

# **SIERRA LEONE CIVIL AVIATION REGULATIONS**



## **PART 12- SEARCH AND RESCUE**

**FEBRUARY 2024**

## 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, 2023.

WHEREAS, the Director- General shall have power to publish all reports, orders, decisions, rules, and regulations issued under Civil Aviation Act, 2023 in such form and manner as may be best adapted for public information and use;

NOW THEREBY, The Director General under the powers given by Article 17(1) and 17(2)(a) of the Civil Aviation Act, 2023 issue the following regulations which supersedes previous regulations on Search and Rescue

1. SHORT TITLE

This regulation may be cited as Sierra Leone Civil Aviation Regulation “SLCAR Part 12 - Search and Rescue”

2. EFFECTIVE DATE

This Regulation shall come into force as of the 5<sup>th</sup> day of February 2024.



Ms Musayeroh Barrie  
Director General



## TABLE OF CONTENTS

GENERAL .....	3
1. DEFINITIONS .....	3
2. ORGANIZATION.....	5
2.1 Aeronautical Search and Rescue Services .....	5
2.2 Search and Rescue Regions.....	5
2.3 Rescue Coordination Centres and Rescue Sub-centres.....	5
2.4 Aeronautical Search and Rescue Communications.....	5
2.5 Search and Rescue Units .....	6
2.6 Aeronautical search and rescue Equipment .....	6
3. COOPERATION .....	6
3.1 Cooperation between Aeronautical search and rescue Service Provider and other States	6
3.2 Cooperation with Other Services .....	7
3.3 Dissemination of Information .....	7
4. PREPARATORY MEASURES.....	7
4.1 Preparatory Information .....	7
4.2 Plans of Operation.....	8
4.3 Search and Rescue Units.....	8
4.4 Training and Exercises .....	8
5. OPERATING PROCEDURES.....	8
5.1 Information Concerning Emergencies .....	8
5.2 Procedures for Rescue Coordination Centres during Emergency Phases .....	9
5.3 Procedures for Authorities in the Field .....	10
5.4 Procedures for Rescue Coordination Centre — Termination and Suspension of Operations.....	10
5.5 Procedures at the Scene of an Accident .....	10
5.6 Procedures for a Pilot-in-Command Intercepting a Distress Transmission .....	11
5.7 Search and Rescue Signals.....	12
5.8 Maintenance of Records.....	12
5.9 Operations Manual .....	12
IMPLEMENTING STANDARDS .....	13
IS: 5.7.1 SEARCH AND RESCUE SIGNALS.....	13

## GENERAL

In transposing ICAO Annex 12 to develop these regulations, Amendments 1-18 have been considered.

### 1. DEFINITIONS

When the following terms are used in this Regulation for aeronautical search and rescue, they have the following meanings:

**Aeronautical Search and Rescue Service Provider.** The agency/organisation providing or arranging for the provision of aeronautical search and rescue service for air navigation on behalf of the State

**Alerting post.** Any facility intended to serve as an intermediary between a person reporting an emergency and a rescue coordination centre or rescue sub-centre.

**Alert phase.** A situation wherein apprehension exists as to the safety of an aircraft and its occupants.

**Distress phase.** A situation wherein there is a reasonable certainty that an aircraft and its occupants are threatened by grave and imminent danger and require immediate assistance.

**Ditching.** The forced landing of an aircraft on water.

**Emergency phase.** A generic term meaning, as the case may be, uncertainty phase, alert phase or distress phase.

**Joint rescue coordination centre (JRCC).** A rescue coordination centre responsible for both aeronautical and maritime search and rescue operations.

**Operator.** A person, organization or enterprise engaged in or offering to engage in an aircraft operation.

**Pilot-in-command.** 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.

**Rescue.** An operation to retrieve persons in distress, provide for their initial medical or other needs, and deliver them to a place of safety.

**Rescue coordination centre (RCC).** A unit responsible for promoting efficient organization of search and rescue services and for coordinating the conduct of search and rescue operations within a search and rescue region.

**Rescue sub-centre (RSC).** A unit subordinate to a rescue coordination centre, established to complement the latter according to particular provisions of the responsible authorities.

