



National Transportation Safety Board Aviation Accident Factual Report

| | | | |
|--------------------------------|--------------------------------------|-------------------------|-------------|
| Location: | Martinville, IL | Accident Number: | CEN15FA378 |
| Date & Time: | 08/21/2015, 0730 CST | Registration: | N8265B |
| Aircraft: | CESSNA 172 | Aircraft Damage: | Substantial |
| Defining Event: | Loss of control in flight | Injuries: | 1 Fatal |
| Flight Conducted Under: | Part 91: General Aviation - Personal | | |

On August 21, 2015, about 0730 central standard time, a Cessna 172 airplane, N8265B, was substantially damaged when it collided with terrain under unknown circumstances near Martinsville, Illinois. The non-certificated pilot, who was the sole occupant and owner of the airplane, sustained fatal injuries. The flight was being conducted under the provisions of 14 *Code of Federal Regulations* Part 91. Visual meteorological conditions prevailed throughout the area at the time of the accident, and no flight plan was filed for the personal flight that originated from the Casey Municipal Airport (1H8), Casey, Illinois, about 0700.

There were no witnesses to the accident, and no radio or distress calls were heard from the pilot. There was no available radar information for the flight.

A person who was at 1H8 on the morning of the accident was interviewed. He reported that he saw a grey pickup truck near the center of the taxiway that he usually used. He did not see any aircraft or activity, but he noticed that a hangar door on the south end of the center row of hangars was open. During the investigation, it was determined that the grey truck belonged to the pilot and that the open hangar was the pilot's hangar where he stored the airplane.

The pilot's nephew stated that the pilot would normally fly early in the morning from Casey Airport to check on his fields. The pilot owned property near the accident site, and he liked to fly over the property because of the openness and lack of power lines. She had been in contact with the pilot on the evening before the flight. She also stated that the pilot was taking prescription medications for an ongoing illness. Neither family member knew the reason for the flight; both said that the pilot was preparing to sell the airplane.

Pilot Information

| | | | |
|----------------------------------|--|--|------------|
| Certificate: | None | Age: | 63 |
| Airplane Rating(s): | None | Seat Occupied: | |
| Other Aircraft Rating(s): | None | Restraint Used: | Lap Only |
| Instrument Rating(s): | None | Second Pilot Present: | No |
| Instructor Rating(s): | None | Toxicology Performed: | Yes |
| Medical Certification: | None None | Last FAA Medical Exam: | 03/24/2003 |
| Occupational Pilot: | No | Last Flight Review or Equivalent: | |
| Flight Time: | (Estimated) 100 hours (Total, all aircraft), 0.5 hours (Last 24 hours, all aircraft) | | |

According to information provided by the FAA, the pilot did not hold a pilot certificate. The records showed that the pilot had been issued a third-class medical/student pilot certificate on March 24, 2003, that expired on March 31, 2005. The flight time reported on his medical certificate application was 80 hours. No recent flight time records or logbooks for the pilot were found. There were no records found of anyone other than the pilot flying the airplane. Based on the airplane's tachometer time, the pilot had flown the accident airplane about 0.8 hours in the previous 4 months.

Aircraft and Owner/Operator Information

| | | | |
|--------------------------------------|--|---------------------------------------|-----------------|
| Aircraft Make: | CESSNA | Registration: | N8265B |
| Model/Series: | 172 UNDESIGNAT | Aircraft Category: | Airplane |
| Year of Manufacture: | 1957 | Amateur Built: | No |
| Airworthiness Certificate: | Normal | Serial Number: | 36065 |
| Landing Gear Type: | Tricycle | Seats: | 4 |
| Date/Type of Last Inspection: | 03/11/2015, Annual | Certified Max Gross Wt.: | 2299 lbs |
| Time Since Last Inspection: | 1 Hours | Engines: | 1 Reciprocating |
| Airframe Total Time: | 3750.9 Hours at time of accident | Engine Manufacturer: | CONT MOTOR |
| ELT: | Installed, activated, did not aid in locating accident | Engine Model/Series: | 0-300 SER |
| Registered Owner: | On file | Rated Power: | 145 hp |
| Operator: | On file | Operating Certificate(s) Held: | None |

According to FAA records, the 1957 Cessna 172, powered by a Continental O-300 engine, was last registered by the pilot on April 30, 2015. Review of available logbooks for the airplane

indicated that the most recent annual inspection of the airframe and engine was completed on March 11, 2015. No outstanding items or uncorrected defects were noted. At the time of the inspection, the engine time was 832.5 hours since major overhaul, and the airframe total time was 3,750.1 hours. The previous annual inspection was completed in 2006. According to the logbooks, the airplane was flown about 6.3 hours between the 2006 and 2015 annual inspections and 0.8 hours between the last annual inspection and the accident.

