



---

---

# **Civil Aviation Requirements For Search and Rescue**

---

---

**CAR — 12**

**SEARCH AND RESCUE**

**First Edition – January, 2009**

**Civil Aviation Authority of Nepal**

## Amendments

Amendments and Corrigenda to these "CIVIL AVIATION REQUIREMENTS FOR SEARCH AND RESCUE" Nepal are issued by Director General of CAA, Nepal. The space below is provided to keep a record of such amendments.

## Records of Amendments and Corrigenda

Amendments			
No.	Date of Issue	Date Entered	Entered By
Amd.No.1		November,2016	ANSSSD
Amd.No.2		December, 2019	ANSSSD
Amd.No.3		June, 2020	ANSSSD
Amd.No.4		October, 2020	ANSSSD
Amd.No.5		March, 2022	ANSSSD

Corrigenda			
No.	Date of Issue	Date Entered	Entered By

---

**TABLE OF CONTENTS**

<b>Amendments .....</b>	<b>i</b>
<b>Foreword .....</b>	<b>iv</b>
<b>Chapter 1</b>	
<b>1.1 Definitions .....</b>	<b>1</b>
<b>Chapter 2 Organization</b>	
<b>2.1 Search and rescue services .....</b>	<b>3</b>
<b>2.2 Search and rescue regions .....</b>	<b>3</b>
<b>2.3 Rescue coordination centre and rescue subcentres .....</b>	<b>4</b>
<b>2.4 Search and rescue communications .....</b>	<b>4</b>
<b>2.5 Search and rescue units.....</b>	<b>5</b>
<b>2.6 Search and rescue equipment .....</b>	<b>5</b>
<b>CHAPTER 3. Cooperation</b>	
<b>3.1 Cooperation between States .....</b>	<b>6</b>
<b>3.2 Cooperation with other services.....</b>	<b>7</b>
<b>3.3 Dissemination of information.....</b>	<b>8</b>
<b>CHAPTER 4. Preparatory measures</b>	
<b>4.1 Preparatory information .....</b>	<b>9</b>
<b>4.2 Plans of operation.....</b>	<b>9</b>
<b>4.3 Search and rescue units.....</b>	<b>10</b>
<b>4.4 Training and exercises.....</b>	<b>11</b>
<b>4.5 Wreckage .....</b>	<b>11</b>

**CHAPTER 5. Operating Procedures**

<b>5.1</b>	<b>Information concerning emergencies.....</b>	<b>12</b>
<b>5.2</b>	<b>Procedures for rescue coordination centre during emergency phases .....</b>	<b>12</b>
<b>5.3</b>	<b>Plans of operation required by rescue coordination centre.....</b>	<b>14</b>
<b>5.4</b>	<b>Procedures for agencies in the field .....</b>	<b>15</b>
<b>5.5</b>	<b>Procedures for rescue coordination centre-termination and suspension of operations .....</b>	<b>15</b>
<b>5.6</b>	<b>Procedures at the scene of an accident.....</b>	<b>16</b>
<b>5.7</b>	<b>Procedures for a pilot-in-command intercepting a distress transmission.....</b>	<b>17</b>
<b>5.8</b>	<b>Search and rescue signals .....</b>	<b>17</b>
<b>5.9</b>	<b>Maintenance of record.....</b>	<b>17</b>

**APPENDIX****SEARCH AND RESCUE SIGNALS**

<b>1</b>	<b>Signals with the surface aircraft.....</b>	<b>19</b>
<b>2</b>	<b>Ground-air visual signal code.....</b>	<b>20</b>
<b>3</b>	<b>Air-to-ground signals.....</b>	<b>21</b>

## FOREWORD

Article 28 (Air navigation facilities and standard systems) of the Convention on International Civil Aviation requires CAA Nepal to provide, in its territory, airports, radio services, meteorological services and other air navigation services to facilitate international air navigation, in accordance with the standards and recommended practices established from time to time, pursuant to this Convention. Under Article 37 (Adoption of international Standards and Procedures) of the Convention, CAA Nepal undertakes to collaborate in securing the highest practicable degree of uniformity in regulations, standards, procedures, and organization in relation to aircraft, personnel, airways and auxiliary services in all matters in which such uniformity will facilitate and improve air navigation. To this end the International Civil Aviation Organization adopts and amends from time to time, as may be necessary, international standards and recommended practices and procedures dealing with air traffic service practices.

