



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Washington, DC

Medical Factual Report

August 20, 2019

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Medical Officer

A. ACCIDENT: WPR18FA237; Descanso, California

On August 22, 2018, about 1615 Pacific daylight time, a Champion 7KCAB airplane, N1682G, impacted wooded terrain, about 8 miles northwest of Descanso, California. The certified flight instructor (CFI) and commercial pilot receiving instruction were fatally injured; the airplane sustained substantial damage to both wings and fuselage. The airplane was registered to Three Points Partners and operated by the CFI under the provisions of Title 14 *Code of Federal Regulations* Part 91. Visual meteorological conditions prevailed, and no flight plan was filed for the instructional flight. The local flight departed Gillespie Field Airport (SEE), El Cajon, California at 1601.

B. GROUP IDENTIFICATION

No group was formed for the medical evaluation in this accident.

C. DETAILS OF INVESTIGATION

Purpose

This investigation was performed to evaluate the pilot for medical conditions, the use of medications/illicit drugs, and the presence of toxins.

Methods

The FAA medical case review, and pilots' autopsy reports and FAA Forensic Sciences toxicology data were reviewed. Other pertinent scientific and regulatory issues were examined.

Instructor Pilot (rear seat)

FAA Medical Case Review

According to the FAA medical case review, the 77-year-old male instructor pilot held a second class medical certificate with the limitation that he must wear corrective lenses and possess glasses for near/intermediate vision. At the time of the most recent exam (8/28/2017), the instructor pilot was 71 inches tall and weighed 161 pounds. His last recorded number of flight hours was found in his June 2013 application, where he reported 7,120 hours. The instructor pilot reported taking no medications and having had knee surgery in 2016. He reported eye trouble and had a third class statement of demonstrated ability (SODA) issued in June 2000 for

monocularity. No other concerns were reported by the instructor pilot and no significant issues were identified by the aviation medical examiner (AME).

Autopsy

According to the autopsy performed by the San Diego County Medical Examiner's Department, the cause of death in the instructor pilot was blunt trauma and the manner of death was accident. In addition to the blunt trauma to the head, neck, torso, and extremities, moderate to severe atherosclerotic cardiovascular disease was noted. The heart was of normal size and shape. While the left main, left circumflex, and right coronary arteries had minimal atherosclerosis, there was 75% narrowing of the left anterior descending coronary artery. There was no evidence of an acute coronary event. Microscopic exam of the myocardium showed no inflammation or fibrosis. Moderate to severe atherosclerosis was noted in the aorta; there was no evidence of any aortic aneurisms. The arteries at the base of the brain had no atherosclerosis or aneurisms.

Toxicology

Toxicological testing performed by the FAA's Forensic Sciences Laboratory identified 0.014 grams per deciliter (gm/dL, 0.014%) ethanol in cavity blood, no ethanol in brain tissue, and 0.011 gm/dL (0.011%) in muscle.¹ While ethanol is primarily a social drug that acts as a central nervous system depressant, ethanol may also be produced in the body after death by microbial activity.² No tested drugs or carboxyhemoglobin were detected in cavity blood. Toxicological testing by the San Diego coroner was negative for drugs of abuse and showed a chest blood alcohol concentration of 0.02% (weight per volume).

Student Pilot (front seat)

FAA Medical Case Review

According to the FAA medical case review, the 36-year-old male student pilot held a first class medical certificate with no limitations; this certificate was valid as a third class certificate until 8/31/2019. At the time of the only exam (8/26/14), the student pilot was 76 inches tall and weighed 230 pounds. No concerns were reported by the pilot and no significant issues were identified by the AME.

Autopsy

According to the autopsy performed by the San Diego County Medical Examiner's Department, the cause of death in the student pilot was blunt trauma and the manner of death was accident. No significant natural disease was identified.

Toxicology

Toxicological testing performed by the FAA's Forensic Sciences Laboratory identified 0.028 gm/dL (0.028%) ethanol in cavity blood, no ethanol in brain tissue, and 0.019 gm/dL (0.019%) in muscle. No tested drugs or carboxyhemoglobin were detected in cavity blood. Toxicological

¹ The FAA Forensic Sciences Laboratory can test for more than 1,300 substances including toxins, common prescription and over-the-counter medications as well as illicit drugs. See: <http://jag.camii.jccbi.gov/toxicology/default.asp?offset=0>.

² Federal Aviation Administration. Forensic Toxicology Drug Information. Ethanol. <http://jag.camii.jccbi.gov/toxicology/DrugDetail.asp?did=60> Accessed 07/10/2019.

testing by the San Diego coroner was negative for drugs of abuse and showed a central blood alcohol concentration of 0.04% (weight per volume).

D. SUMMARY OF MEDICAL FINDINGS

Instructor Pilot (rear seat)

The 77-year-old male instructor pilot held a second class medical certificate with the limitation that he must wear corrective lenses and possess glasses for near/intermediate vision. At the time of the most recent exam (8/28/2017), he reported taking no medications and having had knee surgery in 2016. The instructor pilot had a third class SODA issued in June 2000 for monocular vision. No other concerns were reported or identified.

According to the autopsy, the cause of death in the instructor pilot was blunt trauma and the manner of death was accident. The heart was of normal size and shape. The left anterior descending coronary artery had 75% narrowing by atherosclerotic plaques. Microscopic exam of the myocardium showed no inflammation or fibrosis. Moderate to severe atherosclerosis was noted in the aorta; there was no evidence of any aortic aneurisms. The arteries at the base of the brain had no atherosclerosis or aneurisms.

Toxicological testing of specimens from the instructor pilot identified 0.014 gm/dL (0.014%) ethanol in cavity blood, no ethanol in brain tissue, and 0.011 gm/dL (0.011%) in muscle.

Student Pilot (front seat)

The 36-year-old male student pilot held a first class medical certificate with no limitations. No concerns were reported or identified. According to the autopsy, the cause of death in the student pilot was blunt trauma and the manner of death was accident. There was no significant natural disease. Toxicological testing performed by the FAA's Forensic Sciences laboratory identified 0.028 gm/dL (0.028%) ethanol in cavity blood, no ethanol in brain tissue, and 0.019 gm/dL (0.019%) in muscle.