

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



Medical Factual Memorandum for Record

February 4, 2026

A. CASE

NTSB ID: ERA25LA256
Location: DeLand, Florida
Date: July 3, 2025
Time: About 10:07 a.m. local time

B. MEDICAL SPECIALIST

Specialist JE Tuttle MD MHA FACS
 National Transportation Safety Board
 Washington, DC

C. DETAILS

1.0 Description of Review

For purposes of evaluating the surviving pilot for potentially impairing medical conditions and substances, the above Medical Specialist reviewed the following sources of medical information, along with selected relevant regulation, medical literature, and investigator reports.

- Federal Aviation Administration (FAA) Airmen Registry - Pilot
- Post-Accident Hospital Records - Pilot
- Toxicology report - pilot

2.0 Summary of Medical Facts

The 63-year-old male pilot had not applied for a FAA medical certification.¹ According to post-accident hospital records, the pilot was transported to a hospital trauma center by emergency medical services after the accident. In the emergency department, the pilot denied losing consciousness and having chronic medical conditions. As a result of his injuries, he was unable to communicate home medications. He underwent a full medical evaluation including Computed tomography (CT) scans of his head, face, chest, abdomen and standard x-rays. No significant natural disease was identified. In the hospital records, alprazolam, a prescription medication commonly used to treat anxiety and panic attacks, was documented as a home medication. The pilot was admitted to the hospital for treatment of his multiple traumatic injuries.

The FAA Forensic Sciences Laboratory performed toxicology testing of blood that had been collected from the pilot at the hospital on the day of the accident at 10:45 AM.^{2,3} Methamphetamine was detected at 536 ng/mL and amphetamine was detected at 62 ng/mL. Alprazolam was detected at 31 ng/mL.

Methamphetamine is a central nervous system stimulant drug. Amphetamine is a metabolite of methamphetamine and is also a central nervous system stimulant. Both methamphetamine and amphetamine are available as federal Schedule II controlled substance prescription medications used to treat attention deficit hyperactivity disorder, narcolepsy, and occasionally obesity. As medicines, the drugs typically carry warnings that they may impair the ability to engage in potentially hazardous activities. Methamphetamine also carries a warning that misuse may cause serious cardiovascular adverse events.^{4,5} The FAA considers methamphetamine and

¹ According to the FAA Airman Registry, the pilot's information showed he held a student pilot certificate. . <https://amsrvs.registry.faa.gov/airmeninquiry/>. Accessed October 23, 2025.

² The FAA Forensic Sciences laboratory has the capability to test for around a thousand substances including toxins, prescription and over-the-counter medications, and illicit drugs.

³ In communication with the FAA Forensic Sciences Laboratory, the tube of blood received for the pilot was labeled "10:45 " and the only date was July 3, 2025, (the day of admission). On reviewing the post-accident medical records, a hospital blood draw was confirmed on the day of admission, at 10:45.

⁴ National Institutes of Health National Library of Medicine. Methamphetamine hydrochloride. DailyMed. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=f31f580f-1f08-4a0f-b078-0b9e3308f712>. Updated July 5, 2023. Accessed October 22, 2025.

⁵ National Institutes of Health National Library of Medicine. Amphetamine sulfate. DailyMed. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=79b9db39-7cdc-5607-f0ce-ac2a2cfd59d5>. Updated June 8, 2023. Accessed October 22, 2025.

amphetamine to be "Do Not Issue/Do Not Fly" medications.⁶ In addition to being used medicinally, methamphetamine and amphetamine are frequently produced illicitly and abused recreationally by ingestion, snorting, smoking, rectal insertion, or injection. Seeking an intense euphoric effect, people who abuse methamphetamine typically use higher doses than are used medicinally. In living people, methamphetamine blood concentrations of 20-50 ng/mL are typical with medicinal use, while methamphetamine blood concentrations over 200 ng/mL generally represent abuse.⁷ Impairment related to methamphetamine or amphetamine use can result from drug or withdrawal effects, with features of central nervous system stimulation or central nervous system depression. A measured methamphetamine level does not indicate whether a person is experiencing early- or late-phase effects.

Alprazolam, sometimes marketed as Xanax, is a potent prescription benzodiazepine medication commonly used to treat anxiety and panic disorders. Alprazolam also has the potential for dependence and withdrawal.⁸ In living people using the medication daily, alprazolam blood concentrations can range from 5-50 ng/mL.⁹ Alprazolam can cause sedation and psychomotor impairment, with adverse effects on tracking, attention, and reaction speed.⁷ Alprazolam medication typically carries a warning that it depresses central nervous system function, and that users should be cautioned against engaging in hazardous occupations requiring mental alertness such as operating machinery or driving a motor vehicle.⁸ The FAA considers alprazolam to be a "Do Not Issue/Do Not Fly " medication.⁶ In addition to medicinal use, alprazolam commonly is misused, including sometimes in an attempt to counteract undesired effects of methamphetamine use.¹⁰

Submitted by:

JE Tuttle MD MHA FACS
Medical Officer

⁶ Federal Aviation Administration. Guide for aviation medical examiners: pharmaceuticals (therapeutic medications) do not issue - do not fly. Federal Aviation Administration website. https://www.faa.gov/ame_guide/pharm/dni_dnf. Updated July 10, 2023. Accessed October 22, 2025.

⁷ Couper FJ, Huestis M, Fulford J, et al. Drugs and Human Performance Fact Sheets: 2024. Bts.gov. Published December 2024. <https://rosap.ntl.bts.gov/view/dot/78924>.

⁸ National Library of Medicine. National Institutes of Health. Alprazolam tablet. DailyMed. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=388e249d-b9b6-44c3-9f8f-880eced0239f>. Updated January 18, 2023. Accessed October 23, 2025.

⁹ Schulz M, Schmoldt A, Andresen-Streichert H, Iwersen-Bergmann S. Revisited: Therapeutic and toxic blood concentrations of more than 1100 drugs and other xenobiotics. *Crit Care*. 2020;24(1):195. Published 2020 May 6. doi:10.1186/s13054-020-02915-5.

¹⁰ National Institutes of Health. National Library of Medicine. National Center for Biotechnology Information. Methamphetamine: Stat Pearls. <https://www.ncbi.nlm.nih.gov/books/NBK535356/>. Updated May 1, 2023. Accessed October 22, 2025.

