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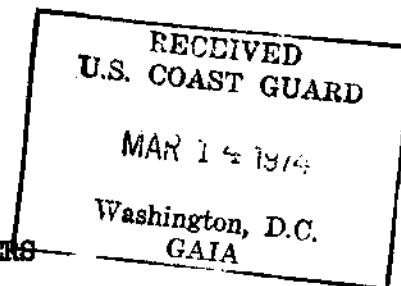


SN/Circ.66
19 February 1974

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AIR SEA RESCUE IN AUSTRALIAN WATERS

1. The Secretariat has received from the Government of Australia information on different helicopter rescue devices or procedures in response to MSC/Circ.117.
2. The procedures followed in Australia for sea rescue by helicopter are set out in the attached extract from Weekly Edition No. 31, dated 10 August 1973, of the Australian Government's "Notices to Mariners".* The extract also incorporates material on the overall search and rescue procedures followed in the Australian and Papua New Guinea areas. The section dealing with rescue by helicopter commences at paragraph 14 on page 6.
3. For practical and economy reasons it is only possible to provide one copy of this circular to each Member Government.
4. The Secretary-General would be grateful to Member Governments if they could make the contents of this circular known to everyone concerned, e.g. ships of their flag trading in Australian waters.

* The attachment is in English only.

10th August, 1973



EXTRACT FROM
WEEKLY EDITION 31

Australian Notices to Mariners are the authority for correcting Australian and British Admiralty Charts of the Australian Charting Area. These notices are originated in Australia and will be repeated in British Admiralty and New Zealand Editions of Notices to Mariners with the prefix Aus. Charts of the Area may thus be corrected from any of these Editions.

COMMONWEALTH OF AUSTRALIA
DEPARTMENT OF THE NAVY
NOTICES TO MARINERS

Notices No. 315-326, B.A. 1309, 1345, 1351, N.Z. 75-87.

Prepared by the Hydrographic Service by direction

J. H. S. OSBORN,
Hydrographer, R.A.N.

- SECTIONS:** I. Australian, British Admiralty and New Zealand Notices to Mariners.
II. Corrections to Admiralty List of Lights, Vol. K.
III. Navigational Warnings.
IV. Hydrographic Reports.
V. Corrections to Admiralty List of Radio Signals.

The substance of these notices should be inserted on the Charts affected.

Geographical positions refer to largest scale chart unless otherwise stated.

Bearings are referred to the true compass and are reckoned clockwise from 000° (North) to 359°, those relating to lights are from seaward. Range of lights is nominal range. Fog signals are sounded only during thick or foggy weather, unless otherwise stated. Depths are with reference to datum of largest scale charts. Heights are above mean high water springs, or mean higher high water, as appropriate. The capital letter (P) or (T) after the number of any Notice denotes Preliminary or Temporary respectively.

Sections II and V should be cut up and pasted in the appropriate Publication. Section I is not to be cut up, but the books are to be annotated in the margin or corrected in manuscript as convenient.

Mariners are particularly requested to notify the Hydrographer, R.A.N., immediately on the discovery of new dangers or suspected dangers to navigation, and of changes or defects in aids to navigation.

Copies of these notices can be obtained gratis from the Hydrographic Service, the Admiralty Agents for the sale of charts in Australia, and from the Regional Controllers, Department of Shipping and Transport in the various capital cities of Australia.

HYDROGRAPHIC SERVICE, R.A.N., GARDEN ISLAND, SYDNEY

G 56954-1

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315. SEARCH AND RESCUE—AUSTRALIAN AND PAPUA NEW GUINEA AREAS.

Former Notice—273 of 1972 cancelled.

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General Arrangements for Search and Rescue

1. When a ship or aircraft is in distress off the coasts of Australia and Papua New Guinea assistance may be given not only by ships in the vicinity but also by the following authorities:

(a) *Coast Radio Stations* of which ten keep continuous watch and seven keep watch at certain scheduled times on the distress frequencies of 500 kHz, 2182 kHz, 4136.3 kHz and also 6204 kHz. When a radio distress signal is received it is retransmitted on distress frequencies to ships at sea and various authorities ashore are also notified. Radio distress calls and distress traffic have absolute priority. During a distress phase, radio transmissions capable of interfering with the distress traffic are not permitted from any ship or Coast Radio station in case they interfere with the transmission or reception of signals connected with the rescue, the only exception being messages from or to any other ships overtaken by distress during the same period.

