

HISTORY OF FLIGHT

On March 20, 2011, about 1415 mountain daylight time, a Glasflugel Standard Libelle glider, N99AE, impacted terrain near Wellington, Colorado. The commercial pilot, who was the sole occupant, was fatally injured. The glider sustained substantial wing damage. The glider was registered to and operated by the pilot under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual flight rules (VFR) conditions prevailed for the flight, which did not operate on a VFR flight plan. The local flight originated from the Owl Canyon Gliderport, near Wellington, Colorado, about 1406.

A witness at the gliderport saw the glider towed to pattern altitude and saw the glider release the tow. The witness saw the glider maneuver in steep bank turns and it descended during those turns. At one point, the glider was observed to enter a rapid "zoom" climb, followed by a brief period of inverted flight before descending, wings level, about 60 degrees pitch down, into terrain.

The Larimer County Sheriff's office received 9-1-1 calls in reference to the glider and found the glider in the area of 16100 North County Road 7.

PERSONNEL INFORMATION

The 82-year-old pilot held a commercial pilot certificate with an airplane single-engine, instrument, lighter-than-air balloon, and glider ratings. The pilot also held a certified flight instructor certificate with airplane single-engine and glider ratings. Records obtained from the Federal Aviation Administration (FAA) showed that pilot's most recent application for a third-class medical was dated June 13, 2010. On that application the pilot reported that he had accumulated over 15,000 hours of total flight time and had accumulated over 20 hours of flight time in the six months preceding that application.

An insurance company representative provided a copy of excerpts from the pilot's flight logbook. Those logbook excerpts did not contain a running total of the pilot's flight time. An endorsement in the excerpts showed that the pilot completed a flight review on May 9, 2009.

According to a letter from the pilot's physician, the pilot, in part, was found to have had:

a five-vessel coronary artery by-pass in January 1997 and a prior small inferior myocardial infarction. A cardiac catheterization in 2008 showed that all grafts were patent. He was not having angina nor congestive heart failure. A pacemaker was last checked by his cardiologist on February 4, 2011, and was functioning normally. His pacemaker generator was changed in December 2010. His vital signs on February 15, 2011 revealed a pulse of 76, blood pressure of 110/52. He had excellent cognition and full decisional capacity. There was no evidence of carotid artery obstruction. He typically took one Hydrocodone 5/500 at bedtime to assist his sleep as he had chronic neck pain from cervical disk disease.

AIRCRAFT INFORMATION

N99AE, was a Glasflugel Standard Libelle glider, serial number 182, constructed from composite materials. The glider had been stored for about 14 years prior to the pilot purchasing it. The last annual inspection was completed December 13, 2010, at a total airframe time of 1,565 hours. The endorsement indicated that the glider was in an airworthy condition at the time of that inspection.

A witness reported that the pilot had said that the airplane dive brakes had partially popped open during rough ground rolls on his last winch tow and aerotow. He stated that the pilot was not able to lock them back into the closed detent in the air, but was able to hold them shut with his hand. According to the witness, the pilot apparently had an airframe and powerplant mechanic look at his glider the previous week and referenced the Libelle manual to diagnose the difficult dive brake closing problem. The mechanic reportedly found that there was not enough proper grease in the mechanism or it had hardened in places. The pilot told the witness that the mechanic greased the various fittings and the dive brake handle now traveled very smoothly and easily. The pilot indicated that he was going to fly to test the dive brakes in flight today. There were no aircraft logbook endorsements for the reported lubrication of the dive brakes.

METEOROLOGICAL INFORMATION

At 1335, the recorded weather at the Fort Collins-Loveland Municipal Airport, near Fort Collins/Loveland, Colorado, was: Wind 110 degrees at 15 knots gusting to 20 knots; visibility 10 statute miles; sky condition clear; temperature 17 degrees C; dew point -9 degrees C; altimeter 29.91 inches of mercury.

WRECKAGE AND IMPACT INFORMATION

The airplane came to rest in a ravine east of the County Road 7. The glider's right wing had impacted an embankment, sustained multiple cracks from the wing's leading edge to its trailing edge, and its dive brake was found extended. The canopy was shattered. The left wing's dive brake was found retracted.

FAA inspectors examined the wreckage on-scene. No pre-impact anomalies were detected that would have precluded normal operations.

MEDICAL AND PATHOLOGICAL INFORMATION

[An autopsy was performed on the pilot by the Larimer County Coroner's Office. The cause of death was listed as multiple blunt force injuries. According to the autopsy, cardiac disease may have been contributory.](#)

The National Transportation Safety Board (NTSB) Chief Medical Officer reviewed the autopsy and noted that the pilot suffered significant traumatic injuries of the type that normally result in catastrophic blood loss; however, no significant blood loss was noted during the autopsy.

A readout of the pilot's pacemaker indicated that at 1419 the pacemaker recorded a ventricular tachycardia. The technical representative for the pacemaker's manufacturer, during a conversation with the NTSB Chief Medical Officer, indicated that the timestamp for the pacemaker can be set or adjusted by the computer used to download information from the pacemaker or make adjustments to its settings. This is typically performed in the physician's office and may not be accurate to any external standard. There is no automated process for changing the timestamp with daylight savings or any change in time zones. The length of the episode of tachycardia could not be measured by this particular pacemaker and the device was not equipped to provide sufficient electricity to terminate a life threatening arrhythmia as it was not a dual device with an automatic internal cardiac defibrillator.

Ventricular tachycardia is an abnormal heart rhythm most often associated with scarred myocardium (as after an infarction) or with severe congestive heart failure. The rhythm is initiated in the muscle of the heart itself (rather than the electrical system) and is rapid, usually around 180 beats per minute. Ventricular tachycardia can be "stable" or associated with a normal blood pressure, but is more often "unstable" and associated with diminished blood flow and even cardiac arrest.

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The FAA Civil Aerospace Medical Institute prepared a Final Forensic Toxicology Accident Report. The report, in part, indicated:

2.269 (ug/ml, ug/g) Acetaminophen detected in Blood

0.043 (ug/mL, ug/g) Dihydrocodeine detected in Urine

Dihydrocodeine NOT detected in Blood

0.111 (ug/ml, ug/g) Hydrocodone detected in Urine

Hydrocodone NOT detected in Blood

1.979 (ug/mL, ug/g) Norpropoxyphene detected in Urine

0.183 (ug/mL, ug/g) Norpropoxyphene detected in Blood

Propoxyphene detected in Urine

Propoxyphene NOT detected in Blood

The FAA Forensic Toxicology's WebDrugs website description of Acetaminophen, in part, stated:

Acetaminophen is a common over the counter analgesic/antipyretic (Tylenol). It is available in many oral dosage forms and in combination with various decongestants and/or antihistamines. It is also available by prescription in combination with various opiate derivatives. Large doses of acetaminophen can produce hepatotoxicity. People who use moderate amounts of ethanol on a regular basis have a greater risk of acetaminophen-induced hepatotoxicity.

The FAA Forensic Toxicology's WebDrugs website description of Dihydrocodeine indicated it was a semisynthetic narcotic analgesic.

The FAA Forensic Toxicology's WebDrugs website description of Propoxyphene indicated it was an analgesic drug used for the treatment of pain.

The FAA Forensic Toxicology's WebDrugs website description of Norpropoxyphene indicated it was a metabolite of propoxyphene. The description included a warning that indicated the metabolite "may impair mental and/or physical ability required for the performance of potentially hazardous tasks (e.g., driving, operating heavy machinery)."