**Search.** An operation normally coordinated by a rescue coordination centre or rescue sub-centre using available personnel and facilities to locate persons in distress.

**Search and rescue aircraft.** An aircraft provided with specialized equipment suitable for the efficient conduct of search and rescue missions.

**Search and rescue facility.** Any mobile resource, including designated search and rescue units, used to conduct search and rescue operations.

**Search and rescue service.** The performance of distress monitoring, communication, coordination and search and rescue functions, initial medical assistance or medical evacuation, through the use of public and private resources, including cooperating aircraft, vessels and other craft and installations.

**Search and rescue region (SRR).** An area of defined dimensions, associated with a rescue coordination centre, within which search and rescue services are provided.

**Search and rescue unit.** A mobile resource composed of trained personnel and provided with equipment suitable for the expeditious conduct of search and rescue operations.

**State of Registry.** The State on whose register the aircraft is entered.

**Uncertainty phase.** A situation wherein uncertainty exists as to the safety of an aircraft and its occupants.

## **2. ORGANIZATION**

### **2.1 Aeronautical Search and Rescue Services**

- 2.1.1 The aeronautical search and rescue service provider shall, arrange for prompt provision of aeronautical search and rescue services within Sierra Leone to ensure that assistance is rendered to persons in distress and such services shall be provided on a 24-hour basis.
  - 2.1.1.1 Sierra Leone shall provide basic elements of search and rescue services to include: A legal framework, a responsible authority, organized available resources, communication facilities and a workforce skilled in coordination and operational functions.
  - 2.1.1.2 The aeronautical search and rescue service provider shall establish processes to improve service provision, including the aspects of planning, domestic and international cooperative arrangements and training.
- 2.1.2 The aeronautical search and rescue service provider shall provide assistance to aircraft in distress and to survivors of aircraft accidents regardless of the nationality or status of such persons or the circumstances in which such persons are found.
- 2.1.3 The aeronautical search and rescue service provider shall use search and rescue units and other available facilities to assist any aircraft or its occupants that are or appear to be in a state of emergency.
- 2.1.4 The aeronautical search and rescue service provider shall ensure close coordination with maritime rescue centres.
- 2.1.5 The aeronautical search and rescue service provider shall facilitate consistency and cooperation between their aeronautical and maritime search and rescue services.

### **2.2 Search and Rescue Regions**

- 2.2.1 The aeronautical search and rescue service provider shall delineate the search and rescue regions within Sierra Leone for the provision of aeronautical search and rescue services.
  - 2.2.1.1 Search and rescue regions shall, in so far as practicable, be coincident with corresponding flight information regions and, with respect to those areas over the high seas, maritime search and rescue regions.

### **2.3 Rescue Coordination Centres and Rescue Sub-centres**

- 2.3.1 The aeronautical search and rescue service provider shall establish a rescue coordination centre in its search and rescue region.
- 2.3.2 The rescue coordination centre and, as appropriate, rescue sub-centre, shall be staffed 24 hours a day by trained personnel proficient in the use of the language used for radiotelephony communications.
- 2.3.3 RCC personnel involved in the conduct of radiotelephony communications shall be proficient in the use of the English language.

### **2.4 Aeronautical Search and Rescue Communications**

- 2.4.1 The aeronautical search and rescue service provider shall ensure that its rescue coordination centre have means of rapid and reliable two-way communication with:
  - a) Associated air traffic services units;
  - b) Associated rescue sub-centres;
  - c) Appropriate direction-finding and position-fixing stations;
  - d) Where appropriate, coastal radio stations capable of alerting and communicating with surface vessels in the region;
  - e) The headquarters of search and rescue units in the region;
  - f) All maritime rescue coordination centres in the region and aeronautical, maritime or joint rescue coordination centres in adjacent regions;
  - g) A designated meteorological office or meteorological watch office;

- h) Search and rescue units;
  - i) Alerting posts; and
  - j) The Cospas-Sarsat Mission Control Centre servicing the search and rescue region.
- 2.4.2 The aeronautical search and rescue service provider shall ensure that its rescue sub-centre(s) shall have means of rapid and reliable two-way communication with:
- a) Adjacent rescue sub-centres;
  - b) A meteorological office or meteorological watch office;
  - c) Search and rescue units; and
  - d) Alerting posts.