(b) *Department of Transport*. The Marine Operations Centre, Canberra A.C.T., for Australia, and the Director of Civil Defence for Papua New Guinea, co-ordinate sea and air search and rescue operations for merchant ships in distress within their respective areas. They are able to seek assistance from local authorities, light-keepers at all stations along the coast, the police for ships in distress in local waters, the Department of Civil Aviation and RAAF for aircraft and the RAN for surface craft and aircraft. However, although much can often be done by shore authorities, the co-ordination and direction of operations at the scene of the incident will at times be a matter primarily for the Master of the distressed vessel or the Master of another ship going to her rescue, or the Captain of a search and rescue aircraft. The degree to which reliance must be placed on those at the scene will usually depend on the location of the casualty; the more distant the casualty from the shore bases, the greater is the reliance on co-ordination between those on the spot.

(c) *Royal Australian Air Force*—operating through seven Controlling Operations Rooms at Townsville, Darwin, Perth, Melbourne, Brisbane, Adelaide and Sydney—is responsible for providing search and rescue facilities of military aircraft and so far as Service requirements and operational practicability permit, to assist ships and civil aircraft in distress by means of aircraft, any aircraft survival equipment available and marine craft.

(d) *Royal Australian Navy*—operating through the Flag Officer Commanding HMA Fleet, Naval Officers Commanding Areas and Naval Officers in Charge of States as shown on Chart Aus. 5015—is responsible for control of search and rescue operations for Naval ships and Naval aircraft and will also render assistance where practicable to other ships by means of surface craft and aircraft.

(e) *The Police* in each State co-ordinate search and rescue operations for small craft, such as fishing vessels and yachts, in sheltered waters, and in some States they also have a search and rescue organization for small vessels in coastal waters.

(f) *Department of Civil Aviation*. A Search and Rescue Centre is located at the Operational Control Centre of most of the principal airports in Australia, and is responsible for control of search and rescue operations by and for civil aircraft within its area.

2. The radio watch on the international distress frequencies which certain classes of ships are required to keep when at sea is one of the most important factors in the arrangements for the rescue of people in distress at sea. Since these arrangements must often fail unless it is possible for ships to alert each other or to be alerted from shore for distress action, every ship fitted with suitable radio equipment should make its contribution to safety by guarding one or other of these distress frequencies for as long as is practicable whether or not required to do so by regulations.

3. Coast radio stations also play an important part by guarding the international distress frequencies so that in the event of a distress signal being heard they can alert ships in the vicinity of the incident and alert the proper shore organization.

Obligation to render Assistance

4. By the International Convention for the Safety of Life at Sea, 1960, the master of a ship at sea, on receiving a signal from any source that a ship or aircraft or survival craft thereof is in distress, is bound to proceed with all speed to the assistance of the persons in distress unless she considers it unreasonable or unnecessary to do so. Section 265 of the Navigation Act of the Commonwealth of Australia requires this action to be taken by the master of a ship registered in Australia or engaged in the Australian coasting trade when at sea.

Merchant Ship Position Reports

Tasman and Coral Seas and Indian Ocean Air Routes

5. The Authorities responsible for aircraft safety in the above areas state that a prior knowledge of the positions and movements of ships in the vicinity of isolated air routes over the Tasman and Coral Seas and the Indian Ocean is of considerable value in flight planning and co-ordinating rescue intelligence.

6. With the exception of ships trading between coastal ports, and ships participating in the "AMVER" scheme, ships operating in the areas defined hereunder are requested to transmit a noon daily report giving G.M.T., position, course and speed, to the Australian Coast Stations indicated:

Area	Radio Station
Area enclosed by line joining Melbourne—New Zealand—Norfolk Island—Noumea—Thursday Island.	One of the following: Melbourne, Sydney, Brisbane, Rockhampton, Townsville, Thursday Island, or Darwin.
Area enclosed by parallel lines 125 miles on either side of a direct line between Perth and Cocos Island.	Perth.
Area enclosed by parallel lines 125 miles on either side of a direct line joining Perth, Mauritius and Johannesburg.	Perth.
Area enclosed by parallel lines 125 miles on either side of direct lines from Perth to West Head, Sunda Strait.	Perth.

