

SIERRA LEONE CIVIL AVIATION REGULATIONS



PART 21-PARACHUTE OPERATIONS

DECEMBER 2022

PREAMBLE

WHEREAS, The Director-General shall have power to perform such acts, -including the conduct of investigations, to issue and amend orders, rules, regulations and procedures pursuant to and in accordance with the Civil Aviation Act, 2019.

WHEREAS, the Director- General shall have power to publish all reports, orders, decisions, rules, and regulations issued under Civil Aviation Act, 2019 in such form and manner as may be best adapted for public information and use;


NOW THEREBY, The Director General under its powers given by Article 17(1) and 17(2) (a) of the Civil Aviation Act, 2019 issue the following regulations which supersedes previous regulations on Facilitation.

1.SHORT TITLE

This regulation may be cited as Sierra Leone Civil Aviation Regulations Part 21 – Parachute Operations “SLCAR Part 21 – Parachute Operations”.

2.EFFECTIVE DATE

This Regulation shall come into force as of the 21st day of December 2022.



Dr Moses Tiffa Baió
Director General

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INTRODUCTION

1. GENERAL

(a) Except as provided in paragraphs 1.(b) and 1.(c), this Regulation prescribes rules governing parachute operations conducted in Sierra Leone.

(b) This Regulation does not apply to a parachute operation conducted

- i. In response to an in-flight emergency, or**
- ii. To meet an emergency on the surface when it is conducted at the direction or with the approval of an agency of Sierra Leone or political subdivision thereof.**

(c) Sections 1.2, 1.4, 2.1, 2.2, 2.3, 2.4 through 2.7, and 3.1.1(a) of this regulation do not apply to a parachute operation conducted by a member of an Armed Force —

- i. Over or within a restricted area when that area is under the control of an Armed Force.**
- ii. During military operations in uncontrolled airspace.**

1.1 DEFINITIONS

When the following terms are used in this Regulation they have the following meanings—

(1) Approved parachute means a parachute manufactured under a type certificate or a Technical Standard Order (C-23 series), or a personnel-carrying military parachute (other than a high altitude, high speed, or ejection type) identified by a Navy Air Facility, an Army Air Field, and Air Force-Navy drawing number, an Army Air Field order number, or any other military designation or specification number.

(2) Automatic Activation Device means a self-contained mechanical or electro-mechanical device that is attached to the interior of the reserve parachute container, which automatically initiates parachute deployment of the reserve parachute at a pre-set altitude, time, percentage of terminal velocity, or combination thereof.

(3) Direct Supervision means that a certificated rigger personally observes a non-certificated person packing a main parachute to the extent necessary to ensure that it is being done properly, and takes responsibility for that packing.

(4) Drop Zone means any pre-determined area upon which parachutists or objects land after making an intentional parachute jump or drop. The centerpoint target of a drop zone is expressed in nautical miles from the nearest VOR facility when 30 nautical miles or less; or from the nearest airport, town, or city depicted on the appropriate Coast and Geodetic Survey World Aeronautical Chart or Sectional Aeronautical Chart, when the nearest VOR facility is more than 30 nautical miles from the drop zone.

(5) Foreign parachutist means a parachutist who is neither a Sierra Leone citizen nor a resident alien and is participating in parachute operations within the Sierra Leone using parachute equipment not manufactured in the Sierra Leone.

(6) Freefall means the portion of a parachute jump or drop between aircraft exit and parachute deployment in which the parachute is activated manually by the parachutist at the parachutist's discretion or automatically, or, in the case of an object, is activated automatically.

(7) Main parachute means a parachute worn as the primary parachute used or intended to be used in conjunction with a reserve parachute.

(8) Object means any item other than a person that descends to the surface from an aircraft in flight when a parachute is used or is intended to be used during all or part of the descent.

(9) Parachute drop means the descent of an object to the surface from an aircraft in flight when a parachute is used or intended to be used during all or part of that descent.

(10) Parachute jump means a parachute operation that involves the descent of one or more persons to the surface from an aircraft in flight when an aircraft is used or intended to be used during all or part of that descent.

