GHANA CIVIL AVIATION
(AIR NAVIGATION SERVICES)
DIRECTIVES



PART 19 – RULES OF THE AIR

NOVEMBER 2018

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INTRODUCTION

Part 19 requires among other things a set of internationally agreed rules of the air to make air travel safe and efficient. This Part is aligned with amendment 49 to Annex 2 and consists of general rules, visual flight rules and instrument flight rules. And these apply without exception over the high seas and over the territory of Ghana to the extent that they do not conflict with the rules of the State being overflown. The pilot-in-command of an aircraft is responsible for compliance with the rules of the air.

An aircraft must be flown in accordance with the general rules and either the visual flight rules (VFR) or the instrument flight rules (IFR). Flight in accordance with visual flight rules is permitted if a flight crew is able to remain clear of clouds by a distance of at least 1 500 m horizontally and at least 300 m (1 000 ft) vertically and to maintain a forward visibility of at least 8 km. For flights in some portions of the airspace and at low altitudes, and for helicopters, the requirements are less stringent. An aircraft cannot be flown under VFR at night or above 6 100 m (20 000 ft) except by special permission. Balloons are classified as aircraft, but unmanned free balloons can be flown only under specified conditions detailed in these Directives.

Instrument flight rules must be complied with in weather conditions other than those mentioned above. They shall be applied in designated airspaces regardless of weather conditions, or a pilot may choose to apply them even if the weather is good. Most airliners fly under IFR at all times. Depending upon the type of airspace, these aircraft are provided with air traffic control service, air traffic advisory service or flight information service regardless of weather conditions. To fly under IFR, an aircraft must be equipped with suitable instruments and navigation equipment appropriate to the route to be flown. When operating under air traffic control the aircraft must maintain precisely the route and altitude that have been assigned to it and keep air traffic control informed about its position.

A flight plan must be filed with air traffic services units for all flights that will cross international borders, and for most other flights that are engaged in commercial operations. The flight plan provides information on the aircraft's identity and equipment, the point and time of departure, the route and altitude to be flown, the destination and estimated time of arrival, and the alternate airport to be used should landing at destination be impossible. The flight plan must also specify whether the flight will be carried out under visual or instrument flight rules.

Regardless of the type of flight plan, the pilots are responsible for avoiding collisions when in visual flight conditions, in accordance with the principle of see-and-avoid. However, flights operating under IFR are either kept separated by air traffic control units or provided with collision hazard information.

Right-of-way rules in the air are similar to those on the surface, but, as aircraft operate in three dimensions, some additional rules are required. When two aircraft are converging at approximately the same level, the aircraft on the right has the right of way

except that aeroplanes must give way to airships, gliders and balloons, and to aircraft which are towing objects. An aircraft which is being overtaken has the right of way and the overtaking aircraft must remain clear by altering heading to the right. When two aircraft are approaching each other head on they must both alter heading to the right.

19.1 DEFINITIONS

When the following terms are used in these Directives, they have the following meanings:

Acrobatic flight means manoeuvres intentionally performed by an aircraft involving an abrupt change in its attitude, an abnormal attitude, or an abnormal variation in speed.

ADS-C agreement means a reporting plan which establishes the conditions of ADS-C data reporting (i.e. data required by the air traffic services unit and frequency of ADS-C reports which have to be agreed to prior to using ADS-C in the provision of air traffic services).

Advisory airspace means an airspace of defined dimensions, or designated route, within which 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 air traffic control 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.

Note.— An aircraft is in the vicinity of an aerodrome when it is in, entering or leaving an aerodrome traffic circuit.

Aerodrome traffic zone means an airspace of defined dimensions established around an aerodrome for the protection of aerodrome traffic.

Aeronautical Information Publication (AIP) 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 (RR S1.81) means a land station in the aeronautical mobile service. In certain instances, an aeronautical station may be located, for example, on board 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 pilot on potential conflicting aircraft that are equipped with SSR transponders.

Aircraft means any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.

Air-ground control radio station means an aeronautical telecommunication station having primary responsibility for handling communications pertaining to the operation and control of aircraft in a given area.

Air-taxiing means movement of a helicopter/VTOL above the surface of an aerodrome, normally in ground effect and at a ground speed normally less than 37 km/h (20 kt).

Note.— The actual height may vary, and some helicopters may require air-taxiing above 8 m (25 ft) AGL to reduce ground effect turbulence or provide clearance for cargo slingloads.

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 clearance means authorization for an aircraft to proceed under conditions specified by an air traffic control unit.

Note 1.— For convenience, the term "air traffic control clearance" is frequently abbreviated to "clearance" when used in appropriate contexts.

Note 2.— The abbreviated term "clearance" may be prefixed by the words "taxi", "take-off", "departure", "en route", "approach" or "landing" to indicate the particular portion of flight to which the air traffic control clearance relates.

Air traffic control service means a service provided for the purpose of:

(a) preventing collisions:

(1) between aircraft, and
(2) on the manoeuvring area between aircraft and obstructions, and

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

Air Traffic Control (ATC) unit means a generic term meaning variously, area control centre, approach control unit or aerodrome control tower.

Air Traffic Service means 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 Service (ATS) Section means the section of the Authority which provides Air traffic service in Ghana.

Air traffic services airspaces means airspaces of defined dimensions, alphabetically designated, within which specific types of flights may operate and for which air traffic services and rules of operation are specified.

Note.— ATS airspaces are classified as Class A to G.

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 means a generic term meaning variously, air traffic control unit, flight information centre or air traffic services reporting office.

Airway means a control area or portion thereof established in the form of a corridor.

Alerting service means a service provided to notify appropriate organizations regarding aircraft in need of search and rescue aid, and assist such organizations 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 where the necessary services and facilities are available, where aircraft performance requirements can be met and which is operational at the expected time of use. Alternate aerodromes include the following:

Take-off alternate means an alternate aerodrome at which an aircraft would be able to land should this become necessary shortly after take-off and it is not possible to use the aerodrome of departure.

En-route alternate means an alternate aerodrome at which an aircraft would be able to land in the event that a diversion becomes necessary while en route.

Destination alternate means an alternate aerodrome at which an aircraft would be able to land should it become either impossible or inadvisable to land at the aerodrome of intended landing.

~~**ETOPS en-route alternate** means A suitable and appropriate alternate aerodrome at which an aeroplane would be able to land after experiencing an engine shut-down or other abnormal or emergency condition while en route in an ETOPS operation.~~

Note.— The aerodrome from which a flight departs may also be an en-route or a destination alternate aerodrome for that flight.

Altitude means the vertical distance of a level, a point or an object considered as a point, measured from mean sea level (MSL).

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.

Appropriate ATS authority means the relevant entity designated by the Republic of Ghana for providing air traffic services in the airspace concerned.

Appropriate authority.

(a) Regarding flight over the high seas: The relevant authority of the State of Registry.

(b) Regarding flight other than over the high seas: The relevant authority of the State having sovereignty over the territory being overflown.

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.

Area control centre means a unit established to provide air traffic control service to controlled flights in control areas under its jurisdiction.

Area control service means air traffic control service for controlled flights in control areas.

Area navigation 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.

ATS route means a specified route designed for channelling the flow of traffic as necessary for the provision of air traffic services.

Note 1.— The term "ATS route" is used to mean variously, airway, advisory route, controlled or uncontrolled route, arrival or departure route, etc.

Note 2.— An ATS route is defined by route specifications which include an ATS route designator, the track to or from significant points (waypoints), distance between significant points, reporting requirements and, as determined by Authority, the lowest safe altitude.

Automatic Dependent Surveillance — Broadcast (ADS-B) a means by which aircraft, aerodrome vehicles and other objects can automatically transmit and/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) 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.

Note.— The abbreviated term "ADS contract" is commonly used to refer to ADS event contract, ADS demand contract, ADS periodic contract or an emergency mode.

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.

Change-over point means the point at which an aircraft navigating on an ATS route segment defined by reference to very high frequency omni-directional radio ranges is expected to transfer its primary navigational reference from the facility behind the aircraft to the next facility ahead of the aircraft.

Note.— Changeover points are established to provide the optimum balance in respect of signal strength and quality between facilities at all levels to be used and to ensure a common source of azimuth guidance for all aircraft operating along the same portion of a route segment.

Clearance limit means the point to which an aircraft is granted an air traffic control clearance.

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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.

Control zone means a controlled airspace extending upwards from the surface of the earth to a specified upper limit.

Controlled aerodrome means an aerodrome at which air traffic control service is provided to aerodrome traffic.

Note.— The term "controlled aerodrome" indicates that air traffic control service is provided to aerodrome traffic but does not necessarily imply that a control zone exists.

Controlled airspace means an airspace of defined dimensions within which air traffic control service is provided in accordance with the airspace classification.

Note.— Controlled airspace is a generic term which covers ATS airspace Classes A, B, C, D and E as described in Manual of Standards – Air Traffic Service, 2.6.

Controlled flight means any flight which is subject to an air traffic control clearance.

Controller-pilot data link communications (CPDLC) a means of communication between controller and pilot, using data link for ATC communications.

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~~ that reflects changes to the filed flight plan, if any by subsequent ATC

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 means the estimated time at which the aircraft will commence movement associated with departure.

Estimated time of arrival means for IFR flights, 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 instrument approach procedure will be commenced, or, if no navigation aid is associated with the aerodrome, the time at which the aircraft will arrive over the aerodrome. For VFR flights, the time at which it is estimated that the aircraft will arrive over the aerodrome.

Expected approach time means the time at which ATC expects that an arriving aircraft, following a delay, will leave the holding point fix to complete its approach for a landing.

Note.— The actual time of leaving the holding fix will depend upon the approach clearance.

Filed flight plan (FPL or eFPL) means the latest flight plan submitted ~~as filed with an ATS unit~~ by the pilot or a designated representative, ~~without any subsequent changes~~ for use by ATS units.
Note.— The FPL denotes a filed flight plan exchanged using aeronautical fixed service while eFPL denotes a filed flight plan exchanged using FF-ICE services. The eFPL allows for the exchange of additional information not contained within the FPL.

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

Flight information centre means a unit established to provide flight information service and alerting service.

Flight information region means an airspace of defined dimensions within which flight information service and alerting service are provided.

Flight information service means a service provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights.

Flight level means a surface of constant atmospheric pressure which is related to a specific pressure datum, 1 013.2 hectopascals (hPa), and is separated from other such surfaces by specific pressure intervals.

Note 1.— A pressure type altimeter calibrated in accordance with the Standard Atmosphere:

(a) when set to a QNH altimeter setting, will indicate altitude;

(b) when set to a QFE altimeter setting, will indicate height above the QFE reference datum;

(c) when set to a pressure of 1 013.2 hPa, may be used to indicate flight levels.

Note 2.— The terms "height" and "altitude", used in Note 1 above, indicate altimetric rather than geometric heights and altitudes.

Flight plan means specified information relative to an intended flight or portion of a flight of an aircraft.

Note 1.— The term flight plan may be prefixed by the words "preliminary", " filed", "current" or "operational" to indicate the context and different stages of a flight.
Note 2.— When the word "message" is used as a suffix to this term, it denotes the content and format of the flight plan data as transmitted.

Flight status means an indication of whether a given aircraft requires special handling by air traffic services units or not.

Flight visibility means the visibility forward from the cockpit of an aircraft in flight.

Ground visibility means the visibility at an aerodrome, as reported by an accredited observer or by automatic systems.

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

Height means the vertical distance of a level, a point or an object considered as a point, measured from a specified datum.

IFR means the symbol used to designate the instrument flight rules.

IFR flight means a flight conducted in accordance with the instrument flight rules.

IMC means the symbol used to designate instrument meteorological conditions.

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:

(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.

Note.— Lateral and vertical navigation guidance refers to the guidance provided either by:

(a) a ground-based radio navigation aid; or

(b) computer-generated navigation data from ground-based, space-based, self-contained navigation aids or a combination of these.

Instrument approach procedure means a series of predetermined 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 en-route obstacle clearance criteria apply. Instrument approach procedures are classified as follows:

Non-precision approach (NPA) procedure means an instrument approach procedure designed for 2D instrument approach operations Type A.

Note.— Non-precision approach procedures may be flown using a continuous descent final approach (CDFA) technique. CDFAs with advisory VNAV guidance calculated by on-board equipment (see PANS-OPS (Doc 8168), Volume I, Part I, Section 4, Chapter 1, paragraph 1.8.1) are considered 3D instrument approach operations. CDFAs with manual calculation of the required rate of descent are considered 2D instrument approach operations. For more information on CDFAs, refer to PANS-OPS (Doc 8168) Volume I, Part I, Section 4, Chapter 1, paragraphs 1.7 and 1.8.

Approach procedure with vertical guidance (APV) means a performance-based navigation (PBN) instrument approach procedure designed for 3D instrument approach operations Type A.

Precision approach (PA) procedure means 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.

Note.— Refer to Part 8 of Ghana Civil Aviation (Flight Standards) Directives for instrument approach operation types.

Instrument meteorological conditions means Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, less than the minima specified for visual meteorological conditions.

Note.— The specified minima for visual meteorological conditions are contained in 19.4.

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.

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(s).

Operator means a person, organization or enterprise engaged in or offering to engage in an aircraft operation.

Note.— In the context of remotely piloted aircraft, an aircraft operation includes the remotely piloted aircraft system.

Pilot-in-command 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 as defined in Part 5 of the Ghana Civil Aviation (Flight Standards) Directives.

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; and/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, excluding coffee and tobacco.

Radiotelephony 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 C2 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 ATS units~~.

Reporting point 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 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 runway, an obstacle limitation surface, or an ILS/ MLS critical/sensitive area at which taxiing aircraft and vehicles shall stop and hold, unless otherwise

authorized by the aerodrome control tower.

Note.— In radiotelephony phraseologies, the expression "holding point" is used to designate the runway-holding position.

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.

Signal area means an area on an aerodrome used for the display of ground signals.

Special VFR flight means a VFR flight cleared by air traffic control to operate within a control zone in meteorological conditions below VMC.

Taxiing means Movement of an aircraft on the surface of an aerodrome under its own power, excluding take-off and landing.

Taxiway means a defined path on a land aerodrome established between one part of the aerodrome and another, 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.

(c) Rapid exit taxiway. 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.

Terminal control area means A control area normally established at the confluence of ATS routes in the vicinity of one or more major aerodromes.

Total estimated elapsed time means for IFR flights, 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. For VFR flights, the estimated time required from take-off to arrive over the destination aerodrome.

Track 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.

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

Note.— Unmanned free balloons are classified as heavy, medium or light in accordance with specifications contained in I.S.19.3.1.10

VFR means The symbol used to designate the visual flight rules.

VFR flight means a flight conducted in accordance with the visual flight rules.

Visibility means Visibility for aeronautical purposes is 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;

(b) the greatest distance at which lights in the vicinity of 1 000 candelas can be seen and identified against an unlit background.

Note 1.— The two distances have different values in air of a given extinction coefficient, and the latter b) varies with the background illumination. The former a) is represented by the meteorological optical range (MOR).

Note. 2.— The definition applies to the observations of visibility in local routine and special reports, to the observations of prevailing and minimum visibility reported in METAR and SPECI and to the observations of ground visibility.

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.

Visual meteorological conditions means Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, equal to or better than specified minima.

Note.— The specified minima are contained in 19.4.

VMC means The symbol used to designate visual meteorological conditions.

19.2 APPLICABILITY

19.2.1 TERRITORIAL APPLICATION OF THE RULES OF THE AIR

(1) This Part shall apply to aircraft bearing the nationality and registration marks of the Republic of Ghana, wherever they may be, to the extent that they are not at variance with the rules published by the State having authority over the territory overflown.

(2) This Part shall apply without exception over the high seas under the responsibility of the Republic of Ghana.

(3) For purposes of flight over those parts of the high seas where the Republic of Ghana has accepted the responsibility for the provision of air traffic services pursuant to a regional air navigation agreement, the "ATS provider" referred to in this Part is the relevant entity designated by the Republic of Ghana with the responsibility for providing those services.

Note.— The phrase "regional air navigation agreement" refers to an agreement approved by the Council of ICAO normally on the advice of a Regional Air Navigation Meeting.

(4) This Part shall be used in conjunction with ICAO Doc 7030 (*Regional Supplementary Procedures*) as applicable.

19.2.2 COMPLIANCE WITH THE RULES OF THE AIR

The operation of an aircraft either in the air or on the movement area of an aerodrome shall be in conformity with the General Rules as specified in 19.3 and, in addition, when in flight, either with:

(a) the visual flight rules; or

(b) the instrument flight rules.

Note 1.— Information relevant to the services provided to aircraft operating in accordance with both visual flight rules and instrument flight rules in the seven ATS airspace classes is contained in 24.2.6.1 and 24.2.6.3 of Part 24 of the Ghana Civil Aviation (ANS) Directives.

Note 2.— A pilot may elect to fly in accordance with instrument flight rules in visual meteorological conditions or may be required to do so by the Air Traffic Service Section.

19.2.3 RESPONSIBILITY FOR COMPLIANCE WITH THE RULES OF THE AIR

19.2.3.1 RESPONSIBILITY OF PILOT-IN-COMMAND

The pilot-in-command of an aircraft shall, whether manipulating the controls or not, be responsible for the operation of the aircraft in conformity with the rules of the air, except that the pilot-in-command shall take another course of action in situations that warrant such departure necessary in the interest of safety.

19.2.3.2 PRE-FLIGHT ACTION

Before commencing a flight, the pilot-in-command of an aircraft shall familiarize himself with all available information relevant to the planned operation. For flights away from the vicinity of an aerodrome, and for all IFR flights, pre-flight action shall comprise a careful study of available current weather reports and forecasts, taking into account, fuel requirements and a substitute course of action if the flight cannot be completed as intended.

19.2.4 AUTHORITY OF PILOT-IN-COMMAND OF AN AIRCRAFT

The pilot-in-command of an aircraft shall have final authority as to the disposition of the aircraft.

19.2.5 PROBLEMATIC USE OF PSYCHOACTIVE SUBSTANCES

No person engaged in functions critical to aviation safety (safety-sensitive personnel) shall perform that function while under the control of any psychoactive substance that impairs human performance. No such personnel shall engage in any manner of problematic use of substances.

19.3 GENERAL RULES

19.3.1 PROTECTION OF PERSONS AND PROPERTY

19.3.1.1 NEGLIGENT OR RECKLESS OPERATION OF AIRCRAFT

No person shall operate an aircraft shall ~~not be operated~~ in a careless or irresponsible manner so as to jeopardize life or property of others.

19.3.1.2 MINIMUM HEIGHTS

Except by permission from the Authority, or except when necessary for take-off or landing, aircraft shall not be operated over the crowded areas of cities, towns or settlements or over an open-air gathering of persons, unless at such a height as will allow, in the event of an emergency arising, a landing to be made without undue danger to persons or property on the surface.

Note.— See Sections 19.4.6 for minimum heights for VFR flights and 19.5.1.2 for minimum levels for IFR flights

19.3.1.3 CRUISING LEVELS

Flights or portions thereof shall be conducted at cruising levels in terms of:

(a) flight levels, for flights at or above the lowest usable flight level or, where applicable, above the transition altitude;

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

Note.— The system of flight levels is prescribed in the Procedures for Air Navigation Services — Aircraft Operations (Doc 8168)

19.3.1.4 DROPPING OR SPRAYING

No person shall ~~substance shall be dropped or sprayed~~drop or spray a substance from an aircraft in flight without prior approval by the Authority and in accordance with information, advice and permission from the ATS Provider.

Note.— Additional Requirements Aerial Work can be found in the Ghana Civil Aviation (Flight Standards) Directives.

19.3.1.5 TOWING

No aircraft or object shall be towed by an aircraft without prior approval by the Authority and in accordance with relevant information, advice and permission from the ATS Provider.

19.3.1.6 PARACHUTE DESCENTS

No person shall make parachute descents, other than emergency descents, unless approved by the Authority and in accordance with pertinent information, advice and permission from the ATS Provider.