7. A ship in any of the above areas which is out of MF range of the stations indicated may pass its report on HF to Sydney to Perth Radio.

8. There is no charge for this service.

Use of Aircraft in assisting Ships

9. RAAF aircraft (other than helicopters) used on search and rescue duties usually carry droppable survival equipment and marine markers. These aircraft may be able to assist a ship in distress:

- (1) quickly confirming her location and status so that ships in the vicinity may be advised of her precise position;
- (2) keeping the casualty under observation;
- (3) marking the incident with pyrotechnics if necessary;
- (4) dropping survival equipment if this is assessed as offering assistance;
- (5) guiding surface craft to the casualty or, if the ship has been abandoned, to survivors in lifeboats, on rafts or in the sea.

Helicopters may be able to pick up survivors (see paragraph 13) but their carrying capacity is limited.

10. RAAF SAR aircraft are equipped with MK2 Lindholme Air-Sea-Rescue Apparatus. That equipment consists of four cylindrical containers linked together with buoyant rope. Two of the containers carry inflatable 10 man dinghies while the other two contain survival equipment. When deployed on the water the overall length of the equipment between the first and fourth containers is approximately 400 yards. Pilots will drop the equipment slightly up wind in the case of survivors in the water or on wooden rafts and slightly downwind if survivors are in rubber dinghies.

11. When a number of aircraft is engaged on a search for a casualty at sea, the procedure generally followed is to search visually or by radar an area which has been calculated to include the most probable position of the incident, allowing for any movement due to current and wind drift during the period of the search. A typical technique is for the aircraft to carry out "creeping line ahead" searches across sun and down wind or swell for as long as the aircraft's endurance will permit. The spacing between the tracks flown by the aircraft depends on the visibility and the characteristics of the object being searched (e.g., dinghy or raft, etc.) and the type, if any, of electronic search aid used.

12. RAAF search and rescue aircraft may be fitted with UHF, VHF, and HF/W/T/RT communications equipment, MF radio compass, UHF homing equipment, and search radar. Aircraft on search and rescue operations maintain the following watch:

(i) HF, W/T or R/T communications with a Controlling Operations Room or an Aeradio or Coastal Radio Station, as briefed (Note 1).

(ii) VHF or UHF, R/T watch as briefed (Note 2).

NOTE 1. Most aircraft are capable of maintaining watches on two separate HF frequencies simultaneously, if required.

NOTE 2. During the course of normal day to day flying most RAAF aircraft monitor 243 MHz. In addition, 121.5 MHz is monitored by most civil aircraft and at least one of those frequencies would be monitored by aircraft during a search operation, if the survivors were known to possess VHF or UHF personal survival beacons or similar transmitters.

13. Australia does not maintain a coast guard organization. Military helicopters suitable for rescue work at sea are permanently based only at RAAF Darwin, Canberra, Williamstown, and Pearce and at RAN Air Station, Nowra, N.S.W. They also operate from HMA Ships along the Australian coast and on occasions civilian operators are available to assist.

Sea Rescue by Helicopters

14. The types of helicopters which can be employed in rescue or transfer operations by the military are the Iroquois, and Wessex. These helicopters vary in speed, range of operations and numbers of persons who can be carried but the operation with each is similar.

15. If available, helicopters can operate up to above 75 miles from the coast, but at the distance, because of limited fuel capacity, they would not be able to remain on station very long before returning to base. They are subject to certain operational limitations; they normally cannot effect a pickup at sea by night, and may be unable to recover survivors in heavy seas.

