



National Transportation Safety Board Aviation Accident Final Report

Location:	Omaha, NE	Accident Number:	CEN11LA089
Date & Time:	12/02/2010, 0430 CST	Registration:	N3246D
Aircraft:	CESSNA 180	Aircraft Damage:	Substantial
Defining Event:	Collision with terr/obj (non-CFIT)	Injuries:	1 None
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

During the landing approach and 1/2-mile from the runway, the engine lost power. During the ensuing forced landing, the airplane impacted a tree and terrain. During postaccident functional testing of the engine, it lost power when the throttle was moved quickly from a low power setting to a high power setting, and became more pronounced as the engine got warmer. The carburetor was removed from the engine and a visual inspection was conducted. A roughness was felt in the accelerator pump while manually moving the control at the carburetor, and very little fuel flow came from the accelerator pump. The carburetor was disassembled and all check valves, ports and vents, the venturi, nozzle bleed holes, carburetor bowl vent channels, and float assembly were cleaned. After reassembly, a much higher fuel output was achieved. The carburetor and accelerator pump were reinstalled on the engine, and all functional checks were normal.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A loss of engine power due to a stuck check valve in the carburetor acceleration pump, resulting in an improper fuel mixture when the pilot attempted to add power.

Findings

Aircraft	Fuel distribution - Malfunction (Cause)
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Factual Information

On December 2, 2010, approximately 0430 central standard time, a Cessna 180, N3246D, registered to and operated by the pilot, was substantially damaged when the pilot made a forced landing and impacted terrain after the engine lost power on landing approach to Eppley Airfield (OMA), Omaha, Nebraska. Visual meteorological conditions (VMC) prevailed at the time of the accident. The personal flight was being conducted under the provisions of 14 Code of Federal Regulations (CFR) Part 91 without a flight plan. The pilot, the sole occupant on board, was not injured. The cross-country flight originated in Butte, Montana, with a refueling stop in Philip (PHP), South Dakota, and was ultimately destined for London (LOZ), Kentucky.

According to Federal Aviation Administration (FAA) inspectors, the pilot was on landing approach and 1/2-mile from runway 14L when the engine lost power. During the ensuing forced landing, the airplane impacted a small tree and terrain, and came to rest with the nose facing south and the left wing tip in the water. The right wing was compressed, and the horizontal stabilizer was torn off. The engine cowling, both elevators, both ailerons, and both wing tips were damaged. Fuel was seen leaking from the compromised fuel tanks.

The airplane was removed to a nearby airport hangar. It was examined on December 3 and 7, 2010. During the examinations, both wing fuel sumps, the engine fuel sump, fuel bowl and carburetor fuel and inlet screens were found clear of contamination. Both magnetos were turned and all spark plugs fired. There were no leaks in the intake system, and all cylinders had satisfactory compression. Valve train continuity was established.

On December 9, a bench propeller was installed. During functional testing, the engine lost power when the throttle was quickly moved from a low power setting to a high power setting, and became more pronounced as the engine got warmer. A roughness was felt in the accelerator pump while manually moving the control at the carburetor. Very little fuel flow came from accelerator pump. The carburetor (model number MA-4-5, serial number 3986073-R MF-V) was removed, disassembled, and all check valves, ports and vents, the venturi, nozzle bleed holes, carburetor bowl vent channels, and float assembly were cleaned. After reassembly, a much higher fuel output was achieved. The carburetor and accelerator pump were reinstalled on the engine. All functional checks were normal.

The inspectors concluded that the carburetor acceleration pump or the check valve below it had become stuck, resulting in an improper fuel mixture when the pilot attempted to add power, causing the engine to lose power.

History of Flight

Approach-VFR pattern final	Loss of engine power (total)
Emergency descent	Off-field or emergency landing
Landing	Collision with terr/obj (non-CFIT) (Defining event)

Pilot Information

Certificate:	Private	Age:	36, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With Waivers/Limitations	Last Medical Exam:	08/21/2008
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	CESSNA	Registration:	N3246D
Model/Series:	180	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	32044
Landing Gear Type:	Tailwheel	Seats:	4
Date/Type of Last Inspection:		Certified Max Gross Wt.:	2550 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Continental
ELT:	Not installed	Engine Model/Series:	O-470-A
Registered Owner:	Stephen Walters	Rated Power:	225 hp
Operator:	Stephen Walters	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	OMA, 984 ft msl	Observation Time:	CST
Distance from Accident Site:	2 Nautical Miles	Condition of Light:	Night
Direction from Accident Site:	320°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:		Temperature/Dew Point:	
Lowest Ceiling:		Visibility	
Wind Speed/Gusts, Direction:		Visibility (RVR):	
Altimeter Setting:		Visibility (RVV):	
Precipitation and Obscuration:			
Departure Point:	Philip, SD (PHP)	Type of Flight Plan Filed:	None
Destination:	Omaha, NE (OMA)	Type of Clearance:	VFR
Departure Time:	0230 CST	Type of Airspace:	Class D

Airport Information

Airport:	Eppley Airfield (OMA)	Runway Surface Type:	Concrete
Airport Elevation:	984 ft	Runway Surface Condition:	Dry
Runway Used:	14L	IFR Approach:	None
Runway Length/Width:	7020 ft / 150 ft	VFR Approach/Landing:	Forced Landing

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):	Arnold W Scott	Adopted Date:	05/26/2011
Additional Participating Persons:	Rick Love; FAA Flight Standards District Office; Lincoln, NE		
Publish Date:	05/26/2011		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=77922		

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