19.3.1.7 ACROBATIC FLIGHT

No aircraft shall be flown acrobatically unless approved by the Authority and in accordance with relevant information, advice and clearance from the ATS Provider.

19.3.1.8 FORMATION FLIGHTS

No aircraft shall be flown in formation unless by prearrangement among the pilots-in- command of the aircraft taking part in the flight and, for formation flight in controlled airspace, in accordance with the conditions prescribed by the ATS Provider. These conditions shall include the following:

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

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

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

19.3.1.9 REMOTELY PILOTED AIRCRAFT

A remotely piloted aircraft shall be operated in such a manner as to minimize hazards to persons, property or other aircraft and in accordance with the conditions specified in IS: 19.3.1.9 and Part 28 of the Ghana Civil Aviation (Remotely Piloted Aircraft Systems) Directives.

19.3.1.10 UNMANNED FREE BALLOONS

An unmanned free balloon shall be operated in such a manner as to reduce threats to persons, property or other aircraft and in conformity with the conditions specified in IS: 19.3.1.10.

19.3.1.11 PROHIBITED AREAS AND RESTRICTED AREAS

No person shall fly an aircraft in a prohibited area, or in a restricted area, the particulars of which have been duly published, except in accordance with the conditions of the restrictions or by permission of the Authority.

19.3.2 AVOIDANCE OF COLLISIONS

No provision in this Part shall lessen the responsibility of the pilot-in-command of an aircraft from taking such action, including collision avoidance maneuvers based on resolution advisories provided by ACAS equipment, as will best avert collision.

Note 1.— It is important that vigilance for the purpose of detecting potential collisions be exercised on board an aircraft, regardless of the type of flight or the class of airspace in which the aircraft is operating, and while operating on the movement area of an aerodrome.

Note 2.— Operating procedures for use of ACAS detailing the responsibilities of the pilot-in-command are contained in PANS-OPS (Doc 8168), Volume I, Part III, Section 3, Chapter 3.

Note 3.— Carriage requirements for ACAS equipment are addressed in Part 8 of Ghana Civil Aviation (Flight Standards) Directives.

19.3.2.1 PROXIMITY

No aircraft shall be operated in such proximity to other aircraft as to create a collision hazard.

19.3.2.2 RIGHT-OF-WAY

(1) The aircraft that has the right-of-way shall maintain its heading and speed.

(2) An aircraft that is required by the following rules to steer clear of another shall avoid passing over, under or in front of the other, unless it steers well clear and takes into account the effect of aircraft wake turbulence.

(3) ***Approaching head-on*** means when two aircraft are approaching head-on or seemingly so and there is danger of collision, each shall change its heading to the right.

(4) ***Converging*** means when two aircraft are converging at about the same level, the aircraft that has the other 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;

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

(5) ***Overtaking*** *means* an overtaking aircraft is the one 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, i.e. 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. An aircraft that is being overtaken has the right-of-way and the overtaking aircraft, whether climbing, descending or in horizontal flight, shall steer clear of the other aircraft by changing 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.

19.3.2.3 LANDING

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

(2) 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 these Directives to cross in front of another which is in the final stages of an approach to land, or to overtake that aircraft. Nevertheless, power-driven heavier-than-air aircraft shall give way to gliders.

(3) *Emergency landing.* An aircraft that is aware that another is compelled to land shall give way to that aircraft.

(4) *Taking off.* When aircraft are taxiing on the manoeuvring area of an aerodrome, they shall give way to aircraft taking off or about to take off.

(5) *Surface movement of aircraft.* When the risk of collision exists between two aircraft taxiing on the movement area of an aerodrome, the following shall apply:

(a) when two aircraft are approaching head on, or seemingly so, each shall stop or where practicable change its course to the right so as to keep well clear;

(b) when two aircraft are converging, the one which has the other on its right shall steer well clear;

(c) an aircraft which is being overtaken by another aircraft shall have the right-of-way and the overtaking aircraft shall steer well clear of the other aircraft.

Note.— For the description of an overtaking aircraft see 19.3.2.2(4).

(6) Aircraft taxiing on the manoeuvring area shall unless otherwise authorized by the aerodrome control tower, stop and hold at all runway-holding positions.

(7) Aircraft taxiing on the maneuvering area shall stop and hold at all lighted stop bars and shall proceed further when the lights are switched off or when instructed by the aerodrome controller to proceed.

19.3.2.4 LIGHTS TO BE DISPLAYED BY AIRCRAFT

(1) Except as provided by paragraph (5), from sunset to sunrise or during any other period which may be specified by the Authority all aircraft in flight shall display:

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

(b) navigation lights meant to show the relative path of the aircraft to an observer; no other lights shall be displayed if they are likely to be mistaken for these lights.

Note 1.— The characteristics of lights intended to meet the requirements of 19.3.2.3 for aeroplanes are specified in Part 5 of the Ghana Civil Aviation (Flight Standards) Directives. Specifications for navigation lights for aeroplanes are contained in the Implementing Standards of Part 8 of the Ghana Civil Aviation (Flight Standards) Directives. Detailed technical specifications for lights for aeroplanes are contained in Volume II, Part A, Chapter 4 of the Airworthiness Manual (Doc 9760) and for helicopters in Part A, Chapter 5 of Doc 9760.

Note 2.— In the context of subparagraphs (2)(c) and (4)(a) an aircraft is understood to be operating when it is taxiing or being towed or is stopped temporarily during the course of taxiing or being towed.

Note 3.— For aircraft on the water see 19.3.2.7(6).

(2) Except as provided by paragraph (5), from sunset to sunrise or during any other period prescribed by the Authority:

(a) all aircraft operating on the movement area of an aerodrome shall display navigation lights meant to show the relative path of the aircraft to an observer; no other lights shall be displayed if they are likely to be mistaken for these lights;

(b) unless stationary and otherwise sufficiently lighted, all aircraft on the movement area of an aerodrome shall display lights meant to indicate the extremities of their structure;

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

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

(3) Except as provided by paragraph (5), all aircraft in flight and fitted with anti-collision lights to meet the requirement of subparagraph (1) (a) shall display such lights also outside the period specified in paragraph (1).

(4) Except as provided by paragraph(5), all aircraft:

(a) operating on the movement area of an aerodrome and fitted with

lights to meet the provision of subparagraph (2) (c); or

(b) on the movement area of an aerodrome and fitted with lights to meet the provision of subparagraph (2) (d); shall display such lights also outside the period specified in paragraph (2).

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

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

(b) subject an outside observer to harmful dazzle.

19.3.2.5 SIMULATED INSTRUMENT FLIGHTS

An aircraft shall not be operated under simulated instrument flight conditions unless:

(a) fully operational dual controls are installed in the aircraft; and

(b) a certified pilot occupies a control seat to act as safety pilot for the person who is flying under simulated instrument conditions. The safety pilot shall have 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 that of the safety pilot.

19.3.2.6 OPERATION ON AND IN THE VICINITY OF AN AERODROME

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 and after taking off, unless otherwise instructed;

(d) land and take off into the wind unless safety, the runway configuration, or air traffic considerations determine that a

different direction is more suitable.

19.3.2.7 WATER OPERATIONS

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

Note.— In addition to the provisions of paragrathis section, rules set forth in the International Regulations for Preventing Collisions at Sea, developed by the International Conference on Revision of the International Regulations for Preventing Collisions at Sea (London, 1972) may be applicable in certain cases.

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

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

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

(5) *Landing and taking off.* Aircraft landing on or taking off from the water shall, as much as possible, keep well clear of all vessels and avoid hampering their navigation.

(6) *Lights to be displayed by aircraft on the water.* Between sunset and sunrise or such other period as shall be specified by the Authority, all aircraft on the water shall display lights as required by the International Regulations for Preventing Collisions at Sea (revised 1972) unless it is impractical for them to do so, in which case they shall display lights as closely similar as possible in characteristics and position to those required by the International Regulations.

Note 1.— Specifications for lights to be shown by aeroplanes on the water are contained in the Part 8 of Ghana Civil Aviation (Flight Standards) Directives.

Note 2.— The International Regulations for Preventing Collisions at Sea specify that the rules concerning lights shall be complied with from sunset to sunrise. Any lesser period between sunset and sunrise established in accordance with 19.3.2.6.2 cannot, therefore, be applied in areas where the International Regulations for Preventing Collisions at Sea apply, e.g. on the high seas.

19.3.3 FLIGHT PLANS

19.3.3.1 SUBMISSION OF A FLIGHT PLAN

(1) Information relative to a planned flight or portion thereof, to be provided to air traffic services units, shall be in the form of a flight plan.

Note.— Procedures relating to flight plans and associated services are contained in the PANS-ATM (Doc 4444).

(2) The flight plan shall be submitted prior to operating:

(a) any flight or portion thereof to be provided with air traffic control 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 ATS Provider 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 Authority to facilitate co-ordination with appropriate military units or with air traffic services units in adjacent States in order to avoid the possible need for interception for the purpose of identification;

(e) any flight across international boundaries.

(3) Unless otherwise prescribed by the ATS Provider, a flight plan shall be submitted before departure to an air traffic services reporting office or, during flight, transmitted to the ATS Provider or air-ground control radio station~~unless arrangements have been made for submission of repetitive flight plans~~.

(4) Unless otherwise prescribed~~approved~~ by the ~~Authority~~ATS Provider, a flight plan for a flight to be provided with air traffic control service or air traffic advisory service shall be submitted at least one (1) hour prior to departure, or, if submitted during flight, at a time which shall ensure its receipt by the ATS Provider at least ten minutes before the aircraft is expected to reach:

(a) the intended point of entry into a control area or advisory area; or

(b) the point of crossing an airway or advisory route.

(5) Flight plans shall not be submitted more than 120 hours before the estimated off-block time of a flight.

(6) In the event of a delay of 30 minutes in excess of the estimated off-block time for a controlled flight or a delay of one hour for an uncontrolled flight for which a flight plan has been submitted, the flight plan ~~should~~shall be amended or a new flight plan submitted and the old flight plan cancelled, whichever is applicable.

Note. - Procedures for use of repetitive flight plans are contained in the IS: 19.3.3.1.(7).

19.3.3.2 CONTENTS OF A FLIGHT PLAN

A flight plan shall include information regarding such of the following items as are considered pertinent by the Authority:

(a) Aircraft identification

(b) Flight rules and type of flight

(c) Number and type(s) of aircraft and wake turbulence category

(d) Equipment

(e) Departure aerodrome (see Note 1)

(f) Estimated off-block time (see Note 2)

(g) Cruising speed(s)

(h) Cruising level(s)

(i) Route to be followed

(j) Destination aerodrome and total estimated elapsed time

(k) Alternate aerodrome(s)

(l) Fuel endurance

(m) Total number of persons on board

(n) Emergency and survival equipment

(o) Other information.

Note 1.— For flight plans submitted during flight, the information provided in respect of this item will be an indication of the location from which supplementary information concerning the flight may be obtained, if required.

Note 2.— For flight plans submitted during flight, the information to be provided in respect of this item will be the time over the first point of the route to which the flight plan relates.

19.3.3.3 COMPLETION OF A FLIGHT PLAN

(1) Whatever the intention for which it is submitted, a flight plan shall contain information, as appropriate, on relevant items up to and including "Alternate aerodrome(s)" regarding the whole route or the portion thereof for which the flight plan is submitted.

(2) The flight plan shall, in addition, contain information, as applicable, on all other items when so approved by the Authority or when otherwise deemed necessary by the person submitting the flight plan.

19.3.3.4 CHANGES TO A FLIGHT PLAN

Subject to the provisions of 19.3.6.2(6), all amendments to a flight plan submitted for an IFR flight, or a VFR flight operated as a controlled flight, shall be reported as soon as practicable to the ATS Provider. For other VFR flights, important changes to a flight plan shall be reported as soon as practicable to the ATS Provider.

Note.— Information submitted prior to departure regarding fuel endurance or total number of persons carried on board, if incorrect at time of departure, constitutes a significant change to the flight plan and as such must be reported.

19.3.3.5 ACCEPTANCE OF A FLIGHT PLAN

The first ATS unit receiving a flight plan, or change thereto, shall:

(a) check it for compliance with the format and data conventions;

(b) check it for completeness and, to the extent possible, for accuracy;

(c) take action, if necessary, to make it acceptable to the air traffic services; and

(d) indicate acceptance of the flight plan or change thereto, to the originator.

19.3.3.6 CLOSING A FLIGHT PLAN

(1) Unless otherwise specified by the Authority, a report of arrival shall be made personally, by radiotelephony or via data link at the earliest possible moment after landing, to the ATS Provider at the arrival aerodrome, by any flight for which a flight plan has been submitted covering the entire flight or the remaining portion of the flight to the destination aerodrome.

(2) Where the flight plan was filed only in respect of a portion of the flight, excluding the remaining portion of the flight to destination, it shall, when necessary, be closed by an appropriate report to the relevant air traffic services unit.

(3) When no air traffic services unit exists at the arrival aerodrome, the arrival report, when required, shall be made as soon as practicable after landing and by the quickest means available to the nearest air traffic services unit.

(4) When communication facilities at the arrival aerodrome are known to be insufficient and other arrangements for the processing of arrival reports on the ground are unavailable, the following action shall be taken. Immediately prior to landing, the aircraft shall, if practicable, communicate to the ATS Provider, a message equivalent to an arrival report, where such a report is necessary. Ordinarily, this transmission shall be made to the aeronautical station serving the air traffic services unit in charge of the flight information region in which the aircraft is operated.

(5) Arrival reports made by aircraft shall contain the following elements of information:

(a) aircraft identification;

(b) departure aerodrome;

(c) destination aerodrome (only when a diversion is involved.)

(d) arrival aerodrome;

(e) time of arrival.

Note.— Whenever an arrival report is required, failure to comply with these provisions may cause serious disruption in the air traffic services and incur great expense in carrying out unnecessary search and rescue operations.

19.3.3.7 REDUCED VERTICAL SEPARATION MINIMUM (RVSM)-APPROVED AIRCRAFT

The letter W shall be inserted in Item Q of the repetitive flight plan (RPL) if the aircraft and operator have received RVSM State approval, regardless of the requested flight level. The aircraft registration shall be inserted in Item 18 of the flight plan

19.3.3.8 MACH NUMBER

For turbo-jet aircraft intending to operate at or above FL 250 within FIR Canarias, the planned true Mach number shall be specified in Item 15 of the flight plan.

19.3.4 SIGNALS

(1) Upon observing or receiving any of the signals given in IS:19.3.4 aircraft shall take such action as may be required by the interpretation of the signal given in that Implementing Standard(IS).

(2) The signals of IS: 19.3.4 shall, when used, have the meaning indicated therein. They shall be used only for the purpose indicated and no other signals likely to be confused with them shall be used.

(3) A signalman shall be responsible for providing standard marshalling signals to aircraft in a clear and precise manner using the signals shown in IS:19.3.4.

(4) No person shall guide an aircraft unless trained and qualified with the requisite approval by the Authority to carry out the functions of a signalman.

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

(6) Daylight-fluorescent wands, table-tennis bats or gloves shall be used for all signaling by all participating ground staff during daylight hours. Illuminated wands shall be used at night or in low visibility.

19.3.5 TIME

(1) Co-ordinated Universal Time (UTC) expressed in hours, minutes and when necessary in seconds of the 24 hour day beginning at midnight shall be used.

(2) Prior to operating a controlled flight, as well as at such other times during the flight as may be necessary, a time check shall be obtained from the aerodrome control tower or any other ATC unit as appropriate.

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

19.3.6 AIR TRAFFIC CONTROL SERVICE

19.3.6.1 AIR TRAFFIC CONTROL CLEARANCES

(1) An air traffic control clearance shall be obtained prior to operating a controlled flight, or a portion thereof as a controlled flight. This shall be requested through the submission of a flight plan to the appropriate air traffic control unit.

Note 1.— A flight plan may cover only part of a flight, as necessary, to describe that portion of the flight or those manoeuvres which are subject to air traffic control. A clearance may cover only part of a current flight plan, as indicated in a clearance limit or by reference to specific manoeuvres such as taxiing, landing or taking off.

Note 2.— If an air traffic control clearance is not satisfactory to a pilot-in-command of an aircraft, the pilot-in- command may request and, if practicable, will be issued an amended clearance.

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

(3) *Potential reclearance in flight.* If prior to departure it is anticipated that depending on fuel endurance and subject to reclearance in flight, a decision may be taken to proceed to a revised destination aerodrome, the appropriate air traffic control units shall be so notified by the insertion in

the flight plan of information concerning the revised route (where known) and the revised destination.

Note.— The intent of this provision is to facilitate a reclearance to a revised destination, normally beyond the filed destination aerodrome.

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

19.3.6.2 ADHERENCE TO FLIGHT PLAN

(1) Except as provided for in 19.3.6.2(4), an aircraft shall adhere to the current flight plan or the applicable portion of a current flight plan for a controlled flight within the tolerances defined in paragraphs (2) to (6) of this section unless a request for a change has been made and clearance obtained from the appropriate air traffic control unit, or unless an emergency situation arises which necessitates immediate action by the aircraft, in which event as soon as circumstances permit, after such emergency authority is exercised, the appropriate ATS unit shall be notified of the action taken and that this action has been taken under emergency authority.

(2) Unless otherwise authorized or directed by the ATS Provider, controlled flights shall, in so far as practicable:

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

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

(3) Subject to the overriding requirement in paragraph (2), an aircraft operating along an ATS route segment defined by reference to very high frequency omni-directional radio ranges shall change over for its primary navigation guidance from the facility behind the aircraft to that ahead of it at, or as close as operationally feasible to, the change-over point, where established.

(4) When an aircraft deviates from track under any circumstance, such deviations shall be communicated to the ATS Provider.

(5) Deviation from the requirements in paragraph (2) shall be notified to the

appropriate air traffic services unit.

(6) ***Deviations from the current flight plan*** means In the ~~event that a controlled flight deviates~~ from its current flight plan, the following action shall be taken:

(a) ***Deviation from track*** means if the aircraft is off track, action shall be taken forthwith to adjust the heading of the aircraft to regain track as soon as practicable.

(b) ***Deviation from ATC assigned Mach number or indicated airspeed*** means the ATS Provider shall be informed immediately.

(c) ***Deviation from Mach number or true airspeed*** means if 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 ATS Provider shall be so informed.

(d) ***Change in time estimate*** means except where ADS-C is activated and serviceable in airspace where ADS-C services are provided, if the time estimate for the next applicable reporting point, flight information region boundary or destination aerodrome, whichever comes first, changes in excess of 2 minutes from that previously notified to air traffic services, or such other period of time as is prescribed by the Authority or on the basis of regional air navigation agreements, the flight crew shall notify the ATS Provider as soon as possible.

(7) When ADS-C services are provided and ADS-C is activated, the ATS Provider shall be informed automatically via data link whenever changes occur beyond the threshold values stipulated by the ADS event contract.

(8) *Change Requests.* Requests 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; revised time estimates (when applicable) at subsequent reporting points or flight information region boundaries.

(b) *Change of Mach number or true airspeed:* aircraft identification; 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; 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(s); any other pertinent information.

(9) *Weather deterioration below the VMC.* 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:

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

(b) if no clearance in accordance with (a) can be obtained, continue to operate in VMC and inform the appropriate air traffic control unit of the action being taken either to leave the airspace concerned or to land at the nearest suitable aerodrome; or

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

(d) request clearance to operate in accordance with the instrument flight rules if pilot- in-command is instrument rated.

19.3.6.3 POSITION REPORTS

(1) Except exempted by the ATS Provider or by the appropriate ATS unit under specific conditions, a controlled flight shall make position reports to the appropriate ATS unit, as soon as possible, on the time and level at passing each designated mandatory reporting point, together with any other necessary information. Position reports shall similarly be made in relation to additional points when so requested by the appropriate ATS unit. Where no designated reporting points exist, position reports shall be made at intervals approved by the ATS Provider or specified by the appropriate ATS

unit.

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

Note.— The conditions and circumstances in which ADS-B or SSR Mode C transmission of pressure-altitude satisfies the requirement for level information in position reports are indicated in the PANS-ATM (Doc 4444).