## **2.5 Search and Rescue Units**

- 2.5.1 The aeronautical search and rescue service provider shall designate as search and rescue units elements of public or private services suitably located and equipped for search and rescue operations.
- 2.5.2 The aeronautical search and rescue service provider shall designate as parts of the search and rescue plan of operation, elements of public or private services that do not qualify as search and rescue units but are nevertheless able to participate in search and rescue operations.

## **2.6 Aeronautical search and rescue Equipment**

- 2.6.1 Search and rescue units shall be provided with equipment for locating promptly, and for providing adequate assistance at the scene of an accident.
- 2.6.2 The search and rescue unit shall have means of rapid and reliable two-way communication with other search and rescue facilities engaged in the same operation.
- 2.6.3 The search and rescue aircraft shall be equipped to be able to communicate on the aeronautical distress and on-scene frequencies and on such other frequencies as may be prescribed.
- 2.6.4 The search and rescue aircraft shall be equipped with a device for homing on distress frequencies.
- 2.6.5 The search and rescue aircraft, when used for search and rescue over maritime areas, shall be equipped to be able to communicate with vessels.
- 2.6.6 The search and rescue aircraft, when used for search and rescue over maritime areas shall carry a copy of the International Code of Signals to enable it to overcome language difficulties that may be experienced in communicating with ships.

## **3. COOPERATION**

### **3.1 Cooperation between Aeronautical search and rescue Service Provider and other States**

- 3.1.1 The aeronautical search and rescue service provider shall coordinate its search and rescue organizations with those of neighbouring States.
- 3.1.2 The aeronautical search and rescue service provider shall in coordination with relevant government authorities permit immediate entry of SAR units of other States into its territory for the purpose of searching for the site of aircraft accidents and rescuing survivors of such accidents.
- 3.1.3 Search and Rescue units of other states who wish to enter the territory of Sierra Leone for search and rescue purposes, shall transmit a request, giving full details of the projected mission and the need for it, to the aeronautical search and rescue service provider.
- 3.1.3.1 The aeronautical search and rescue service provider shall:
- a) immediately acknowledge the receipt of such a request, and
  - b) as soon as possible, indicate the conditions, if any, under which the projected mission may be undertaken.

- 3.1.4 The Rescue Coordination Centre shall provide, when requested, assistance to other rescue coordination centres, including assistance in the form of aircraft, vessels, persons or equipment.

### **3.2 Cooperation with Other Services**

- 3.2.1 The aeronautical search and rescue service provider shall arrange for all aircraft, vessels and local services and facilities which do not form part of its search and rescue organization to cooperate fully with the latter in search and rescue and to extend any possible assistance to the survivors of aircraft accidents.
- 3.2.2 The aeronautical search and rescue service provider shall ensure that its search and rescue services cooperate with the authority responsible for investigating accidents and with those responsible for the care of those who suffered from the accident.
- 3.2.3 The aeronautical search and rescue service provider shall designate a search and rescue point of contact for the receipt of Cospas-Sarsat distress data.

### **3.3 Dissemination of Information**

- 3.3.1 The aeronautical search and rescue service provider shall publish in Sierra Leone aeronautical information publication and disseminate all information necessary for the entry of search and rescue units of other States into the territory of Sierra Leone or, alternatively, include this information in search and rescue service arrangements.
- 3.3.2 The aeronautical search and rescue service provider shall, to the extent practicable, disseminate information to the general public and emergency response authorities regarding actions to be taken when there is reason to believe that an aircraft's emergency situation may become cause for public concern or require a general emergency response.