(11) Parachute operation means the performance of all activity for the purpose of, or in support of, a parachute jump or a parachute drop. This parachute operation can involve, but is not limited to, the following persons: parachutist, parachutist in command and passenger in tandem parachute operations, drop zone or owner or operator, jump master, certificated parachute rigger, or pilot.

(12) Parachutist means a person who intends to exit an aircraft while in flight using a single-harness, dual parachute system to descend to the surface.

(13) Parachutist in command means the person responsible for the operation and safety of a tandem parachute operation.

(14) Passenger parachutist means a person who boards an aircraft, acting as other than the parachutist in command of a tandem parachute operation, with the intent of exiting the aircraft while in-flight using the forward harness of a dual harness tandem parachute system to descend to the surface.

(15) Pilot chute means a small parachute used to initiate and/or accelerate deployment of a main or reserve parachute.

(16) Ram-air parachute means a parachute with a canopy consisting of an upper and lower surface that is inflated by ram air entering through specially designed openings in the front of the canopy to form a gliding airfoil.

(17) Reserve parachute means an approved parachute worn for emergency use to be activated only upon failure of the main parachute or in any other emergency where use of the main parachute is impractical or use of the main parachute would increase risk.

(18) Single-harness, dual parachute system: means the combination of a main parachute, approved reserve parachute, and approved single person harness and dual-parachute container. This parachute system may have an operational automatic activation device installed.

(19) Tandem parachute operation: means a parachute operation in which more than one person simultaneously uses the same tandem parachute system while descending to the surface from an aircraft in flight.

(20) Tandem parachute system: means the combination of a main parachute, approved reserve parachute, and approved harness and dual parachute container, and a separate approved forward harness for a passenger parachutist. This parachute system must have an operational automatic activation device installed.

(21) The Authority: means Sierra Leone Civil Aviation Authority.

1.2 General

1.2.1 No person shall conduct a parachute operation, and no pilot in command of an aircraft shall allow a parachute operation to be conducted from an aircraft, if that operation creates a hazard to air traffic or to persons or property on the surface.

1.3 Use of Alcohol and Drugs

1.3.1 No person shall conduct a parachute operation, and no pilot in command of an aircraft shall allow a person to conduct a parachute operation from that aircraft, if that person is or appears to be under the influence of

a) Alcohol, or

any drug that affects that person's faculties in any way contrary to safety.

1.4 Inspections

1.4.1 The Authority shall inspect any parachute operation to which this Regulation applies (including inspections at the site where the parachute operation is being conducted) to determine compliance.

2. OPERATING RULES

2.1 RADIO EQUIPMENT AND USE REQUIREMENTS.

2.1.1 Except when otherwise authorized by air traffic control —

a) No person shall conduct a parachute operation, and no pilot in command of an aircraft shall allow a parachute operation to be conducted from that aircraft, in or into controlled airspace unless, during that flight —

- i. The aircraft is equipped with a functioning two-way radio communication system appropriate to the air traffic control facilities being used; and
 - ii. Radio communications have been established between the aircraft and the air traffic control facility having jurisdiction over the affected airspace of the first intended exit altitude at least 5 minutes before the parachute operation begins. The pilot in command must establish radio communications to receive information regarding air traffic activity in the vicinity of the parachute operation.
- b) The pilot in command of an aircraft used for any parachute operation in or into controlled airspace must, during each flight
- i. continuously monitor the appropriate frequency of the aircraft's radio communications system from the time radio communications are first established between the aircraft and air traffic control, until the pilot advises air traffic control that the parachute operation has ended for that flight.
 - ii. advise air traffic control when the last parachutist or object leaves the aircraft.
- c) Parachute operations must be aborted if, prior to receipt of a required air traffic control authorization, or during any parachute operation in or into controlled airspace, the required radio communications system is or becomes inoperative.

