



National Transportation Safety Board Aviation Accident Final Report

Location:	Joplin, MO	Accident Number:	CEN14LA333
Date & Time:	07/01/2014, 1726 CDT	Registration:	N468CM
Aircraft:	CESSNA 172R	Aircraft Damage:	Substantial
Defining Event:	Loss of engine power (partial)	Injuries:	1 None
Flight Conducted Under:	Part 91: General Aviation - Instructional		

Analysis

The pilot stated that the accident occurred as he was completing a touch-and-go landing following a cross-country flight. He reported that, after an uneventful landing and during the subsequent initial climb, the engine “grumbled” and began to “cut in and out.” The pilot immediately told the airport tower controller that the airplane had an engine issue, reduced engine power, and fully extended the wing flaps for landing on the remaining runway. During the landing roll, the airplane overran the end of the runway before it collided with a light pole associated with the runway approach lighting system. Following the accident, the pilot was able to taxi the airplane back onto the runway, under normal engine power, before he shut down the engine on a nearby taxiway.

A postaccident examination established that the fuel system contained about 42 gallons of aviation fuel that was evenly distributed between the two wing fuel tanks. The engine was started by following the normal checklist procedure, and it developed takeoff power during an operational test run. No hesitation or engine roughness was experienced during the operational test run, and the engine responded to corresponding throttle movements throughout the test run. Thus, the postaccident operational test run did not reveal any anomalies with the fuel-injected engine that would have prevented normal operation. The reason for the partial loss of engine 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 partial loss of engine power for reasons that could not be determined because an operational test run of the engine did not reveal any anomalies that would have precluded normal operation.

Findings

Environmental issues	Runway/taxi/approach light - Contributed to outcome
Not determined	Not determined - Unknown/Not determined (Cause)

Factual Information

On July 1, 2014, about 1726 central daylight time, a Cessna model 172R airplane, N468CM, was substantially damaged during a forced landing at the Joplin Regional Airport (JLN), Joplin, Missouri. The private pilot was not injured. The airplane was registered to and operated by University of Central Missouri under the provisions of 14 Code of Federal Regulations Part 91 without a flight plan. Day visual meteorological conditions prevailed for the instructional cross-country flight that departed from Downtown Airport (3DW), Springfield, Missouri, about 1700.

The pilot reported that he was cleared for the option landing on runway 31 (6,501 feet by 150 feet, asphalt) and that the prevailing wind was aligned with the runway heading at 11 knots. The pilot stated that he performed a touch-and-go landing. He reported that he made an uneventful landing and that shortly after the following takeoff, during initial climb, the engine "grumbled" and began to "cut in and out." The pilot immediately told the tower controller that the airplane had an engine issue, reduced engine power, and fully extended the wing flaps for a landing on the remaining runway. During the landing roll, the airplane overran the end of the runway before it collided with a light pole associated with the runway approach lighting system. Following the accident, the pilot was able to taxi back onto runway, under normal engine power, before he shut down the engine on a nearby taxiway. The right wing was substantially damaged during the on-ground collision with the light pole.

A postaccident examination was completed by the airplane operator's chief pilot and the director of maintenance. Their examination established that the airplane fuel system contained about 42 gallons of 100 low-lead aviation fuel that was evenly distributed between the two wing fuel tanks. An external examination of the engine did not reveal any anomalies or fluid leaks. The oil quantity dip-stick established that the engine contained about 8 quarts of oil. The engine was started by following the normal checklist procedure, and then demonstrated the ability to develop takeoff power during an operational test run. No hesitation or engine roughness was experienced during the operational test run. The engine responded to corresponding throttle movements throughout the test run. A functional magneto check did not reveal any anomalies with engine operation. Following the operational test run, there were no fluid leaks observed on the engine exterior. The postaccident operational test run did not reveal any anomalies with the engine, a fuel-injected Lycoming model IO-360, that would have prevented normal operation.

History of Flight

Initial climb	Loss of engine power (partial) (Defining event)
Landing	Off-field or emergency landing
Landing-landing roll	Runway excursion Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Private	Age:	20, 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 1 Without Waivers/Limitations	Last Medical Exam:	03/10/2014
Occupational Pilot:	No	Last Flight Review or Equivalent:	04/23/2014
Flight Time:	135.3 hours (Total, all aircraft), 124.1 hours (Total, this make and model), 82 hours (Pilot In Command, all aircraft), 28.7 hours (Last 90 days, all aircraft), 18.8 hours (Last 30 days, all aircraft), 3.7 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	CESSNA	Registration:	N468CM
Model/Series:	172R	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Utility	Serial Number:	17280860
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	06/27/2014, AAIP	Certified Max Gross Wt.:	2450 lbs
Time Since Last Inspection:	6 Hours	Engines:	1 Reciprocating
Airframe Total Time:	6842.2 Hours	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	IO-360
Registered Owner:	University of Central Missouri	Rated Power:	160 hp
Operator:	University of Central Missouri	Air Carrier Operating Certificate:	Pilot School (141)

Meteorological Information and Flight Plan

Observation Facility, Elevation:	JLN, 981 ft msl	Observation Time:	1733 CDT
Distance from Accident Site:	0 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:		Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	29° C / 16° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	7 knots, 270°	Visibility (RVR):	
Altimeter Setting:	29.93 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Springfield, MO (3DW)	Type of Flight Plan Filed:	VFR
Destination:	Joplin, MO (JLN)	Type of Clearance:	VFR
Departure Time:	1700 CDT	Type of Airspace:	Class D

Airport Information

Airport:	Joplin Regional Airport (JLN)	Runway Surface Type:	Asphalt
Airport Elevation:	981 ft	Runway Surface Condition:	Dry
Runway Used:	31	IFR Approach:	None
Runway Length/Width:	6501 ft / 150 ft	VFR Approach/Landing:	Forced Landing; Touch and Go; Traffic Pattern

Wreckage and Impact Information

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		

Administrative Information

Investigator In Charge (IIC):	Andrew T Fox	Adopted Date:	01/21/2016
Additional Participating Persons:	Jim Wesley; Federal Aviation Administration - Kansas City FSDO; Kansas City, MO		
Publish Date:	01/21/2016		
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=89586		

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