BGA GUIDANCE REGARDING PERSONAL LOCATOR BEACONS AND EMERGENCY LOCATOR TRANSMITTERS

A missing glider in the north of Scotland during a competition in 2006 resulted in a long and expensive search for the glider and the glider pilot. It was fortunate that the pilot was spotted in the wreckage of his glider by a passing military fast jet crew. He had been trapped in the badly broken glider overnight. Fortunately, the pilot survived. The accident investigation identified the need for the BGA to review the available advice to glider pilots. This guidance material is offered to assist glider pilots who should make their own decision about the use of locator beacons and emergency locator transmitters that are available in the general aviation market.

Summary

PLB's are Personal Locator Beacons: the casualty/survivor has to switch it on after the incident.

ELT's are Emergency Locator Transmitters; they are installed in the aircraft installation and are normally automatically switched on by a G switch during an accident.

The beacon frequency of 121.5/243 Mhz is going out of use (Feb 2009) and will no longer be monitored by the S & R satellites.

All PLB/ELT's should use 406 Mhz, and preferably with GPS as this transmits your position as well as the aircraft callsign.

Detail

ELTs are emergency transmitters that are carried aboard some general aviation aircraft including gliders. In the event of an accident, these devices are designed to transmit a distress signal on 121.5 & 243.0 Mhz (and for newer ELTs on 406 Mhz).

Originally, aircraft were equipped with an ELT that transmits on the 121.5 Mhz frequency, the designated international distress frequency. The original ELTs coming out of the US were manufactured to the specifications of an FAA technical standard order (TSO-C91) and have an activation rate of less than 25 percent in actual crashes and a 97 percent false-alarm rate. In 1985, a new TSO-C91A ELT was developed, which substantially reduces or eliminates many problems with the earlier model. The TSO-C91A provides improved performance and reliability (with an activation rate of 73 percent in actual crashes) at a reasonable cost to users. Since then, an even more advanced model of ELT has been developed — the C126 ELT (406 Mhz). This newest model activates 81-83 percent of the time and transmits a more accurate and near-instantaneous emergency signal by utilizing digital technology. This digital 406 Mhz ELT also allows search and rescue personnel to have vital information specific to you and your aircraft. These ELTs are expensive.

ELTs were originally intended for use on the 121.5 Mhz frequency to alert air traffic control and aircraft monitoring the frequency. In 1982 a satellite-based monitoring system was implemented (COSPAS-SARSAT) to provide a better receiving source for these signals. As of February 1, 2009, the international COSPAS-SARSAT satellite system will discontinue satellite-based monitoring of the 121.5 & 243 Mhz frequencies, in part because of a high number of false signals attributed with these frequencies.

121.5/243 Mhz distress signals transmitted from ELTs operating on the lower frequency will only be detected by ground-based receivers such as local airfield facilities and air traffic control facilities or by overflying aircraft. It is important to note that after 2009, existing 121.5 Mhz ELTs will provide extremely limited assistance if an aircraft crashes, especially in a remote location.

The CAA recognizes that very little of the UK is remote. For details see;

www.ais.org.uk
UK AIP GENERAL INFORMATION Section
Paragraph 3.6 SEARCH and RESCUE
Sub Para 3.6.6 Procedures and Signals used
Section 2 Alerting
Sub Paragraph 2.3 Difficult areas for Search and Rescue

Now (Nov 07) that there is a **temporary** CAA exemption from the Aug 2007 ANO changes regarding mandatory 'Approved ELT's', pilots may continue to use marine PLB's in aviation. The United Kingdom Mission Control Centre (UKMCC) has requested that all PLB's and ELT's used for aviation are registered with them. In addition to identifying you in the event of an accident, this also enables them to contact you if the beacon signals are heard by the satellite inadvertently.

The registration form can be downloaded from the UKMCC Website -
http://www.ukmcc.co.uk/beacon_registration/assets/UK_ELT_Reg_Form_6.doc

Any further information can be gained by contacting the UKMCC Operator at ukmmc@atlas.co.uk or by telephone on 01309 690469

British Gliding Association
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