2.2 Information Required and Notice of Cancellation or Postponement of a Parachute Operation

2.2.1 Each person requesting an authorization under 2.5.2 and 2.7.1 (b) of this Regulation and each person submitting a notification under 2.7.1(c) of this Regulation must provide the following information (on an individual or group basis):

- a) The date and time the parachute operation will begin.
- b) The radius of the drop zone around the target expressed in nautical miles.
- c) The location of the center of the drop zone in relation to
 - (i) The nearest VOR facility in terms of the VOR radial on which it is located and its distance in nautical miles from the VOR facility when that facility is 30 nautical miles or less from the drop zone target; or
 - (ii) the nearest airport, town, or city depicted on the appropriate Coast and Geodetic Survey World Aeronautical Chart or Sectional Aeronautical Chart, when the nearest VOR facility is more than 30 nautical miles from the drop zone target.
- d) Each altitude above mean sea level at which the aircraft will be operated when parachutists or objects exit the aircraft.
- e) The duration of the intended parachute operation.
- f) The name, address, and telephone number of the person who requests the authorization or gives notice of the parachute operation.

- g) The registration number of the aircraft to be used.
- h) The name of the air traffic control facility with jurisdiction of the airspace at the first intended exit altitude to be used for the parachute operation.

2.2.2 Each holder of a certificate of authorization issued under 2.5.2 and 2.7.2 of this Regulation must present that certificate for inspection upon the request of the Authority or any State, or local official.

2.2.3 Each person requesting an authorization under 2.5.2 and 2.7.1(b) of this Regulation and each person submitting a notice under 2.7.1(c) of this Regulation must promptly notify the air traffic control facility having jurisdiction over the affected airspace if the proposed or scheduled parachute operation is cancelled or postponed.

2.3 Light Visibility and Clearance from Cloud Requirements

2.3.1 No person shall conduct a parachute operation, and no pilot in command of an aircraft shall allow a parachute operation to be conducted from that aircraft —

- a) Into or through a cloud, or
- b) When the flight visibility or the distance from any cloud is less than that prescribed in the following table:

ALTITUDE	FLIGHT VISIBILITY (STATUTE MILES)	DISTANCE FROM CLOUDS
1,200 feet or less above the surface regardless of the MSL altitude.	3	500 feet below, 1,000 feet above, 2,000 feet horizontal.
More than 1,200 feet above the surface but less than 10,000 feet MSL	3	500 feet below, 1,000 feet above, 2,000 feet horizontal.
More than 1,200 feet above the surface and at or above 10,000 feet MSL	5	1,000 feet below, 1,000 feet above, 1 mile horizontal.

2.4 Parachute Operations between Sunset and Sunrise

2.4.1 No person shall conduct a parachute operation, and no pilot in command of an aircraft shall allow a person to conduct a parachute operation from an aircraft between sunset and sunrise, unless the person or object descending from the aircraft displays a light that is visible for at least 3 statute miles.

2.4.2 The light required by paragraph (2.4.1) of this section must be displayed from the time that the person or object is under a properly functioning open parachute until that person or object reaches the surface.

2.5 Parachute Operations Over or Into a Congested Area or an Open-Air Assembly of Persons

2.5.1 No person shall conduct a parachute operation, and no pilot in command of an aircraft shall allow a parachute operation to be conducted from that aircraft, over or into a congested area of a city, town, or settlement, or an open-air assembly of persons unless a certificate of authorization for that parachute operation has been issued under this section. However, a parachutist may drift over a congested area or an open-air assembly of persons with a fully deployed and properly functioning parachute if that parachutist is at a sufficient altitude to avoid creating a hazard to persons or property on the surface.

2.5.2 An application for a certificate of authorization issued under this section must —

- a) Be made in the form and manner prescribed by the Authority, and
- b) Contain the information required in 2.2.1 of this Regulation.

2.5.3 Each holder of, and each person named as a participant in a certificate of authorization issued under this section must comply with all requirements contained in the certificate of authorization.

2.5.4 Each holder of a certificate of authorization issued under this section must present that certificate for inspection upon the request of an official from the Authority, or any State, or local official.

2.6 Parachute Operations over or onto Airports

2.6.1 No person shall conduct a parachute operation, and no pilot in command of an aircraft shall allow a parachute operation to be conducted from that aircraft, over or onto any airport unless

a) For airports with an operating control tower:

(i) Prior approval has been obtained from the management of the airport to conduct parachute operations over or on that airport.