19.3.6.4 TERMINATION OF CONTROL

A controlled flight shall, unless when landing at a controlled aerodrome, advise the appropriate ATC unit as soon as it ceases to be subject to air traffic control service.

19.3.6.5 COMMUNICATIONS

(1) All controlled flights shall maintain incessant air-ground voice communication watch on the appropriate communication channel of, and establish two-way communication as necessary with, the appropriate air traffic control unit, except as may be specified by the ATS Provider regarding aircraft forming part of aerodrome traffic at a controlled aerodrome.

(2) All VFR flights, and IFR flights outside controlled airspace, shall maintain a listening watch on the frequency where flight information service is provided and report position unless otherwise authorized by the ATS Provider.

Note 1.— SELCAL or similar automatic signaisling devices satisfy the requirement to maintain an air-ground voice communication watch.

Note 2.— The requirement for an aircraft to maintain an air-ground voice communication watch remains in effect after CPDLC has been established

(3) *Communication failure.* If a communication failure precludes compliance with paragraph (1), the aircraft shall comply with the communication failure procedures of Part 23 Subpart 2, and with such of the following procedures as are appropriate. In addition, the aircraft, when forming part of the aerodrome traffic at a controlled aerodrome, shall look out for such instructions as may be transmitted by visual signals.

(4) If in visual meteorological conditions, the aircraft shall:

(a) continue to fly in visual meteorological conditions;

(b) land at the nearest suitable aerodrome; and

(c) report its arrival as expeditiously as practicable to the appropriate air traffic control unit;

(d) if considered advisable, complete an IFR flight in accordance with 19.3.6.5.2.

(e) If in instrument meteorological conditions or when conditions are such that it does not appear feasible to complete the flight in accordance with 19.3.6.5.2, the aircraft shall:

(i) except otherwise specified on the basis of regional air navigation agreement, in air space where radar is not used in the provision of air traffic control, maintain the last assigned speed and level, or minimum flight altitude if higher, for a period of 20 minutes following the aircraft's failure to report its position over a compulsory reporting point and thereafter adjust level and speed in accordance with the filed flight plan;

(ii) in airspace where radar is used in the provision of air traffic control, maintain the last assigned speed and level, or minimum flight altitude if higher, for a period of 7 minutes following:

(A) the time the last assigned level or minimum flight altitude is reached; or

(B) the time the transponder is set to Code 7600; or

(C) the aircraft's failure to report its position over a compulsory reporting point;

(D) whichever is later, and thereafter adjust level and speed in accordance with the filed flight plan;

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

(F) 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 e) below, hold over this aid or fix until commencement of descent;

(G) commence descent from the navigation aid or fix specified in d) at, or as close as possible to, the expected approach time last received and

acknowledged; or, if no expected approach time has been received and acknowledged, at, or as close as possible to, the estimated time of arrival resulting from the current flight plan;

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

(I) land, if possible, within 30 minutes after the estimated time of arrival specified in e) or the last acknowledged expected approach time, whichever is later.

Note 1.— The provision of air traffic control service to other flights operating in the airspace concerned will be based on the premise that an aircraft experiencing communication failure will comply with the rules in paragraph (2) of this section.

Note 2. — See also 19.5.1.2.

19.3.7 UNLAWFUL INTERFERENCE

(1) When an aircraft becomes the subject of unlawful interference, it shall strive to inform the appropriate ATS unit of this fact, as well as any significant circumstances linked therewith and any deviation from the current flight plan necessitated by the circumstances, in order to allow the ATS unit to give priority to the aircraft and to reduce conflict with other aircraft.

Note 1.— Responsibility of ATS units in situations of unlawful interference is contained in Manual of Standards – Air Traffic Services.

Note 2.— Guidance material for use when unlawful interference occurs and the aircraft is unable to notify an ATS unit of this fact is contained in Attachment B to this Manual of Standards.

Note 3.— Action to be taken by SSR-, ADS-B- and ADS-C-equipped aircraft which are being subjected to unlawful interference is contained in Manual of Standards – Air Traffic Services, the PANS-ATM (Doc 4444) and the PANS-OPS (Doc 8168).

Note 4.— Action to be taken by CPDLC-equipped aircraft which are being subjected to unlawful interference is contained in Manual of Standards – Air Traffic Services, the PANS-ATM (Doc 4444), and guidance material on the subject is contained in the Global Operational Data Link (GOLD) Manual (Doc 10037).

(2) If an aircraft is subjected to unlawful interference, the pilot-in-command shall attempt to land as soon as practicable at the nearest suitable

aerodrome or at a dedicated aerodrome assigned by the appropriate authority unless considerations aboard the aircraft dictate otherwise.

Note 1.— Requirements with respect to aircraft on the ground that are subject to unlawful interference are contained in Ghana Civil Aviation (Aviation Security) Directives Subpart 17.5.5.2.4 of Part 17.

Note 2.— See 19.2.4 regarding the authority of the pilot-in-command of an aircraft.

19.3.8 INTERCEPTION

(1) Interception of civil aircraft in Ghana shall be controlled by appropriate regulations and administrative Directives issued by the State in compliance with the Convention on International Civil Aviation, and in particular Article 3(d) under which Contracting States undertake, when issuing regulations for their State aircraft, to have due regard for the safety of navigation of civil aircraft. Accordingly, the provisions of IS:19.3.4 and IS:19.3.8 shall apply.

Note.— The word "interception" in this context does not include intercept and escort service provided, on request, to an aircraft in distress, in accordance with Volumes II and III of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual (Doc 9731).

(2) Aircraft registered in Ghana shall strictly adhere to the IS: 19.3.4 of this Directive with respect to interception to ensure that any visual signals employed in the event of an interception which ~~should~~ shall be undertaken only as a last resort be correctly employed and understood.

Note 1. – As interceptions of civil aircraft are, in all cases, potentially hazardous, special recommendations formulated are contained in Attachment A.

(3) The pilot-in-command of a civil aircraft, when intercepted, shall comply with and adhere to, the provisions in sections 2 and 3 of IS:19.3.8 interpreting and responding to visual signals as specified in IS: 19.3.4. section 2.

19.3.9 VMC VISIBILITY AND DISTANCE FROM CLOUD MINIMA

VMC visibility and distance from cloud minima are contained in Table 3-1.

Table 3-1*
(see 4.1)

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	8 km	1 500 m horizontally 300 m (1 000 ft) vertically
Below 3 050 m (10 000 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	5 km	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	5 km	1 500 m horizontally 300 m (1 000 ft) vertically
	F G	5 km**	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 should be used in lieu of 10 000 ft.

** When so prescribed by the appropriate ATS authority:

a) flight visibilities reduced to not less than 1 500 m may be permitted for flights operating:

1) at speeds that, in the prevailing visibility, will give adequate opportunity to observe other traffic or any obstacles in time to avoid collision; or

2) 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.

19.4 VISUAL FLIGHT RULES

(1) Except when operating as a special VFR flight, VFR flights shall be conducted so that the aircraft is flown in situations of visibility and distance from clouds equal to or greater than those specified in Table 3-1.

(2) Unless clearance has been acquired from an air traffic control unit, VFR flights shall not take off or land at an aerodrome located within a control zone, or enter the aerodrome traffic zone or traffic pattern:

(a) when the ceiling is less than 450 m (1 500 ft); or

(b) when the ground visibility is less than 5 km.

(1) VFR flights between sunset and sunrise, or such other period between sunset and sunrise as may be specified by the ATS Provider, shall be operated in conformity with the prescribed conditions.

(2) Unless authorized by the ATS Provider, VFR flights shall not be conducted:

(a) above FL 150;

(b) at transonic and supersonic speeds.

(3) Authorization 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.

(4) Except when necessary for take-off or landing, or except by permission from the ATS Provider, a VFR flight shall not be operated:

(a) over the crowded areas of cities, towns or settlements or over an open-air gathering of persons below 300 m (1 000 ft) above the highest obstacle within a radius of 600 m from the aircraft;

(b) elsewhere than as specified in 19.4.6 a), at a height below 150 m (500 ft) above the ground or water.

(5) Except where otherwise indicated in air traffic control clearances or specified by the ATS Provider, VFR flights in level cruising flight when operated above 900 m (3 000 ft) from the ground or water, or a higher datum as specified by the ATS Provider, shall be conducted at a flight level correlating to the track as specified in the Tables of cruising levels in IS: 19.5.3.1.

(6) VFR flights shall obtain air traffic control clearances;

(a) when operated within Classes B, C and D airspace;

(b) when forming part of aerodrome traffic at controlled aerodromes; or

(c) when operated as special VFR flights.

(7) A VFR flight operating within or into areas, or along routes, designated by the ATS Provider in accordance with 19.3.3.1.2 (c) or (d) shall maintain a non-stop air- ground voice communication watch on the appropriate communication channel and report its position as necessary to, the ATS unit providing flight information service.

Note.— See Notes following 19.3.6.5.1

(8) An aircraft operated in accordance with the visual flight rules requesting to change to compliance with the instrument flight rules shall:

(a) if a flight plan was submitted, communicate the necessary changes to be effected to its current flight plan, or

(b) when so required by 19.3.3.1.2, submit a flight plan to the appropriate ATS unit and obtain a clearance prior to proceeding IFR when in controlled airspace.

19.5 INSTRUMENT FLIGHT RULES

19.5.1 RULES APPLICABLE TO ALL IFR FLIGHTS

19.5.1.1 AIRCRAFT EQUIPMENT

Aircraft shall be equipped with relevant instruments and navigation equipment appropriate to the route to be flown.

19.5.1.2 MINIMUM LEVELS

Except when specifically authorized by the ATS Provider, or except when necessary for take-off or landing, an IFR flight shall be conducted at a level at or above the minimum flight altitude established by the Authority, where no such minimum flight altitude has been established:

(a) over high terrain or in mountainous areas, at a level which is at least 600 m (2 000 ft) above the highest obstacle located within 8 km of the estimated position of the aircraft;

(b) elsewhere than as specified in a), at a level which is at least 300 m (1 000 ft) above the highest obstacle located within 8 km of the estimated position of the aircraft.

Note 1.— The estimated position of the aircraft will take account of the navigational accuracy which can be achieved on the relevant route segment, having regard to the navigational facilities available on the ground and in the aircraft.

Note 2.— See also 19.3.1.2.

19.5.1.3 CHANGE FROM IFR FLIGHT TO VFR FLIGHT

(1) An aircraft which files a flight plan and decides to change the conduct of its flight from observance of the instrument flight rules to observance of the visual flight rules shall ensure that it informs the appropriate ATS unit that the IFR flight is cancelled and thereafter inform that unit of the changes to be made to its current flight plan.

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

19.5.2 RULES APPLICABLE TO IFR FLIGHTS WITHIN CONTROLLED AIRSPACE

(1) IFR flights shall obtain air traffic control clearances when operated in controlled airspace.

(2) An IFR flight operating in cruising flight in controlled airspace shall be flown at a cruising level, or, if authorized to employ cruise climb techniques, between two levels or above a level, selected from:

(a) the Tables of cruising levels in IS:19.5.3.1, or

(b) a modified table of cruising levels, when so prescribed in accordance with IS: 19.5.3.1 for flight above FL 410, except that the correlation of levels to track prescribed therein shall not apply whenever otherwise indicated in air traffic control clearances or

specified in the Ghana Aeronautical Information Publication.

(3) All changes of flight levels required by transition from the system of designated cruising levels for flights along controlled routes to the semicircular system of cruising levels, or vice versa, shall be made at points within controlled airspace.

(4) The specific points to be used for the changes of flight levels mentioned in 19.5.2.(3) shall be the subject of coordination between the ATS units concerned, bearing in mind the need to avoid points over boundaries or other points where transfer of communications or transfer of responsibility would be adversely affected.

19.5.3 RULES APPLICABLE TO IFR FLIGHTS OUTSIDE CONTROLLED AIRSPACE

19.5.3.1 CRUISING LEVELS

An IFR flight operating in level cruising flight outside of controlled airspace shall be flown at a cruising level appropriate to its track as specified in:

(a) the Tables of cruising levels in IS: 19.5.3.1. except when otherwise specified by the ATS Provider for flight at or below 900 m (3 000 ft) above mean sea level; or

(b) a modified table of cruising levels, when so prescribed in accordance with for flight IS: 19.5.3.1 above FL 410.

Note.— This provision does not preclude the use of cruise climb techniques by aircraft in supersonic flight.

19.5.3.2 COMMUNICATIONS

An IFR flight operating outside controlled airspace but within or into areas, or along routes, designated by the ATS Provider in accordance with 19.3.3.1.2 (c) or (d) shall maintain an air-ground voice communication watch on the appropriate communication channel and establish two-way

communication, as necessary, with the air traffic services unit providing flight information service.

19.5.3.3 POSITION REPORTS

An IFR flight operating outside controlled airspace and required by the ATS Provider to:

(a) submit a flight plan,

(b) maintain an air-ground voice communication watch on the appropriate communication channel and;

(c) establish two-way communication as necessary with the air traffic services unit providing flight information service,

shall report position as specified in 19.3.6.3 for controlled flights.

Note.— Aircraft electing to use the air traffic advisory service whilst operating IFR within specified advisory airspace are expected to comply with the provisions of 19.3.6, except that the flight plan and changes thereto are not subjected to clearances and that two-way communication will be maintained with the unit providing the air traffic advisory service.

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GHANA CIVIL AVIATION
(AIR NAVIGATION SERVICES)
DIRECTIVES

PART 19 – IMPLEMENTING STANDARDS

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IS: 19.3.1.10 UNMANNED FREE BALLOONS

IS: 19.3.1.10.1 CLASSIFICATION OF UNMANNED FREE BALLOONS

Unmanned free balloons are classified as:

(a) ***Light*** means an unmanned free balloon which carries a payload of one or more packages with a combined mass of less than 4 kg, unless qualifying as a heavy balloon in accordance with c) 2), 3) or 4) below; or

(b) ***Medium*** means an unmanned free balloon which carries a payload of two or more packages with a combined mass of 4 kg or more, but less than 6 kg, unless qualifying as a heavy balloon in accordance with c) 2), 3) or 4) below; or

(c) ***heavy*** means an unmanned free balloon which carries a payload which:

(i) has a combined mass of 6 kg or more; or

(ii) includes a package of 3 kg or more; or

(iii) includes a package of 2 kg or more with an area density of more than 13 g 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.

IS: 19.3.1.10.2 General operating rules

(1) An unmanned free balloon shall not be operated without appropriate authorization from the Authority.

(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 authorization from the other State concerned.

(3) The authorization referred to in IS:19.3.1.10.2(2) 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. Such authorization may be obtained for a series of balloon flights or for a particular type of recurring flight, e.g. atmospheric research balloon flights.

(4) An unmanned free balloon shall be operated in accordance with conditions specified within these Directives and by the State(s) expected to be overflown.

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

(6) A heavy unmanned free balloon shall not be operated over the high seas without prior co-ordination with the Authority.

IS: 19.3.1.10.3 OPERATING LIMITATIONS AND EQUIPMENT REQUIREMENTS

(1) A heavy unmanned free balloon shall not be operated without authorization from the 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 8 km

(2) A heavy or medium unmanned free balloon shall not be released in a manner that will cause it to fly lower than 300 m (1000 ft) over the congested areas of cities, towns or settlements or an open-air assembly of persons not associated with the operation.

(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;

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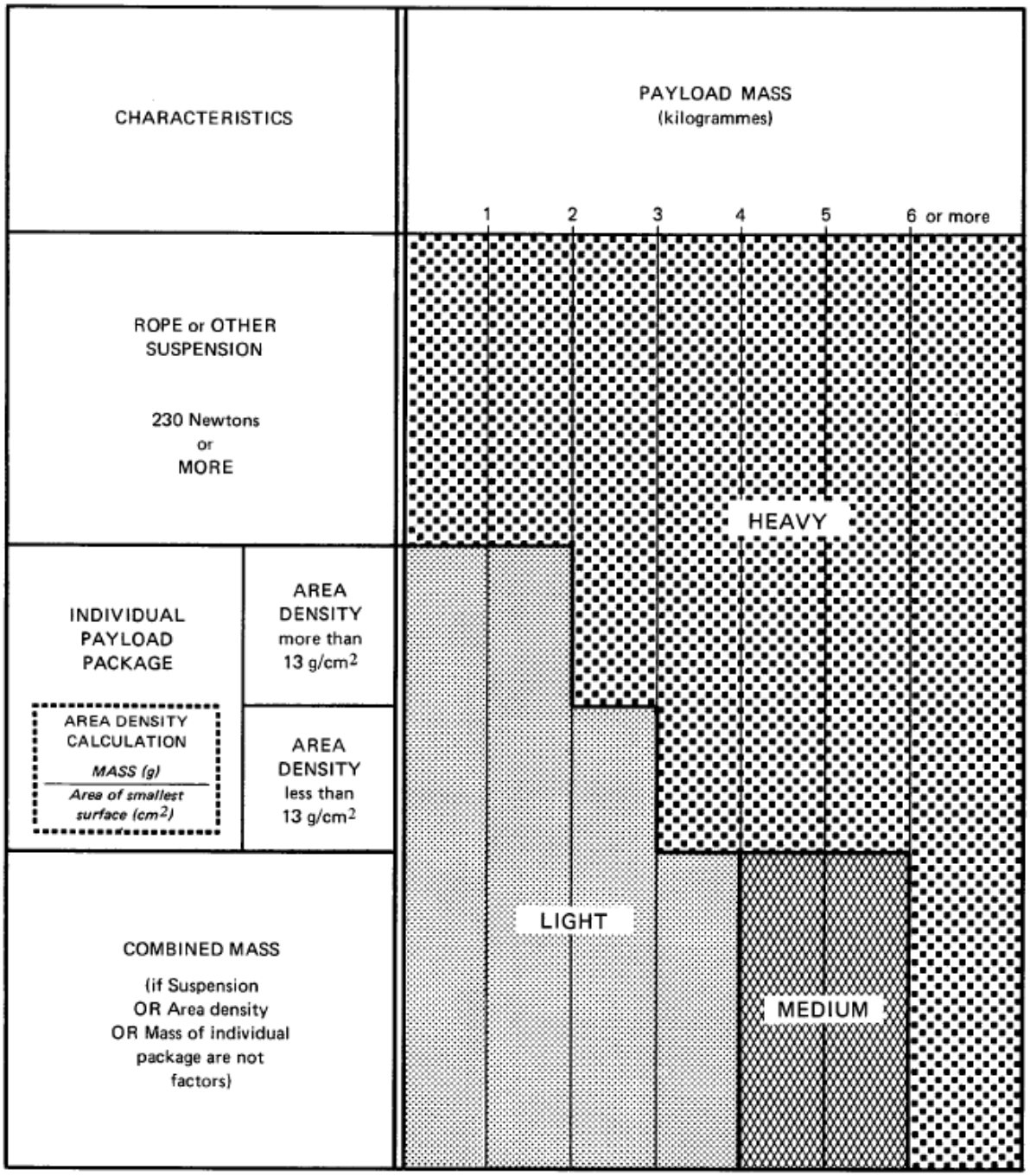


Figure 4.1 Classification of unmanned free balloons

(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;

(c) the balloon envelope is equipped with:

(i) 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,

(ii) such other devices as will permit continuous tracking by the operator beyond the range of ground-based radar.

(1) A heavy unmanned free balloon shall not be operated in an area where ground-based SSR equipment is in use, unless it is equipped with a secondary surveillance radar transponder, with altitude reporting capability, which is continuously operating on an assigned code, or which can be turned on when necessary by the tracking station.

(2) 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 than 15 m intervals.

(3) 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 Authority, unless the balloon and its attachments and payload, whether or not they become separated during the operation, are lighted.

(4) 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.

IS: 19.3.1.10.4 TERMINATION

The operator of a heavy unmanned free balloon shall activate the appropriate termination devices required by IS:19.3.1.10.3(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.

IS: 19.3.1.10.5 FLIGHT NOTIFICATION

IS: 19.3.1.10.5.1 Pre-flight notification

(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.

