



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Washington, DC

Medical Factual Report

March 15, 2016

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Medical Officer

A. ACCIDENT: CEN16MA036 Akron, Ohio

On November 10, 2015, about 2:52 p.m. eastern standard time (EST), Execuflight flight 1526, a British Aerospace HS 125-700A, N237WR, departed controlled flight while on approach to landing at Akron Fulton International Airport (AKR) and impacted a 4-plex apartment building in Akron, Ohio. The captain, first officer, and seven passengers died; no ground injuries were reported. The airplane was destroyed by the crash and a postcrash fire. The airplane was registered to Rais Group International NC LLC and operated by Execuflight under the provisions of 14 *Code of Federal Regulations* Part 135 as an on-demand charter flight. Instrument meteorological conditions prevailed, and an instrument flight rules flight plan was filed. The flight departed from Dayton-Wright Brothers Airport (MGY), Dayton, Ohio, about 2:13 p.m. EST and was destined for AKR.

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 pilots for any medical conditions, the use of any medications/illicit drugs, and the presence of any toxins.

Methods

The FAA medical certification records, toxicology results, autopsy reports, and the investigator's report were reviewed.

Captain – Left Front Seat

FAA Medical Certification Record

According to the FAA medical certification record, the 40-year-old male pilot was first certified in 2000. On his most recent FAA medical certification exam dated June 23, 2015, he reported he had accrued 6,000 total flight hours. On that exam, he measured 67 inches tall, weighed 176 pounds and reported no medical concerns on his medical history. The FAA Aviation Medical Examiner identified no abnormal physical findings and issued him a First Class Medical Certificate with no limitations.

Autopsy

According to the Summit County Medical Examiner, the cause of death was inhalation of products of combustion and thermal injuries and the manner was accident.

The microscopic examination noted liver sections showed mild hepatic steatosis (fatty liver) associated with mild portal and lobular inflammation. Mild fatty liver disease is often asymptomatic and may be associated with a number of different conditions including metabolic disorders, infections, inflammatory processes and toxic exposures.¹ Additionally, the report noted there was no evidence of any catastrophic natural event.

Toxicology

FAA Bioaeronautical Research Laboratory toxicology analysis identified carbon monoxide (19%) and cyanide (1.51 ug/ml) in blood. Carbon monoxide is a toxic product of combustion normal levels can be as high as 8% in smokers.² Cyanide is a toxic substance often produce in high concentration from burning of nitrogen containing plastics.³ Testing did not identify ethanol, drugs of abuse, or medications.^a

First Officer – Right Front Seat

FAA Medical Certification Record

According to the FAA medical certification record, the 50-year-old male pilot was first certified in 1991. On his most recent FAA medical certification exam dated September 3, 2015, he reported he had accrued 4,500 total flight hours. On that exam, he measured 67 inches tall, weighed 144 pounds and reported no medical concerns on his medical history. The FAA Aviation Medical Examiner identified no abnormal physical findings and issued him a First Class Medical Certificate with no limitations.

Autopsy

According to the Summit County Medical Examiner, the cause of death was inhalation of products of combustion and thermal injuries and the manner was accident. The autopsy did not identify any natural disease.

^a Specimens are analyzed using immunoassay, chromatography, GC/MS, HPLC/MS, or GC/FTIR. Concentrations (ug/mL) at or above those in () can be determined for, but not limited to, the following drugs: amphetamines (0.010), opiates (0.010), marijuana (0.001), cocaine (0.020), phencyclidine (0.002), benzodiazepines (0.030), barbiturates (0.060), antidepressants (0.100), and antihistamines (0.020). Drugs and/or their metabolites, that are not impairing or abused, may be reported from the initial tests. See the CAMI Drug Information Web Site for additional information (<http://jag.cami.jcabi.gov/toxicology/>). The volatile concentrations are determined by headspace gas chromatography at a cut off of 10 mg/dL.

Toxicology

FAA Bioaeronautical Research Laboratory toxicology analysis identified carbon monoxide (37%) and cyanide (2.37 ug/ml) in blood.^{2,3} Testing did not identify ethanol, drugs of abuse, or medications.^a

D. SUMMARY OF FINDINGS

Neither pilot had reported any significant medical conditions or use of any regular medications to the FAA. Both died from the inhalation of products of combustion and thermal injuries. According to the autopsy report, the captain had mild steatosis associated with mild portal and lobular inflammation. No other significant natural disease was identified in either pilot.

FAA toxicology testing identified carbon monoxide (19%) and cyanide (1.51 ug/ml) in the captain's blood and carbon monoxide (37%) and cyanide (2.37 ug/ml) in the first officer's blood.

References

¹ National Institute of Health, National Institute of Diabetes and Digestive and Kidney Disease, Nonalcoholic Steatohepatitis, <http://www.niddk.nih.gov/health-information/health-topics/liver-disease/nonalcoholic-steatohepatitis/Pages/facts.aspx> Accessed 3/11/2016.

² Federal Aviation Administration, Forensic Toxicology WebDrugs, Carboxyhemoglobin <http://jag.cami.jccbi.gov/toxicology/DrugDetail.asp?did=26> Accessed 03/11/2016.

³ Federal Aviation Administration, Forensic Toxicology WebDrugs, Cyanide, <http://jag.cami.jccbi.gov/toxicology/DrugDetail.asp?did=37> Accessed 03/11/2016.