(ii) Approval has been obtained from the control tower to conduct parachute operations over or onto that airport.

(iii) Two-way radio communications are maintained between the pilot of the aircraft involved in the parachute operation and the control tower of the airport over or onto which the parachute operation is being conducted.

b) For airports without an operating control tower, prior approval has been obtained from the management of the airport to conduct parachute operations over or on that airport.

c) A parachutist may drift over that airport with a fully deployed and properly functioning parachute if the parachutist is at least 2,000 feet above that airport.

traffic pattern, and avoids creating a hazard to air traffic or to persons and property on the ground.

2.7 Parachute Operations in designated Airspace

2.7.1 No person shall conduct a parachute operation, and no pilot in command of an aircraft shall allow a parachute operation to be conducted from that aircraft —

- a) Over or within a restricted area or prohibited area unless the controlling agency of the area concerned has authorized that parachute operation;**
- b) Within or into a Class A, B, C, D airspace area without, or in violation of the requirements of, an air traffic control authorization issued under this section;**
- c) Except as provided in paragraph (2.7.3) and (2.7.4) of this section, within or into Class E or G airspace area unless the air traffic control facility having jurisdiction over the airspace at the first intended exit altitude is notified of the parachute operation no earlier than 24 hours before or no later than 1 hour before the parachute operation begins.**

2.7.2 Each request for a parachute operation authorization or notification required under this section must be submitted to the air traffic control facility having jurisdiction over the airspace at the first intended exit altitude and must include the information prescribed by 2.2.1 of this Regulation.

2.7.3 For the purposes of paragraph 2.7.1 (c) of this section, air traffic control facilities may accept a written notification from an organization that conducts parachute operations and lists the scheduled series of parachute operations to be conducted over a stated period of time not longer than 12 calendar months. The notification must contain the information prescribed by 2.2.1 of this Regulation , identify the responsible persons associated with that parachute operation, and be submitted at least 15 days, but not more than 30 days, before the parachute operation begins. The Authority shall revoke the acceptance of the notification for any failure of the organization conducting the parachute operations to comply with its requirements.

2.7.4 Paragraph 2.7.1 (c) of this section does not apply to a parachute operation conducted by a member of an Armed Force within a restricted area that extends upward from the surface when that area is under the control of an Armed Force.

3. PARACHUTE EQUIPMENT AND PACKING

3.1 Applicability

This paragraph prescribes rules governing parachute equipment used in civil parachute operations.

3.2 Use of Single-Harness, Dual-Parachute Systems

3.2.1 No person shall conduct a parachute operation using a single-harness, dual-parachute system, and no pilot in command of an aircraft shall allow any person to conduct a parachute operation from that aircraft using a singleharness, dual-parachute system,

unless that system has at least one main parachute, one approved reserve parachute, and one approved single person harness and container that are packed as follows:

- a) **The main parachute must have been packed within 180 days before the date of its use by a certificated parachute rigger, the person making the next jump with that parachute, or a non-certificated person under the direct supervision of a certificated parachute rigger.**
- b) **The reserve parachute must have been packed by a certificated parachute rigger** —
 - (i) **Within 180 days before the date of its use, if its canopy, shroud, and harness are composed exclusively of nylon, rayon, or similar synthetic fibre or material that is substantially resistant to damage from mold, mildew, and other fungi, and other rotting agents propagated in a moist environment; or**
 - (ii) **Within 60 days before the date of its use, if it is composed of any amount of silk, pongee, or other natural fibre, or material not specified in paragraph (b)(i) of this section.**
- c) **If installed, the automatic activation device must be maintained in accordance with manufacturer instructions for that automatic activation device.**

3.3 Use of Tandem Parachute Systems

3.3.1 No person shall conduct a parachute operation using a tandem parachute system, and no pilot in command of an aircraft shall allow any person to conduct a parachute operation from that aircraft using a tandem parachute system, unless —