(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 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);

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(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;

(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 duration shall be used.

(3) Any changes in the pre-launch information notified in accordance with Isubparagraph (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.

IS: 19.3.1.10.5.2 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;

(a) launch site;
(b) actual time of launch;

(c) estimated time at which 18 000 m (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

(d) any changes to the information previously notified in accordance with IS:19.3.1.10.5.1.2 g) and h).

IS: 19.3.1.10.5.3 NOTIFICATION OF CANCELLATION

The operator shall notify the appropriate air traffic services unit immediately it is known that the intended flight of a medium or heavy unmanned free balloon, previously notified in accordance with IS:19.3.1.10.5.1, has been cancelled.

IS: 19.3.1.10.6 POSITION RECORDING AND REPORTS

(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 2 hours.

(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.

(3) If a position cannot be recorded in accordance with 19.3.1.10.6.1 and 19.3.1.10.6.2, 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.

(4) One hour before the beginning of a planned descent of a heavy unmanned free balloon, the operator shall forward to the appropriate ATS 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 18 000 m (60 000 ft) pressure-altitude, if applicable;

(d) the forecast time and location of ground impact.

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

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IS: 19.3.4 SIGNALS

IS: 19.3.4.1 DISTRESS AND URGENCY SIGNALS

IS: 19.3.4.1.1 DISTRESS SIGNALS

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 signaling method consisting of the group SOS (. . .———. . . in the Morse Code);

(b) a radiotelephony distress signal consisting of the spoken word MAYDAY;

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

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

(a) a parachute flare showing a red light.

IS: 19.3.4.1.2 The radiotelegraph alarm signal consists of a series of twelve dashes sent in one minute, the duration of each dash being four seconds and the duration of the interval between consecutive dashes one second. It may be transmitted by hand but its transmission by means of an automatic instrument is recommended.

IS: 19.3.4.1.3 The radiotelephone alarm signal consists of two substantially sinusoidal audio frequency tones transmitted alternately. One tone shall have a frequency of 2 200 Hz and the other a frequency of 1 300 Hz, the duration of each tone being 250 milliseconds.

IS: 19.3.4.1.3.1 The radiotelephone alarm signal, when generated by automatic means, shall be sent continuously for a period of at least thirty seconds but not exceeding one minute; when generated by other means, the signal shall be sent as continuously as practicable over a period of approximately one minute.

IS: 19.3.4.1.4 URGENCY SIGNALS

IS: 19.3.4.1.4.1 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.

IS: 19.3.4.1.4.2 The following signals, used either together or separately, mean that an aircraft has a very urgent message to transmit concerning the safety of a ship, aircraft or other vehicle, or of some person on board or within sight:

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

(b) a radiotelephony urgency signal consisting of the spoken words PAN, PAN;

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

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2. 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 break-away 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 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.

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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.

3 VISUAL SIGNALS USED TO WARN AN UNAUTHORIZED AIRCRAFT FLYING IN, OR ABOUT TO ENTER A RESTRICTED, PROHIBITED OR DANGER AREA

By day and by night, a series of projectiles discharged from the ground at intervals of 10 seconds, each showing, on bursting, red and green lights or stars will indicate to an unauthorized aircraft that it is flying in or about to enter a restricted, prohibited or danger area, and that the aircraft is to take such remedial action as may be necessary.

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4. 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.*

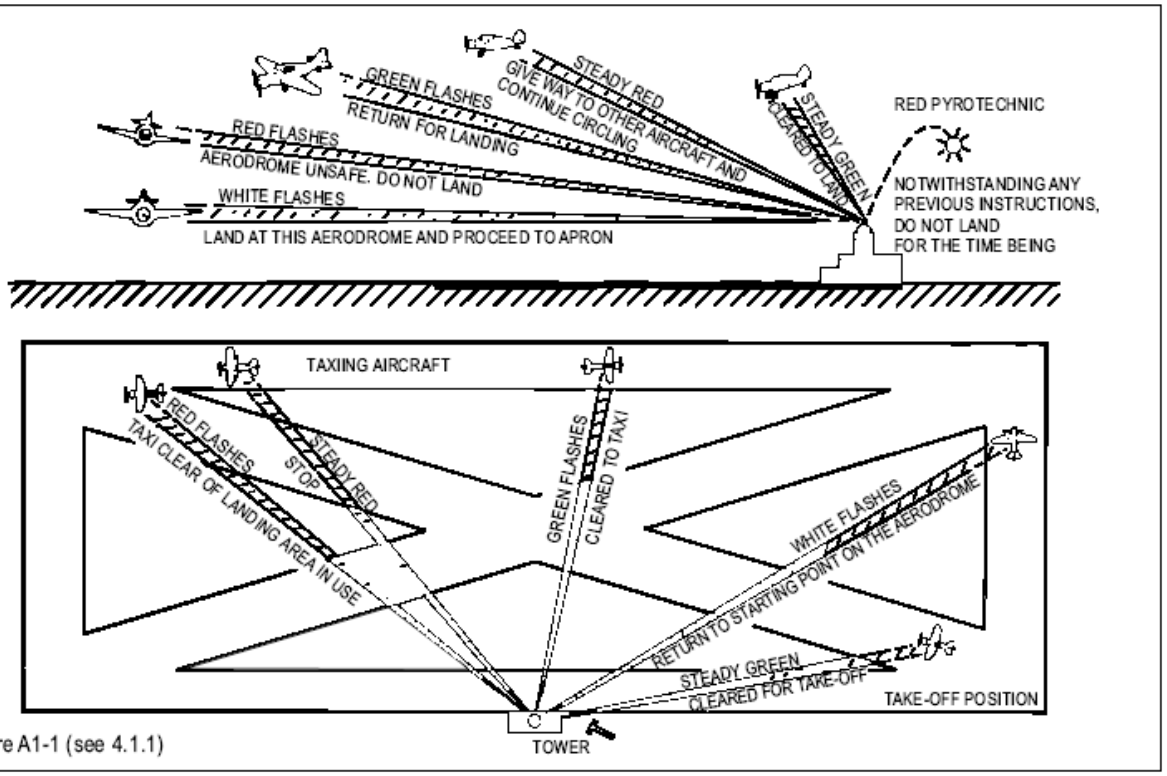


Figure A1-1 (see 4.1.1)

IS: 19.3.8.1.4.4 SIGNALS FOR AERODROME TRAFFIC

IS:19.3.8.1.4.4.1 LIGHT AND PYROTECHNC SIGNALS

IS: 19.3.8.1.4.4.2 Instructions

Light		*From Aerodrome Control to:*	
		Aircraft in flight	*Aircraft on the ground*
Directed towards aircraft concerned (see Figure 1.1)	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.*

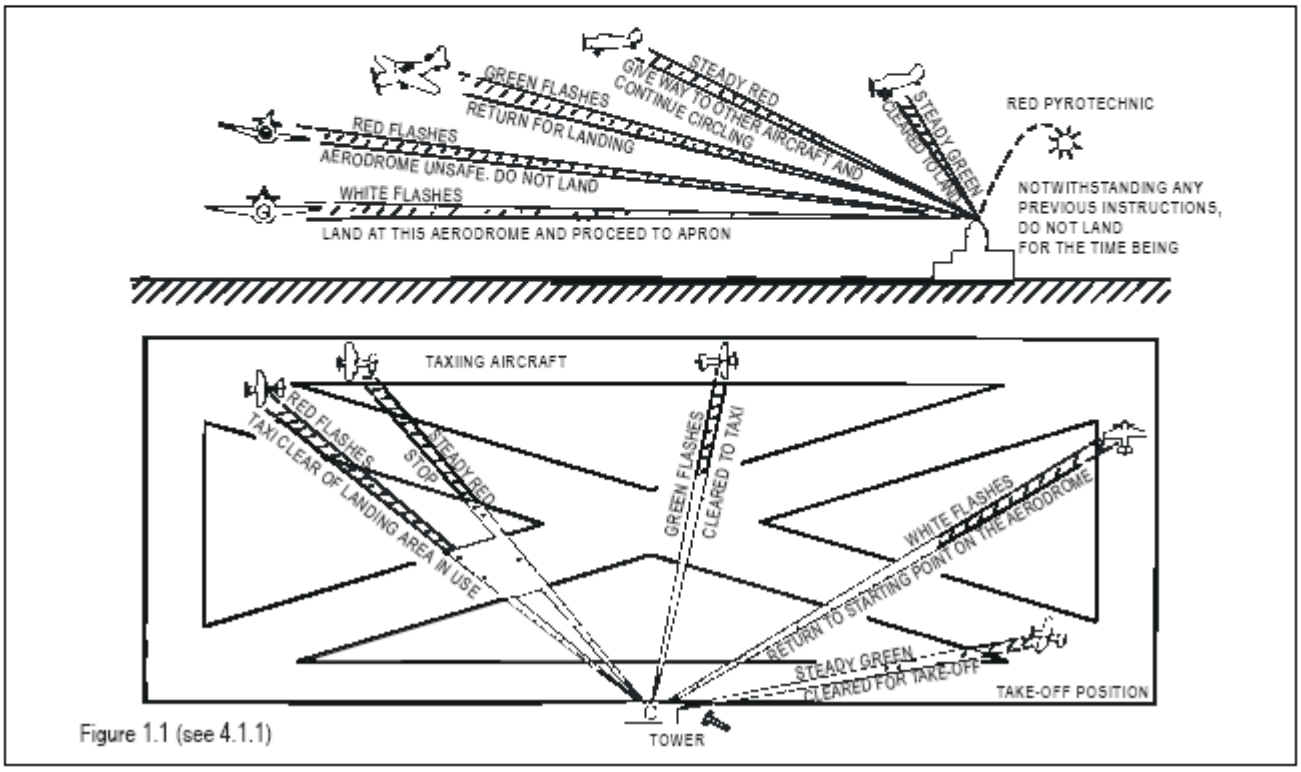


Figure 1.1 (see 4.1.1)

See IS: 19.3.4.1.4.4.2

IS: 19.3.4.1.4.4.3 ACKNOWLEDGEMENT BY AN AIRCRAFT

(a) When in flight:

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(6) during the hours of daylight: — by rocking the aircraft's wings;

(7) 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.

(a) When on the ground:

(1) during the hours of daylight: — by moving the aircraft's ailerons or rudder;

(2) 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.

IS: 19.3.4.1.4.4.4 VISUAL GROUND SIGNALS

IS: 19.3.4.1.4.4.4.1 PROHIBITION OF LANDING

A horizontal red square panel with yellow diagonals (Figure 1.2) when displayed in a signal area indicates that landings are prohibited and that the prohibition is liable to be prolonged.

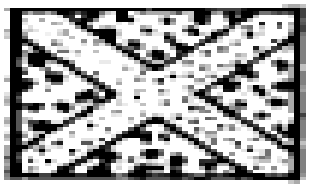


Figure 1.2

IS: 19.3.4.1.4.4.4.2 NEED FOR SPECIAL PRECAUTIONS WHILE APPROACHING OR LANDING

A horizontal red square panel with one yellow diagonal (Figure 1.3) 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.

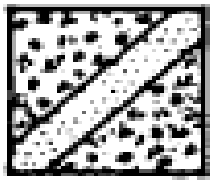


Figure 1.3

IS: 19.3.4.1.4.4.4.3 **Use of runways and taxiways**

IS: 19.3.8.1.4.4.4.1.3.1 A horizontal white dumb-bell (Figure 1.4) when displayed in a signal area indicates that aircraft are required to land, take off and taxi on runways and taxiways only.



Figure 1.4

IS: 19.3.8.1.4.4.4.1 3.2 The same horizontal white dumb-bell as in . IS: 19.3.8.1.4.4.4.1.3.1 but with a black bar placed perpendicular to the shaft across each circular portion of the dumb-bell (Figure 1.5) 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

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Figure 1.5

IS: 19.3.8.1.4.4.4.1.3.3 Closed runways or taxiways Crosses of a single contrasting colour, yellow or white (Figure1.6), displayed horizontally on runways and taxiways or parts thereof indicate an area unfit for movement of aircraft.



Figure 1.6

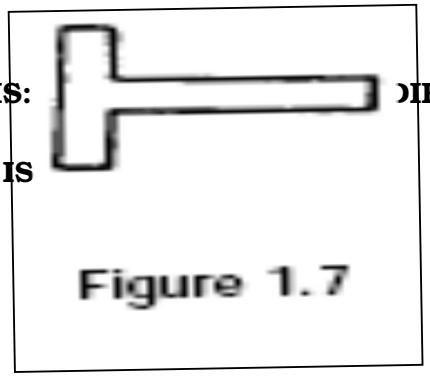


Figure 1.7

IS:)IRECTIONS FOR LANDING OR TAKE-OFF

IS A horizontal white or orange landing T (Figure 1.7) 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.

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IS: 19.3.4.1.4.4.4.1.3.4.2 A set of two digits (Figure 1.8) 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 1.8

IS: 19.3.4.1.4.4.4.1.3.4.3 **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 1.9) indicates that turns are to be made to the right before landing and after take-off.

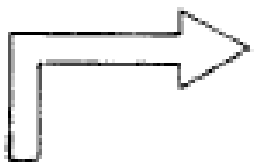


Figure 1.9

IS: 19.3.4.1.4.4.4.1.3.4. Air traffic services reporting office The letter C displayed vertically in black against a yellow background (Figure 1.10) indicates the location of the air traffic services reporting office.

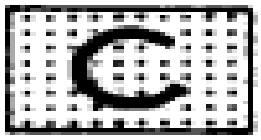


Figure 1.10

IS: 19.3.4.1.4.4.4.1.3.5 Glider flights in operation A double white cross displayed horizontally (Figure 1.11) in the signal area indicates that the aerodrome is being used by gliders and that glider flights are being performed.

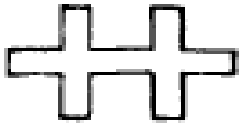


Figure 1.11

IS: 19.3.4.1.5 **MARSHALLING SIGNALS**

IS: 19.3.4.1.5.1 **From a signalman to an aircraft**

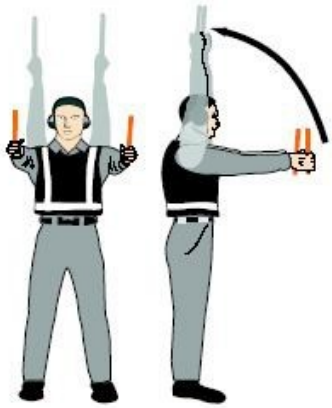
Prior to using the following signals, the signalman shall ascertain that the area within which an aircraft is to be guided is clear of objects which the aircraft, in complying with 19.3.4.1, might otherwise strike.



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)

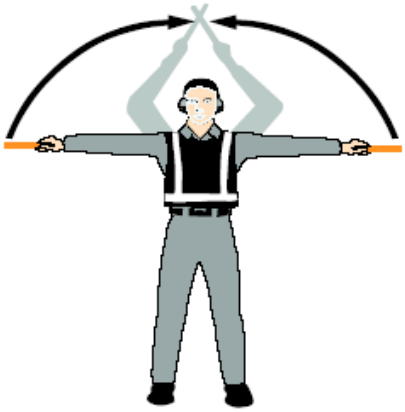
With right arm and wand extended at a 90-degree angle to body, make "come ahead" signal with left hand. The rate of signal motion indicates to pilot the rate of aircraft turn.

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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.



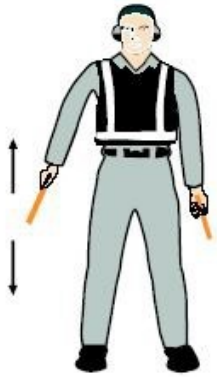
10. Cut engines

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).



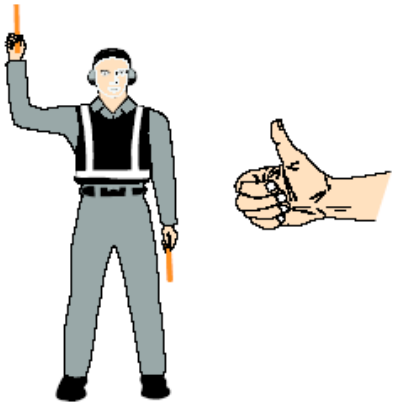
14 a). Turns while backing (for tail to starboard)

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

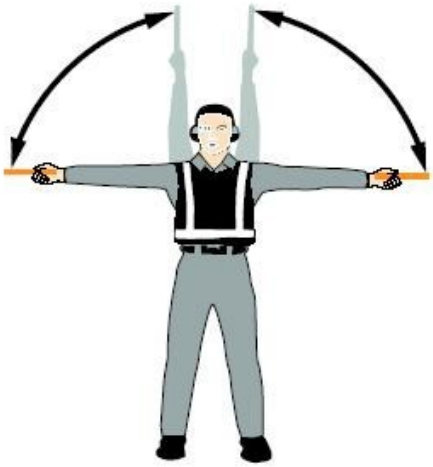
Raise right arm to head level with wand pointing up or display hand with "thumbs up"; left arm remains at side by knee.

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



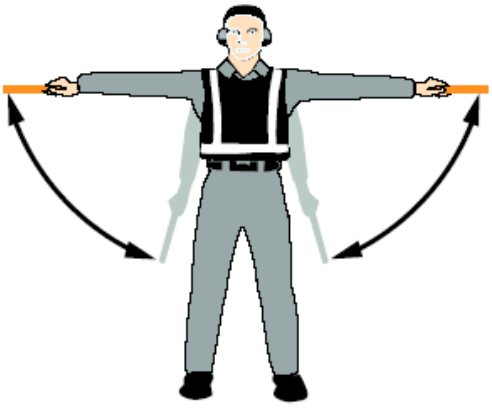
***16. Hover**

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



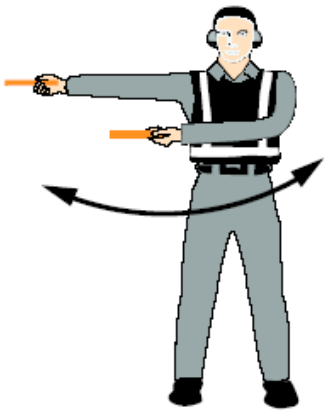
***17. Move upwards**

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.



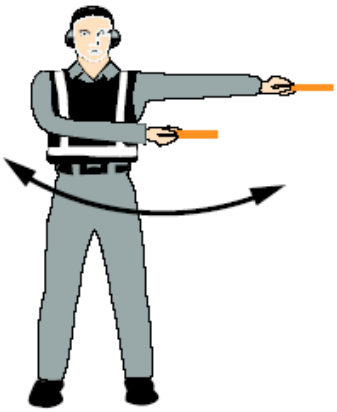
***18. Move downwards**

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.



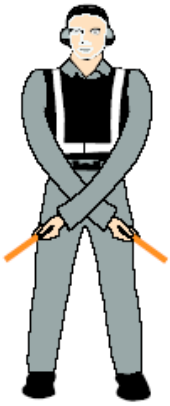
***19 a). Move horizontally left (from pilot's point of view)**

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



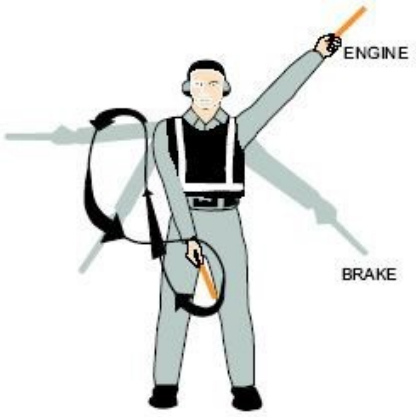
***19 b). Move horizontally right (from pilot's point of view)**

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



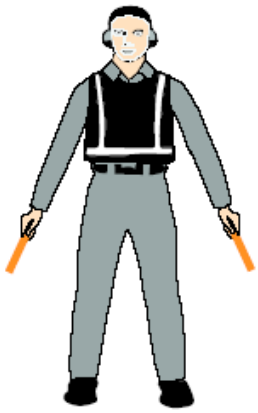
***20. Land**

Cross arms with wands downwards and in front of body.



