



# Aviation Investigation Final Report

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|                                |   |                         |             |
|--------------------------------|---|-------------------------|-------------|
| <b>Location:</b>               | El Dorado, Kansas                       | <b>Accident Number:</b> | DFW08LA095  |
| <b>Date &amp; Time:</b>        | April 9, 2008, 13:25 Local              | <b>Registration:</b>    | N984W       |
| <b>Aircraft:</b>               | HAWKER BEECHCRAFT CORP G36              | <b>Aircraft Damage:</b> | Substantial |
| <b>Defining Event:</b>         | Loss of engine power (total)            | <b>Injuries:</b>        | 1 None      |
| <b>Flight Conducted Under:</b> | Part 91: General aviation - Flight test |                         |             |

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## Analysis

While climbing through 5,000 feet on the airplane's first post production test flight, a total loss of engine power was experienced. Following an unsuccessful engine restart attempt, the pilot elected to perform a forced landing on a nearby road. During the landing roll out the airplane's right wing sustained structural damage when it contacted a fence post. The airplane came to rest in an upright position and the pilot was able to exit the airplane unassisted. An examination of the engine revealed that a brass plug had fallen out of the fuel manifold valve, which resulted in the loss of engine power. The threads on the brass plug and in the fuel manifold valve were found unremarkable, suggesting that the brass plug was not sufficiently torqued at the time it was last installed. A determination as to the plug's last installation could not be established.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The improper installation of the fuel manifold valve's brass plug. Contributing to the accident was the unsuitable landing area for the forced landing.

## Findings

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|                             |   |
|-----------------------------|---|
| <b>Aircraft</b>             | Fuel distribution - Incorrect service/maintenance |
| <b>Environmental issues</b> | Fence/fence post - Effect on equipment            |
| <b>Personnel issues</b>     | Installation - Other                              |

## Factual Information

### History of Flight

|                                |   |
|--------------------------------|---|
| <b>Prior to flight</b>         | Aircraft maintenance event                    |
| <b>Enroute-climb to cruise</b> | Fuel starvation                               |
| <b>Enroute-climb to cruise</b> | Loss of engine power (total) (Defining event) |
| <b>Landing</b>                 | Off-field or emergency landing                |
| <b>Landing-landing roll</b>    | Collision with terr/obj (non-CFIT)            |

On April 9, 2008, about 1325 central daylight time, a single-engine Hawker Beechcraft G36 airplane, N984W, was substantially damaged during a forced landing following a loss of engine power near El Dorado, Kansas. The airline transport pilot, the sole occupant of the airplane, was not injured. The airplane was registered to and operated by Hawker Beechcraft Corporation, of Wichita, Kansas. Visual meteorological condition prevailed and no flight plan was filed for the 14 Code of Federal Regulations part 91 production test flight. The local flight departed the Beech Factory Airport (BEC), Wichita, Kansas at approximately 1310 for its maiden flight.

The pilot reported that while climbing through 5,000 feet, the airplane experienced a total loss of engine power. Following an unsuccessful engine restart attempt, the pilot elected to perform a forced landing on a nearby road. During the landing roll out the airplane's right wing sustained structural damage when it contacted a fence post. The airplane came to rest in an upright position and the pilot was able to exit the airplane unassisted.

On April 11, 2008, representatives from Hawker Beechcraft Corporation and Teledyne Continental Motors examined the engine with oversight provided by the Federal Aviation Administration. The examination revealed that brass plug part number 629518-1 had fallen out of the fuel manifold valve which resulted in the loss of engine power.

The threads on the brass plug and in the fuel manifold valve were found unremarkable, suggesting that the brass plug was not sufficiently torqued at the time it was last installed. A determination as to the brass plug's last installation could not be established.

## Pilot Information

|                                  |  |  |               |
|----------------------------------|--|--|---------------|
| <b>Certificate:</b>              | Airline transport; Flight instructor   | <b>Age:</b>                              | 35, Male      |
| <b>Airplane Rating(s):</b>       | Single-engine land; Multi-engine land  | <b>Seat Occupied:</b>                    | Left          |
| <b>Other Aircraft Rating(s):</b> | None   | <b>Restraint Used:</b>                   |               |
| <b>Instrument Rating(s):</b>     | Airplane   | <b>Second Pilot Present:</b>             | No            |
| <b>Instructor Rating(s):</b>     | Airplane multi-engine; Airplane single-engine  | <b>Toxicology Performed:</b>             | No            |
| <b>Medical Certification:</b>    | Class 2 Without waivers/limitations  | <b>Last FAA Medical Exam:</b>            | June 14, 2007 |
| <b>Occupational Pilot:</b>       | Yes  | <b>Last Flight Review or Equivalent:</b> | April 2, 2008 |
| <b>Flight Time:</b>              | 7100 hours (Total, all aircraft), 63 hours (Total, this make and model), 6600 hours (Pilot In Command, all aircraft), 152 hours (Last 90 days, all aircraft), 50 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft) |  |               |

