

Operation Plan
COMWESTAREA No. 1-(FY)

Commander Western Area
U. S. Coast Guard
Search and Rescue Coordinator
Pacific Maritime Region
630 Sansome Street
San Francisco, California 94126

TAB B TO APPENDIX IV TO ANNEX I

SAR PLAN ALFA

U. S. COAST GUARD

SAR PLAN ALFA

SAR Plan ALFA provides an effective system for surface craft assistance to distressed aircraft operating in the Pacific. Under the plan supervised by Commander Western Area, the U. S. Coast Guard Rescue Coordination Center at San Francisco originates a message at 1600Z daily containing the position, radio call sign, course, speed and SAR Plan ALFA class of vessels along the air routes between Honolulu and the mainland. This message is delivered to FAA International Flight Service Station, San Francisco, for relay to commercial airline dispatch offices in San Francisco and Los Angeles areas and to military air terminals. It is also forwarded to Honolulu, Seattle and Vancouver for distribution.

Other daily SAR Plan ALFA ship plot messages are published as follows:

| <u>Track (or Area)</u> | <u>Originated</u> |
|---|--|
| Honolulu-Midway; Honolulu-Wake; and Honolulu-Tokyo. (East of 160°E) | Commander, 14th Coast Guard District |
| Southeast Alaska | Commander, 17th Coast Guard District |
| Anchorage-Tokyo | Commanding Officer, Coast Guard Air Station Kodiak |
| Guam-Tokyo; Guam-Wake; Wake-Tokyo; and Guam-Manila | Commander, Naval Forces Marianas |

The ship plot information in the hands of the pilot of the distressed aircraft together with his estimate of his own position should be sufficient for an initial aircraft course to a selected vessel. The actual intercept of the vessel can then be effectively made using radio homing procedures.

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All major surface craft can transmit radio signals on the recognized Maritime Radio Navigation (Radio Direction Finding) frequency of 410 kc/s and all overseas aircraft have automatic direction finders operable on this frequency. Therefore, aircraft intercept of a vessel at sea through radio homing signal IS possible; IF a suitable system is established and potential participants understand and follow the system. SAR Plan ALFA provides this system.

Messages between a disabled aircraft and a designated rescue vessel would initially be handled by the Rescue Coordination Center (RCC) through the normal radio traffic stations of the aircraft and vessel, (i.e., aircraft through ARINC (commercial) or AFCS (military) and ship through MACKAY, GLOBE, RCA, Coast Guard or Naval Radio Station). When the disabled aircraft is intercepting a surface vessel for ditching and rescue purposes, it is highly desirable that direct voice communication be established between the ship and aircraft. This is possible between most ships and most aircraft under conditions which participants should recognize. The main conditions are:

(1) Overseas aircraft and major surface craft can now communicate on the International Voice Distress and Calling Frequency of 2182 kc/s if requested. Surface vessels do not normally maintain a continuous guard on 2182 kc/s but can activate the frequency upon request.

(2) When an aircraft becomes disabled it is essential that the pilot maintain his primary HF enroute communication for relay of information to the rescue services. Since not all aircraft can do this and simultaneously reply to a ship on 2182 kc/s, the initiative for establishing communications on 2182 kc/s must be taken by the aircraft. Shipboard alertness in promptly replying to the call is also essential.

(3) For SAR Plan ALFA the 5 minute periods (0-5, 10-15, 20-25, etc.) of any hour are designated as beacon transmission periods and the 5 minute periods (5-10, 15-20, etc) for listening and copying traffic on 2182 kc/s. Adherence to these periods is highly desirable because not all surface craft can transmit on 2182 kc/s and simultaneously transmit beacon signals.

The comparative rescue and communications capabilities of the different surface craft are matters of vital consideration by an aircraft pilot when selecting the best rescue vessel from the daily ship plot message. For this reason the daily ship plot message shows the classification of each vessel. Vessels are classified as follows:

- (1) Class "A". Major vessels maintaining a continuous radio watch.
- (2) Class "B". Smaller passenger vessels having a continuous radio watch.

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(3) Class "C". Cargo vessels not maintaining a continuous radio watch but which can be alerted by a special radio alarm signal on 500 kc/s. (This alarm signal can only be used when the aircraft has declared an emergency).

(4) The suffix "unable" appended to the vessel classification. Example: Class "A-Unable" indicates the vessel is unable to transmit on 2182 kc/s.

When an aircraft emergency occurs SAR Plan ALFA is initiated by the Rescue Coordination Center by the following message:

Text of message from RCC to vessel (or vessels along track)

"AIRCRAFT DISABLED IN POSIT AT Z. DESIRES RENDEZVOUS
AND DITCH ALONGSIDE YOU. REQUEST INITIATE SAR PLAN ALFA BY TRANSMITTING
BEACON SIGNAL ON 410 KCS DURING ALTERNATE FIVE MINUTE PERIODS
COMMENCING . BEACON SIGNAL TO BE SHIP CALL SIGN FOLLOWED BY
TWO FULL 10 SECOND DASHES REPEATED THROUGHOUT PERIOD. GUARD 2182 KCS.
ACKNOWLEDGE."