- a) **One of the parachutists using the tandem parachute system is the parachutist in command, and meets the following requirements:**
 - (i) **Has a minimum of 3 years of experience in parachuting, and must provide documentation that the parachutist**
 - (ii) **Has completed a minimum of 500 freefall parachute jumps using a ram-air parachute, and**
 - (iii) **Holds a master parachute license issued by an organization recognized by the Authority, and**
 - (iv) **Has successfully completed a tandem instructor course given by the manufacturer of the tandem parachute system used in the parachute operation or a course acceptable to the Authority.**
 - (v) **Has been certified by the appropriate parachute manufacturer or tandem course provider as being properly trained on the use of the specific tandem parachute system to be used.**
- b) **The person acting as parachutist in command:**

(i) Has briefed the passenger parachutist before boarding the aircraft. The briefing must include the procedures to be used in case of an emergency with the aircraft or after exiting the aircraft, while preparing to exit and exiting the aircraft, freefall, operating the parachute after freefall, landing approach, and landing.

(ii) Uses the harness position prescribed by the manufacturer of the tandem parachute equipment.

3.3.2 No person shall make a parachute jump with a tandem parachute system unless —

- a) The main parachute has been packed by a certificated parachute rigger, the parachutist in command making the next jump with that parachute, or a person under the direct supervision of a certificated parachute rigger.
- b) The reserve parachute has been packed by a certificated parachute rigger in accordance with 3.2.1(b) of this Regulation.
- c) The tandem parachute system contains an operational automatic activation device for the reserve parachute, approved by the manufacturer of that tandem parachute system. The device must
 - (i) Have been maintained in accordance with manufacturer instructions, and
 - (ii) Be armed during each tandem parachute operation.
- d) The passenger parachutist is provided with a manual main parachute activation device and instructed on the use of that device, if required by the owner/operator.
- e) The main parachute is equipped with a single-point release system.
- f) The reserve parachute meets Technical Standard Order C23 specifications.

3.4 Use of Static Lines

3.4.1 Except as provided in paragraph (3.4.3) of this section, no person shall conduct a parachute operation using a static line attached to the aircraft and the main parachute unless an assist device, described and attached as follows, is used to aid the pilot chute in performing its function, or, if no pilot chute is used, to aid in the direct deployment of the main parachute canopy. The assist device must —

- a) Be long enough to allow the main parachute container to open before a load is placed on the device.
- b) Have a static load strength of
 - (i) At least 28 pounds but not more than 160 pounds if it is used to aid the pilot chute in performing its function; or
 - (ii) At least 56 pounds but not more than 320 pounds if it is used to aid in the direct deployment of the main parachute canopy; and
- c) Be attached as follows:

(i) At one end, to the static line above the static-line pins or, if static-line pins are not used, above the staticline ties to the parachute cone.

(ii) At the other end, to the pilot chute apex, bridle cord, or bridle loop, or, if no pilot chute is used, to the main parachute canopy.

3.4.2 No person shall attach an assist device required by paragraph (a) of this section to any main parachute unless that person is a certificated parachute rigger or that person makes the next parachute jump with that parachute.

3.4.3 An assist device is not required for parachute operations using direct-deployed, ram-air parachutes.

3.5 Foreign Parachutists and Equipment

3.5.1 No person shall conduct a parachute operation, and no pilot in command of an aircraft shall allow a parachute operation to be conducted from that aircraft with an unapproved foreign parachute system unless—

- a) The parachute system is worn by a foreign parachutist who is the owner of that system.**
- b) The parachute system is of a single-harness dual parachute type.**
- c) The parachute system meets the civil aviation authority requirements of the foreign parachutist's country.**
- d) All foreign non-approved parachutes deployed by a foreign parachutist during a parachute operation conducted under this section shall be packed as follows —**

(i) The main parachute must be packed by the foreign parachutist making the next parachute jump with that parachute, a certificated parachute rigger, or any other person acceptable to the Authority.

(ii) The reserve parachute must be packed in accordance with the foreign parachutist's civil aviation authority requirements, by a certificated parachute rigger, or any other person acceptable to the Authority.