



# National Transportation Safety Board

Washington, D.C. 20594

## Safety Recommendation

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**Date:** June 9, 2011

**In reply refer to:** A-11-52

Mr. Bruce Landsberg, President  
AOPA Foundation  
Aircraft Owners and Pilots Association  
421 Aviation Way  
Frederick, Maryland 21701

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The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating transportation accidents, determining their probable cause, and making recommendations to prevent similar accidents from occurring. We are providing the following information to urge your organization to take action on the safety recommendation in this letter. The NTSB is vitally interested in this recommendation because it is designed to prevent accidents and save lives.

This recommendation addresses the benefits of passenger briefings related to survival and communications equipment for 14 *Code of Federal Regulations* (CFR) Part 91 operations. The recommendation is derived from the NTSB's investigation of the August 9, 2010, aviation accident in Aleknagik, Alaska,<sup>1</sup> and is consistent with the evidence we found and the analysis we performed. As a result of this accident investigation, the NTSB has issued five safety recommendations, one of which is addressed to the Aircraft Owners and Pilots Association (AOPA). Information supporting this recommendation is discussed below. The NTSB would appreciate a response from you within 90 days addressing the actions you have taken or intend to take to implement our recommendation.

### Background

On August 9, 2010, about 1442 Alaska daylight time, a single-engine, turbine-powered, amphibious float-equipped de Havilland DHC-3T airplane, N455A, impacted mountainous, tree-covered terrain about 10 nautical miles (nm) northeast of Aleknagik, Alaska. The airline transport pilot and four passengers received fatal injuries, and four passengers received serious injuries. The airplane sustained substantial damage, including deformation and breaching of the fuselage. The flight was operated by GCI Communication Corp. (GCI), of Anchorage, Alaska,

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<sup>1</sup> For more information, see *Collision into Mountainous Terrain, GCI Communication Corp., de Havilland DHC-3T, N455A, Aleknagik, Alaska, August 9, 2010*, Aircraft Accident Report NTSB/AAR-11/03 (Washington, DC: National Transportation Safety Board, 2011).

under the provisions of 14 CFR Part 91. About the time of the accident, meteorological conditions that met the criteria for marginal visual flight rules (MVFR)<sup>2</sup> were reported at Dillingham Airport (DLG), Dillingham, Alaska, about 18 nm south of the accident site. No flight plan was filed. The flight departed about 1427 from a GCI-owned private lodge on the shore of Lake Nerka and was en route to a remote sport fishing camp about 52 nm southeast on the Nushagak River.

The National Transportation Safety Board (NTSB) determined that the probable cause of this accident was the pilot's temporary unresponsiveness for reasons that could not be established from the available information. Contributing to the investigation's inability to determine exactly what occurred in the final minutes of the flight was the lack of a cockpit recorder system with the ability to capture audio, images, and parametric data.

According to GCI lodge personnel, the purpose of the flight was to transport the lodge guests to the fishing camp for an afternoon of fishing. During a postaccident interview, the passenger who was in the third seat behind the pilot on the left side of the airplane stated that the airplane banked into a left turn (he said that the bank angle was not unusual) and then immediately impacted terrain. The wreckage was found at an elevation of about 950 feet above mean sea level in steep, wooded terrain in the Muklung Hills, about 16 nm southeast of the GCI lodge.

Notification of the accident and subsequent rescue activities were delayed several hours because of a lack of detectable signal from the airplane's emergency locator transmitter (ELT), which had separated from its mounting tray and antenna during the accident.<sup>3</sup> According to the GCI guest party co-host, about 1815, he went to the dining hall after checking the cabins and noticed that the guests were not yet back from the fishing camp. According to transcripts from the DLG flight service station (FSS), the GCI lodge manager called the DLG FSS at 1838:59 to request that search and rescue activities be initiated. About 1930, a volunteer searcher in a Cessna airplane visually located the accident site. Although some medical personnel were able to access the accident site that evening to assist the survivors, darkness and adverse weather

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<sup>2</sup> According to Federal Aviation Administration handbook FAA-H-8083-25A, "Pilot's Handbook of Aeronautical Knowledge," MVFR conditions are defined as ceilings between 1,000 and 3,000 feet above ground level inclusive and/or visibility between 3 and 5 miles inclusive. A ceiling is defined as the height above the earth's surface of the lowest layer of clouds that is reported as "broken" or "overcast" or the vertical visibility into an obscuration.