16. From the air, especially if there is a lot of shipping in the area, it is very difficult for a pilot to identify the particular ship he is looking for from the many in sight, unless that ship uses a distinctive distress signal which can be clearly seen. One such signal is the orange coloured smoke signal carried in the lifeboats. This is very distinct from the air. A well aimed Aldis lamp is also clearly visible from the air except in very bright sunlight in which case the lifeboat heliograph may be used. The display of these signals will save valuable time in locating the casualty, and may mean all the difference between success and failure.

17. It is essential that the ship's position should be given as accurately as possible if the original distress signal is made by radio. The bearing (magnetic or true) and distance from a fixed object, like a headland or lighthouse, should be given if possible. A description of the ship and colour of hull should be included if time allows.

18. If the ship is still manoeuvrable it should be manoeuvred to place the wind 30° on the port bow and the ship should remain underway at slow speed. In all cases an indication of wind direction is useful. Pennants and flags are acceptable for this purpose and possibly smoke from the galley funnel provided that there is not too much smoke. Every effort should be made to provide the best clear deck space which is least hazarded by obstructions such as masts, flagstaffs, rigging, etc., and all loose articles, equipment, garbage containers must be secured or cleared from the transfer area. At night the selected transfer area should be well lit and obstructions should have a light placed on them. If these conditions are met the helicopter can lower or lift from the clear area. On no account should the stop or winch wire, when lowered to the vessel, be secured to any part of the vessel or allowed to become entangled with any rigging or fixtures. If the ship cannot comply with these conditions the helicopter may be able to lift a man from a boat towed astern on a long painter. The helicopter winch wire carries a static charge of electricity and should not be touched without rubber gloves.

19. Helicopters are well practised in rescuing survivors from either a deck or the sea. Four methods are employed.

(a) RESCUE NET. The rescue net has a conically shaped "bird cage" appearance and is open on one side. When the net is trailing or in the water, its opening is stabilized by the use of a drogue. The survivor merely enters the opening, sits in the net and holds on.

(b) LITTER. Injured persons should be evacuated in the litter provided by the helicopter.

This is rigged with the proper bridle and means for attaching to the hoist cable. Unless the ship's own litter is of the same type and suitable for hoisting (including proper bridles) the injured person should be removed from the ship's stretcher or litter and placed in the one provided by the helicopter. This transfer may be painful, but is less risky than the possibility of dropping the man from an improper litter during the hoist.

(c) RESCUE SEAT. It is essentially as shown in the enclosed sketch. It may or may not have folding seats. If one man is to be evacuated, he sits astride one or two of the seats, depending on his size, and wraps his arms around the vertical member holding it close to his chest. If a safety strap is provided, this is passed around the body. If more than one person is to be hoisted, the device is capable of hoisting two if properly utilized. The first person sits astride one seat. The second person sits astride two seats with his legs over those of the first person. Both cling to one another above the vertical member. This procedure can be used with an injured person if the litter is not available. The injured person is placed on the seat last.

(d) **RESCUE SLING.** This device though efficient, is the most troublesome for persons not familiar with its use. Therefore, shipboard personnel should know the proper procedure. Used properly it is quick and nearly foolproof.

(i) If an assistant is available, he should hold the sling as though he were holding a coat for someone to don. The person to be hoisted merely backs up to it; inserts one arm, and then the other; drops his arms to his waist; and claps one wrist with the other hand.

Two things are paramount:

- (1) One does not sit in the sling.
- (2) The yoke of the sling and the hoist cable must be to the *front*. When used in this manner the person can lose consciousness and yet not fall from the sling while being hoisted.

(ii) When there is no one to assist him, the person should again remember to enter the sling as he would a coat. One arm is inserted, followed by the head and trunk, and then the second arm. A slight twisting motion is required—just as one would twist when putting on a coat alone. The same two cautions apply. Do *not* sit in the sling, and insure that the yoke and cable are in front—if not, get out and try again.

(iii) If a person is to be removed from the water, he must enter the sling as follows:

- (1) Approach the sling from the bottom or loop end (opposite the cable attachment).
- (2) Insert one arm *up* from under the sling.
- (3) Lower the head and other arm under the water and bring them *up* inside the loop. The sides of the sling are then under the armpits and the loop is across the back.
- (4) Bring the hands together under the water and clasp one wrist.