In above respect, ICAO Annex-12 provides the Standards pertaining to the search and rescue for international air navigation which are required to be adopted by the Civil Aviation Authority of Nepal.

This Civil Aviation Requirement for Search and Rescue First Edition 2009 "CAR-12" has been enacted by Civil Aviation Authority of Nepal, **pursuant to Clause -5 Sub-Clause "Pha" and Clause- 35 of Civil Aviation Authority of Nepal Act, 2053 (1996) and Rule- 82, Schedule-3 of Civil Aviation Regulation, 2058 (2002)**, in accordance with the Standard and Recommended Practices of Annex-12 " Search and Rescue " to the Convention of International Civil Aviation for safety, regularity and efficiency of Civil Aviation in Nepal and incorporates latest amendments to ICAO Annex-12 and concerning directives time to time issued by CAAN. Any difference the ICAO SARPS will be notified through filing differences in AIP Nepal.

All earlier national legislations still stand valid as a part of Civil Aviation requirements for practical purposes.



Rajan Pokhrel  
Director General  
Civil Aviation Authority of Nepal

## CHAPTER 1. DEFINITIONS

When the following terms are used in this CAR, they have the following meanings:

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

**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.

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

**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 subcentre (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 subcentre 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, 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.

## CHAPTER 2. ORGANIZATION

### 2.1 Search and rescue services

2.1.1 Civil Aviation Authority of Nepal (CAAN) is responsible for establishment and provision of search and rescue services within Nepalese territory in coordination with other agencies to ensure that assistance is rendered to persons in distress. Such services shall be provided on a 24-hour basis.

2.1.1.1 Search and rescue services shall 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 Search and rescue services shall establish processes to improve service provision, including the aspects of planning, domestic and international cooperative arrangements and training.

2.1.2 Assistance to aircraft in distress and to survivors of aircraft accidents shall be provided regardless of the nationality or status of such persons or the circumstances in which such persons are found.

2.1.3 Search and rescue services 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.

### 2.2 Search and rescue regions

2.2.1 Search and rescue regions shall be delineated to provide search and rescue services. Such regions shall not overlap and neighboring regions shall be contiguous.

Note 1.— Search and rescue regions are established to ensure the provision of adequate communication infrastructure, efficient distress alert routing and proper operational coordination to effectively support search and rescue services.

Note 2.— The delineation of search and rescue regions is determined on the basis of technical and operational considerations.



2.2.1.1 Search and rescue regions shall be coincident with Kathmandu Flight Information Region.

### **2.3 Rescue coordination centre and rescue subcentres**

2.3.1 A rescue coordination centre shall be established within Kathmandu Flight Information Region.

2.3.2 Rescue coordination Centre, as appropriate, rescue sub Centre shall be staffed 24 hours a day by trained personnel proficient in the use of English language used for radio-telephony communications.

2.3.3 The RCC personnel involved in the conduct of radio- telephony communications shall maintain the level 4 of ICAO operational English proficiency.

2.3.4 Where public telecommunications facilities does not permit persons observing an aircraft in emergency to notify the rescue coordination centre concerned directly and promptly, nearest police station shall be designated as alerting post and shall be notified accordingly.

### **2.4 Search and rescue communications**

2.4.1 Rescue coordination centre shall have means of rapid and reliable two-way communication with:

- a) associated air traffic services units;
- b) associated rescue sub centres, where provided;
- c) the headquarters of search and rescue units in the region;
- d) a designated meteorological office or meteorological watch office;
- e) search and rescue units;
- f) alerting posts; and
- g) the COSPAS-SARSAT Mission Control Centre servicing the search and rescue region.

2.4.2 Each rescue sub centre, where provided, 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 CAAN 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 Agencies that do not qualify as search and rescue units but are nevertheless able to participate in search and rescue operations shall be designated as parts of the search and rescue plan of operation.

## **2.6 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 Each search and rescue unit need to have means of rapid and reliable two-way communication with other search and rescue facilities engaged in the same operation.
- 2.6.3 Each 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 Each search and rescue aircraft shall be equipped with a device for homing on distress frequencies.

Note 1 : Emergency locator transmitter (ELT) carriage requirements are given in FOR part I , II and III

Note 2 : Specification for ELTs are given in Annex 10 volume III.