<sup>3</sup> Postaccident examination of the airplane's Artex ME406 ELT found that the unit's 406-megahertz (MHz), 121.5-MHz, and automatic activation features functioned when tested and that, therefore, it would have been capable of transmitting detectable 406- and 121.5-MHz signals from the accident site had it not become detached from its antenna. The investigation was unable to determine whether the ELT detachment resulted from the retention strap not having been tight enough (improper installation) or from design characteristics or other issues that were not identified during ELT certification testing. To address the ELT detachment issue, on January 5, 2011, the NTSB issued two safety recommendations to the FAA. Safety Recommendations A-10-169 and -170 asked the FAA to do the following (respectively): "Require a detailed inspection, during annual inspections, of all [ELTs] installed in general aviation aircraft to ensure that the [ELTs] are mounted and retained in accordance with the manufacturer's specifications," and "Determine if the [ELT] mounting requirements and retention tests specified by Technical Standard Order (TSO) C91a and TSO C126 are adequate to assess retention capabilities in ELT designs. Based on the results of this determination, revise, as necessary, TSO requirements to ensure proper retention of ELTs during airplane accidents." Safety Recommendation A-10-169 is classified, "Open—Unacceptable Response," and Safety Recommendation A-10-170 is classified, "Open—Acceptable Response."

prevented an immediate rescue attempt. The survivors and medical personnel spent the night on the mountain in weather that included intermittent rainfall, a low temperature of about 41° F, and wind of 20 to 25 knots, which placed the wind chill index about 30° F. All of the airplane occupants and rescue personnel were evacuated from the site by helicopter the following morning.

### **Survival and Emergency Communication Equipment**

The airplane carried a survival kit, which was required by Alaska statute,<sup>4</sup> and a satellite telephone, which was not required. The pilot did not provide (and, in accordance with 14 CFR Part 91, was not required to provide) the passengers with a briefing about the survival kit or the satellite telephone. A GCI senior vice president stated that the satellite telephone was kept in a hard-sided, protective case in the cockpit, normally stowed under or behind the pilot's seat. He stated that the case contained the satellite telephone, its charger, instructions for its use, and a list of telephone numbers that included three local lodges.

After the airplane came to rest following impact, the passenger who had been seated in the second seat behind the pilot on the left side of the airplane was the only passenger with any ability to move about the wreckage, and his movement was limited because of his serious injury. He stated that he recalled that a GCI employee had mentioned on an earlier flight that a survival kit was located in the back of the airplane. He stated that he found the airplane's survival kit in the back of the airplane and that it contained packaged food, a knife, a hatchet, and other items. He stated that he also searched around for a cellular or satellite telephone but did not find one.

During examination of the accident site, investigators found the hard-sided, black case that contained the satellite telephone that GCI kept on board the airplane. The case was found unopened and intact among seat debris and cabin contents beneath the airplane's broken floor structure. The case was caked with mud, and the telephone, charger, and instructions were intact inside the case. A GCI senior vice president reported that, when the telephone was returned to GCI after the accident, the telephone was found to be charged and operational.

A satellite telephone is just one of many communication devices that pilots or operators may choose to keep on board an airplane. Handheld satellite trackers and similar devices, like personal locator beacons (small locator devices that transmit information via a 406-MHz and/or 121.5-MHz signal) have become relatively inexpensive and popular among pilots, hikers, hunters, and others who may travel in remote areas where cellular telephone signal coverage may not be available. Such communication devices, if present on board an aircraft, known to the passengers, and easy to find (through conspicuous case markings and colors and/or secured to a specific location in the aircraft) can enhance safety by enabling survivors to initiate search and rescue activities if an accident occurs. The NTSB concludes that, had the pilot informed the passengers about the location and use of all survival and emergency communication equipment on board the airplane, particularly the satellite telephone, the passengers may have been able to find and use the telephone to expedite the initiation of search and rescue activities after the accident.

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<sup>4</sup> Alaska statute 2.35.110 requires that aircraft certificated to carry 15 passengers or fewer must carry a survival kit containing specified minimum equipment.

Providing potentially life-saving information to passengers about survival and communication equipment on board an aircraft is a no-cost way for pilots and operators to enhance the safety of their flight operations. The NTSB notes that, one way to educate pilots and operators about this no-cost safety solution is through the AOPA's Air Safety Institute (a division of the AOPA Foundation).

Therefore, the National Transportation Safety Board makes the following recommendation to the Aircraft Owners and Pilots Association:

Educate pilots of 14 *Code of Federal Regulations* Part 91 flight operations about the benefits of notifying passengers about the location and operation of survival and emergency communication equipment on board their airplanes. (A-11-52)

The NTSB also issued four safety recommendations to the Federal Aviation Administration.

In response to the recommendation in this letter, please refer to Safety Recommendation A-11-52. If you would like to submit your response electronically rather than in hard copy, you may send it to the following e-mail address: [correspondence@ntsb.gov](mailto:correspondence@ntsb.gov). If your response includes attachments that exceed 5 megabytes, please e-mail us asking for instructions on how to use our secure mailbox. To avoid confusion, please use only one method of submission (that is, do not submit both an electronic copy and a hard copy of the same response letter).

Chairman HERSMAN, Vice Chairman HART, and Members SUMWALT, ROSEKIND, and WEENER concurred in this recommendation.

*[Original Signed]*

By: Deborah A.P. Hersman  
Chairman