20. Hand signals are fastest and most easily understood.

DO NOT HOIST, NOT READY—Arms extended horizontally, fingers clenched, thumbs down.

HOIST—Arms raised above the horizontal, thumbs up.

When using the basket or sling, the last man should hold on or position his arms as previously instructed and merely vigorously nod his head up or down when he is ready for hoisting.

21. Do *not* attempt to get out of the device before you are inside the helicopter. The helicopter crewman will stop the hoist, turn the person as required (sometimes to face away from the door) and pull him into the cabin. The person being hoisted should not attempt to assist in any way unless so instructed. The crewman is well trained. Extra arms and fingers may hinder rather than help him. If more than one person is to be hoisted, the first to be hoisted may be required to assist the hoist operator in embarking others but must do *no more* than he is instructed to do. Here again, extra arms may hinder rather than help.

22. Helicopters used for search and rescue are fitted with UHF, VHF and communications equipment, M/F radio compass and normally UHF homing equipment. If a ship wishes to contact a helicopter during a search and rescue operation, it may do so by visual signals, direct radio communications, or through the nearest Coastal Radio Station.

23. If a ship requiring assistance from a helicopter observes that the helicopter is going to pass by, or is on a course which will take it away, continued use should be made of visual distress signals, and at the same time, if fitted with radio, the fact reported to the Coast Station stating the present bearing and distance of the helicopter. The Coast Station will pass this information to the helicopter through its control centre.

24. It is well to be advised of the particular dangers to be recognized when working with helicopters in respect of their rotors. As indicated in paragraph 18, helicopters keep well clear of any obstructions such as masts, derricks or rigging since any contact with them by the main rotor, and in particular the tail rotor, is disastrous for the helicopter. Similarly, when passengers are landed from the helicopter they must observe closely the instructions given by the crew since there is an ever present danger of walking unwittingly into the tail rotor. This warning may appear to be overstating the obvious, yet it is surprising how simply and how often it is done.

Use of Ships in assisting Aircraft

25. The assistance that can be given to aircraft in distress may be limited in practice by the short time which aircraft normally remain afloat. For this reason it is important that Masters of Ships within a reasonable distance of an aircraft in distress, when required, should proceed with the greatest possible speed to its assistance.

26. Merchant ships may receive information of distress in any of the following ways:

A. *By W/T or R/T on the appropriate international distress frequency from—*

- (i) a distressed aircraft still in flight (see appendix A for the form of such message);
- (ii) survivors after casualty has occurred, by a hand-operated emergency radio transmitter (see appendix B for form of message);
- (iii) coastal radio station (see appendix C for form of message);
- (iv) a search aircraft (see appendix D).

B. By visual signals from—

(i) A distressed aircraft.

Apart from other obvious signs, an aircraft may indicate it is in distress by firing a succession of red pyrotechnic signals. Navigation markers dropped by aircraft at sea, emitting white or yellow smoke or flame and smoke, should not be mistaken for distress signals. Low flying is not in itself an indication of distress. Aircraft in distress which are forced to alight in the sea are instructed to do so ahead and in the lee of a ship.

(ii) A search aircraft.

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 any means at its disposal. If such precise instructions cannot be transmitted by radio or lamp, the instructions shall be given by using the procedure prescribed below.

The following procedures performed in sequence by an aircraft shall mean that the aircraft is directing a surface craft towards an aircraft or a surface craft in distress:

- (a) Circling the surface craft more than once.
- (b) Crossing the projected course of the vessel ahead at a low altitude, opening and closing the throttle or changing the propeller pitch.
- (c) Heading in the direction in which the surface craft is to be directed.

Repetition of such procedures shall have the same meaning.

The following procedures performed by an aircraft shall mean that the assistance of the surface craft to which the signal is directed is no longer required:

Crossing the wake of the vessel close astern at a low altitude, opening and closing the throttle or changing the propeller pitch.

Note: Normally the ship will acknowledge receipt of these signals by hoisting the answering pennant (red and white checkered square) or by flashing a succession of "T's" by signal light in morse code. A change of heading will normally be made.

If the surface craft is unable to comply it must indicate this by hoisting the international flag "N" (blue and white checkered square) or by other visual means.