## **4. PREPARATORY MEASURES**

### **4.1 Preparatory Information**

- 4.1.1 The rescue coordination centre shall have readily available at all time, up-to-date information concerning the following in respect of its search and rescue region:
- a) search and rescue units, rescue sub-centres and alerting posts;
  - b) air traffic services units;
  - c) means of communication that may be used in search and rescue operations;
  - d) addresses and telephone numbers of all operators, or their designated representatives, engaged in operations in the region; and
  - e) any other public and private resources including medical and transportation facilities that are likely to be useful in search and rescue.
- 4.1.2 The rescue coordination centre shall have readily available all other information of interest to search and rescue, including information regarding:
- a) the locations, call signs, hours of watch, and frequencies of all radio stations likely to be employed in support of search and rescue operations;
  - b) the locations and hours of watch of services keeping radio watch, and the frequencies guarded;
  - c) locations where supplies of droppable emergency and survival equipment are stored; and
  - d) objects which it is known might be mistaken for un-located or unreported wreckage, particularly if viewed from the air.
- 4.1.3 The aeronautical search and rescue service provider shall have ready access to information regarding the position, course and speed of ships within such areas that may be able to provide assistance to aircraft in distress and information on how to contact them.



## **4.2 Plans of Operation**

- 4.2.1 The aeronautical search and rescue service provider shall prepare detailed plans of operation for the conduct of search and rescue operations within its search and rescue region.
- 4.2.2 The plans of operation shall specify arrangements for the servicing and refuelling, to the extent possible, of aircraft, vessels and vehicles employed in search and rescue operations, including those made available by other States.
- 4.2.3 The search and rescue plans of operation shall contain details regarding actions to be taken by those persons engaged in search and rescue, including:
- a) The manner in which search and rescue operations are to be conducted in the search and rescue region;
  - b) The use of available communication systems and facilities;
  - c) The actions to be taken jointly with other rescue coordination centres;
  - d) The methods of alerting en-route aircraft and ships at sea;
  - e) The duties and prerogatives of persons assigned to search and rescue;
  - f) The possible redeployment of equipment that may be necessitated by meteorological or other conditions;
  - g) The methods for obtaining essential information relevant to search and rescue operations, such as weather reports and forecasts, appropriate NOTAM, etc.;
  - h) The methods for obtaining, from other rescue coordination centres, such assistance, including aircraft, vessels, persons or equipment, as may be needed;
  - i) The methods for assisting distressed aircraft being compelled to ditch to rendezvous with surface craft;
  - j) The methods for assisting search and rescue or other aircraft to proceed to aircraft in distress; and
  - k) Cooperative actions to be taken in conjunction with air traffic services units and other authorities concerned to assist aircraft known or believed to be subject to unlawful interference.
- 4.2.4 Search and rescue plans of operation shall be integrated with airport emergency plans to provide for rescue services in the vicinity of aerodromes.

## **4.3 Search and Rescue Units**

- 4.3.1 The aeronautical search and rescue service provider shall ensure the search and rescue unit:
- a) be cognizant of all parts of the plans of operation prescribed in 4.2 that are necessary for the effective conduct of its duties; and
  - b) keep the rescue coordination centre informed of its preparedness.
- 4.3.2 The aeronautical search and rescue service provider shall:
- a) maintain in readiness the required number of search and rescue facilities; and
  - b) maintain adequate supplies of rations, medical stores, signalling devices and other survival and rescue equipment.

## **4.4 Training and Exercises**

The aeronautical search and rescue service provider shall provide for regular training of their search and rescue personnel and arrange appropriate search and rescue exercises to achieve and maintain maximum efficiency in search and rescue.

## **5. OPERATING PROCEDURES**

### **5.1 Information Concerning Emergencies**

- 5.1.1 Any authority or any element of the search and rescue organization having reason to believe that an aircraft is in an emergency shall give immediately all available information to the rescue coordination centre.

- 5.1.2 Rescue coordination centres shall, immediately upon receipt of information concerning aircraft in emergency, evaluate such information and assess the extent of the operation required.
- 5.1.3 When information concerning aircraft in emergency is received from other sources than air traffic services units, the rescue coordination centre shall determine to which emergency phase the situation corresponds and shall apply the procedures applicable to that phase.

## **5.2 Procedures for Rescue Coordination Centres during Emergency Phases**

### **5.2.1 Uncertainty phase**

Upon the occurrence of an uncertainty phase, the rescue coordination centre shall cooperate to the utmost with air traffic services units and other appropriate agencies and services in order that incoming reports may be speedily evaluated.

