at a 90-degree angle to right side of body. Move other arm in same direction in a sweeping motion.



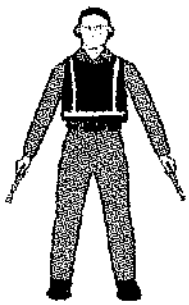
***19 b). Move horizontally right (from pilot's point of view)**

Extend arm horizontally at a 90-degree angle to left side of body. Move other arm in same direction in a sweeping motion.



'20. Land

Cross arms with wands downwards and in front of body.

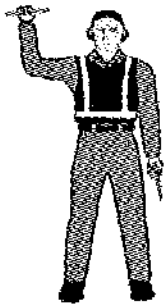


21. Hold position/stand by

Fully extend arms and wands downwards at a 45-degree angle to sides. Hold position until aircraft is clear for next manoeuvre.

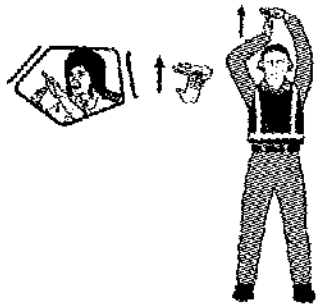
22. Dispatch aircraft

Perform a standard salute with right hand and/or wand to dispatch the aircraft. Maintain eye contact with flight crew until aircraft has begun to taxi.



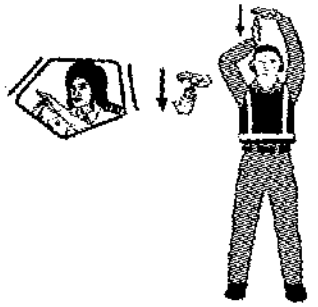
23. Do not touch controls (technical/servicing communication signal)

Extend right arm fully above head and close fist or hold wand in horizontal position; left arm remains at side by knee.



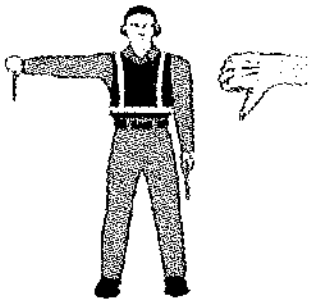
24. Connect ground power (technical/servicing communication signal)

Hold arms fully extended above head; open left hand horizontally and move finger tips of right hand into and touch open palm of left hand (forming a "T"). At night, illuminated wands can also be used to form the "T" above head.



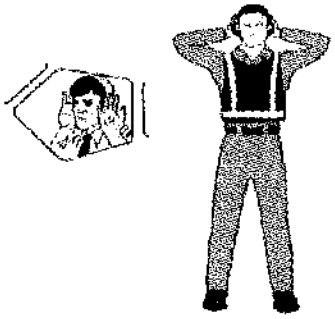
25. Disconnect power (technical/servicing communication signal)

Hold arms fully extended above head with finger tips of right hand touching open horizontal palm of left hand (forming a "T"); then move right hand away from the left. Do not disconnect power until authorized by flight crew. At night, illuminated wands can also be used to form the "T" above head.



26. Negative (technical/servicing communication signal)

Hold right arm straight out at 90 degrees from shoulder and point wand down to ground or display hand with "thumbs down"; left hand remains at side by knee.



27. Establish communication via interphone (technical/servicing communication signal)

Extend both arms at 90 degrees from body and move hands to cup both ears.

28. Open/close stairs (technical/servicing communication signal)

With right arm at side and left arm raised above head at a 45-degree angle, move right arm in a sweeping motion towards top of left shoulder.

Note.— This signal is intended mainly for aircraft with the set of integral stairs at the front.

Note 2.— The aircraft engines are numbered in relation to the signalman facing the aircraft, from right to left (i.e. No. 1 engine being the port outer engine).

5.2.1 Brakes

Note.— The moment the fist is clenched or the fingers are extended indicates, respectively, the moment of brake engagement or release.

(*a*) *Brakes engaged*: raise arm and hand, with fingers extended, horizontally in front of face, then clench fist.
(*b*) Brakes released: raise arm, with fist clenched, horizontally in front of face, then extend fingers.

5.2.2 Chocks

(*a*) *Insert chocks*: arms extended, palms outwards, move hands inwards to cross in front of face.
(*b*) Remove chocks: hands crossed in front of face, palms outwards, move arms outwards.

5.2.3 Ready to start engine(s)

Raise the appropriate number of fingers on one hand indicating the number of the engine to be started.

5.3 Technical/servicing communication signals

5.3.1 Manual signals shall only be used when verbal communication is not possible with respect to technical/servicing communication signals.

5.3.2 Signalmen shall ensure that an acknowledgement is received from the flight crew member with respect to technical/servicing communication signals.

Note.— The technical/servicing communication signals are included in Appendix 1 to standardize the use of hand signals used to communicate to flight crew members during the aircraft movement process that relate to servicing or handling functions.

1. STANDARD EMERGENCY HAND SIGNALS

The following hand signals are established as the minimum required for emergency communication between the aircraft rescue and firefighting (ARFF) incident commander/ ARFF firefighters and the cockpit and/or cabin crews of the incident aircraft. ARFF emergency hand signals should be given from the left front side of the aircraft for the flight crew member.