21. Fire

Move right-hand wand in a "fanning" motion from shoulder to knee, while at the same time pointing with left-hand wand to area of fire.



22. 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.



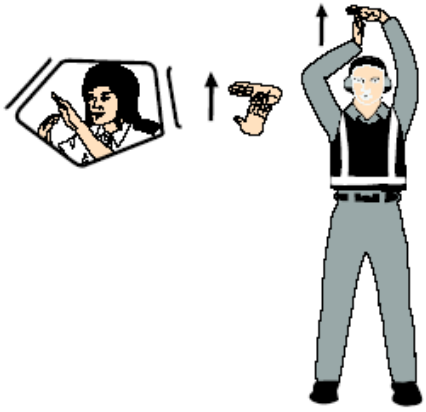
23. Dispatch aircraft

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.



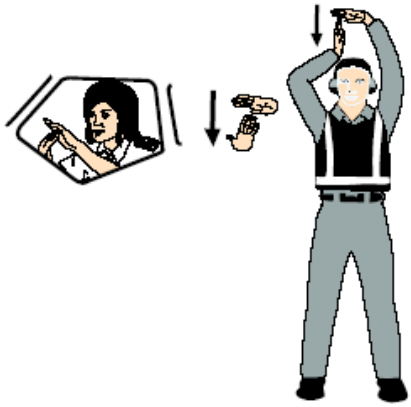
24. Do not touch controls (technical/servicing communication signal)

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



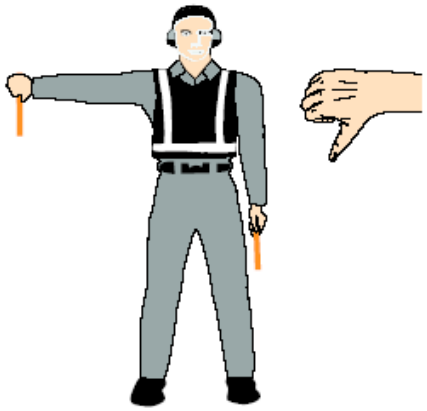
25. Connect ground power (technical/servicing communication signal)

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.



26. 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.



27. 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.



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

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



29. 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.

IS: 19.3.4.1.5.1.2 **From the pilot of an aircraft to a signalman**

IS: 19.3.4.1.5.1.2.1 Brakes - For purposes of:

(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.

IS: 19.3.4.1.5.1.2.2 Chocks - For purposes of:

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

(b) *Removing chocks:* hands crossed in front of face, palms outwards, move arms outwards.

IS: 19.3.4.1.5.1.2.3 Ready to start engine(s)

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

IS: 19.3.5.3.1 **TABLES OF CRUISING LEVELS**

The cruising levels to be observed when so required by this Directives ~~regulation~~ are as follows:

(a) in areas where, on the basis of regional air navigation agreements and in accordance with conditions specified therein, a vertical separation minimum (VSM) of 300 m (1 000 ft) is applied between FL 290 and FL 410 inclusive:*

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TRACK**												
From 000 degrees to 179 degrees***						From 180 degrees to 359 degrees***					
IFR Flights			VFR Flights			IFR Flights			VFR Flights		
Altitude			Altitude			Altitude			Altitude		
FL	Metres	Feet	FL	Metres	Feet	FL	Metres	Feet	FL	Metres	Feet
–90			–	–	–	0			–	–	–
10	300	1 000	–	–	–	20	600	2 000	–	–	–
30	900	3 000	35	1 050	3 500	40	1 200	4 000	45	1 350	4 500
50	1 500	5 000	55	1 700	5 500	60	1 850	6 000	65	2 000	6 500
70	2 150	7 000	75	2 300	7 500	80	2 450	8 000	85	2 600	8 500
90	2 750	9 000	95	2 900	9 500	100	3 050	10 000	105	3 200	10 500
110	3 350	11 000	115	3 500	11 500	120	3 650	12 000	125	3 800	12 500
130	3 950	13 000	135	4 100	13 500	140	4 250	14 000	145	4 400	14 500
150	4 550	15 000	155	4 700	15 500	160	4 900	16 000	165	5 050	16 500
170	5 200	17 000	175	5 350	17 500	180	5 500	18 000	185	5 650	18 500
190	5 800	19 000	195	5 950	19 500	200	6 100	20 000	205	6 250	20 500
210	6 400	21 000	215	6 550	21 500	220	6 700	22 000	225	6 850	22 500
230	7 000	23 000	235	7 150	23 500	240	7 300	24 000	245	7 450	24 500
250	7 600	25 000	255	7 750	25 500	260	7 900	26 000	265	8 100	26 500
270	8 250	27 000	275	8 400	27 500	280	8 550	28 000	285	8 700	28 500
290	8 850	29 000				300	9 150	30 000			
310	9 450	31 000				320	9 750	32 000			
330	10 050	33 000				340	10 350	34 000			
350	10 650	35 000				360	10 950	36 000			
370	11 300	37 000				380	11 600	38 000			
390	11 900	39 000				400	12 200	40 000			
410	12 500	41 000				430	13 100	43 000			
450	13 700	45 000				470	14 350	47 000			
490	14 950	49 000				510	15 550	51 000			
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 300 m (1 000 ft) 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.

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TRACK*												
From 000 degrees to 179 degrees**						From 180 degrees to 359 degrees**					
IFR Flights Altitude			VFR Flights Altitude			IFR Flights Altitude			VFR Flights Altitude		
FL	Metres	Feet	FL	Metres	Feet	FL	Metres	Feet	FL	Metres	Feet
–90			–	–	–	0			–	–	–
10	300	1 000	–	–	–	20	600	2 000	–	–	–
30	900	3 000	35	1 050	3 500	40	1 200	4 000	45	1 350	4 500
50	1 500	5 000	55	1 700	5 500	60	1 850	6 000	65	2 000	6 500
70	2 150	7 000	75	2 300	7 500	80	2 450	8 000	85	2 600	8 500
90	2 750	9 000	95	2 900	9 500	100	3 050	10 000	105	3 200	10 500
110	3 350	11 000	115	3 500	11 500	120	3 650	12 000	125	3 800	12 500
130	3 950	13 000	135	4 100	13 500	140	4 250	14 000	145	4 400	14 500
150	4 550	15 000	155	4 700	15 500	160	4 900	16 000	165	5 050	16 500
170	5 200	17 000	175	5 350	17 500	180	5 500	18 000	185	5 650	18 500
190	5 800	19 000	195	5 950	19 500	200	6 100	20 000	205	6 250	20 500
210	6 400	21 000	215	6 550	21 500	220	6 700	22 000	225	6 850	22 500
230	7 000	23 000	235	7 150	23 500	240	7 300	24 000	245	7 450	24 500
250	7 600	25 000	255	7 750	25 500	260	7 900	26 000	265	8 100	26 500
270	8 250	27 000	275	8 400	27 500	280	8 550	28 000	285	8 700	28 500
290	8 850	29 000	300	9 150	30 000	310	9 450	31 000	320	9 750	32 000
330	10 050	33 000	340	10 350	34 000	350	10 650	35 000	360	10 950	36 000
370	11 300	37 000	380	11 600	38 000	390	11 900	39 000	400	12 200	40 000
410	12 500	41 000	420	12 800	42 000	430	13 100	43 000	440	13 400	44 000
450	13 700	45 000	460	14 000	46 000	470	14 350	47 000	480	14 650	48 000
490	14 950	49 000	500	15 250	50 000	510	15 550	51 000	520	15 850	52 000
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.

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IS:19.3.8 **INTERCEPTION OF CIVIL AIRCRAFT**

(Note.— See Subpart 19.3.8 of Part 19)

1 **PRINCIPLES**

1.1 To achieve the uniformity in these Directives which is necessary for the safety of navigation of civil aircraft due regard shall be had by the Republic of Ghana to the following principles.

(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;

(b) practice interception of civil aircraft will not be undertaken;

(c) navigational guidance and related information will be given to an intercepted aircraft by radiotelephony, whenever radio contact can be established; and

(d) in the case where an intercepted civil aircraft is required to land, the aerodrome designated for the landing shall be suitable for the safe landing of the aircraft type concerned.

1.2 The Republic of Ghana shall adhere to standard methods that have been established for the manoeuvring of aircraft intercepting a civil aircraft. Such methods shall be designed to avoid any hazard for the intercepted aircraft.

1.3 Secondary surveillance radar, where available, shall be used to

identify civil aircraft in areas where they may be subject to interception.

2 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 Attachment A;

(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.

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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 2.1 and transmitting each phrase twice:

Table 2.1

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".*

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IS:19.5.3.1 TABLES OF CRUISING LEVELS

The cruising levels to be observed when so required by this Annex 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 1 000 ft is applied between FL 290 and FL 410 inclusive:*

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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).*

RVSM — METRES

(b) in areas where metres are used for altitude and where, in accordance with regional air navigation agreements, a verticalseparation minimum of 300 m is applied between 8 900 m and 12 500 m 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		
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*											
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	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	4 700	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	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.

* 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 — 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	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	1280	12 800	42 100	1310	13 100	43 000	1370	13 400	44 000
1370	13 700	44 900	1400	14 000	46 100	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.

ATTACHMENT

A. INTERCEPTION OF CIVILAIRCRAFT

1. In accordance with Article 3 d) of the Convention on International Civil Aviation the Contracting States of ICAO "undertake, when issuing regulations for their state aircraft, that they will have due regard for the safety of navigation of civil aircraft". As interceptions of civil aircraft are, in all cases, potentially hazardous, the Council of ICAO has formulated the following special recommendations which Contracting States are urged to implement through appropriate regulatory and administrative action. The uniform application by all concerned is considered essential in the interest of safety of civil aircraft and their occupants.

2. GENERAL

2.1 Interception of civil aircraft ~~should~~ shall be avoided and ~~should~~shall be undertaken only as a last resort. If undertaken, the interception ~~should~~shall 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. Practice interception of civil aircraft is not to be undertaken.

2.2 To eliminate or reduce the need for interception of civil aircraft, it is important that:

(a) all possible efforts be made by intercept control units to secure identification of any aircraft which may be a civil aircraft, and to issue any necessary instructions or advice to such aircraft, through the appropriate air traffic services units. To this end, it is essential that means of rapid and reliable communications between intercept control units and air traffic services units be established and that agreements be formulated concerning exchanges of information between such units on the movements of civil aircraft, in

accordance with the provisions of Part 24

(b) areas prohibited to all civil flights and areas in which civil flight is not permitted without special authorization by the State be clearly promulgated in aeronautical information publications (AIP) in accordance with the provisions of Part 15, together with the risk, if any, of interception in the event of penetration of such areas. When delineating such areas in close proximity to promulgated ATS routes, or other frequently used tracks, States ~~should~~shall take into account the availability and over-all systems accuracy of the navigation systems to be used by civil aircraft and their ability to remain clear of the delineated areas;

(c) the establishment of additional navigation aids be considered where necessary to ensure that civil aircraft are able safely to circumnavigate prohibited or, as required, restricted areas.

2.3 To eliminate or reduce the hazards inherent in interceptions undertaken as a last resort, all possible efforts ~~should~~shall be made to ensure co-ordinated actions by the pilots and ground units concerned. To this end, it is essential that Contracting States take steps to ensure that:

(a) all pilots of civil aircraft be made fully aware of the actions to be taken by them and the visual signals to be used, as specified in this Part ~~Regulations.~~

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(b) operators or pilots-in-command of civil aircraft implement the provisions in Part 8 regarding the capability of aircraft to communicate on 121.5 MHz and the availability of interception procedures and visual signals on board aircraft;

(c) all air traffic services personnel be made fully aware of the actions to be taken by them in accordance with the provisions of Part 24 and the PANS-ATM (Doc 4444);

(d) all pilots-in-command of intercepting aircraft be made aware of the general performance limitations of civil aircraft and of the possibility that intercepted civil aircraft may be in a state of emergency due to technical difficulties or unlawful interference;

(e) clear and unambiguous instructions be issued to intercept control units and to pilots-in-command of potential intercepting aircraft, covering interception manoeuvres, guidance of intercepted aircraft, action by intercepted aircraft, air- to-air visual signals, radio communication with intercepted aircraft, and the need to refrain from resorting to the use of weapons;

(f) intercept control units and intercepting aircraft be provided with radiotelephony equipment compatible with the technical specifications of Part 23 Section 1 so as to enable them to communicate with intercepted aircraft on the emergency frequency 121.5 MHz;

(g) secondary surveillance radar facilities be made available to the extent possible to permit intercept control units to identify civil aircraft in areas where they might otherwise be intercepted. Such facilities ~~should~~shall permit recognition of discrete four-digit codes in Mode A, including immediate recognition of Mode A, Codes 7500, 7600 and 7700. Considerations aboard the aircraft dictate otherwise. Other equipment such as on-board transponders and data links ~~should~~shall also be used when it is advantageous to do so and circumstances permit; and

(h) Proceed in accordance with applicable special procedures for in-flight contingencies, where such procedures have been established and promulgated.

(i) if no applicable regional procedures have been established, proceed at a level which differs from the cruising levels normally used for IFR flight by:

(1) 150 m (500 ft) in an area where a vertical separation minimum of 300 m (1 000 ft) is applied; or

(2) 300 m (1 000 ft) in an area where a vertical separation minimum of 600 m (2 000 ft) is applied.

Action to be taken by an aircraft which is intercepted while being subject to an act of unlawful interference is prescribed in 3.8 of this Annex.

3. INTERCEPTION MANOEUVRES

3.1 A standard method ~~should~~shall be established for the manoeuvring of aircraft intercepting a civil aircraft in order to avoid any hazard for the intercepted aircraft. Such method ~~should~~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

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need to avoid crossing the 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.

3.2 MANOEUVRES FOR VISUAL IDENTIFICATION

The following method is recommended for the manoeuvring of intercepting aircraft for the purpose of visually identifying a civil aircraft:

Phase I

The intercepting aircraft ~~should~~shall approach the intercepted aircraft from astern. The element leader, or the single intercepting aircraft, ~~should~~shall normally take up a position on the left (port) side, slightly above and ahead of the intercepted aircraft, within the field of view of the pilot of the intercepted aircraft, and initially not closer to the aircraft than 300
m. Any other participating aircraft ~~should~~shall stay well clear of the intercepted aircraft, preferably above and behind. After speed and position have been established, the aircraft ~~should~~shall, if necessary, proceed with Phase II of the procedure.

Phase II

The element leader, or the single intercepting aircraft, ~~should~~shall begin closing in gently on the intercepted aircraft, at the same level, until no closer than absolutely necessary to obtain the information needed. The element leader, or the single intercepting aircraft, ~~should~~shall use caution to avoid startling the flight crew or the passengers of the intercepted aircraft, keeping constantly in mind the fact that manoeuvres considered normal to an intercepting aircraft may be considered hazardous to passengers and crews of civil aircraft. Any other participating aircraft ~~should~~shall continue to stay well clear of the intercepted aircraft. Upon completion ofidentification, the intercepting aircraft ~~should~~shall withdraw from the vicinity of the intercepted aircraft as outlined in Phase III.

Phase III

The element leader, or the single intercepting aircraft, ~~should~~shall break gently away from the intercepted aircraft in a shallow dive. Any other participating aircraft ~~should~~shall stay well clear of the intercepted aircraft and rejoin their leader.

3.3 MANOEUVRES FOR NAVIGATIONAL GUIDANCE

3.3.1 If, following the identification manoeuvres in Phase I and Phase II above, it is considered necessary to intervene in the navigation of the intercepted aircraft, the element leader, or the single intercepting aircraft, ~~should~~shall normally take up a position on the left (port) side, slightly above and ahead of the intercepted aircraft, to enable the pilot-in-command of the latter aircraft to see the visual signals given.

3.3.2 It is indispensable that the pilot-in-command of the intercepting aircraft be satisfied that the pilot-in-command of the intercepted aircraft is aware of the interception and acknowledges the signals given. If repeated attempts to attract the attention of the pilot- in-command of the intercepted aircraft by use of the Series 1 signal in Appendix 1, Section 2 are unsuccessful, other methods of signalling may be used for this purpose, including as a last resort the visual effect of the reheat/afterburner, provided that no hazard is created for the intercepted aircraft.

3.4 It is recognized that meteorological conditions or terrain may occasionally make it necessary for the element leader, or the single intercepting aircraft, to take up a position on the right (starboard) side, slightly above and ahead of the intercepted aircraft. In such

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case, the pilot-in-command of the intercepting aircraft must take particular care that the intercepting aircraft is clearly visible at all times to the pilot-in- command of the intercepted aircraft.

4. GUIDANCE OF AN INTERCEPTED AIRCRAFT

4.1 Navigational guidance and related information ~~should~~shall be given to an intercepted aircraft by radiotelephony, whenever radio contact can be established.

4.2 When navigational guidance is given to an intercepted aircraft, care must be taken that the aircraft is not led into conditions where the visibility may be reduced below that required to maintain flight in visual meteorological conditions and that the manoeuvres demanded of the intercepted aircraft do not add to already existing hazards in the event that the operating efficiency of the aircraft is impaired.

4.3 In the exceptional case where an intercepted civil aircraft is required to land in the territory overflown, care must also be taken that:

(a) the designated aerodrome is suitable for the safe landing of the aircraft type concerned, especially if the aerodrome is not normally used for civil air transport operations;

(b) the surrounding terrain is suitable for circling, approach and missed approach manoeuvres;

(c) the intercepted aircraft has sufficient fuel remaining to reach the aerodrome;

(d) if the intercepted aircraft is a civil transport aircraft, the designated aerodrome has a runway with a length equivalent to at least 2 500 m at mean sea level and a bearing strength sufficient to support the aircraft; and

(e) whenever possible, the designated aerodrome is one that is described in detail in the relevant aeronautical information publication.

4.4 When requiring a civil aircraft to land at an unfamiliar aerodrome, it is essential that sufficient time be allowed it to prepare for a landing, bearing in mind that only the pilot-in- command of the civil aircraft can judge the safety of the landing operation in relation to runway length and aircraft mass at the time.

4.5 It is particularly important that all information necessary to facilitate a

safe approach and landing be given to the intercepted aircraft by radiotelephony.

5. ACTION BY INTERCEPTED AIRCRAFT

5.1 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 Attachment A;

(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

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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. “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.”

6. AIR-TO-AIR VISUAL SIGNALS

The visual signals to be used by intercepting and intercepted aircraft are those set forth in Attachment A. It is essential that intercepting and intercepted aircraft adhere strictly to those signals and interpret correctly the signals given by the other aircraft, and that the Intercepting aircraft pay particular attention to any signals given by the intercepted aircraft to indicate that it is in a state of distress or urgency.

7. RADIO COMMUNICATION BETWEEN THE INTERCEPT CONTROL UNIT OR THE INTERCEPTING AIRCRAFT AND THE INTERCEPTED AIRCRAFT

7.1 When an interception is being made, the intercept control unit and the intercepting aircraft ~~should~~shall:

(a) first attempt to establish two-way communication with the intercepted aircraft in a common language on the emergency frequency 121.5 MHz, using the call signs “INTERCEPT CONTROL”, “INTERCEPTOR (call sign)” and “INTERCEPTED AIRCRAFT” respectively; and

(b) failing this, attempt to establish two-way communication with the intercepted aircraft on such other frequency or frequencies as may have been prescribed by the appropriate ATS authority, or to establish contact through the appropriate ATS unit(s).

7.2 If radio contact is established during interception but communication in a common language is not possible, attempts must be made to convey instructions, acknowledgement of instructions and essential information by using the phrases and pronunciations in Table A-1 and transmitting each phrase twice.

8. REFRAINING FROM THE USE OF WEAPONS

The use of tracer bullets to attract attention is hazardous, and measures shall be taken to avoid their use so that the lives of persons on board and the safety of aircraft will not be endangered.

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9. CO-ORDINATION BETWEEN INTERCEPT CONTROL UNITS AND AIR TRAFFIC SERVICES UNITS

It is essential that close co-ordination be maintained between an intercept control unit and the appropriate air traffic services unit during all phases of an interception of an aircraft which is, or might be, a civil aircraft, in order that the air traffic services unit is kept fully informed of the developments and of the action required of the intercepted aircraft.