An aircraft having an urgent need to notify information relating to its own safety or that of another aircraft or ship, or the safety of any person on board or within sight may use one of the following signals:

- (a) A succession of green pyrotechnic signals.
- (b) A succession of green flashes with signal apparatus.

(iii) Survivors in the sea, in an aircraft rubber dinghy or airborne lifeboat may use signals consisting of any of the following:

- (1) Firing pyrotechnic signals emitting one or more red stars.
- (2) Flashing a heliograph.
- (3) Flashing SOS or other distinctive signal by hand torch or other signalling lamp.
- (4) Blowing of whistles.
- (5) Using fluorescent dye marker giving an extensive bright green colour to the sea around the survivors.
- (6) A dinghy may also be located by yellow kite or balloon being flown to support the aerial for the emergency radio transmitter.
- (7) Aircraft dinghies will exhibit a white light on the canopy during hours of darkness.
- (8) Some aircraft dinghies are fitted with radar reflectors which will increase possible detection by radar.

27. Where a merchant ship has received a distress message direct from an aircraft and is proceeding towards the casualty, a bearing should be taken on the transmission and a message sent by the merchant ship to the Shore Station or other vessels in the vicinity giving the call-signal of the distressed aircraft and the time at which the distress message was received, followed by the bearing and time at which the signal ceased.

28. All information concerning aircraft in distress at sea is passed to a RAAF Operations Room or the DCA Rescue Co-ordination Centre in whose area of responsibility the casualty has occurred or is likely to occur. Aircraft will then be sent, if necessary and practicable, to locate the casualty. Such aircraft will carry equipment for dropping to survivors. Reliance for rescue must be placed on naval and merchant ships, or RAAF rescue launches. Messages to the Rescue Co-ordination Centre may be addressed to "AIRESCUE". Thus, merchant ships will ordinarily be informed of an aircraft casualty by wireless from a Shore Station, or from a search or rescue aircraft.

29. Every endeavour will be made to give merchant ships an accurate position of an aircraft casualty or dinghy. An aircraft will, if practicable, be kept over survivors until rescue is effected. Unless firm communication has been established with a merchant ship within reasonable distance of the position of the casualty additional assistance from the rescue agencies mentioned in paragraph (28) will always be sought.

30. When given such a fix the ship should at once consult any other ships in the neighbourhood on the best procedure to be adopted, as is the practice in the case of casualties to merchant ships, and a decision should be reached as quickly as possible as to which ship, if any, can best render assistance. The ship proceeding to the casualty should answer the Station sending the broadcast giving its identity, position and intended action.

31. Survivors and small craft can assist in their detection by a searching aircraft if opiumum use is made of whatever pyrotechnics they have available.

Search Aircraft Procedure

32. An aircraft searching at night for pyrotechnic-equipped survivors and small craft will fire a green flare approximately every 5 minutes, at each turning-point in the search pattern. This frequency of flares should ensure that a survivor can see two successive flares fired by the aircraft.

Procedure by Survivor and Small Craft

33. On sighting a green flare fired by the searching aircraft:

- (a) Wait until the green flare has died, then fire one flare (preferably red).
- (b) Wait a further one minute, then fire a second flare. The aircraft will acknowledge sighting these flares by firing a succession of green flares and switching on its landing lights.
- (c) If it is believed the aircraft is not heading directly towards you, fire further single flares to guide the aircraft.
- (d) When the aircraft is about one mile away, fire a further flare, then protect your eyes from the glare of the aircraft searchlight, which may be used to identify the contact.

34. It is possible there may not be a sufficient number of flares to carry out all of the above procedure. Therefore the following points should be observed carefully:

- (a) The first flare should not be fired until after the aircraft's green flare has completely died.
- (b) A second flare should not be fired until a full minute after the first flare.
- (c) If, after the first two flares have been fired, only one flare remains, this should be saved until the aircraft is within 1 or 2 miles of the survivor, or until just before the aircraft passes abeam the survivor.

35. To increase their chances of being located, survivors and small craft should always attempt to maintain a continuous, all-round visual lookout at night.

