



National Transportation Safety Board Aviation Accident Factual Report

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| Location: | Grandfield, OK | Accident Number: | FTW03LA091 |
| Date & Time: | 02/01/2003, 1300 CST | Registration: | N474BG |
| Aircraft: | Gilbertson Zodiac CH601HDS | Aircraft Damage: | Substantial |
| Defining Event: | | Injuries: | 1 None |

Flight Conducted Under: Part 91: General Aviation - Flight Test

On February 1, 2003, approximately 1300 central standard time, a Gilbertson Zodiac CH601HDS experimental airplane, N474BG, struck a berm during a forced landing following a total loss of engine power near Grandfield, Oklahoma. The airplane was built, owned, and operated by the pilot under 14 Code of Federal Regulations (CFR) Part 91. The airline transport pilot, sole occupant of the airplane, was not injured, and the airplane sustained substantial damage. Visual meteorological conditions prevailed for the local flight, and a flight plan was not filed. The test flight originated from Chattanooga Sky Harbor Airport (92F) at Chattanooga, Oklahoma, approximately 1240.

The 5,043 hour pilot reported to the FAA inspector that during a flight that morning, the 73 horsepower Subaru automotive engine was running rough; however, he landed the airplane without further incident. The carburetor screen was removed, cleaned of debris, and reinstalled by the pilot.

On the Pilot/Operator Aircraft Accident Report, NTSB Form 6120.1/2, the pilot reported that during the accident flight, the oil and water temperature indicated 205-210 degrees, and the pilot elected to return to the airport at an initial altitude of 700 feet agl. At an airspeed of 70 knots and an altitude of 500 feet agl, there was a total loss of engine power. The pilot performed the emergency landing procedures. The pilot was not able to turn the airplane into the wind due to an unsafe landing area east of the airport traffic pattern for runway 17. The pilot attempted a 270 degree turn to a landing area; however, due to the decreasing altitude and airspeed (55 knots) of the airplane, he was not able to complete the turn. The pilot landed the airplane in a field with a right quartering tailwind. During the landing roll, the nose landing gear struck a berm, the nose landing gear collapsed, and the airplane came to rest 110 feet from the initial impact point in the field. The pilot reported the winds were from the southwest at 25 knots, with gust to 30 knots.

The FAA inspector reported that during the impact sequence, the airplane structure twisted, and the firewall and all components forward of the firewall separated from the airplane. The integrity of the fuel tank was compromised. The airplane had accumulated 27.6 hours of the required 40 hours of flight time under the operating limitations for the homebuilt airplane.

Pilot Information

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| Certificate: | Airline Transport | Age: | 53, Male |
| Airplane Rating(s): | Multi-engine Land; Single-engine Land | Seat Occupied: | Left |
| Other Aircraft Rating(s): | Helicopter | Restraint Used: | Seatbelt, Shoulder harness |
| Instrument Rating(s): | Airplane; Helicopter | Second Pilot Present: | No |
| Instructor Rating(s): | None | Toxicology Performed: | No |
| Medical Certification: | Class 2 Valid Medical--no waivers/lim. | Last FAA Medical Exam: | 04/26/2002 |
| Occupational Pilot: | | Last Flight Review or Equivalent: | 10/05/2001 |
| Flight Time: | 5043 hours (Total, all aircraft), 28 hours (Total, this make and model), 3117 hours (Pilot In Command, all aircraft), 67 hours (Last 90 days, all aircraft), 21 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft) | | |

Aircraft and Owner/Operator Information

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|--------------------------------------|--|---------------------------------------|-----------------|
| Aircraft Make: | Gilbertson | Registration: | N474BG |
| Model/Series: | Zodiac CH601HDS | Aircraft Category: | Airplane |
| Year of Manufacture: | | Amateur Built: | Yes |
| Airworthiness Certificate: | Experimental | Serial Number: | 63628 |
| Landing Gear Type: | Tricycle | Seats: | 2 |
| Date/Type of Last Inspection: | 08/31/2002, Condition | Certified Max Gross Wt.: | 1200 lbs |
| Time Since Last Inspection: | 31 Hours | Engines: | 1 Reciprocating |
| Airframe Total Time: | 28 Hours at time of accident | Engine Manufacturer: | Subaru |
| ELT: | Installed, activated, did not aid in locating accident | Engine Model/Series: | EA81 |
| Registered Owner: | Keith G. Gilbertson | Rated Power: | 73 hp |
| Operator: | Keith G. Gilbertson | Operating Certificate(s) Held: | None |

Meteorological Information and Flight Plan

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| Conditions at Accident Site: | Visual Conditions | Condition of Light: | Day |
| Observation Facility, Elevation: | | Distance from Accident Site: | |
| Observation Time: | | Direction from Accident Site: | |
| Lowest Cloud Condition: | Clear | Visibility | 10 Miles |
| Lowest Ceiling: | None | Visibility (RVR): | |
| Wind Speed/Gusts: | 25 knots / 30 knots | Turbulence Type Forecast/Actual: | / |
| Wind Direction: | 325° | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | | Temperature/Dew Point: | 21 °C |
| Precipitation and Obscuration: | | | |
| Departure Point: | Chattanooga, OK (92F) | Type of Flight Plan Filed: | None |
| Destination: | Chattanooga, OK (92F) | Type of Clearance: | VFR |
| Departure Time: | 1240 CST | Type of Airspace: | Class E |

Airport Information

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|----------------------|------------------------------|---------------------------|----------------|
| Airport: | Chattanooga Sky Harbor (92F) | Runway Surface Type: | Asphalt |
| Airport Elevation: | 1135 ft | Runway Surface Condition: | Dry |
| Runway Used: | 17 | IFR Approach: | None |
| Runway Length/Width: | 3400 ft / 60 ft | VFR Approach/Landing: | Forced Landing |

Wreckage and Impact Information

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|---------------------|--------|----------------------|-----------------------|
| Crew Injuries: | 1 None | Aircraft Damage: | Substantial |
| Passenger Injuries: | N/A | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 1 None | Latitude, Longitude: | 34.237778, -98.741944 |

Administrative Information

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| Investigator In Charge (IIC): | Joyce Roach |
| Additional Participating Persons: | Don Cook; FAA FSDO; Oklahoma City, OK |
| Investigation Docket: | NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ . |