National Transportation Safety Board
Aviation Accident Final Report

Location:	Maryland Heights, MO	**Accident Number:**	CEN14LA324
Date & Time:	06/26/2014, 0457 CDT	**Registration:**	N1552T
Aircraft:	CESSNA 414	**Aircraft Damage:**	Destroyed
Defining Event:	Loss of engine power (total)	**Injuries:**	1 Serious
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The pilot reported that, shortly after takeoff, the twin-engine airplane's left front baggage door opened. He attempted to return to the airport, but the left engine lost engine power while the airplane was on the downwind leg of the traffic pattern. The airplane subsequently impacted power lines and terrain. An explosion occurred during the impact sequence, and a fire ensued that almost completely consumed the airframe.

Teardown examination of the right engine revealed no anomalies. A test run of the left engine revealed no anomalies; however, due to impact and fire damage, it was not possible to fully test or examine the left engine's fuel system. The reason for the left engine's loss of power 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 left engine power for reasons that could not be determined due to impact and fire damage.

Findings

Environmental issues	Wire - Contributed to outcome
Not determined	Not determined - Unknown/Not determined (Cause)

Factual Information

On June 26, 2014, about 0457 central daylight time, a Cessna 414 airplane, N1552T, was destroyed by impact forces and a post-impact fire following a loss of control during landing approach to runway 34, at the Creve Coeur Airport (1H0), near Maryland Heights, Missouri. The pilot received serious injuries during the accident. The aircraft was registered to Tango Two Aviation, LLC and operated by the private pilot under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed for the flight. An instrument flight rules flight plan had been filed but not yet activated. The flight was originating at the time of the accident and the intended destination was Fort Campbell, Kentucky.

The pilot reported that he performed a normal pre-flight inspection and pre-takeoff run-up of the airplane before the flight. He then departed from runway 16, intending to open the instrument flight plan once airborne. About 15 to 20 seconds after rotation, when the airplane was about 400 to 500 feet above ground level (agl), the left front baggage door opened. The pilot stated that he leveled the airplane and turned to a right crosswind with the intention of landing on runway 16 so that he could close the baggage door and then continue the flight. Shortly after turning downwind for runway 16, the left engine stopped producing power. The pilot stated that while in the process of feathering the left engine, and maintaining airspeed, the airplane struck power lines and then the ground. The airplane exploded during the impact sequence.

During a postaccident examination of the airplane, fire and impact damage of the wreckage prevented a comprehensive determination of all aircraft systems. Partial continuity of the flight control system was confirmed. The instrument panel and cabin section of the airplane were consumed by the post-impact fire. The majority of the fuel system components were consumed by the post-impact fire. The postaccident examination of the airframe revealed no evidence of a mechanical failure or malfunction that would have precluded normal operation.

The airplane's engines were transported to the manufacturer's facility for further examination. It was determined that too much damage had been incurred to the right engine making a test run of that engine unfeasible. As a result, the right engine was subjected to a teardown examination. The teardown examination revealed no preimpact anomalies.

The airplane's left engine was sufficiently intact, allowing an engine run to be attempted in a test cell at the manufacturer's facilities. Due to damage incurred in the accident sequence, several components of the engine's fuel system were replaced with surrogate units prior to the engine test run. During the test run, the engine started normally, and produced full rated power. It was noted during the engine run that the fuel pump pressure and flow were high and the engine test was completed with the mixture manually leaned to the proper fuel flow settings. The fuel pump was subsequently tested on a flow bench and the test readings indicated that the fuel pump was set high (rich) when compared to the engine manufacturer's production test specifications. The higher than normal fuel flow could have resulted in reduced power due to a richer than normal fuel mixture but would not have accounted for a complete loss of engine power. Additionally, it was not possible to determine if the fuel pump output as installed in the airframe was within specifications due to differences between the airframe installation and that of the test cell. No further abnormalities in engine operation were noted during the test run.

History of Flight

Initial climb	Miscellaneous/other
Approach-VFR pattern downwind	Loss of engine power (total) (Defining event)
Landing	Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Private	**Age:**	48
Airplane Rating(s):	Multi-engine Land; 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 Without Waivers/Limitations	**Last FAA Medical Exam:**	10/22/2012
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	775 hours (Total, all aircraft), 90 hours (Total, this make and model), 667 hours (Pilot In Command, all aircraft), 82 hours (Last 90 days, all aircraft), 34 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	CESSNA	**Registration:**	N1552T
Model/Series:	414 UNDESIGNAT	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	414-0267
Landing Gear Type:	Tricycle	**Seats:**	6
Date/Type of Last Inspection:	12/06/2013, Annual	**Certified Max Gross Wt.:**	6765 lbs
Time Since Last Inspection:		**Engines:**	2 Reciprocating
Airframe Total Time:	7626.7 Hours as of last inspection	**Engine Manufacturer:**	CONT MOTOR
ELT:	Installed, not activated	**Engine Model/Series:**	TSIO-520-NcNB
Registered Owner:	TANGO.TWO AVIATION LLC	**Rated Power:**	310 hp
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	**Condition of Light:**	Dawn
Observation Facility, Elevation:	STL, 618 ft msl	**Distance from Accident Site:**	7 Nautical Miles
Observation Time:	0951 UTC	**Direction from Accident Site:**	90°
Lowest Cloud Condition:	Few / 10000 ft agl	**Visibility**	10 Miles
Lowest Ceiling:	Broken / 25000 ft agl	**Visibility (RVR):**	
Wind Speed/Gusts:	Calm /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.02 inches Hg	**Temperature/Dew Point:**	23°C / 18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Maryland Heights, MO (1H0)	**Type of Flight Plan Filed:**	VFR
Destination:	FORT CAMPBELL/HOPKINSVILLE, KY (HOP)	**Type of Clearance:**	None
Departure Time:	CDT	**Type of Airspace:**	Class E

Airport Information

Airport:	CREVE COEUR (1H0)	**Runway Surface Type:**	Concrete
Airport Elevation:	462 ft	**Runway Surface Condition:**	Dry
Runway Used:	16	**IFR Approach:**	None
Runway Length/Width:	4500 ft / 75 ft	**VFR Approach/Landing:**	Forced Landing; Full Stop; Precautionary Landing; Traffic Pattern

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Destroyed
Passenger Injuries:	N/A	**Aircraft Fire:**	On-Ground
Ground Injuries:	N/A	**Aircraft Explosion:**	On-Ground
Total Injuries:	1 Serious	**Latitude, Longitude:**	38.726667, -90.508333

Administrative Information

Investigator In Charge (IIC):	John M Brannen	**Adopted Date:**	02/03/2016
Additional Participating Persons:	Margie Buehrle; FAA - St Louis FSDO; St Louis, MO Peter Basile; Textron Aviation; Wichita, KS Chris Lang; Continental Motors; Mobile, AL		
Publish Date:	02/03/2016		
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	http://dms.ntsb.gov/pubdms/search/dockList.cfm?mKey=89552		