### **5.2.2 Alert phase**

Upon the occurrence of an alert phase the rescue coordination centre shall immediately alert search and rescue units and initiate any necessary action.

### **5.2.3 Distress phase**

Upon the occurrence of a distress phase, the rescue coordination centre shall:

- a) immediately initiate action by search and rescue units in accordance with the appropriate plan of operation;
- b) ascertain the position of the aircraft, estimate the degree of uncertainty of this position, and, on the basis of this information and the circumstances, determine the extent of the area to be searched;
- c) notify the operator, where possible, and keep the operator informed of developments;
- d) notify other rescue coordination centres, the help of which seems likely to be required, or which may be concerned in the operation;
- e) notify the associated air traffic services unit, when the information on the emergency has been received from another source;
- f) request at an early stage such aircraft, vessels, coastal stations and other services not specifically included in the appropriate plan of operation and able to assist to:
  - 1) Maintain a listening watch for transmissions from the aircraft in distress, survival radio equipment or an ELT;
  - 2) Assist the aircraft in distress as far as practicable; and
  - 3) inform the rescue coordination centre of any developments;
- g) from the information available, draw up a detailed plan of action for the conduct of the search and/or rescue operation required and communicate such plan for the guidance of the authorities immediately directing the conduct of such an operation;
- h) amend as necessary, in the light of evolving circumstances, the detailed plan of action;
- i) notify the appropriate accident investigation authorities; and
- j) notify the State of Registry of the aircraft.

The order in which these actions are described shall be followed unless circumstances dictate otherwise.

### **5.2.4 Initiation of search and rescue action in respect of an aircraft whose position is unknown.**

In the event that an emergency phase is declared in respect of an aircraft whose position is unknown and may be in one of two or more search and rescue regions, the following shall apply:

- a) When a rescue coordination centre is notified of the existence of an emergency phase and is unaware of other centres taking appropriate action, it shall assume responsibility for initiating suitable action in accordance with 5.2

and confer with neighbouring rescue coordination centres with the objective of designating one rescue coordination centre to assume responsibility forthwith.

b) Unless otherwise decided by common agreement of the rescue coordination centres concerned, the rescue coordination centre to coordinate search and rescue action shall be the centre responsible for:

- i. the region in which the aircraft last reported its position; or
- ii. the region to which the aircraft was proceeding when its last reported position was on the line separating two search and rescue regions; or
- iii. the region to which the aircraft was destined when it was not equipped with suitable two-way radio communication or not under obligation to maintain radio communication; or
- iv. the region in which the distress site is located as identified by the Cospas-Sarsat system.

c) After declaration of the distress phase, the rescue coordination centre with overall coordination responsibility shall inform all rescue coordination centres that may become involved in the operation of all the circumstances of the emergency and subsequent developments. Likewise, all rescue coordination centres becoming aware of any information pertaining to the emergency shall inform the rescue coordination centre that has overall responsibility.

#### 5.2.5 Passing of information to aircraft in respect of which an emergency phase has been declared

Whenever applicable, the rescue coordination centre responsible for search and rescue action shall forward to the air traffic services unit serving the flight information region in which the aircraft is operating, information of the search and rescue action initiated, in order that such information can be passed to the aircraft.

### 5.3 Procedures for Authorities in the Field

The authorities immediately directing the conduct of operations or any part thereof shall:

- a) give instructions to the units under their direction and inform the rescue coordination centre of such instructions; and
- b) keep the rescue coordination centre informed of developments.

### 5.4 Procedures for Rescue Coordination Centre — Termination and Suspension of Operations

5.4.1 Search and rescue operations shall continue, when practicable, until all survivors are delivered to a place of safety or until all reasonable hope of rescuing survivors has passed.

5.4.2 The rescue coordination centre shall be responsible for determining when to discontinue search and rescue operations.

5.4.3 When a search and rescue operation has been successful or when a rescue coordination centre considers, or is informed, that an emergency no longer exists, the emergency phase shall be cancelled, the search and rescue operation shall be terminated and any authority, facility or service that has been activated or notified shall be promptly informed.