2.6.5 Intentionally Left Blank

2.6.6 Intentionally Left Blank

## CHAPTER 3. COOPERATION

### 3.1 Cooperation between States

- 3.1.1 CAAN shall coordinate its search and rescue organizations with those of neighboring States.
- 3.1.2 Whenever necessary, Rescue and Coordination Centre (RCC) shall coordinate their search and rescue operations with those of neighboring States RCC especially when these operations are proximate to adjacent search and rescue regions.
- 3.1.2.1 Intentionally left blank.
- 3.1.3 Subject to such conditions as may be prescribed, Director General of CAAN may permit entry into its territory of search and rescue units of other States for the purpose of searching for the site of aircraft accidents and rescuing survivors of such accidents.
- 3.1.4 For the purpose of search and rescue, the authorities of the other State who wish their search and rescue units to enter the territory of Nepal shall transmit a request, giving full details of the projected mission and the need for it, to Director General of CAAN, Babar Mahal, Kathmandu, Nepal.
- 3.1.4.1 Director General of CAAN shall:
- acknowledge the receipt of such a request, and
  - as soon as possible, indicate the conditions, if any, under which the projected mission may be undertaken.
- 3.1.5 CAAN shall enter into agreements with neighboring States to strengthen search and rescue cooperation and coordination, setting forth the conditions for entry of each other's search and rescue units into their respective territories. These agreements should also provide for expediting entry of such units with the least possible formalities.

3.1.6 CAAN shall authorize its rescue coordination centres to:

- a) request from other rescue coordination centres such assistance, including aircraft, persons or equipment, as may be needed;
- b) grant any necessary permission for the entry of such aircraft, persons or equipment into its territory; and
- c) make the necessary arrangements with the appropriate customs, immigration or other authorities with a view to expediting such entry.

3.1.7 CAAN shall authorize its rescue coordination centres to provide, when requested, assistance to other rescue coordination centres, including assistance in the form of aircraft, persons or equipment.

3.1.8 Intentionally left blank

3.1.9 Intentionally left blank

## **3.2 Cooperation with other services**

3.2.1 All aircraft and local services and facilities which do not form part of the search and rescue organization shall cooperate fully with the latter in search and rescue and to extend any possible assistance to the survivors of aircraft accidents.

3.2.2 CAAN shall ensure the closest practicable coordination between the relevant aeronautical authorities to provide for the most effective and efficient search and rescue services.

3.2.3 Search and rescue services shall cooperate with those responsible for investigating accidents and with those responsible for the care of those who suffered from the accident.

3.2.4 To facilitate, accident investigation, rescue units should, when practicable, be accompanied by persons qualified in the conduct of aircraft accident investigations.

3.2.5 CAAN 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 Information necessary for the entry of search and rescue units of other States shall be contained in Aeronautical Information Publication (AIP), or alternatively, in the search and rescue service arrangements, if any.

3.3.2 When such information could benefit the provision of search and rescue services, CAAN shall make available, through the rescue coordination centres or other agencies, information regarding their search and rescue plans of operation.

3.3.3 CAAN shall to the extent desirable and 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.

## CHAPTER 4. PREPARATORY MEASURES

### 4.1 Preparatory information

4.1.1 Rescue coordination center shall have readily available at all times up-to-date information concerning the following in respect of its search and rescue region:

- a) search and rescue units, rescue subcentres 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 Rescue coordination center need to 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;

### 4.2 Plans of operation

4.2.1 Rescue coordination centre shall prepare detailed plans of operation for the conduct of search and rescue operations within its search and rescue region

4.2.2 Search and rescue plans of operations should be developed jointly with representatives of the operators and other agencies that may assist in providing search and rescue services or benefit from them, taking into account that the number of survivors could be large.

4.2.3 The plans of operation shall specify arrangements for the servicing and refueling, to the extent possible, of aircraft and vehicles employed in search and rescue operations.

4.2.4 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 methods of alerting en-route aircraft;
- d) the duties and prerogatives of persons assigned to search and rescue;
- e) the possible redeployment of equipment that may be necessitated by meteorological or other conditions;

f) the methods for obtaining essential information relevant to search and rescue operations, such as weather reports and forecasts, appropriate NOTAM, etc.;

g) the methods for assisting search and rescue or other aircraft to proceed to aircraft in distress;

h) cooperative actions taken in conjunction with air traffic services units and other

authorities concerned to assist aircraft known or believed to be subject to unlawful interference.