## Aircraft and Owner/Operator Information

|                                      |                          |                                       |                      |
|--------------------------------------|--------------------------|---------------------------------------|----------------------|
| <b>Aircraft Make:</b>                | HAWKER BEECHCRAFT CORP   | <b>Registration:</b>                  | N984W                |
| <b>Model/Series:</b>                 | G36                      | <b>Aircraft Category:</b>             | Airplane             |
| <b>Year of Manufacture:</b>          |                          | <b>Amateur Built:</b>                 |                      |
| <b>Airworthiness Certificate:</b>    | Special flight (Special) | <b>Serial Number:</b>                 | E-3849               |
| <b>Landing Gear Type:</b>            | Retractable - Tricycle   | <b>Seats:</b>                         | 6                    |
| <b>Date/Type of Last Inspection:</b> | Unknown                  | <b>Certified Max Gross Wt.:</b>       | 3650 lbs             |
| <b>Time Since Last Inspection:</b>   |                          | <b>Engines:</b>                       | 1 Reciprocating      |
| <b>Airframe Total Time:</b>          |                          | <b>Engine Manufacturer:</b>           | Teledyne Continental |
| <b>ELT:</b>                          | Installed, not activated | <b>Engine Model/Series:</b>           | IO-550               |
| <b>Registered Owner:</b>             | HAWKER BEECHCRAFT CORP   | <b>Rated Power:</b>                   | 300 Horsepower       |
| <b>Operator:</b>                     | HAWKER BEECHCRAFT CORP   | <b>Operating Certificate(s) Held:</b> | None                 |

## Meteorological Information and Flight Plan

|   |                                  |   |                   |
|---|----------------------------------|---|-------------------|
| <b>Conditions at Accident Site:</b>     | Visual (VMC)                     | <b>Condition of Light:</b>                  | Day               |
| <b>Observation Facility, Elevation:</b> | AAO,1421 ft msl                  | <b>Distance from Accident Site:</b>         | 24 Nautical Miles |
| <b>Observation Time:</b>                | 12:54 Local                      | <b>Direction from Accident Site:</b>        | 238°              |
| <b>Lowest Cloud Condition:</b>          | Few / 1800 ft AGL                | <b>Visibility</b>                           | 10 miles          |
| <b>Lowest Ceiling:</b>                  | None                             | <b>Visibility (RVR):</b>                    |                   |
| <b>Wind Speed/Gusts:</b>                | 12 knots /                       | <b>Turbulence Type Forecast/Actual:</b>     | /                 |
| <b>Wind Direction:</b>                  | 90°                              | <b>Turbulence Severity Forecast/Actual:</b> | /                 |
| <b>Altimeter Setting:</b>               | 30 inches Hg                     | <b>Temperature/Dew Point:</b>               | 8°C / 2°C         |
| <b>Precipitation and Obscuration:</b>   | No Obscuration; No Precipitation |   |                   |
| <b>Departure Point:</b>                 | WICHITA, KS (BEC )               | <b>Type of Flight Plan Filed:</b>           | None              |
| <b>Destination:</b>                     |                                  | <b>Type of Clearance:</b>                   | None              |
| <b>Departure Time:</b>                  | 13:10 Local                      | <b>Type of Airspace:</b>                    |                   |

## Wreckage and Impact Information

|                            |        |                             |                      |
|----------------------------|--------|-----------------------------|----------------------|
| <b>Crew Injuries:</b>      | 1 None | <b>Aircraft Damage:</b>     | Substantial          |
| <b>Passenger Injuries:</b> | N/A    | <b>Aircraft Fire:</b>       | None                 |
| <b>Ground Injuries:</b>    | N/A    | <b>Aircraft Explosion:</b>  | None                 |
| <b>Total Injuries:</b>     | 1 None | <b>Latitude, Longitude:</b> | 37.941944,-96.838333 |

## Administrative Information

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| <b>Investigator In Charge (IIC):</b>     | LeBaron, Timothy   |
| <b>Additional Participating Persons:</b> | Irv Freige; Federal Aviation Administration; Wichita, KS<br>Brian Weber; Hawker Beechcraft Corporation; Wichita, KS<br>Christopher Lang; Teledyne Continental Motors; Mobile, AL |
| <b>Original Publish Date:</b>            | January 29, 2009   |
| <b>Last Revision Date:</b>               |  |
| <b>Investigation Class:</b>              | <a href="#">Class</a>  |
| <b>Note:</b>                             |  |
| <b>Investigation Docket:</b>             | <a href="https://data.nts.gov/Docket?ProjectID=67796">https://data.nts.gov/Docket?ProjectID=67796</a>  |

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).