5.4.4 If a search and rescue operation becomes impracticable and the rescue coordination centre concludes that there might still be survivors, the centre shall temporarily suspend on-scene activities pending further developments and shall promptly inform any authority, facility or service which has been activated or notified. Relevant information subsequently received shall be evaluated and search and rescue operations resumed when justified and practicable.

### 5.5 Procedures at the Scene of an Accident

5.5.1 When multiple facilities are engaged in search and rescue operations on-scene, the rescue coordination centre or rescue sub-centre shall designate one or more unit's on-

scene to coordinate all actions to help ensure the safety and effectiveness of air and surface operations, taking into account facility capabilities and operational requirements.

5.5.2 When a pilot-in-command observes that either another aircraft or a surface craft is in distress, the pilot shall, if possible and unless considered unreasonable or unnecessary:

- a) keep the craft in distress in sight until compelled to leave the scene or advised by the rescue coordination centre that it is no longer necessary;
- b) determine the position of the craft in distress;
- c) as appropriate, report to the rescue coordination centre or air traffic services unit as much of the following information as possible:
  - i. type of craft in distress, its identification and condition;
  - ii. its position, expressed in geographical or grid coordinates or in distance and true bearing from a distinctive landmark or from a radio navigation aid;
  - iii. time of observation expressed in hours and minutes Coordinated Universal Time (UTC);
  - iv. number of persons observed;
  - v. whether persons have been seen to abandon the craft in distress;
  - vi. on-scene weather conditions;
  - vii. apparent physical condition of survivors;
  - viii. apparent best ground access route to the distress site; and
- d) act as instructed by the rescue coordination centre or the air traffic services unit.

5.5.2.1 If the first aircraft to reach the scene of an accident is not a search and rescue aircraft, it shall take charge of on-scene activities of all other aircraft subsequently arriving until the first search and rescue aircraft reaches the scene of the accident. If, in the meantime, such aircraft is unable to establish communication with the appropriate rescue coordination centre or air traffic services unit, it shall, by mutual agreement, hand over to an aircraft capable of establishing and maintaining such communications until the arrival of the first search and rescue aircraft.

5.5.3 When it is necessary for an aircraft to convey information to survivors or surface rescue units, and two-way communication is not available, it shall, if practicable, drop communication equipment that would enable direct contact to be established, or convey the information by dropping a hard copy message.

5.5.4 When a ground signal has been displayed, the aircraft shall indicate whether the signal has been understood or not by the means described in 5.5.3 or, if this is not practicable, by making the appropriate visual signal.

5.5.5 When it is necessary for an aircraft to direct a surface craft to the place where an aircraft or surface craft is in distress, the aircraft shall do so by transmitting precise instructions by any means at its disposal. If no radio communication can be established, the aircraft shall make the appropriate visual signal.

## **5.6 Procedures for a Pilot-in-Command Intercepting a Distress Transmission**

Whenever a distress transmission is intercepted by a pilot-in-command of an aircraft, the pilot shall, if feasible:

- a) acknowledge the distress transmission;
- b) record the position of the craft in distress if given;
- c) take a bearing on the transmission;
- d) inform the appropriate rescue coordination centre or air traffic services unit of the distress transmission, giving all available information; and
- e) at the pilot's discretion, while awaiting instructions, proceed to the position given in the transmission.

## **5.7 Search and Rescue Signals**

- 5.7.1 The air-to-surface and surface-to-air visual signals in IS 5.7.1 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.
- 5.7.2 Upon observing any of the signals in IS 5.7.1, aircraft shall take such action as may be required by the interpretation of the signal given in IS 5.7.1.

## **5.8 Maintenance of Records**

- 5.8.1 The rescue coordination centre and the rescue sub centre shall keep records of the operational efficiency of their search and rescue organization.
- 5.8.2 The rescue coordination centre shall prepare appraisals of actual search and rescue operations. These appraisals shall comprise any pertinent remarks on the procedures used and, on the emergency and survival equipment, and any suggestions for improvement of those procedures and equipment. Those appraisals which are likely to be of interest to other States shall be submitted to ICAO for information and dissemination as appropriate.