Table A-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	VILL-KO	Understood Will comply
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".*

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ATTACHMENT B.

UNLAWFUL INTERFERENCE

1. GENERAL

The following procedures are intended as guidance for use by aircraft when unlawful interference occurs and the aircraft is unable to notify an ATS unit of this fact.

2. PROCEDURES

2.1 Unless considerations aboard the aircraft dictate otherwise, the pilot-in-command ~~should~~shall attempt to continue flying on the assigned track and at the assigned cruising level at least until able to notify an ATS unit or within radar coverage.

2.2 When an aircraft subjected to an act of unlawful interference must depart from its assigned track or its assigned cruising level without being able to make radiotelephony contact with ATS, the pilot-in-command ~~should~~shall, whenever possible:

(a) attempt to broadcast warnings on the VHF emergency frequency and other appropriate frequencies, unless considerations aboard the aircraft dictate otherwise.

Other equipment such as on-board transponders and data links ~~should~~shall also be used when it is advantageous to do so and circumstances permit; and

(b) proceed in accordance with applicable special procedures for in-flight contingencies, where such procedures have been established and promulgated in the *Regional Supplementary Procedures (*Doc 7030); or

(c) if no applicable regional procedures have been established, proceed at a level which differs from the cruising levels normally used for IFR flight by:

(1) 150 m (500 ft) in an area where a vertical separation minimum of 300 m (1 000 ft) is applied; or

2.3 (2) 300 m (1 000 ft) in an area where a vertical separation minimum of 600 m (2 000 ft) is applied.

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IS:19.3.3.1 (7) USE OF REPETITIVE FLIGHT PLANS (RPLs)

1.1 RPLs shall not be used for flights other than IFR flights operated regularly on the same day(s) of consecutive weeks and on at least ten occasions or every day over a period of at least ten consecutive days. The elements of each flight plan shall have a high degree of stability.

Note.— For permissible incidental changes to RPL data affecting the operation for one particular day, and not intended to be a modification of the listed RPL, see 4.2.2 and 4.2.3.

1.2 RPLs shall cover the entire flight from the departure aerodrome to the destination aerodrome. RPL procedures shall be applied only when all ATS authorities concerned with the flights have agreed to accept RPLs.

1.3 The use by States of RPLs for international flight shall be subject to the provision that the affected adjacent States either already use RPLs or will use them at the same time. The procedures for use between States shall be the subject of bilateral, multilateral or regional air navigation agreement as appropriate.

2 PROCEDURES FOR SUBMISSION OF RPLS BY OPERATORS

2.1 Conditions governing submission, notification of changes, or cancellation of RPLs shall be the subject of appropriate arrangements between operators and the ATS authority concerned or of regional air navigation agreements.

2.2 An RPL shall comprise information regarding such of the following items as are considered relevant by the appropriate ATS authority:

- validity period of the flight plan
- days of operation
- aircraft identification
- aircraft type and wake turbulence category IS19 - 61
- MLS capability
- departure aerodrome
- off-block time
- cruising speed(s)
- cruising level(s)
- route to be followed
- destination aerodrome
- total estimated elapsed time
- indication of the location where the following information may be obtained immediately upon request:
  — alternate aerodromes
  — fuel endurance

— total number of persons on board
— emergency equipment
• other information.

3 SUBMISSION OF TOTAL LISTINGS

3.1 RPLs shall be submitted in the form of listings containing the required flight plan data using an RPL listing form specially designed for the purpose or by means of other media suitable for electronic data processing. The method of submission shall be determined by local or regional agreement.

Note.— A model RPL listing form is contained in IS:19.3.3.1.

3.2 Initial submission of complete RPL listings and any subsequent seasonal resubmission of complete listings shall be made in sufficient time to permit the data to be properly assimilated by the ATS organization. The minimum lead time required for the submission of such listings shall be established by the administrations concerned and published in their AIPs. This minimum lead time shall be at least two weeks.

3.3 Operators shall submit listings to the designated agency for distribution to the appropriate air traffic services units.

3.4 The information normally to be provided shall be that listed in 2.2 except that administrations may also require the provision of estimate information of FIR boundaries and the primary alternate aerodrome. If so required, such information shall be provided as indicated on an RPL listing form specially designed for the purpose.

3.5 Information regarding alternate aerodrome(s) and supplementary flight plan data (information normally provided under Item 19 of the ICAO flight plan form) shall be kept readily available by the operator at the departure aerodrome or another agreed location, so that, on request by ATS units, it can be supplied without delay. The name of the office from which the information can be obtained shall be recorded on the RPL listing form.

3.6 Acknowledgement of receipt of listings of flight plan data and/or amendment thereto shall not be required except by agreement between operators and the appropriate agency.

4 CHANGES TO RPL LISTINGS

4.1 CHANGES OF A PERMANENT NATURE

4.1.1 Changes of a permanent nature involving the inclusion of new flights and the deletion or modification of currently listed flights shall be submitted in the form of amendment listings. These listings shall reach the air traffic services agency concerned at least seven days prior to the change becoming effective.

4.1.2 Where RPL listings have been initially submitted by the use of media suitable for electronic data processing, it shall be permissible by mutual agreement between the operator and the appropriate authority for some changes to be submitted by means of RPL listing forms.

4.1.3 All RPL changes shall be submitted in accordance with the instructions for preparation of RPL listings.

4.2 CHANGES OF A TEMPORARY NATURE

4.2.1 Changes of a temporary, non-recurring nature relating to RPLs concerning aircraft type and wake turbulence category, speed and/or cruising level shall be notified for each individual flight as early as possible and not later than 30 minutes before departure to the ATS reporting office responsible for the departure aerodrome. A change of cruising level only may be notified by radiotelephony on initial contact with the ATS unit.

4.2.2 In case of an incidental change in the aircraft identification, the departure aerodrome, the route and/or the destination aerodrome, the RPL shall be cancelled for the day concerned and an individual flight plan shall be submitted.

4.2.3 Whenever it is expected by the operator that a specific flight, for which an RPL has been submitted, is likely to encounter a delay of 30 minutes or more in excess of the off-block time stated in that flight plan, the ATS unit responsible for the departure aerodrome shall be notified immediately.

Note.— Because of the stringent requirements of flow control, failure by operators to comply with this procedure may result in the automatic cancellation of the RPL for that specific flight at one or more of the ATS units concerned.

4.2.4 Whenever it is known to the operator that any flight for which an RPL has been submitted is cancelled, the ATS unit responsible for the departure aerodrome shall be notified.

4.3 OPERATOR/PILOT LIAISON

The operator shall ensure that the latest flight plan information, including permanent and incidental changes, pertaining to a particular flight and duly notified to the appropriate agency, is made available to the pilot-in-command.

4.4 RPL PROCEDURES FOR ATS UNITS

The procedures for handling RPLs described herein are applicable regardless of whether automatic data-processing equipment is utilized or flight plan data is handled manually.

4.5 IMPLEMENTATION OF RPL PROCEDURES

4.5.1 Procedures for use of RPLs may be established for flights operating within a single FIR or a single State.

4.5.2 Procedures may also be established for flights across international boundaries subject to the provision that affected States currently utilize or will concurrently use RPLs.

4.5.3 Application of RPL procedures for international flights requires the establishment of bilateral or multilateral agreements between the States concerned. Multilateral agreements involving a number of States may take the form of regional air navigation agreements.

4.5.4 Application of RPLs requires agreements with participating operators to establish submission and amendment procedures.

4.5.5 Agreements shall include provisions for the following procedures:

(a) initial submission;

(b) permanent changes;

(c) temporary and incidental changes;

(d) cancellations;

(e) additions; and

(f) completely revised listings when indicated by extensive changes.

4.6 COLLECTION, STORAGE AND PROCESSING OF RPL DATA

4.6.1 Any State using RPLs shall designate one or more agencies responsible for

administering such data. The area of responsibility for any such designated agency shall be at least one FIR. However, part or the entire area of responsibility of one or more States may be administered jointly by a designated agency. Each designated agency shall distribute relevant RPL data to the ATS units concerned within its area of responsibility so that such data reach these units
in sufficient time to become effective.

4.6.2 RPLs shall be stored by each ATS unit concerned in a manner that will ensure that they are systematically activated on the appropriate day of operation in the order of estimated times indicative of entry into the unit's area of responsibility. Activation shall be accomplished in sufficient time to present the data to the controller in appropriate form for analysis and control action.

4.7 SUSPENSION OF RPL PROCEDURES

An appropriate ATS authority obliged, due to exceptional circumstances, to temporarily suspend the use of RPLs in its area of responsibility, or a specified part thereof, shall publish notice of such suspension with as much advance notice as possible and in the most suitable form considering the circumstances.

4.8 ATS MESSAGES RELATED TO INDIVIDUAL FLIGHTS OPERATING ON AN RPL

ATS messages relating to individual flights operating on an RPL shall be originated and addressed to ATS units concerned in a manner identical to that used for flights operating on individual flight plans.

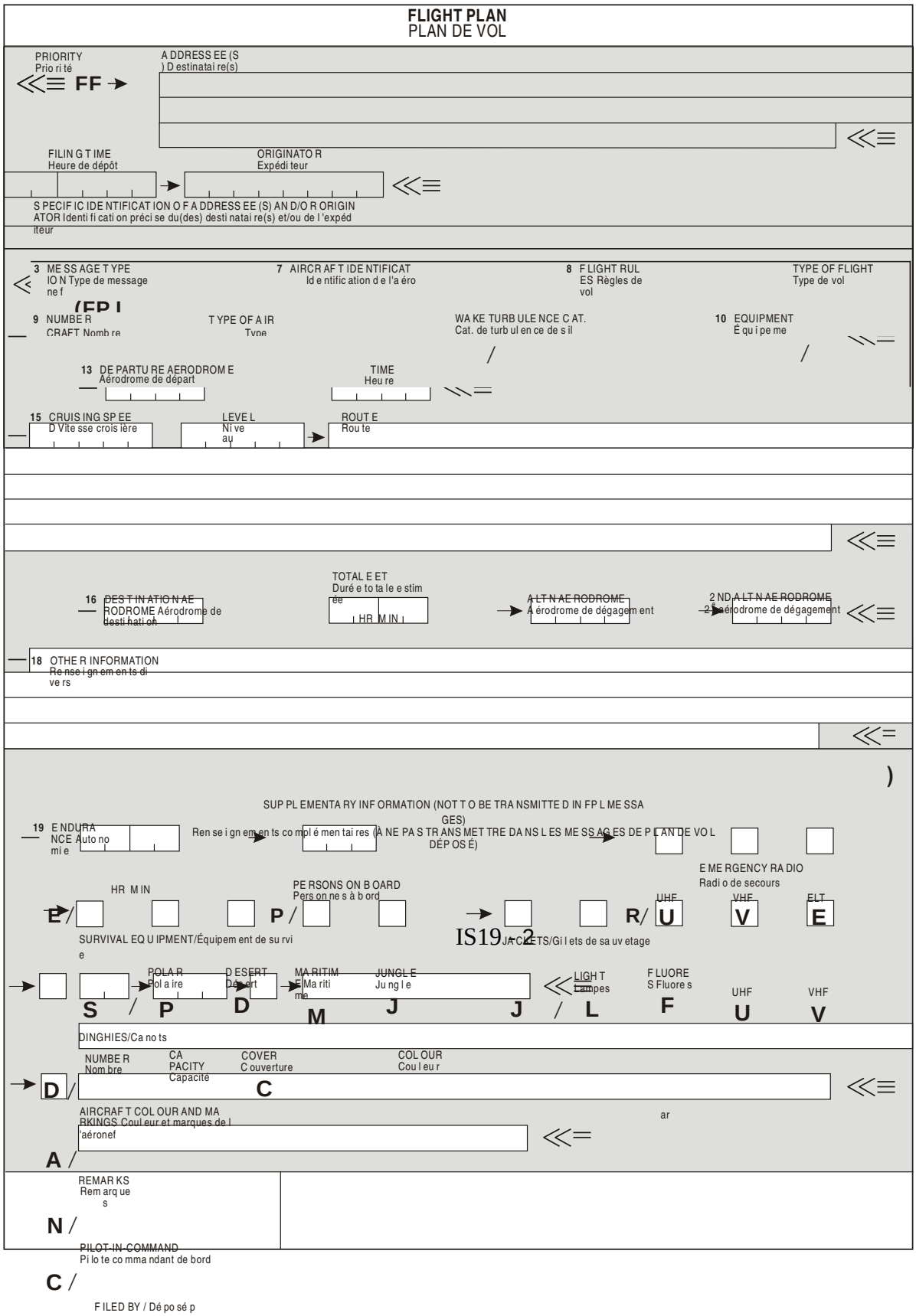
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IS: 19.3.3.1. FLIGHT PLAN

1. ICAO model flight plan form
2. Instructions for the completion of the flight plan form
3. Instructions for the transmission of a filed flight plan (FPL) message
4. Instructions for the transmission of a supplementary flight plan (SPL) message
5. Example of a completed flight plan form
6. ICAO model repetitive flight plan (RPL) listing form
7. Instructions for the completion of the repetitive flight plan (RPL) listing form
8. Example of a completed repetitive flight plan (RPL) listing form

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1. ICAO model flight plan form



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SPACE RESERVED FOR ADDITIONAL REQUIREMENTS

Espace réservé à des fins supplémentaires

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2. INSTRUCTIONS FOR THE COMPLETION OF THE FLIGHT PLAN FORM

2.1 GENERAL

Adhere closely to the prescribed formats and manner of specifying data.

Commence inserting data in the first space provided. Where excess space is available, leave unused spaces blank.

Insert all clock times in *4 figures UTC*.

Insert all estimated elapsed times in 4 figures (hours and minutes).

Shaded area preceding Item 3 — to be completed by ATS and COM services, unless the responsibility for originating flight plan messages has been delegated.

Note.— The term "aerodrome" where used in the flight plan is intended to cover also sites other than aerodromes which may be used by certain types of aircraft, e.g. helicopters or balloons.

2.2 INSTRUCTIONS FOR INSERTION OF ATS DATA

Complete Items 7 to 18 as indicated hereunder.

Complete also Item 19 as indicated hereunder, when so required by the appropriate ATS authority or when otherwise deemed necessary.

Note 1.— Item numbers on the form are not consecutive, as they correspond to Field

Type numbers in ATS messages. *Note 2.— Air traffic services data systems may*

impose communications or processing constraints on information in filed flight plans. Possible constraints may, for example, be limits with regard to item length, number of elements in the route item or total flight plan length. Significant constraints are documented in the relevant Aeronautical Information Publication.

ITEM 7: AIRCRAFT IDENTIFICATION (MAXIMUM 7 CHARACTERS)

INSERT one of the following aircraft identifications, not exceeding 7 alphanumeric characters and without hyphens or symbols:

a) the ICAO designator for the aircraft operating agency followed by the flight identification (e.g. KLM511, NGA213, JTR25) when in radiotelephony the call sign to be used by the aircraft will consist of the ICAO telephony designator for the operating agency followed by the flight identification (e.g. KLM511, NIGERIA 213, JESTER 25);

OR b) the nationality or common mark and registration mark of the aircraft (e.g. EIAKO, 4XBCD, N2567GA), when:

1) in radiotelephony the call sign to be used by the aircraft will consist of this identification alone (e.g. CGAJS), or preceded by the ICAO telephony designator for the aircraft operating agency (e.g. BLIZZARD CGAJS);

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2) the aircraft is not equipped with radio.

Note 1.— Standards for nationality, common and registration marks to be used are contained in Annex 7, section 3. Note 2.— Provisions for the use of radiotelephony call signs are contained in Annex 10, Volume II, Chapter 5.

ICAO designators and telephony designators for aircraft operating agencies are contained in Doc 8585 — Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services.

ITEM 8: FLIGHT RULES AND TYPE OF FLIGHT (ONE OR TWO CHARACTERS)

Flight rules

INSERT one of the following letters to denote the category of flight rules with which the pilot intends to comply:

I if it is intended that the entire flight will be operated under the IFR
V if it is intended that the entire flight will be operated under the VFR
Y if the flight initially will be operated under the IFR, followed by one or more subsequent changes of flight rules or
Z if the flight initially will be operated under the VFR, followed by one or more subsequent changes of flight rules

Specify in Item 15 the point or points at which a change of flight rules is planned.

Type of flight

INSERT one of the following letters to denote the type of flight when so required by the appropriate ATS authority:

S if scheduled air service
N if non-scheduled air transport operation
G if general aviation
M if military
X if other than any of the defined categories above

Specify status of a flight following the indicator STS in Item 18, or when necessary to denote other reasons for specific handling by ATS, indicate the reason following the indicator RMK in Item 18.

ITEM 9: NUMBER AND TYPE OF AIRCRAFT AND WAKE TURBULENCE CATEGORY

Number of aircraft (1 or 2 characters)

INSERT the number of aircraft, if more than one.

Type of aircraft (2 to 4 characters)

INSERT the appropriate designator as specified in ICAO Doc 8643, *Aircraft Type Designators*,

OR, if no such designator has been assigned, or in case of formation flights comprising more than one type,

INSERT ZZZZ, and *SPECIFY* in Item 18, the (numbers and) type(s) of aircraft preceded by TYP/ .

Wake turbulence category (1 character)

INSERT an oblique stroke followed by one of the following letters to indicate the wake turbulence category of the aircraft: H — HEAVY, to indicate an aircraft type with a maximum certificated take-off mass of 136 000 kg or more;

M — MEDIUM, to indicate an aircraft type with a maximum certificated take-off mass of less than 136 000 kg but more than 7 000 kg;

L — LIGHT, to indicate an aircraft type with a maximum certificated take-off mass of 7 000 kg or less.

ITEM 10: EQUIPMENT AND CAPABILITIES

Capabilities comprise the following elements:

a) presence of relevant serviceable equipment on board the aircraft;

b) equipment and capabilities commensurate with flight crew qualifications; and

c) where applicable, authorization from the appropriate authority.

Radiocommunication, navigation and approach aid equipment and capabilities

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INSERT one letter as follows:

N if no COM/NAV/approach aid equipment for the route to be flown is carried, or the equipment is unserviceable,

OR S if standard COM/NAV/approach aid equipment for the route to be flown is carried and serviceable *(see Note 1)*,

AND/OR

INSERT one or more of the following letters to indicate the serviceable COM/NAV/approach aid equipment and capabilities available:

A	GBAS landing system
B	LPV (APV with SBAS)
C	LORAN C
D	DME
E1	FMC WPR ACARS
E2	D-FIS ACARS
E3	PDC ACARS
F	ADF
G	GNSS. If any portion of the flight is planned to be conducted under IFR, it refers to GNSS receivers that comply with the requirements of Annex 10, Volume I *(See Note 2)*
H	HF RTF
I	Inertial Navigation
J1	CPDLC ATN VDL Mode 2 *(See Note 3)*
J2	CPDLC FANS 1/A HFDL
J3	CPDLC FANS 1/A VDL Mode A
J4	CPDLC FANS 1/A VDL Mode 2
J5	CPDLC FANS 1/A SATCOM (INMARSAT)
J6	CPDLC FANS 1/A SATCOM (MTSAT)
J7	CPDLC FANS 1/A SATCOM (Iridium)
K	MLS
L	ILS
M1	ATC SATVOICE (INMARSAT)
M2	ATC SATVOICE (MTSAT)
M3	ATC SATVOICE (Iridium)
O	VOR
P1	CPDLC RCP 400 *(See Note 7)*
P2	CPDLC RCP 240 *(See Note 7)*
P3	SATVOICE RCP 400 *(See Note 7)*
P4-P9	Reserved for RCP
R	PBN approved *(See Note 4)*
T	TACAN
U	UHF RTF
V	VHF RTF
W	RVSM approved
X	MNPS approved
Y	VHF with 8.33 kHz channel spacing capability
Z	Other equipment carried or other capabilities *(See Note 5)*

Any alphanumeric characters not indicated above are reserved.

