Cancelled See 91-19

Federal Aviation Agency

ADVISORY CIRCULAR

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AIR NAVIGATION FACILITIES	
	00-2M
EFFECTIVE: 1/9/64	

SUBJECT: EMERGENCY SIGNALING DEVICE FOR AIRCRAFT IN DISTRESS

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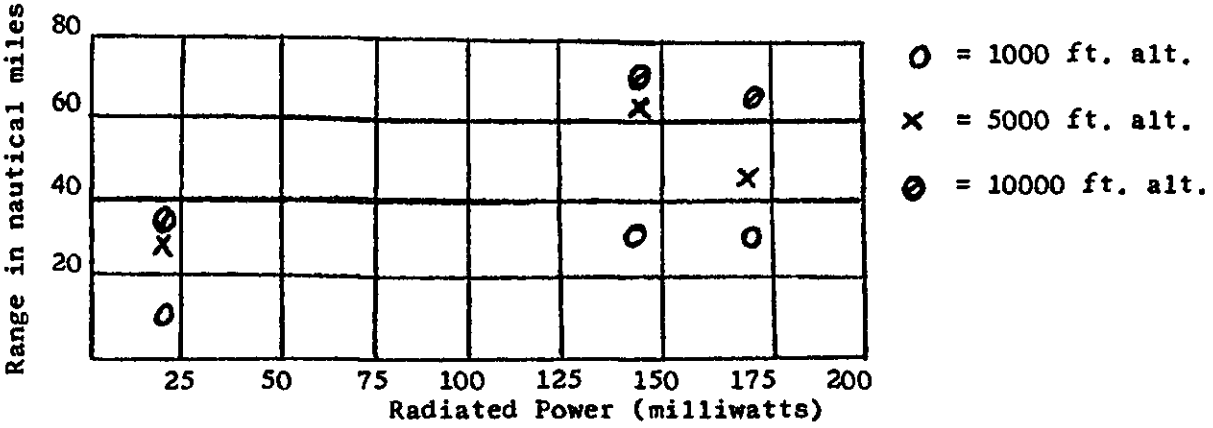
1. PURPOSE. This circular informs the aviation community and industry of recent FAA activities concerning the use of crash locator beacon systems and their respective potential application as an emergency signaling device. In addition, and by offering this information, it is hoped to solicit response from the aviation community and industry for continuation of this program.

2. BACKGROUND.

   a. An evaluation was recently conducted by the FAA in the Los Angeles and Salt Lake City areas to determine the effectiveness of such a system by using three individual and commercially developed equipments. Specific equipments used during the test program do not represent all available types and included those designed by the Douglas Aircraft Co., Inc., National Aeronautical Corp. (NARCO), and the Dominion Scientific Instrument Limited. Simulated test conditions were exercised in geographical areas, including mountains, flat, and congested (radio signal-wise) areas.

   b. Results of the test program clearly indicated that such a beacon can successfully radiate energy to permit a suitably equipped search aircraft to identify and "home-in" on the transmitted signal.

c. Maximum effective detection was accomplished as shown in the parameters identified below:



(Altitude of "detector" aircraft shown at 1,000, 5,000, 10,000 feet levels.) The graph shows only the maximum range without reference to aircraft heading, atmospheric conditions, or geographical area. (Note: The graph is intended to show potential range capability vs. power output as related to altitude and has no bearing on the individual manufacturer or his equipment.)

d. Signal emission and beacon equipment capability utilized in the test program provided three configurations:

(1) By RF signal only.

(2) By audio tone sweeping between 300-2500 cycles twice a second.

(3) By audio tone sweeping between 2000-2300 cycles twice a second.

3. ACTION REQUIRED.

a. In the conterminous U.S. there are some 2194 air carrier aircraft registered by the FAA, and approximately 127,074 (most of which are active) general aviation aircraft. An assessment of the potential market for a low-cost crash locator beacon would appear favorable, considering the above number of active aircraft in the aviation community, and particularly in the general aviation segment thereof. The desirability of having such a device aboard the airplane as emergency equipment would similarly appear to be highly favored from both the pilot and passenger viewpoint. The FAA, therefore, believes that methods for general and specific use of a locator beacon system would stem from the following:

(1) Individual aircraft owner's acceptance.

(2) Availability to the aviation community at a reasonable low-cost.

(3) Possibility of a lease-rental system.

b. The FAA, upon reasonable assurance from responses received from industry and the aviation community that such a program is desirable, would then proceed with a plan to install search equipment in most FAA electronic laboratory equipped aircraft. These aircraft compose the Agency's flight inspection fleet and are based throughout the U.S. operating routinely on navigational aid certification missions. Operationally, these aircraft cover the entire geographical area of the U.S. on missions through 41,000 foot altitudes.

c. For general information purposes, desirable beacon characteristics to be compatible with search equipment installed in FAA aircraft are listed as follows:

(1) Power output - at least 225 milliwatts.

(2) Output duration - 24 to 48 hours.

(3) Transmitting frequency - 121.5mcs crystal controlled with audio tone sweeping between 2000-2300 cycles 2 to 3 times a second sweep rate, 75-90% modulation.

Address all inquiries and responses to this advisory circular to the Flight Standards Service, Federal Aviation Agency, Washington, D.C. 20553.

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