## **5.9 Operations Manual**

- 5.9.1 The search and rescue service provider shall develop and maintain operations manual which shall serve to demonstrate how the service provider will comply with the requirements set out in this regulation.
- 5.9.2 The contents of the operations manual shall include but not be limited to the following:
  - a) the information required of the search and rescue service provider as mentioned in this regulation; and
  - b) a description of the RCC/RSC office that shows the role, responsibilities and job functions of the service provider, office personnel who are responsible for ensuring the compliance with the requirements in subparagraph.
- 5.9.3 The SAR provider shall:
  - a) keep the operations manual in a readily accessible form;
  - b) ensure that the SAR personnel have ready access to the operations manual; and
  - c) amend the operations manual whenever necessary to keep its content up to date.
- 5.9.4 The SAR service provider shall submit a copy of the most current operations manual to the Civil Aviation Authority for approval.

## IMPLEMENTING STANDARDS

### IS: 5.7.1 SEARCH AND RESCUE SIGNALS

#### 1. Signals with Surface Craft

1.1 The following manoeuvres performed in sequence by an aircraft mean that the aircraft wishes to direct a surface craft towards an aircraft or a surface craft in distress:

- a) circling the surface craft at least once;
- b) crossing the projected course of the surface craft close ahead at low altitude and:
  - i) rocking the wings; or
  - ii) opening and closing the throttle; or
  - iii) changing the propeller pitch.

Note. — Due to high noise level on board surface craft, the sound signals in 2) and 3) may be less effective than the visual signal in 1) and are regarded as alternative means of attracting attention.

c) heading in the direction in which the surface craft is to be directed. Repetition of such manoeuvres has the same meaning.

1.2 The following manoeuvres by an aircraft means that the assistance of the surface craft to which the signal is directed is no longer required:

- crossing the wake of the surface craft close astern at a low altitude and:
  - a) rocking the wings; or
  - b) opening and closing the throttle;
  - or c) changing the propeller pitch.

Note.— The following replies may be made by surface craft to the signal in

1.1:

— for acknowledging receipt of signals:

- 1) the hoisting of the “code pennant” (vertical red and white stripes) close up (meaning understood);
- 2) the flashing of a succession of “T’s” by signal lamp in the Morse code;
- 3) the changing of heading to follow the aircraft.

— for indicating inability to comply:

- 1) the hoisting of the international flag “N” (a blue and white checkered square);
- 2) the flashing of a succession of “N’s” in the Morse code.



Note. — See Note following 1.1 b), 3).

#### 2. Ground-Air Visual Signal Code

2.1 Ground-air visual signal code for use by survivors

No.	Message	Code symbol
1	Require assistance	∨
2	Require medical assistance	×
3	No or Negative	∩
4	Yes or Affirmative	Y
5	Proceeding in this direction	↑

## 2.2 Ground-air visual signal code for use by rescue units

No.	Message	Code symbol
1	Operation completed	LLL
2	We have found all personnel	<u>LL</u>
3	We have found only some personnel	++
4	We are not able to continue. Returning to base	XX
5	Have divided into two groups. Each proceeding in direction indicated	
6	Information received that aircraft is in this direction	
7	Nothing found. Will continue to search	NN

2.3 Symbols shall be at least 2.5 metres (8 feet) long and shall be made as conspicuous as possible.

Note 1. — Symbols may be formed by any means such as: strips of fabric, parachute material, pieces of wood, stones or such like material; marking the surface by tramping, or staining with oil.

Note 2. — Attention to the above signals may be attracted by other means such as radio, flares, smoke and reflected light.

### 3. Air-to-Ground Signals

3.1 The following signals by aircraft mean that the ground signals have been understood:

a) during the hours of daylight:

— by rocking the aircraft's wings;

b) during the hours of darkness:

— flashing on and off twice the aircraft's landing lights or, if not so equipped, by switching on and off twice its navigation lights.

3.2 Lack of the above signal indicates that the ground signal is not understood.