Note 1.— If the letter S is used, standard equipment is considered to be VHF RTF, VOR and ILS, unless another combination is prescribed by the appropriate ATS authority.

Note 2.— If the letter G is used, the types of external GNSS augmentation, if any, are specified in Item 18 following the indicator NAV/ and separated by a space.

Note 3.— See RTCA/EUROCAE Interoperability Requirements Standard for ATN Baseline 1 (ATN B1 INTEROP Standard – DO-280B/ED-110B) for data link services air traffic control clearance and information/air traffic control communications management/air traffic control microphone check.

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Note 4.— If the letter R is used, the performance-based navigation levels that can be met are specified in Item 18 following the indicator PBN/. Guidance material on the application of performance-based navigation to a specific route segment, route or area is contained in the Performance-based Navigation (PBN) Manual (Doc 9613).

Note 5.— If the letter Z is used, specify in Item 18 the other equipment carried or other capabilities, preceded by COM/ , NAV/ and/or DAT, as appropriate.

Note 6.— Information on navigation capability is provided to ATC for clearance and routing purposes.

Note 7.— Guidance material on the application of performance-based communication, which prescribes RCP to an air traffic service in a specific area, is contained in the Performance-based Communication and Surveillance (PBCS) Manual (Doc 9869).

Surveillance equipment and capabilities

INSERT N if no surveillance equipment for the route to be flown is carried, or the equipment is unserviceable,
OR

INSERT one or more of the following descriptors, to a maximum of 20 characters, to describe the serviceable surveillance equipment and/or capabilities on board:

SSR Modes A and C

A Transponder — Mode A (4 digits — 4 096 codes)
C Transponder — Mode A (4 digits — 4 096 codes) and Mode C

SSR Mode S

E Transponder — Mode S, including aircraft identification, pressure-altitude and extended squitter (ADS-B) capability
H Transponder — Mode S, including aircraft identification, pressure-altitude and enhanced surveillance capability
I Transponder — Mode S, including aircraft identification, but no pressure-altitude capability
L Transponder — Mode S, including aircraft identification, pressure-altitude, extended squitter (ADS-B) and enhanced surveillance capability
P Transponder — Mode S, including pressure-altitude, but no aircraft identification capability
S Transponder — Mode S, including both pressure altitude and aircraft identification capability
X Transponder — Mode S with neither aircraft identification nor pressure-altitude capability

Note.— Enhanced surveillance capability is the ability of the aircraft to down-link aircraft derived data via a Mode S transponder.

ADS-B

B1 ADS-B with dedicated 1 090 MHz ADS-B “out” capability
B2 ADS-B with dedicated 1 090 MHz ADS-B “out” and “in” capability
U1 ADS-B “out” capability using UAT
U2 ADS-B “out” and “in” capability using UAT
V1 ADS-B “out” capability using VDL Mode 4
V2 ADS-B “out” and “in” capability using VDL Mode 4

ADS-C

D1 ADS-C with FANS 1/A capabilities
G1 ADS-C with ATN capabilities

Alphanumeric characters not indicated above are reserved.

Example: ADE3RV/HB2U2V2G1

Note 1.— The RSP specification(s), if applicable, will be listed in Item 18 following the indicator SUR/. Guidance material on the application of performance-based surveillance, which prescribes RSP to an air traffic service in a specific area, is contained in the Performance-based Communication and Surveillance (PBCS) Manual *(Doc 9869).*

Note 2.— Additional surveillance equipment or capabilities will be listed in Item 18 following the indicator SUR/, as required by the appropriate ATS authority.

ITEM 13: DEPARTURE AERODROME AND TIME (8 CHARACTERS)

INSERT the ICAO four-letter location indicator of the departure aerodrome as specified in Doc 7910, *Location Indicators*,

OR, if no location indicator has been assigned,

INSERT ZZZZ and *SPECIFY*, in Item 18, the name and location of the aerodrome preceded by DEP/ ,

OR, the first point of the route or the marker radio beacon preceded by DEP/…, if the aircraft has not taken off from the aerodrome,

OR, if the flight plan is received from an aircraft in flight,

INSERT AFIL, and *SPECIFY*, in Item 18, the ICAO four-letter location indicator of the location of the ATS unit from which supplementary flight plan data can be obtained, preceded by DEP/ .

THEN, WITHOUT A SPACE,

INSERT for a flight plan submitted before departure, the estimated off-block time (EOBT),

OR, for a flight plan received from an aircraft in flight, the actual or estimated time over the first point of the route to which the flight plan applies.

ITEM 15: ROUTE

INSERT the *first cruising speed* as in (a) and the *first cruising level* as in (b), without a space between them.

THEN, following the arrow, *INSERT* the route description as in (c).

(a) Cruising speed (maximum 5 characters)

INSERT the *True airspeed* for the first or the whole cruising portion of the flight, in terms of:

Kilometres per hour, expressed as K followed by 4 figures (e.g. K0830), *or*

Knots, expressed as N followed by 4 figures (e.g. N0485), *or*

True Mach number, when so prescribed by the appropriate ATS authority, to the nearest hundredth of unit Mach, expressed as M followed by 3 figures (e.g. M082).

(b) Cruising level (maximum 5 characters)

INSERT the planned cruising level for the first or the whole portion of the route to be flown, in terms of:

Flight level, expressed as F followed by 3 figures (e.g. F085; F330), *or*

[*] Standard metric level in tens of metres, expressed as S followed by 4 figures (e.g. S1130), *or*

Altitude in hundreds of feet, expressed as A followed by 3 figures (e.g. A045; A100), *or*
Altitude in tens of metres, expressed as M followed by 4 figures (e.g. M0840), *or*

for uncontrolled VFR flights, the letters VFR.

(c) Route (including changes of speed, level and/or flight rules)

Flights along designated ATS routes

INSERT, if the departure aerodrome is located on or connected to the ATS route, the designator of the first ATS route,

OR, if the departure aerodrome is not on or connected to the ATS route, the letters DCT followed by the point of joining the first ATS route, followed by the designator of the ATS route.

THEN

INSERT each point at which either a change of speed and/or level is planned to commence, or a change of ATS route, and/or a change of flight rules is planned,

Note.— When a transition is planned between a lower and upper ATS route and the routes are oriented in the same direction, the point of transition need not be inserted.

FOLLOWED IN EACH CASE

by the designator of the next ATS route segment, even if the same as the previous one,

OR by DCT, if the flight to the next point will be outside a designated route, unless both points are defined by geographical coordinates.

Flights outside designated ATS routes

INSERT points normally not more than 30 minutes flying time or 370 km (200 NM) apart, including each point at which a change of speed or level, a change of track, or a change of flight rules is planned.

OR, when required by appropriate ATS authority(ies),

DEFINE the track of flights operating predominantly in an east-west direction between 70°N and 70°S by reference to significant points formed by the intersections of half or whole degrees of latitude with meridians spaced at

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* When so prescribed by the appropriate ATS authorities.

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intervals of 10 degrees of longitude. For flights operating in areas outside those latitudes the tracks shall be defined by significant points formed by the intersection of parallels of latitude with meridians normally spaced at 20 degrees of longitude. The distance between significant points shall, as far as possible, not exceed one hour's flight time. Additional significant points shall be established as deemed necessary.

For flights operating predominantly in a north-south direction, define tracks by reference to significant points formed by the intersection of whole degrees of longitude with specified parallels of latitude which are spaced at 5 degrees.

INSERT DCT between successive points unless both points are defined by geographical coordinates or by bearing and distance.

USE ONLY the conventions in (1) to (5) below and *SEPARATE* each sub-item by a space.

(1) ATS route (2 to 7 characters)

The coded designator assigned to the route or route segment including, where appropriate, the coded designator assigned to the standard departure or arrival route (e.g. BCN1, Bl, R14, UB10, KODAP2A).

Note.— Provisions for the application of route designators are contained in Annex 11, Appendix 1.

(2) Significant point (2 to 11 characters)

The coded designator (2 to 5 characters) assigned to the point (e.g. LN, MAY, HADDY),

or, if no coded designator has been assigned, one of the following ways:

— *Degrees only* (7 characters):

2 figures describing latitude in degrees, followed by "N" (North) or "S" (South), followed by 3 figures describing longitude in degrees, followed by "E" (East) or "W" (West). Make up the correct number of figures, where necessary, by insertion of zeros, e.g. 46N078W.

— *Degrees and minutes* (11 characters):

4 figures describing latitude in degrees and tens and units of minutes followed by "N" (North) or "S" (South), followed by 5 figures describing longitude in degrees and tens and units of minutes, followed by "E" (East) or "W" (West). Make up the correct number of figures where necessary, by insertion of zeros, e.g. 4620N07805W.

— *Bearing and distance from a reference point*:

The identification of the reference point, followed by the bearing from the point in the form of 3 figures giving degrees magnetic, followed by the distance from the point in the form of 3 figures expressing nautical miles. In areas of high latitude where it is determined by the appropriate authority that reference to degrees magnetic is impractical, degrees true may be used. Make up the correct number of figures, where necessary, by insertion of zeros — e.g. a point 180° magnetic at a distance of 40 nautical miles from VOR "DUB" ~~should~~shall be expressed as DUB180040.

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(3) Change of speed or level (maximum 21 characters)

The point at which a change of speed (5% TAS or 0.01 Mach or more) or a change of level is planned to commence, expressed exactly as in (2) above, followed by an *oblique stroke and both the cruising speed and the cruising level*, expressed exactly as in (a) and (b) above, without a space between them, *even when only one of these quantities will be changed*.

Examples: LN/N0284A045
MAY/N0305Fl80
HADDY/N0420F330
4602N07805W/N0500F350
46N078W/M082F330
DUB180040/N0350M0840

(4) Change of flight rules (maximum 3 characters)

The point at which the change of flight rules is planned, expressed exactly as in (2) or (3) above as appropriate, *followed by a space and one of the following*:

VFR if from IFR to VFR
IFR if from VFR to IFR

Examples: LN VFR
LN/N0284A050 IFR

(5) Cruise climb (maximum 28 characters)

The letter C followed by an *oblique stroke*; *THEN the point at which cruise climb is planned to start*, expressed exactly as in (2) above, *followed by an oblique stroke; THEN the speed to be maintained during cruise climb*, expressed exactly as in (a) above, followed by *the two levels defining the layer to be occupied during cruise climb*, each level expressed exactly as in (b) above, *or the level above which cruise climb is planned followed by the letters PLUS*, without a space between them.

Examples: C/48N050W/M082F290F350
C/48N050W/M082F290PLUS
C/52N050W/M220F580F620.

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ITEM 16: DESTINATION AERODROME AND TOTAL ESTIMATED ELAPSED TIME, DESTINATION ALTERNATE AERODROME(S)

Destination aerodrome and total estimated elapsed time (8 characters)

INSERT the ICAO four-letter location indicator of the destination aerodrome as specified in Doc 7910, *Location Indicators*,

OR, if no location indicator has been assigned,

INSERT ZZZZ and *SPECIFY* in Item 18 the name and location of the aerodrome, preceded by DEST/ .

THEN WITHOUT A SPACE

INSERT the total estimated elapsed time.

Note.— For a flight plan received from an aircraft in flight, the total estimated elapsed time is the estimated time from the first point of the route to which the flight plan applies to the termination point of the flight plan.

Destination alternate aerodrome(s)

INSERT the ICAO four-letter location indicator(s) of not more than two destination alternate aerodromes, as specified in Doc 7910, *Location Indicators*, separated by a space,

OR, if no location indicator has been assigned to the destination alternate aerodrome(s),

INSERT ZZZZ and SPECIFY in Item 18 the name and location of the destination alternate aerodrome(s), preceded by ALTN/ .

ITEM 18: OTHER INFORMATION

Note.— Use of indicators not included under this item may result in data being rejected, processed incorrectly or lost.

Hyphens or oblique strokes ~~should~~shall only be used as prescribed below.

INSERT 0 (zero) if no other information,

OR, any other necessary information in the sequence shown hereunder, in the form of the appropriate indicator selected from those defined hereunder followed by an oblique stroke and the information to be recorded:

STS/ Reason for special handling by ATS, e.g. a search and rescue mission, as follows:

ALTRV: for a flight operated in accordance with an altitude reservation;
ATFMX: for a flight approved for exemption from ATFM measures by the appropriate ATS authority;
FFR: fire-fighting;
FLTCK: flight check for calibration of navaids;
HAZMAT: for a flight carrying hazardous material;
HEAD: a flight with Head of State status;
HOSP: for a medical flight declared by medical authorities;
HUM: for a flight operating on a humanitarian mission;
MARSA: for a flight for which a military entity assumes responsibility for separation of military aircraft; MEDEVAC: for a life critical medical emergency evacuation;
NONRVSM: for a non-RVSM capable flight intending to operate in RVSM airspace;
SAR: for a flight engaged in a search and rescue mission; and
STATE: for a flight engaged in military, customs or police services.

Other reasons for special handling by ATS shall be denoted under the designator RMK/.

PBN/ Indication of RNAV and/or RNP capabilities. Include as many of the descriptors below, as apply to the flight, up to a maximum of 8 entries, i.e. a total of not more than 16 characters.

	RNAV SPECIFICATIONS
A1	RNAV 10 (RNP 10)
B1	RNAV 5 all permitted sensors
B2	RNAV 5 GNSS
B3	RNAV 5 DME/DME
B4	RNAV 5 VOR/DME
B5	RNAV 5 INS or IRS
B6	RNAV 5 LORANC
C1	RNAV 2 all permitted sensors
C2	RNAV 2 GNSS
C3	RNAV 2 DME/DME
C4	RNAV 2 DME/DME/IRU
D1	RNAV 1 all permitted sensors
D2	RNAV 1 GNSS
D3	RNAV 1 DME/DME
D4	RNAV 1 DME/DME/IRU
	RNP SPECIFICATIONS
L1	RNP 4
O1	Basic RNP 1 all permitted sensors
O2	Basic RNP 1 GNSS
O3	Basic RNP 1 DME/DME
O4	Basic RNP 1 DME/DME/IRU
S1	RNP APCH
S2	RNP APCH with BARO-VNAV
T1	RNP AR APCH with RF (special authorization required)
T2	RNP AR APCH without RF (special authorization required)

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Combinations of alphanumeric characters not indicated above are reserved.

NAV/ Significant data related to navigation equipment, other than specified in PBN/, as required by the appropriate ATS authority. Indicate GNSS augmentation under this indicator, with a space between two or more methods of augmentation, e.g. NAV/GBAS SBAS.

COM/ Indicate communication equipment and capabilities not specified in Item 10 a).

DAT/ Indicate data communication equipment and capabilities not specified in 10 a).

SUR/ Indicate surveillance equipment and capabilities not specified in Item 10 b). Indicate as many RSP specification(s) as apply to the flight, using designator(s) with no space. Multiple RSP specifications are separated by a space. Example: RSP180 RSP400.

DEP/ Name and location of departure aerodrome, if ZZZZ is inserted in Item 13, or the ATS unit from which supplementary flight plan data can be obtained, if AFIL is inserted in Item 13. For aerodromes not listed in the relevant Aeronautical Information Publication, indicate location as follows:
With 4 figures describing latitude in degrees and tens and units of minutes followed by "N" (North) or "S" (South), followed by 5 figures describing longitude in degrees and tens and units of minutes, followed by "E" (East) or "W" (West). Make up the correct number of figures, where necessary, by insertion of zeros, e.g. 4620N07805W (11 characters).

OR, Bearing and distance from the nearest significant point, as follows:

The identification of the significant point followed by the bearing from the point in the form of 3 figures giving degrees magnetic, followed by the distance from the point in the form of 3 figures expressing nautical miles. In areas of high latitude where it is determined by the appropriate authority that reference to degrees magnetic is impractical, degrees true may be used. Make up the correct number of figures, where necessary, by insertion of zeros, e.g. a point of 180° magnetic at a distance of 40 nautical miles from VOR "DUB" ~~should~~shall be expressed as DUB180040.

OR, The first point of the route (name or LAT/LONG) or the marker radio beacon, if the aircraft has not taken off from an aerodrome.

DEST/ Name and location of destination aerodrome, if ZZZZ is inserted in Item 16. For aerodromes not listed in the relevant Aeronautical Information Publication, indicate location in LAT/LONG or bearing and distance from the nearest significant point, as described under DEP/ above.

DOF/ The date of flight departure in a six-figure format (YYMMDD, where YY equals the year, MM equals the month and DD equals the day).

REG/ The nationality or common mark and registration mark of the aircraft, if different from the aircraft identification in Item 7.

EET/ Significant points or FIR boundary designators and accumulated estimated elapsed times from take-off to such points or FIR boundaries, when so prescribed on the basis of regional air navigation agreements, or by the appropriate ATS authority.

Examples: EET/CAP0745 XYZ0830
EET/EINN0204

SEL/ SELCAL Code, for aircraft so equipped.

TYP/ Type(s) of aircraft, preceded if necessary without a space by number(s) of aircraft and separated by one space, if ZZZZ is inserted in Item 9.

Example: TYP/2F15 5F5 3B2

CODE/ Aircraft address (expressed in the form of an alphanumerical code of six hexadecimal characters) when required by the appropriate ATS authority. Example: “F00001” is the lowest aircraft address contained in the specific block administered by ICAO.

DLE/ Enroute delay or holding, insert the significant point(s) on the route where a delay is planned to occur, followed by the length of delay using four-figure time in hours and minutes (hhmm).

Example: DLE/MDG0030

OPR/ ICAO designator or name of the aircraft operating agency, if different from the aircraft identification in item

7. ORGN/ The originator’s 8 letter AFTN address or other appropriate contact details, in cases where the originator of

the

flight plan may not be readily identified, as required by the appropriate ATS authority.

Note.— In some areas, flight plan reception centres may insert the ORGN/ identifier and originator’s AFTN address automatically.

PER/ Aircraft performance data, indicated by a single letter as specified in the *Procedures for Air Navigation Services — Aircraft Operations* (PANS-OPS, Doc 8168), *Volume I — Flight Procedures*, if so prescribed by the appropriate ATS authority.

ALTN/ Name of destination alternate aerodrome(s), if ZZZZ is inserted in Item 16. For aerodromes not listed in the relevant Aeronautical Information Publication, indicate location in LAT/LONG or bearing and distance from the nearest significant point, as described in DEP/ above.

RALT/ ICAO four letter indicator(s) for en-route alternate(s), as specified in Doc 7910, *Location Indicators*, or name(s) of en-route alternate aerodrome(s), if no indicator is allocated. For aerodromes not listed in the relevant Aeronautical Information Publication, indicate location in LAT/LONG or bearing and distance from the nearest significant point, as described in DEP/ above.

TALT/ ICAO four letter indicator(s) for take-off alternate, as specified in Doc 7910, *Location Indicators*, or name of take-off alternate aerodrome, if no indicator is allocated. For aerodromes not listed in the relevant Aeronautical Information Publication, indicate location in LAT/LONG or bearing and distance from the nearest significant point, as described in DEP/ above.

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RIF/ The route details to the revised destination aerodrome, followed by the ICAO four-letter location indicator of the aerodrome. The revised route is subject to reclearance in flight.

Examples: RIF/DTA HEC KLAX
RIF/ESP G94 CLA YPPH

RMK/ Any other plain-language remarks when required by the appropriate ATS authority or deemed necessary.

ITEM 19: SUPPLEMENTARY INFORMATION

Endurance

After E/ *INSERT* a 4-figure group giving the fuel endurance in hours and minutes.

Persons on board

After P/ *INSERT* the total number of persons (passengers and crew) on board, when required by the appropriate ATS authority. *INSERT* TBN (to be notified) if the total number of persons is not known at the time of filing.

Emergency and survival equipment

R/ (RADIO) frequency *CROSS OUT* U if UHF on frequency 243.0 MHz is not available. *CROSS OUT* V if VHF on 121.5 MHz is not available. *CROSS OUT* E if emergency locator transmitter (ELT) is not available.

