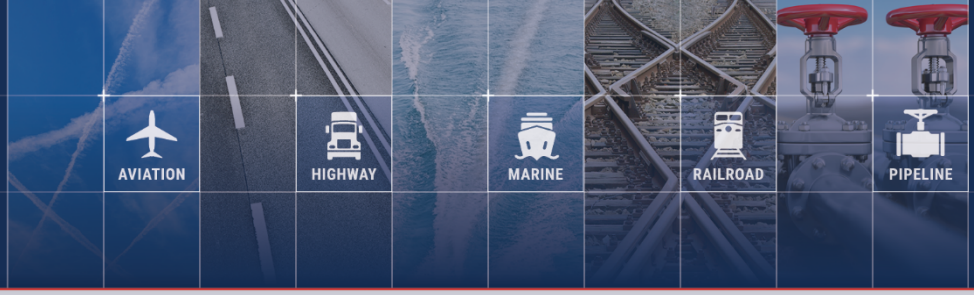

Aviation Investigation Final Report

Location:	Cordova, Illinois	**Accident Number:**	CEN13LA204
Date & Time:	March 23, 2013, 13:52 Local	**Registration:**	N6038R
Aircraft:	Beech A36	**Aircraft Damage:**	Substantial
Defining Event:	Loss of engine power (total)	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Before departure, the pilot conducted a preflight inspection of the airplane and noted no anomalies. The pilot reported that, about 10 minutes after reaching cruise altitude, the engine "coughed" and began to lose power. He stated that he switched fuel tanks and attempted to regain engine power but that the engine could not produce enough power to maintain altitude. Unable to reach an airport, the pilot chose to perform a forced landing to a field, during which the airplane impacted power lines, and a portion of the right wing separated. During the postaccident test run of the engine, no mechanical failures or malfunctions were revealed that would have precluded normal operation.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A partial loss of engine power for reasons that could not be determined because a postaccident test run of the engine revealed no mechanical failures or malfunctions that would have precluded normal operation.

Findings

Aircraft	(general) - Failure
Not determined	(general) - Unknown/Not determined

Factual Information

History of Flight

Maneuvering	Loss of engine power (total) (Defining event)
Emergency descent	Collision with terr/obj (non-CFIT)

On March 23, 2013, at 1352 central daylight time, a Beech A36 single-engine airplane, N6038R, impacted terrain following a partial loss of engine power while maneuvering near Cordova, Illinois. The private pilot was not injured. The airplane sustained substantial damage to the right wing and fuselage. The airplane was registered to Romeo Aviation LLC, Bettendorf, Iowa, and operated by the pilot under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed, and a flight plan was not filed. The flight originated from the Davenport Municipal Airport (DVN), Davenport, Iowa, and was en route to Sterling, Illinois.

Prior to departure, the pilot preflighted the airplane with no anomalies noted. Visual inspection of the fuel tanks showed the tanks contained a total of approximately 64 gallons of fuel. After takeoff, the pilot leveled the airplane at 3,500 feet, set cruise power configuration, and obtained a transponder code.

Approximately 10 minutes after reaching cruise altitude, the engine "coughed" and began to lose power. The pilot switched fuel tanks and attempted to regain engine power. The pilot reported the engine produced limited power, but not enough power to maintain altitude. Unable to reach an airport, the pilot elected to perform a forced landing to a field. During the forced landing, the airplane impacted power lines, which separated a portion of the right wing. The airplane came to rest upright in the field.

A review of the maintenance records showed the airplane underwent its most recent annual inspection on January 16, 2013, at a total engine time of 887.9 hours. At the time of the accident, the engine accumulated 898.2 hours.

According to the pilot, he had accumulated 1402 hours in single-engine airplanes, and 16.2 hours in the accident airplane.

On March 27, 2013, the airplane and engine were examined at a salvage facility by representatives from the Federal Aviation Administration and Continental Motors, Inc. Examination of the airplane and engine revealed no mechanical anomalies that would have precluded normal operation. The engine was removed and sent to the manufacturer for further examination. In addition, an Insight Avionics GEM-610 engine monitor was removed from the aircraft and sent to the NTSB Vehicle Recorders laboratory for examination and data extraction.

On April 29, 2013, the engine was examined at Continental Motors, Inc, under the supervision of the NTSB investigator-in-charge. Examination of the engine showed impact damage to one engine mount and two fittings on the fuel metering unit. The fuel pump was removed and functionally tested, with no anomalies noted. The fuel pump was reinstalled on the engine. The damage metering unit fittings and engine mount were replaced and installed. The engine was then functionally tested in an engine test cell per the manufacturer functional test procedures. The engine start and test were completed with no anomalies noted.

According to the NTSB Vehicle Recorders laboratory report, the GEM-610 unit was configured to monitor and record exhaust gas temperatures (EGT) and cylinder head temperatures (CHT). The recording interval was set to 6 seconds. The device had recorded three flights on March 3, 8, and 23, 2013. The last recording was the accident flight.

According to the accident flight recording, about 48 seconds (0048) after the start of the recording, EGTs 1-4 (cylinders) generally leveled out; EGT 5 exceeded the temperature of EGTs 1-4 (a different behavior than the March 8, 2013 flight), and EGT 6 was the coldest, with a slightly different trend than the other cylinders in that period. EGTs 1-4 remained rather steady until about 0518 into the recording, when they increased; EGT 5 and 6 also increased with a different trend. By about 0823, EGT 5's temperature decreased, and it became the coldest EGT. About 1102, all the EGTs reduced, then by 1252 into the recording, increased to between 1400 and 1600 degrees Fahrenheit (F). The EGTs all remained rather steady in that range until about 1810, when the EGTs all dropped off rapidly, and the CHTs gradually began to decrease.

From the start of the recording, the CHTs trended up, with some level offs, until about 1101, when they leveled off a bit, coincident with the EGT reduction. About 1221, the CHTs rose, as did the EGTs, and then by 1419, the CHTs all stabilized between 300 and 400 degrees F (higher for most cylinders than the March 8, 2013 flight). The CHTs remained fairly constant until they started to drop off gradually about 1810 into the recording, when the EGTs rapidly decreased.

Pilot Information

Certificate:	Private	**Age:**	66,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	April 10, 2012
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	September 6, 2012
Flight Time:	1402 hours (Total, all aircraft), 16 hours (Total, this make and model), 1329 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N6038R
Model/Series:	A36	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	E-1482
Landing Gear Type:	Retractable - Tricycle	**Seats:**	5
Date/Type of Last Inspection:	January 16, 2013 Annual	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	3762 Hrs as of last inspection	**Engine Manufacturer:**	Continental Motors Inc
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	IO-520BB-37B
Registered Owner:	On file	**Rated Power:**	300 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	MLI	**Distance from Accident Site:**	
Observation Time:	13:52 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.09 inches Hg	**Temperature/Dew Point:**	6°C / -8°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Davenport, IA (DVN)	**Type of Flight Plan Filed:**	None
Destination:	Sterling, IL (SQI)	**Type of Clearance:**	None
Departure Time:	13:15 Local	**Type of Airspace:**	

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	41.448055,-90.507499(est)

Administrative Information

Investigator In Charge (IIC):	Sauer, Aaron
Additional Participating Persons:	Helen D Knight; Federal Aviation Administration; DuPage, IL Chris Lang; Continental Motors Inc; Mobile, AL
Original Publish Date:	December 11, 2013
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=86507