During an interview, the certified mechanic who completed the most recent annual inspection stated that he rarely saw the airplane fly over the years but, on a few occasions, saw the airplane returning to the airport in the morning when he reported to work. He stated that he flew with the accident pilot after the 2006 annual inspection was completed and that the pilot asked him to take the left seat but never mentioned that he was a student pilot.

On February 25, 2015, 5.5 gallons of 100LL fuel was added to the airplane and then drained out to flush/clean the fuel systems/tanks during maintenance. On March 11, 2015, 36.1 gallons of 100LL fuel was added to the airplane. The airplane total fuel capacity was 42 gallons with 5 gallons total unusable.

Meteorological Information and Flight Plan

| | | | |
|---|-------------------|---|-------------------|
| Conditions at Accident Site: | Visual Conditions | Condition of Light: | Day |
| Observation Facility, Elevation: | MTO, 220 ft msl | Distance from Accident Site: | 35 Nautical Miles |
| Observation Time: | 0753 CST | Direction from Accident Site: | 270° |
| Lowest Cloud Condition: | Clear | Visibility | 10 Miles |
| Lowest Ceiling: | None | Visibility (RVR): | |
| Wind Speed/Gusts: | 4 knots / | Turbulence Type Forecast/Actual: | / None |
| Wind Direction: | 190° | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | 30.12 inches Hg | Temperature/Dew Point: | 22° C / 20° C |
| Precipitation and Obscuration: | | | |
| Departure Point: | Casey, IL (1H8) | Type of Flight Plan Filed: | None |
| Destination: | Casey, IL (1H8) | Type of Clearance: | None |
| Departure Time: | 0700 CST | Type of Airspace: | |

The nearest weather reporting facility was located at the Coles County Memorial Airport, Mattoon, Illinois, about 35 miles west of the accident site. At 0753, the facility reported clear skies, temperature 72°F, dew point 68°F, visibility 10 miles, and altimeter setting 30.12 inches of mercury.

Wreckage and Impact Information

| | | | |
|---------------------|---------|----------------------|-----------------------------|
| Crew Injuries: | 1 Fatal | Aircraft Damage: | Substantial |
| Passenger Injuries: | N/A | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 1 Fatal | Latitude, Longitude: | 39.253889, -87.798333 (est) |

Local authorities found the wreckage in a mature bean field about 11.5 miles southeast of 1H8 the day following the accident.

The initial ground scar and the damaged mature bean crop (3-4-ft tall crop) were consistent with the airplane impacting the flat, soft soil in about a 30° nose-down attitude. Ground scars were consistent with the airplane skidding forward about 20 ft, bouncing, impacting the ground again, and coming to rest inverted. Two tracks correlating to the dimensions of the left main and nose landing gears, extended about 294 ft on the tops of the soybean crop before the initial ground impact. All ground scars correlated to ground impact with high momentum. The engine, with attached propeller assembly, was found separated from the airframe (except for tachometer cables). The empennage of the airplane was found partially detached from the airframe due to impact forces, except for the rudder and elevator control cables.

Detailed examinations of the airframe and engine were conducted on August 23 and 24, 2015, at the facilities of Casey Municipal Airport.

Cockpit/Cabin/Fuselage

The cockpit roof section was crushed downward into the instrument panel. The engine firewall was crushed aft into the instrument panel. The cockpit floor from the engine firewall aft to the rudder pedals was crushed upward. The throttle, mixture, and carburetor heat knobs were found in the full forward positions. The pilot seat was found locked in the last seat rail hole. The seat rail exhibited no gouge marks forward of the lock hole. The pilot's seat exhibited deformation consistent with impact damage. The airplane was equipped with a 2-point (lap belt) safety restraint system. The lap belt had been cut by first responders. The airspeed indicator needle was found at the 80-mph position.

Aft Fuselage/Empennage

The empennage aft of the rear cabin window was separated, except for the rudder and elevator flight control cables and the elevator trim control cables. The separation exhibited signatures consistent with impact damage. The vertical stabilizer remained partially attached to the empennage. The rudder remained attached to the vertical stabilizer. Both horizontal stabilizers remained attached to the empennage. The right horizontal stabilizer was bent up and aft. The right elevator with attached trim tab remained attached to the right horizontal stabilizer.