APPENDIX A

Form of Distress Calls and Messages from Military Aircraft by W/T on 500 KHz and by R/T on 2182 KHz and 6204 KHz and by Civil Aircraft by on Route Frequencies

1. The exact form of a W/T or R/T distress call or message from an aircraft in flight will depend on the time available to send it between the onset of the emergency and the landing of the aircraft in the sea. This may be only a matter of seconds.

2. When time permits, the form of distress call and distress message sent by civil aircraft will be as follows:

(a) Distress Call:

- (i) By radiotelegraphy. SOS sent three times —the word DE —the call sign of the aircraft in distress sent three times.
- (ii) By radiotelephony. the distress signal MAYDAY preferably spoken three times —the words THIS IS —the identification of the aircraft in distress spoken three times —the radio frequency used in the transmission of the distress call.

(b) Distress Message:

- (i) The distress signal (sent once).
- (ii) The call sign or identification of the aircraft in distress, and as much as possible of the following information.
- (iii) Nature of distress and kind of assistance required.
- (iv) Position, time of position and height.
- (v) Any other information which might facilitate the rescue (including the intention of the person-in-command, e.g. ditching).

Notes:

"Heading" gives the direction of the aircraft in the air; the speed and direction of the wind have to be allowed for to ascertain the actual direction over the sea.

"Indicated airspeed" does not give the speed of the aircraft over the water as it does not allow, amongst other things, for the effect of the wind or the correction that has to be made for height.

3. The above procedure is not intended to prevent:

- (a) the distress message being transmitted on another aeronautical mobile frequency, if considered desirable;
- (b) the distress message being broadcast if time and circumstances make this preferable;
- (c) the aircraft transmitting on maritime mobile service R/T frequencies;
- (d) the aircraft using any means at its disposal to attract attention and make known its condition;
- (e) any station taking any means at its disposal to assist an aircraft in distress.

NOTE: The unit addressed will normally be that unit communicating with aircraft or in whose area of responsibility the aircraft is operating.

4. TURN ON AUTOMATIC EMERGENCY EQUIPMENT, IF PROVIDED.

APPENDIX B

Form of Distress Message from an Aircraft Dinghy Emergency Transmitter Operating Consecutively on 500 KHz and 8364 KHz

1. The emergency W/T transmitter is fitted with an automatic keying device to transmit repeatedly SOS followed by a long dash. This is the normal method of transmission of other messages in Morse code on 8364 KHz.
2. Dinghy equipment operating on 500 KHz may make the following signals:

(a) *At observed Sunrise.* As the upper limb of the sun becomes visible on the horizon the survivors will transmit one 30 second dash followed by aircraft identification.

(b) *At observed Sunset.* As the lower limb of the sun touches the horizon the survivors will commence transmitting a series of dots followed by one 30 second dash and aircraft identification when the upper limb disappears below the horizon.

Note. The commencement of the 30 second dash will be taken as the time of sunrise or sunset at the dinghy location and by using an Air Almanac or similar table with assumed latitude a line of position of longitude can be established.

APPENDIX C

Form of Aircraft Distress Broadcast by Coastal Radio Stations by W/T on 500 KHz and by R/T on 2182 KHz and/or 6204 and 4136.3 KHz

1. The international distress frequencies and 4136.3 and 6204 KHz will be used to notify ships at sea of aircraft or personnel in distress. Distress broadcast will normally be made immediately on receipt of definite distress information and irrespective of other action taken to effect rescue. Once rescue has been effected, the distress broadcasts will be cancelled by the originator.
2. Broadcasts on the distress frequencies, 4136.3 and 6204 KHz will be sent out by Coastal radio stations in accordance with the priority borne by the Prefix. Transmission will be made over a period and any acknowledgement received will be passed to the originator.

3. Messages broadcast to shipping concerning aircraft in distress will be sent in one of the following forms:

(a) Concerning a known aircraft casualty:

W/T

DDD SOS SOS SOS DDD . . .
DE

Call sign of station repeating distress sent 3 times.

SOS SOS SOS

Name or other identification of aircraft in distress followed by distress particulars including position in latitude and longitude and a request to any ship near the position to answer the message and give its identity, position and proposed action.