Note.— In order to communicate more effectively with the cabin crew, emergency hand signals may be given by ARFF firefighters from other positions.

1. Recommend evacuation

Evacuation recommended based on ARFF and incident commander's assessment of external situation.

Arm extended from body and held horizontal with hand upraised at eye level. Execute beckoning arm motion angled backward. Non-beckoning arm held against body.

Night — same with wands.

2. Recommended stop

Recommend evacuation in progress be halted. Stop aircraft movement or other activity in progress.

Arms in front of head, crossed at wrists.

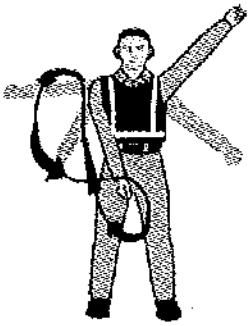
Night — same with wands.

3. Emergency contained

No outside evidence of dangerous conditions or "all-clear."

Arms extended outward and down at a 45-degree angle. Arms moved inward below waistline simultaneously until wrists crossed, then extended outward to starting position (umpire's "safe" signal).

Night — same with wands.



4. Fire

Move right-hand in a "fanning" motion from shoulder to knee, while at the same time pointing with left hand to area of fire.

Night — same with wands.

SCHEDULE 7
(*reg. 67*)

CLASSIFICATION OF AIR TRAFFIC SERVICES AIRSPACES

Class	*Type of flight*	*Separation provided*	*Service provided*	*Speed limitation*	*Radio communication requirement*	*Subject to an ATC Clearance*
A	IFR only	All aircraft	Air traffic control Service	Not applicable	Continuous two-way	Yes
B	IFR	All aircraft	Air traffic control Service	Not applicable	Continuous two-way	Yes
	VFR	All aircraft	Air traffic control Service	Not applicable	Continuous two-way	Yes
C	IFR	IFR from IFR IFR from VFR	Air traffic control Service	Not applicable	Continuous two-way	Yes
	VFR	VFR from IFR	1) Air traffic control service for separation from IFR; 2) VFR/VFR traffic information (and traffic avoidance advice on request)	250 kt IAS below 3 050 m (10 000 ft) AMSL	Continuous two-way	Yes

D	IFR	IFR from IFR	Air traffic control service, traffic information about VFR flights (and traffic avoidance advice on request)	250 kt IAS below 3 050 m (10 000 ft) AMSL	Continuous two-way	Yes
	VFR	Nil	IFR/VFR and VFF/VFR traffic information (and traffic avoidance advice on request)	250 kt IAS below 3 050 m (10 000 ft) AMSL	Continuous two-way	Yes
E	IFR	IFR from IFR	Air traffic control service and, as far as practical, traffic information about VFR flights	250 kt IAS below 3 050 m (10 000 ft) AMSL	Continuous two-way	Yes
	VFR	Nil	Traffic information as far as practical	250 kt IAS below 3 050 m (10 000 ft) AMSL	No	No
F	IFR	IFR from IFR as far as practical	Air traffic advisory service; flight information service	250 kt IAS below 3 050 m (10 000 ft) AMSL	Continuous two-way	No
	VFR	Nil	Flight information service	250 kt IAS below 3 050 m (10 000 ft) AMSL	No	No
G	IFR	Nil	Flight information service	250 kt IAS below 3 050 m (10 000 ft) AMSL	Continuous two-way	No
	VFR	Nil	Flight information service	250 kt IAS below 3 050 m (10 000 ft) AMSL	No	No

* When the height of the transition altitude is lower than 3 050 m (10 000 ft) AMSL, FL 100 should be used in lieu of 10 000 ft.

SCHEDULE 8
(reg. 65 (7))

INTERCEPTION OF CIVIL AIRCRAFT

1. Principles To Be Observed By States

1.1 To achieve the uniformity in regulations which is necessary for the safety of navigation of civil aircraft due regard shall be had by Contracting States to the following principles when developing regulations and administrative directives —

(*a*) interception of civil aircraft will be undertaken only as a last resort;

(*b*) if undertaken, an interception will be limited to determining the identity of the aircraft, unless it is necessary to return the aircraft to its planned track, direct it beyond the boundaries of national airspace, guide it away from a prohibited, restricted or danger area or instruct it to effect a landing at a designated aerodrome;

(*c*) practice interception of civil aircraft will not be undertaken;

(*d*) navigational guidance and related information will be given to an intercepted aircraft by radiotelephony, whenever radio contact can be established; and

(*e*) in the case where an intercepted civil aircraft is required to land in the territory overflown, the aerodrome designated for the landing is to be suitable for the safe landing of the aircraft type concerned.

Note.— In the unanimous adoption by the 25th Session (Extraordinary) of the ICAO Assembly on 10 May 1984 of Article 3 bis to the Convention on International Civil Aviation, Contracting States have recognized that "every State must refrain from resorting to the use of weapons against civil aircraft in flight".

1.2 Contracting States shall publish a standard method that has been established for the manoeuvring of aircraft intercepting a civil aircraft. Such method shall be designed to avoid any hazard for the intercepted aircraft.