S/ (SURVIVAL EQUIPMENT) *CROSS OUT* all indicators if survival equipment is not carried. *CROSS OUT* P if polar survival equipment is not carried. *CROSS OUT* D if desert survival equipment is not carried. *CROSS OUT* M if maritime survival equipment is not carried. *CROSS OUT* J if jungle survival equipment is not carried.

J/ (JACKETS) *CROSS OUT* all indicators if life jackets are not carried. *CROSS OUT* L if life jackets are not equipped with lights. *CROSS OUT* F if life jackets are not equipped with fluorescein. *CROSS OUT* U or V or both as in R/ above to indicate radio capability of jackets, if any.

D/ (DINGHIES) (NUMBER) *CROSS OUT* indicators D and C if no dinghies are carried, or *INSERT* number of dinghies carried; and

(CAPACITY) *INSERT* total capacity, in persons, of all dinghies carried; and

(COVER) *CROSS OUT* indicator C if dinghies are not covered; and

(COLOUR) *INSERT* colour of dinghies if carried.

A/ (AIRCRAFT COLOUR AND MARKINGS) *INSERT* colour of aircraft and significant markings.

N/ (REMARKS) *CROSS OUT* indicator N if no remarks, or *INDICATE* any other survival equipment carried and any other remarks regarding survival equipment.

C/ (PILOT) *INSERT* name of pilot-in-command.

2.3 Filed by

INSERT the name of the unit, agency or person filing the flight plan.

2.4 Acceptance of the flight plan

Indicate acceptance of the flight plan in the manner prescribed by the appropriate ATS authority.

2.5 Instructions for insertion of COM data

Items to be completed

COMPLETE the top two shaded lines of the form, and *COMPLETE* the third shaded line only when necessary, in accordance with the provisions in PANS-ATM, Chapter 11, 11.2.1.2, unless ATS prescribes otherwise.

3. Instructions for the transmission of a filed flight plan (FPL) message

Correction of obvious errors

Unless otherwise prescribed, *CORRECT* obvious format errors and/or omissions (i.e. oblique strokes) to ensure adherence as specified in Section 2.

Items to be transmitted

TRANSMIT items as indicated hereunder, unless otherwise prescribed:

a) the items in the shaded lines, above Item 3;

b) commencing with <<≡ (FPL of Item 3:

all symbols and data in the unshaded boxes down to the)<<≡ at the end of Item 18,

additional alignment functions as necessary to prevent the inclusion of more than 69 characters in any line of Items 15 or 18. The alignment function is to be inserted only in lieu of a space so as not to break up a group of data,

letter shifts and figure shifts (not preprinted on the form) as necessary;

c) the AFTN Ending, as described below:

End-of-Text Signal

a) one LETTER SHIFT

b) two CARRIAGE RETURNS, one LINE FEED

Page-feed Sequence

Seven LINE FEEDS

End-of-Message Signal

Four of the letter N.

4. Instructions for the transmission of a supplementary flight plan (SPL) message

Items to be transmitted

Transmit items as indicated hereunder, unless otherwise prescribed:

a) AFTN Priority Indicator, Addressee Indicators <<≡, Filing Time, Originator Indicator <<≡ and, if necessary, specific identification of addressees and/or originator;

b) commencing with <<≡ (SPL:

all symbols and data in the unshaded areas of boxes 7, 13, 16 and 18, except that the ')' at the end of box 18 is *not* to be transmitted, and then the symbols in the unshaded area of box 19 down to and including the)<<≡ of box 19,

additional alignment functions as necessary to prevent the inclusion of more than 69 characters in any line of Items 18 and 19. The alignment function is to be inserted only in lieu of a space so as not to break up a group of data,

letter shifts and figure shifts (not preprinted on the form) as necessary;

c) the AFTN Ending, as described below:

End-of-Text Signal

a) one LETTER SHIFT

b) two CARRIAGE RETURNS, one LINE FEED

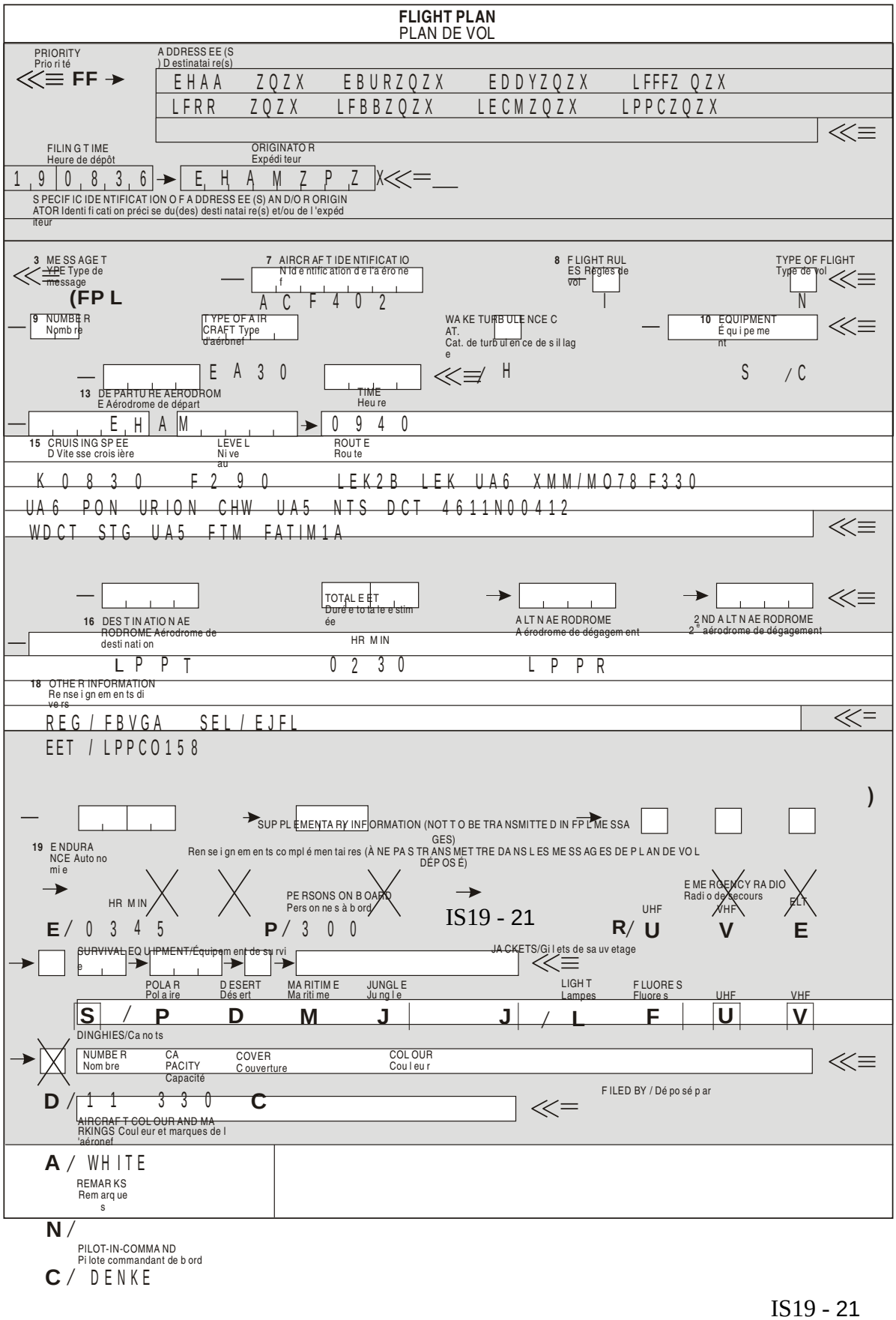
Page-feed Sequence

Seven LINE FEEDS

End-of-Message Signal

Four of the letter N.

5. Example of a completed flight plan form



YELLOW

)

AIR CHARTER INT.

SPACE RESERVED FOR ADDITIONAL REQUIREMENTS Espace réservé à des fins supplémentaires

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6. ICAO model repetitive flight plan (RPL) listing form

REPETITIVE FLIGHT PLAN LISTING

A OPERATOR	B ADDRESSEE(S)	C DEPARTURE AERODROME(S)	D DATE _ _ _ _ _ _ _ yymmdd	E SERIAL NO. _ _ - _ _	F PAGE OF _ _ / _ _
			G SUPPLEMENTARY DATA (Item 19) AT:		

H	I	J	K							L	M	N	O			P		Q
+ –	VALID FROM yymmdd	VALID UNTIL yymmdd	DAYS OF OPERATION 1	2	3	4	5	6	7	AIRCRAFT IDENTIFICATION (Item 7)	TYPE OF AIRCRAFT AND WAKE TURBULENCE CATEGORY	DEPARTURE AERODROME AND TIME	CRUISING SPEED	LEVEL	ROUTE (Item 15) ROUTE	DESTINATION AERODROME AND TOTAL ESTIMATED ELAPSED TIME (Item 16)		REMARKS

7. Instructions for the completion of the repetitive flight plan (RPL) listing form

7.1 General

List only flight plans that will operate in accordance with IFR. (Flight rules I in FPL format).

It is assumed that all aircraft are operating as scheduled flights (Type of flight S in FPL format), otherwise *notify* in Q (Remarks).

It is assumed that all aircraft operating on RPLs are equipped with 4 096-code transponders with Modes A and C. Otherwise, *notify* in Q (Remarks).

List flight plans in *alphabetical order of the location indicator of the departure aerodrome*.

List flight plans for each departure aerodrome in chronological order of estimated off-block times.

Adhere closely to the data conventions as indicated for the Flight Plan Form (Appendix 3, 1.6) unless otherwise specifically indicated in 7.4.

Insert all clock times in 4 figures UTC.

Insert all estimated elapsed times in 4 figures (hours and minutes).

Insert data on a separate line for each segment of operations with one or more stops, i.e. from any departure aerodrome to the next destination aerodrome even though call sign or flight number is the same for multiple segments.

Clearly identify additions and deletions in accordance with Item H at 7.4. Subsequent listings shall list the corrected and added data, and deleted flight plans shall be omitted.

Number pages by indicating number of page and total number of pages in submission.

Utilize more than one line for any RPL where the space provided for items O and Q on one line is not sufficient.

7.2 A flight shall be cancelled as follows:

a) indicate a minus sign in Item H followed by all other items of the cancelled flight;

b) insert a subsequent entry denoted by a plus sign in Item H and the date of the last flight in Item J, with all other items of the cancelled flight unchanged.

7.3 Modification to a flight shall be made as follows:

a) carry out the cancellation as indicated in 7.2; and

b) insert a third entry giving the new flight plan(s) with the appropriate items modified as necessary, including the new validity dates in Items I and J.

Note.— All entries related to the same flight will be inserted in succession in the order specified above.

7.4 Instructions for insertion of RPL data

Complete Items A to Q as indicated hereunder.

ITEM A: OPERATOR

INSERT name of operator.

ITEM B: ADDRESSEE(S)

INSERT name of agency(ies) designated by States to administer RPLs for FIRs or areas of responsibility concerned with the route of flight.

ITEM C: DEPARTURE AERODROME(S)

INSERT location indicator(s) of departure aerodrome(s).

ITEM D: DATE

INSERT on each page of submission the date (year, month, day) in a 6-figure group that the listing was submitted.

ITEM E: SERIAL NO.

INSERT serial number of submission (2 numerics) indicating last two digits of year, a dash, and the sequential no. of the submission for the year indicated (start with numeral 1 each new year).

ITEM F: PAGE OF

INSERT page number and total number of pages submitted.

ITEM G: SUPPLEMENTARY DATA AT

INSERT name and appropriate contact details of entity where information normally provided under Item 19 of the FPL is kept readily available and can be supplied without delay.

ITEM H: ENTRY TYPE

INSERT a minus sign (–) for each flight plan that is to be deleted from the listing.

INSERT a plus sign (+) for each initial listing and, in the case of subsequent submissions, for each flight plan not listed in the previous submission.

Note.— No information is required under this item for any flight plan which is unchanged from the previous submission.

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ITEM I: VALID FROM

INSERT first date (year, month, day) upon which the flight is scheduled to operate.

ITEM J: VALID UNTIL

INSERT last date (year, month, day) upon which the flight is scheduled to operate as listed, or

UFN if the duration is unknown.

ITEM K: DAYS OF OPERATION

INSERT number corresponding to the day of the week in the appropriate column;
Monday = 1 through Sunday = 7.

INSERT 0 for each day of non-operation in the appropriate column.

ITEM L: AIRCRAFT IDENTIFICATION

(Item 7 of the ICAO flight plan)

INSERT aircraft identification to be used for the flight.

ITEM M: TYPE OF AIRCRAFT AND WAKE TURBULENCE CATEGORY

(Item 9 of the ICAO flight plan)

INSERT appropriate ICAO designator as specified in ICAO Doc 8643 — *Aircraft Type Designators*.

INSERT H, M or L indicator as appropriate:

H — HEAVY to indicate an aircraft type with a maximum certificated take-off mass of 136 000 kg or more, M — MEDIUM to indicate an aircraft type with a maximum certificated take-off mass of less than
136 000 kg but more than 7 000 kg,

L — LIGHT to indicate an aircraft type with a maximum certificated take-off mass of 7 000 kg or less.

ITEM N: DEPARTURE AERODROME AND TIME

(Item 13 of the ICAO flight plan)

INSERT location indicator of the departure aerodrome.

INSERT the off-block time, i.e. the estimated time that the aircraft will commence movement associated with departure.

ITEM O: ROUTE

(Item 15 of the ICAO flight plan)

(a) Cruising speed

INSERT the true airspeed for the first or whole cruising portion of the flight in accordance with Item 15 (a) of the ICAO flight plan.

(b) Cruising level

INSERT the planned cruising level for the first or whole portion of the route in accordance with Item 15 (b) of the ICAO
flight plan.

(c) Route

INSERT the entire route in accordance with Item 15 (c) of the ICAO flight plan.

ITEM P: DESTINATION AERODROME AND TOTAL ESTIMATED ELAPSED TIME

(Item 16 of the ICAO flight plan)

INSERT location indicator of the destination aerodrome.

INSERT the total estimated elapsed time.

ITEM Q: REMARKS

INSERT items of information as required by the appropriate ATS authority, items normally notified in Item 18 of the ICAO flight plan and any other information pertinent to the flight of concern to ATS.

REPETITIVE FLIGHT PLAN LISTING

A OPERATOR	B ADDRESSEE(S)	C DEPARTURE AERODROME(S)	D	E	F
BRITISH AIRWAYS	UK STORED FLIGHT PLAN OFFICE EGTXZBZX Chef de la Subdivision informatique 9 rue de Champagne 91205 Athismons France	EGLL	DATE 800305 yymmdd	SERIAL NO. 80 - 12 -- --	PAGE OF 3 / 3 --/--
			G SUPPLEMENTARY DATA (Item 19) AT: BAW Briefing Office		

H	I	J	K							L	M		N		O			P		Q
+	VALID FROM	VALID UNTIL	DAYS OF OPERATION							AIRCRAFT IDENTIFI-CATION	TYPE OF AIRCRAFT AND WAKE TURBULENCE CATEGORY		DEPARTURE AERODROME AND TIME		CRUISING		ROUTE (Item 15)	DESTINATION AERODROME AND TOTAL ESTIMATED ELAPSED TIME		REMARKS
			1	2	3	4	5	6	7											
+	800401	811031	1	2	3	4	5	6	7	BAW004	HS21	M	EGLL	0700	N0440	F210	A1E UA1E DPE UA16 MAN	LFPG	0045	
+	800401	800731	1	2	3	4	5	6	7	BAW032	HS21	M	EGLL	1800	N0440	F210	A1E UA1E DPE UA16 MAN	LFPG	0045	
+	800801	811031	1	0	3	0	5	0	7	BAW032	HS21	M	EGLL	1800	N0440	F210	A1E UA1E DPE UA16 MAN	LFPG	0045	
+	800601	800930	0	0	0	0	0	0	7	BAW082	HS21	M	EGLL	1805	N0450	F270	A1S UA1S RBT UA3 MTL			
																	UA3W STP DCT GL	LFMN	0130	
–	800103	800930	0	0	0	0	0	6	7	BAW092	B737	M	EGLL	1810	N0430	F190	A1E UA1E DPE UA16 MAN	LFPG	0400	CHARTERED ACFT
+	800103	800315	0	0	0	0	0	6	7	BAW092	B737	M	EGLL	1810	N0430	F190	A1E UA1E DPE UA16 MAN	LFPG	0400	CHARTERED ACFT

8. Example of a completed repetitive flight plan (RPL) listing form

IS: 19.3.1.9. REMOTELY PILOTED AIRCRAFT SYSTEMS

(See Section 19. 3.1.9 of this Part)

Note.— The circular Unmanned Aircraft Systems (UAS) (*Cir 328) contains explanatory information related to remotely piloted aircraft systems.*

1. General operating rules

1.1 A remotely piloted aircraft system (RPAS) engaged in international air navigation shall not be operated without appropriate authorization 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 authorization issued by each State in which the flight is to operate. This authorization may be in the form of agreements between the States involved.

1.3 An RPA shall not be operated over the high seas without approval by the Authority and prior coordination with the ATS Provider.

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

1.5 An RPAS shall be operated in accordance with conditions specified by the State of Registry, the State of the Operator, if different, and the State(s) in which the flight is to operate.

1.6 Flight plans shall be submitted in accordance with 19.3.3 or as otherwise mandated by the State(s) in which the flight is to operate.

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

2. Certificates and licensing

2.1 An RPAS shall be approved, taking into account the interdependencies of the components, in accordance with Ghana Civil Aviation (RPAS) Directives 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 Ghana Civil Aviation (RPAS) Directives and in a manner that is consistent with the provisions of Part 5 of the Ghana Civil Aviation (Flight Standards) Directives; and

b) the associated RPAS components specified in the type design shall be certificated and maintained in accordance with Ghana Civil Aviation (RPAS) Directives and in a manner that is consistent with the provisions of related Directives.

Note 1.— Assembly Resolution A37-15 Appendix G resolves that 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 the Contracting State in which the aircraft is registered shall be recognized by other Contracting States for the purposes of flight over their territories, 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 Annexes, including Annexes 1, 6 and 8,until such time as the related RPAS SARPs are developed.

Note 3.— Notwithstanding Assembly Resolution A37-15, Article 8 of the Chicago Convention assures each Contracting State of the absolute sovereignty over the authorization for RPA operations over its territory.

2.2 In order to operate an RPAS certificated in accordance with the Ghana Civil Aviation (Flight Standards) Directives, an operator shall have an RPAS operator certificate issued in accordance with Ghana Civil Aviation (RPAS) Directives a.

2.3 Remote pilots shall be licensed, or have their licences rendered valid, in accordance with Ghana Civil Aviation (RPAS) Directives and in a manner that is consistent with the provisions of Part 2 of the Ghana Civil Aviation (Flight Standards) Directives.

3. Request for authorization

3.1 The request for authorization referred to in 1.2 above shall be made to the appropriate authorities of the State(s) in which the RPA will operate not less than seven days before the date of the intended flight unless otherwise specified by the State.

3.2 The request for authorization 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 or frequency of flight;

j) take-off and landing requirements;

k) RPA performance characteristics, including:

1) operating speeds;

2) typical and maximum climb rates;

3) typical and maximum descent rates;

4) typical and maximum turn rates;

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

6) maximum aircraft endurance;

l) communications, navigation and surveillance capabilities:

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1) aeronautical safety communications frequencies and equipment, including:

i) ATC communications, including any alternate means of communication;

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

iii) communications between remote pilot and RPA observer, if applicable;

2) navigation equipment; and

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

m) detect and avoid capabilities;

n) emergency procedures, including:

1) communications failure with ATC;

2) C2 failure; and

3) 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 that is consistent with the provisions of Annex 16, Volume 1, if applicable;

q) confirmation of compliance with national security standards in a manner that is consistent with the provisions of Part 17 of Ghana Civil Aviation (Aviation Security) Directives, 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 authorization has been obtained from the appropriate State(s), air traffic services notification and coordination shall be completed in accordance with the requirements of the State(s).

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

3.5 Changes to the authorization shall be submitted for consideration to the appropriate State(s). 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.

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