4.2.5 Search and rescue plans of operation should 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 Each search and rescue unit shall:

- 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 center informed of its preparedness.

4.3.2 Each search and rescue unit 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**

To achieve and maintain maximum efficiency in search and rescue, regular training of the search and rescue personnel shall be provided. For this service provider shall develop and implement training plan, program for all technical staffs and proper record of such staffs shall be maintained. Appropriate search and rescue exercises shall also be arranged for such personnel.

#### **4.5 Wreckage**

Wreckage resulting from aircraft accidents within the territory of Nepal falling within the search and rescue region shall be removed, obliterated or charted following completion of the accident investigation, if its presence might constitute a hazard or confuse subsequent search and rescue operations.



## CHAPTER 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 concerned.
- 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 centre 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 the associated air traffic services unit, when the information on the emergency has been received from another source;
- e) request at an early stage such aircraft 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 Emergency Locator Transmitter (ELT);  
  
Note.— The frequencies for ELTs are 121.5 MHz and 406 MHz.
  - 2) assist the aircraft in distress as far as practicable; and
  - 3) inform the rescue coordination centre of any developments;
- f) 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;
- g) amend as necessary, in the light of evolving circumstances, the detailed plan of action;
- h) notify the appropriate accident investigation authorities; and
- i) 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:
  - the region in which the aircraft last reported its position; or
  - the region to which the aircraft was proceeding when its last reported position was on the line separating two search and rescue regions; or
  - 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
  - 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 information of the search and rescue action initiated, in order that such information can be passed to the aircraft.

- 5.3 When the conduct of operation over the entire search and rescue region is the responsibility of more than one contracting state, each involved state shall take action in

accordance with the relevant plans of operation when so required by the rescue coordination centre of the region.

#### **5.4 Procedures for agencies in the field**

The agencies 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.

#### **5.5 Procedures for rescue coordination centre — termination and suspension of operations**

- 5.5.1 Search and rescue operations shall continue until, when practicable, all survivors are delivered to a place of safety or until all reasonable hope of rescuing survivors has passed.
- 5.5.2 Rescue coordination centre shall normally be responsible for determining when to discontinue search and rescue operations.
- 5.5.3 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 agency, facility or service that has been activated or notified shall be promptly informed.
- 5.5.4 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 agency, 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.

## 5.6 Procedures at the scene of an accident

5.6.1 When multiple agencies/ facilities are engaged in search and rescue operations on- scene, the rescue coordination centre or rescue subcentre 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.

5.6.2 When a pilot-in-command observes that either another aircraft 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:
  - type of craft in distress, its identification and condition;
  - its position, expressed in geographical or grid co-ordinates or in distance and true bearing from a distinctive landmark or from a radio navigation aid;
  - time of observation expressed in hours and minutes Coordinated Universal Time (UTC);
  - number of persons observed;
  - whether persons have been seen to abandon the craft in distress;
  - on-scene weather conditions;
  - apparent physical condition of survivors;
  - 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.

5.6.2.1 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 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.

5.6.3 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.

5.6.4 When a ground signal has been displayed, the aircraft shall indicate whether the signal has been understood or not by the means described in 5.6.3 or, if this is not practicable, by making the appropriate visual signal.

5.6.5 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.

Note : Air to surface and surface to air visual signals published in Volume III of Doc 9731.

## **5.7 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.

## **5.8 Search and rescue signals**

5.8.1 The air-to-surface and surface-to-air visual signals in the Appendix 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.

5.8.2 Upon observing any of the signals in the Appendix, aircraft shall take such action as may be required by the interpretation of the signal given in that Appendix.

## **5.9 Maintenance of records**

5.9.1 Rescue coordination centre shall keep a record of the operational efficiency of the search and rescue organization in its region.

5.9.2 Rescue coordination centre should prepare appraisals of actual search and rescue operations in its region. These appraisals should 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, should be submitted to ICAO for information and dissemination, as appropriate

---

## APPENDIX

### SEARCH AND RESCUE SIGNALS

#### 1. Signals with surface craft

1.1 The following maneuvers 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:
  - 1) rocking the wings; or
  - 2) opening and closing the throttle; or
  - 3) 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 maneuvers has the same meaning.

1.2 The following maneuvers 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:
  - 1) rocking the wings; or
  - 2) opening and closing the throttle; or
  - 3) 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	N
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 meters (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.

\* \* \*  
END\* \* \*