Upon receipt of this message the surface vessel acknowledges the message and commences SAR Plan ALFA.

Surface Vessel Action. On 410 kc/s MCS/A2 emission transmit homing signal "ship call sign (sent slowly) followed by two full 10 second dashes" repeated for five full minutes - alternate the 5 minute homing with a five minute period for reception and transmission on 2182 kc/s. (The odd 5 minute periods, 0-5, 10-15, ---, 50-55, are beacon transmission periods; the even 5 minute periods, 5-10, 15-20, ---, 55-60, are for guarding 2182 kc/s, passing wind and sea conditions, and determining the number of persons on board the aircraft, emergency exits, etc.)

Unless otherwise requested by aircraft, maintain your normal course and speed until aircraft is in sight apparently ready to ditch or has announced, via 2182 kc/s, or by other means, its imminent readiness to ditch, and then:

(1) Set ship's course parallel to the major swell crests and into the wind component. THE SEA IS THE AIRCRAFT'S BIGGEST PROBLEM AND PILOT WILL PROBABLY WANT TO DITCH PARALLEL TO THE CREST OF THE MAJOR SWELLS IN THE DIRECTION HAVING THE GREATEST AHEAD WIND COMPONENT.

(2) On request or in the event of a sudden loss of communications with the aircraft, run down the last known bearing of the aircraft. Actively guard 500 kc/s on your bridge RDF on the chance of hearing and obtaining a bearing on a "Gibson Girl" transmission from a life raft in the water. Also set guard on 8364 kc/s in radio room if practicable.

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(3) Make frequent radio reports to the radio station which originally alerted you to the aircraft emergency. These reports should include progress of the aircraft, ditching, the status of rescue operations, etc.

Aircraft Action. Initiate communications with selected vessel on 2182 kc/s. Keep ARTC (via normal ground control radio station) fully advised of your situation, desires, and intentions. Promptly advise if it appears that you will overfly the vessel to head toward an airport and desire homing signal procedures by another vessel further along your track. A suggested ditching course (Honolulu-Mainland, Seattle-Kodiak, and Graham Island-Anchorage tracks only) will have been prepared and will be ready for you at your ground control radio station if you request it. Upon request, the Commanding Officer, U. S. Naval Station Adak, will prepare a suggested ditching course for Alaskan and Aleutian waters.

Rescue Coordination Center (RCC) Action

The RCC will:

- (1) Relay messages for aircraft and surface vessels until communication on 2182 kc/s established.
- (2) Assist in establishing direct communications.
- (3) Divert other aircraft and surface vessels which may be nearby to assist as the situation warrants.
- (4) Plan and direct the search for survivors, if required.
- (5) Provide Search and Rescue aircraft and vessels to permit timely release of merchant vessels and aircraft.
- (6) Be responsible for terminating the distress or emergency.

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SAR PLAN ALFA EXERCISE PROCEDURE

The effectiveness of SAR Plan ALFA will depend on the degree of participation of air and surface craft in the instruction of personnel, in the testing of procedures and equipment, and in the reporting of results. Periodic communications and direction finding tests between surface craft and aircraft are needed. It will be of great value if major surface craft operating in the Pacific will take the initiative in submitting offers to SAR Sector Coordinators to conduct 30 minute tests with aircraft as outlined below:

- (1) Time for Submitting Offer to SAR Sector Coordinators. At least 30 hours prior to time of test so that advance notification can be given to aircraft.
- (2) Location of Test. Ship should be about mid-way between any two major points, i.e. Honolulu-San Francisco, Seattle-Honolulu, Tokyo-Seattle, Honolulu-Guam, Guam-Tokyo, Guam-Manila.
- (3) Surface Craft Action. Guard 2182 Kcs and, at exact start of the designated 30 minute period, broadcast a request for any aircraft to reply on 2182 Kcs. Repeat as necessary. Include word "Drill" as prefix and suffix in all messages pertaining to test project. Log call sign and position given by each aircraft and note signal strength. For the five minute periods of 20-25 or 50-55, depending on whether the first or last half of the hour is selected, transmit homing signals on 410 Kcs as explained in the Plan. Promptly at end of the 30 minute period broadcast statement that test is terminated. Submit data to SAR Sector Coordinator.
- (4) Action by Aircraft in Vicinity. Initiate guard on 2182 Kcs at time designated and exchange position reports with vessel if communications established.
 - (a) Include word "Drill" as prefix and suffix in all communications pertaining to test project.
 - (b) Set ADF on 410 Kcs at time designated (20-25 or 50-55) whether or not communications have been established on 2182 Kcs.
 - (c) Report results of communication and ADF test to SAR Sector Coordinator. Include position and altitude of aircraft and time of test.