



Aviation Investigation Final Report

Location:	Hoxie, Kansas	Accident Number:	CEN13LA245
Date & Time:	April 26, 2013, 18:35 Local	Registration:	N222GL
Aircraft:	RAYTHEON AIRCRAFT COMPANY G36	Aircraft Damage:	Substantial
Defining Event:	Loss of engine power (partial)	Injuries:	3 None
Flight Conducted Under:	Part 91: General aviation		

Analysis

When the airplane was en route to the destination airport, the engine began to run rough and lose power. The pilot attempted to restore engine power and turned toward the nearest airport. Unable to reach the airport, the pilot performed a forced landing to a field, and the airplane was substantially damaged during the off-field landing. About 60 gallons of fuel was drained from the airplane during its recovery. A review of the multi-function display data revealed normal engine operation from takeoff until about 1.5 hours into the flight, when the fuel flow decreased and the engine experienced a loss of engine power. An examination of the airframe and a subsequent engine run did not detect any preimpact anomalies. The reason for the reduction in fuel flow and the subsequent fuel starvation to the engine could not be determined.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The loss of engine power due to fuel starvation for reasons that could not be determined because a postaccident examination of the airframe and engine did not reveal any anomalies that would have precluded normal operation.

Findings

Aircraft

(general) - Not specified

Factual Information

History of Flight

Enroute-cruise	Unknown or undetermined
Enroute-cruise	Loss of engine power (partial) (Defining event)
Uncontrolled descent	Loss of engine power (total)
Landing-flare/touchdown	Hard landing

On April 26, 2013, about 1835 central daylight time, a Beech G36 airplane, N222GL, conducted a forced landing near Hoxie, Kansas. The commercial pilot and two passengers were not injured. The airplane was registered to and operated by Garmin International Inc., under the provisions of 14 Code of Federal Regulations Part 91, as a business flight. Visual meteorological conditions prevailed for the flight, which operated on an instrument flight rules flight plan. The flight originated from the Centennial Airport (KAPA), Englewood, Colorado, about 1605 mountain daylight time, and was en route to the New Century AirCenter Airport (KIXD), Olathe, Kansas.

According to a statement provided by the pilot, while at KAPA, the airplane's fuel tanks were filled with fuel and sumped prior to flight. About an hour after departure while in cruise flight at 11,000 feet mean sea level, the engine began to run rough with vibrations and decreasing power. The propeller rpm began to decrease and the pilot attempted to restore engine power. The pilot was unable to fly to the nearest airport, and performed a landing to an open agricultural field. During the forced landing, the airplane's nose gear was sheared off and the left wing was partially separated from the fuselage with buckling of the structure above the left main landing gear.

The airplane was equipped with a Garmin G1000 integrated avionics system. A download of the data recorded by the device revealed that after departure, the airplane's engine consumed fuel from the left fuel tank until 1730 central daylight time, when the right tank was selected. Fuel from the right tank was consumed for 45 minutes before being switched back to the left tank. About 11 minutes later, the recorded fuel flow decreased from about 15 gallons per hour to 1 gallon per hour.

The airplane was transported to a repair facility in Wellston, Oklahoma. During recovery of the airplane, approximately 60 gallons of fuel was drained from the fuel tanks, with near equal amounts taken from each wing tank. An examination of the airplane at the repair facility found the fuel selector moved freely with noticeable detents. The fuel line and fuel vent lines were examined and found unobstructed. No anomalies were detected with the airframe.

The engine was removed and transported to an engine overhaul facility in Tulsa, Oklahoma. Under the auspices of the Federal Aviation Administration, the engine was placed on a test bed. An engine run was performed and the engine started on the first attempt and produced engine power. No anomalies were detected with the engine.

Pilot Information

Certificate:	Commercial; Flight instructor	Age:	50
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane single-engine	Toxicology Performed:	No
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	December 27, 2012
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	RAYTHEON AIRCRAFT COMPANY	Registration:	N222GL
Model/Series:	G36	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	E-3763
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	June 6, 2012 Annual	Certified Max Gross Wt.:	3650 lbs
Time Since Last Inspection:	396.9 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	2567 Hrs at time of accident	Engine Manufacturer:	CONT MOTOR
ELT:	Installed	Engine Model/Series:	IO-550-B
Registered Owner:	GARMIN INTERNATIONAL INC	Rated Power:	300 Horsepower
Operator:	GARMIN INTERNATIONAL INC	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KCBK,3186 ft msl	Distance from Accident Site:	28 Nautical Miles
Observation Time:	18:35 Local	Direction from Accident Site:	278°
Lowest Cloud Condition:	Scattered / 12000 ft AGL	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	16 knots / 21 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	30°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.06 inches Hg	Temperature/Dew Point:	22°C / 0°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	ENGLEWOOD, CO (KAPA)	Type of Flight Plan Filed:	IFR
Destination:	OLATHE, KS (KIXD)	Type of Clearance:	IFR
Departure Time:	16:05 Local	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	2 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 None	Latitude, Longitude:	39.363887,-100.45639(est)

Administrative Information

Investigator In Charge (IIC):	Aguilera, Jason
Additional Participating Persons:	Jeff Smith; FAA; Wichita, KS Kris Wetherell; Beechcraft; Wichita, KS Chris Lang; Continental Motors; Mobile, AL Todd Evans; FAA; Oklahoma City, OK
Original Publish Date:	June 2, 2014
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=86756

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](#).