Wings

Both wings remained attached to the fuselage. The left wing leading edge, about midsection outboard to the wing tip, exhibited an aft diagonal buckle. The left wing leading edge, about midsection inboard to the wing root, exhibited aft crushing. The right wing leading edge exhibited aft crushing. Both ailerons remained attached to their respective wing attachment points. Both wing flaps remained attached to their respective wing attachment points.

Flight Controls

Flight control cable continuity was confirmed from the cockpit to each flight control surface. All the cable separations exhibited signatures consistent with cable cuts made during airplane retrieval from the accident site. The right aileron push/pull rod was separated, and the separation surfaces exhibited signatures consistent with tension overload and impact forces. The right elevator trim actuator extension was measured to be about 1 and 1/8 inches, which corresponded to about a 5° trim tab trailing edge down (airplane nose up) deflection. The elevator trim cockpit indicator was impact damaged. The wing flaps were found in the full retracted position. The mechanical flap lever was found in the full retract position/detent.

Fuel

The fuel selector valve handle was found in the "BOTH" position. The fuel selector valve was removed from the airplane, and it was verified that the valve ported to the wing fuel tank ports. The fuel selector valve was rotated by hand to the left, right, both, and off detents with normal operation. Both wing fuel filler caps were found installed on the airplane. Both fuel caps were removed, and no fuel was noted in the fuel tanks, which were compromised by impact damage. It was noted that the airplane had been resting inverted for about 24-hours after the accident. A smell consistent with aviation gasoline 100LL was evident in each wing fuel tank and at the accident site.

Engine – Continental O-300

Examination of the engine revealed a 3x4 inch hole in the bottom portion of the engine case, behind the throttle body mount, which was separated from the case. The case damage correlated to impact forces. Valve train continuity and engine compression at each cylinder was confirmed by rotating the engine crankshaft propeller flange. All spark plugs were removed and examined. All spark plugs exhibited normal wear according to the Champion Check-A-Plug Card. Both magnetos remained attached to the engine. Both magnetos were removed from the engine and rotated by a battery power screw gun. Spark was noted at all leads on both magnetos.

The engine oil filter screen was removed and was found free of debris. The throttle body/carburetor was separated from the engine and exhibited postimpact damage. The carburetor was disassembled, and the float exhibited no binding. The carburetor float bowl exhibited no scoring marks. The carburetor inlet fuel filter screen was found free of debris.

Propeller - McCauley 1A170/DM

The 2-blade metal propeller assembly remained attached to the engine. Both propeller blades exhibited no significant twisting. One blade was bent aft (toward the non-camber side) about 6 inches from the base. Both blades exhibited chord-wise scratches and were polished on their respective leading edges. Torsional stress signatures were noted behind the engine crankshaft propeller flange, and the propeller flange was canted to the left.

Medical And Pathological Information

The 63-year-old male pilot did not have a valid medical certificate at the time of the accident although one was required to fly the airplane involved. He had a history of multiple medical conditions including: metastatic colon cancer treated with chemotherapy, hypothyroidism, high blood pressure, diabetes controlled with oral medications, chronic pain treated with impairing opioid pain medications, and anxiety treated with an impairing benzodiazepine. Examinations within a month of the accident did not identify any significant abnormal neurologic or psychiatric findings.

The autopsy performed by the Terre Haute Indiana Regional Hospital Department of Pathology documented the pilot died from blunt force injuries but did not identify any evidence of metastatic cancer or significant natural disease.

Toxicology testing by the FAA's Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, found impairing medications alprazolam at 129 ng/ml, codeine at 26.4 ng/ml, diphenhydramine at 159 ng/ml, fentanyl at 3.6 ng/ml, oxycodone at 428 ng/ml and its active metabolite oxymorphone at 19.3 ng/ml and ethanol at 0.047%. Urine was negative for ethanol indicating it was from postmortem production. However, urine was positive for the impairing medications: alprazolam, fentanyl and its metabolite norfentanyl, codeine and its active metabolite morphine, oxycodone and its active metabolite oxymorphone. Additionally, the non-impairing prescription blood pressure medicine metoprolol was detected in liver.

Administrative Information

| | |
|-----------------------------------|---|
| Investigator In Charge (IIC): | Alexander Lemishko |
| Additional Participating Persons: | Adama Allmond; FAA FSDO; Springfield, IL |
| Note: | The NTSB traveled to the scene of this accident. |
| Investigation Docket: | http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=91855 |