Note.— Special recommendations regarding a method for the manoeuvring are contained in Attachment A, Section 3.

1.3 Contracting States shall ensure that provision is made for the use of secondary surveillance radar or ADS-B, where available, to identify civil aircraft in areas where they may be subject to interception.

1. Action By Intercepted Aircraft

2.1 An aircraft which is intercepted by another aircraft shall immediately —

(*a*) follow the instructions given by the intercepting aircraft, interpreting and responding to visual signals in accordance with the specifications in Schedule 4;

(*b*) notify, if possible, the appropriate air traffic services unit;

(*c*) attempt to establish radio communication with the intercepting aircraft or with the appropriate intercept control unit, by making a general call on the emergency frequency 121.5 MHz, giving the identity of the intercepted aircraft and the nature of the flight; and if no contact has been established and if practicable, repeating this call on the emergency frequency 243 MHz;

(*d*) if equipped with SSR transponder, select Mode A, Code 7700, unless otherwise instructed by the appropriate air traffic services unit; and

(*e*) if equipped with ADS-B or ADS-C, select the appropriate emergency functionality, if available, unless otherwise instructed by the appropriate air traffic services unit.

2.2 If any instructions received by radio from any sources conflict with those given by the intercepting aircraft by visual signals, the intercepted aircraft shall request immediate clarification while continuing to comply with the visual instructions given by the intercepting aircraft.

2.3 If any instructions received by radio from any sources conflict with those given by the intercepting aircraft by radio, the intercepted aircraft shall request immediate clarification while continuing to comply with the radio instructions given by the intercepting aircraft.

3. Radio Communication During Interception

If radio contact is established during interception but communication in a common language is not possible, attempts shall be made to convey instructions, acknowledgement of instructions and essential information by using the phrases and pronunciations in Table A2-1 and transmitting each phrase twice:

Table A2-1

Phrases for use by INTERCEPTING aircraft			*Phrases for use by INTERCEPTED aircraft*		
Phrase	*Pronunciation*[1]	*Meaning*	*Phrase*	*Pronunciation*[1]	*Meaning*
CALL SIGN	KOL SA-IN	What is your call sign?	CALL SIGN (call sign)[2]	KOL SA-IN (call sign)	My call sign is (call sign)
FOLLOW	FOL-LO	Follow me	WILCO Will comply	VILL-KO	Understood
DESCEND	DEE-SEND	Descend for landing	CAN NOT	KANN NOTT	Unable to comply
YOU LAND	YOU LAAND	Land at this aerodrome	REPEAT	REE-PEET	Repeat your instruction
PROCEED	PRO-SEED	You may proceed	AM LOST	AM LOSST	Position unknown
			MAYDAY	MAYDAY	I am in distress
			HIJACK[3]	HI-JACK	I have been hijacked
			LAND (place name)	LAAND (place name)	I request to land at (place name)
			DESCEND	DEE-SEND	I require descent

1. *In the second column, syllables to be emphasized are underlined.*

2. *The call sign required to be given is that used in radiotelephony communications with air traffic services units and corresponding to the aircraft identification in the flight plan.*

3. *Circumstances may not always permit, nor make desirable, the use of the phrase "HIJACK".*

SCHEDULE 9
(reg. 71)

VMC VISIBILITY AND DISTANCE FROM CLOUD MINIMA

Altitude band	*Airspace class*	*Flight visibility*	*Distance from cloud*
At and above 3 050 m (10 000 ft) AMSL	A*** B C D E F G	8km	1,500 m horizontally 300 m (1,000 ft) vertically
Below 3050 m (10000 ft) AMSL and above 900 m (3 000 ft) AMSL, or above 300 m (1 000 ft) above terrain, whichever is the higher	A***B C D E F G	5km	1,500 m horizontally 300 m (1,000 ft) vertically
At and below 900 m (3 000 ft) AMSL, or 300 m (1 000 ft) above terrain, whichever is the higher	A***B C D E	5km	1,500 m horizontally 300 m (1,000 ft) vertically
	F G	5km**	Clear of cloud and with the surface in sight

* When the height of the transition altitude is lower than 3 050 m (10 000 ft) AMSL, FL 100 shall be used in lieu of 10 000 ft.

** When so prescribed by the appropriate air traffic service authority —

(*a*) flight visibilities reduced to not less than 1 500 m may be permitted for flights operating —
  (i) at speeds that, in the prevailing visibility, will give adequate opportunity to observe other traffic or any obstacles in time to avoid collision; or
  (ii) in circumstances in which the probability of encounters with other traffic would normally be low, e.g. in areas of low volume traffic and for aerial work at low levels.

(*b*) HELICOPTERS may be permitted to operate in less than 1 500 m flight visibility, if manoeuvred at a speed that will give adequate opportunity to observe other traffic or any obstacles in time to avoid collision.

*** The VMC minima in Class A airspace are included for guidance to pilots and do not imply acceptance of VFR flights in Class A airspace.

MADE this 27th day of May, 2022.

ERIC MOTHIBI MOLALE,
Minister of Transport and Public Works.