R/T

MAYDAY RELAY MAYDAY RELAY MAYDAY
RELAY THIS IS

Call sign or other identification of repeating station sent 3 times.

MAYDAY MAYDAY MAYDAY

Name or other identification of aircraft in distress followed by distress particulars as for W/T transmission.

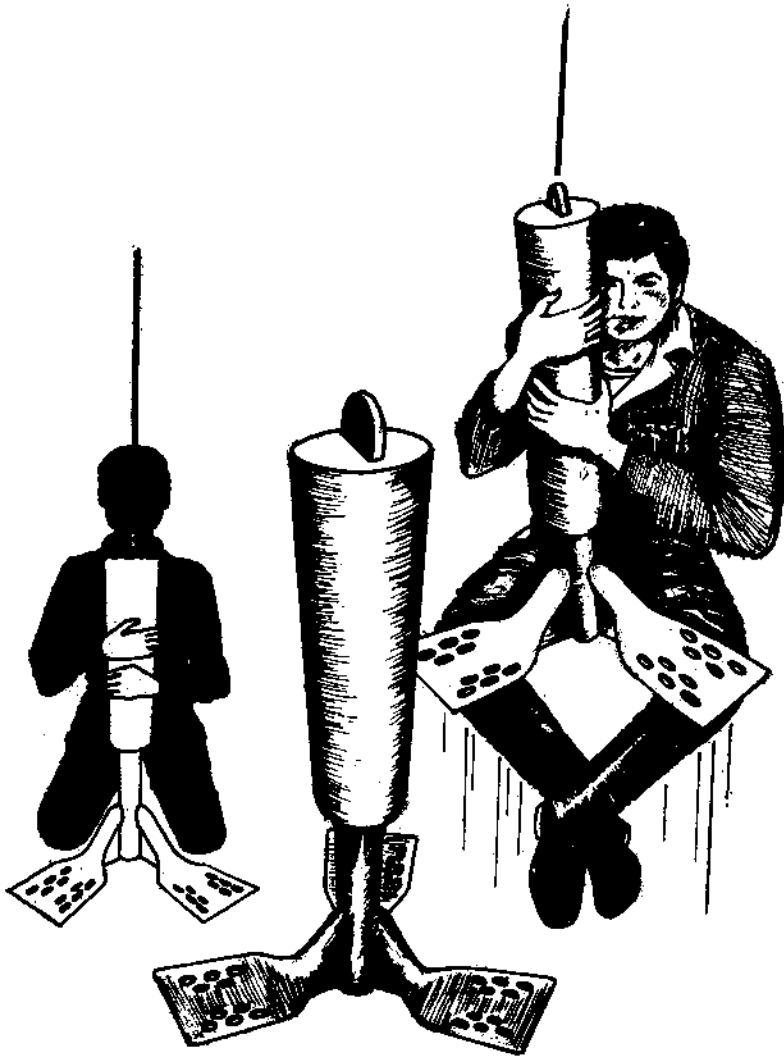
(b) Concerning an aircraft missing on a flight over the sea but concerning which there is no other definite distress information. The message will be in the nature of a request to shipping on or near the route to keep a lookout for survivors, etc.:

"Rescue aircraft begins XXX . . ." (followed by the text of the message which will include the route of the aircraft). The message will be in plain English and need not be answered unless it contains a request to do so.

APPENDIX D

Communication with Aircraft Searching for Survivors

1. An aircraft engaged on search and rescue operations will be briefed to listen on a specified frequency and merchant ships will be advised by the Coastal radio station of the frequency adopted.
 2. If aircraft flight allows, search and rescue aircraft may maintain watch on 500 KHz and/or 2182 KHz; messages under para. 26A (iv) may be sent to and from merchant ships on either of these frequencies. Searching aircraft and merchant ships should maintain wireless silence on 500 KHz from 15 to 18 and from 45 to 48 minutes past each hour, and on 2182 KHz from the hour to three minutes and from 30 to 35 minutes past each hour.
- Department of Transport, Melbourne. (A.H. 17/5)



SEARCH AND RESCUE
- Rescue Seat (para. 19(c))