



National Transportation Safety Board Aviation Accident Final Report

Location:	Key West, FL	Accident Number:	ERA15LA090
Date & Time:	01/03/2015, 1015 EST	Registration:	N2534X
Aircraft:	CESSNA P206	Aircraft Damage:	Substantial
Defining Event:	Loss of engine power (total)	Injuries:	4 Minor, 2 None
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Non-scheduled		

Analysis

The pilot reported that the airplane was about 300 ft above the ground and on final approach when the engine “quit suddenly with no surging or other warning signs.” He selected the auxiliary fuel pump to the high position and switched fuel tanks. The pilot stated that the engine “came back to life momentarily and then quit again.” The airplane was unable to reach the runway, and the pilot made a forced landing in a lagoon about 1/4 mile short of the runway, during which the right wing sustained structural damage.

Examination of the fuel system revealed that the right fuel tank was full and that the left fuel tank had 15 gallons of fuel remaining. Evidence of fuel was also noted in the lines from the fuel tanks to the fuel manifold valve. Internal engine continuity was confirmed, and compression and suction were observed on all of the cylinders. The spark plug electrodes were normal in appearance. The engine-driven fuel pump and magnetos were tested, and no evidence of a preexisting malfunction was found. The reason for the 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: A total loss of engine power for reasons that could not be determined during postaccident examinations and testing.

Findings

Not determined	Not determined - Unknown/Not determined (Cause)
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Factual Information

On January 3, 2015, about 1015 eastern standard time (EST), a Cessna P206, N2534X, was force landed in a lagoon following a total loss of engine power during an approach to Key West International Airport (EYW), Key West, Florida. The airline transport pilot and three passengers received minor injuries and two passengers were not injured. The airplane was substantially damaged. The airplane was operated by Exec Air Inc. under the provisions of 14 Code of Federal Regulations Part 91. Day, visual meteorological conditions prevailed, and no flight plan was filed. The flight originated at Naples, Florida (APF) about 0920.

The pilot reported the following. About 300 feet above the ground, on final approach to runway 9, the engine "quit suddenly with no surging or other warning signs." He selected the auxiliary fuel pump to the high position and switched fuel tanks. The engine "came back to life momentarily and then quit again." Unable to make the runway, the airplane landed short in a lagoon, about one quarter mile from the runway. The airplane came to rest in about 3 feet of salt water. The pilot reported that he departed APF with about 78 gallons of fuel on board.

An inspector with the Federal Aviation Administration responded to the accident site and examined the wreckage. The right wing exhibited structural damage from impact forces. The fuel selector was in the "off" position; however, he reported that the selector handle was moved to off from the "right tank" position by recovery personnel. The wing tanks were also de-fueled prior to his arrival. About 15 gallons of fuel were recovered from the left tank and about 40 gallons of fuel were recovered from the right tank. The nose gear was crushed upward, into the underside of the engine. There was no fuel or oil observed on the exterior surfaces of the airplane. A fueling record was recovered that indicated 42.2 gallons of fuel was purchased at APF prior to the flight.

Fuel was observed in the lines between the electric boost pump and the engine-driven fuel pump, in the line from the engine-driven pump to the fuel metering valve, and there was fuel in the line entering the fuel manifold valve and inside the valve. The engine-driven fuel pump appeared normal and the drive shaft was intact. The top six spark plugs were removed and were normal in appearance. The engine was turned by hand; internal continuity was established and compression and suction was confirmed on all six cylinders. The magnetos were tuned by hand; the impulse couplings appeared to operate normally. No spark was observed on the ignition leads when the magnetos were turned. The magnetos and ignition harnesses were retained by the FAA inspector for additional examination and testing.

On April 9, 2015, the magnetos, ignition harnesses, and engine driven fuel pump were examined at the Continental Motors facility at Mobile, Alabama under the direction of the NTSB.

The fuel pump (part # 638154-1; serial # 1752) did not exhibit external damage. The spline on the fuel pump was intact and the unit rotated when actuated by hand. The fuel pump was installed on a test stand and ran at rpms between 700 and 3,200 for several minutes. The unit functioned as designed and the recorded pressure was high.

The left magneto (Slick model # 6210; serial # 90080047) did not exhibit external damage. The left magneto was installed on a test bench and ran at different rpms for several minutes. A blue spark was observed on each lead at varying rpms. The right magneto (Slick model # 6210;

serial #91040206) did not exhibit external damage. The right magneto was installed on a test bench and ran at different rpms for several minutes. A blue spark was observed on each lead at varying rpms.

Two passengers reported to an FAA inspector that the airplane was "chartered" by a third passenger for the round trip flight to EYW. A credit card receipt for \$1,180.80 was provided to investigators, on the third passenger's credit card and charged by the operator, Exec Air. Exec Air holds an FAA Airline Certificate for On Demand Airplane operations. The certificate only has 1 approved aircraft, a Cessna 182. The Cessna 206 used in the accident flight is not approved on the certificate. The owner of Exec Air reported after the accident that the charge to the passenger's credit card was for anticipated expenses incurred during the personal flight. The FAA is pursuing certificate action against the operator and pilot for conducting an unauthorized charter flight. At the time of this writing, that action was still pending.

History of Flight

Approach-VFR pattern final	Loss of engine power (total) (Defining event)
Emergency descent	Off-field or emergency landing

Pilot Information

Certificate:	Airline Transport; Flight Instructor; Commercial	Age:	47
Airplane Rating(s):	Multi-engine Land; Single-engine Land; Single-engine Sea	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	Toxicology Performed:	No
Medical Certification:	Class 1 With Waivers/Limitations	Last Medical Exam:	04/26/2014
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	04/30/2014
Flight Time:	8540 hours (Total, all aircraft), 24 hours (Total, this make and model), 8281 hours (Pilot In Command, all aircraft), 171 hours (Last 90 days, all aircraft), 32 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	CESSNA	Registration:	N2534X
Model/Series:	P206	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	P206-0034
Landing Gear Type:	Tricycle	Seats:	6
Date/Type of Last Inspection:	05/15/2014, Annual	Certified Max Gross Wt.:	3296 lbs
Time Since Last Inspection:	28 Hours	Engines:	1 Reciprocating
Airframe Total Time:	4427 Hours	Engine Manufacturer:	CONT MOTOR
ELT:	C91A installed, not activated	Engine Model/Series:	IO 520 SERIES
Registered Owner:	TWO AERO SEVEN INC	Rated Power:	285 hp
Operator:	Exec Air Inc.	Air Carrier Operating Certificate:	On-demand Air Taxi (135)
Operator Does Business As:	Execair	Operator Designator Code:	E69A

Meteorological Information and Flight Plan

Observation Facility, Elevation:	EYW, 3 ft msl	Observation Time:	0953 EST
Distance from Accident Site:	1 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:	270°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	27° C / 22° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	14 knots, 120°	Visibility (RVR):	
Altimeter Setting:	30.22 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Naples, FL (APF)	Type of Flight Plan Filed:	None
Destination:	Key West, FL (EYW)	Type of Clearance:	VFR Flight Following
Departure Time:	0920 EST	Type of Airspace:	

Airport Information

Airport:	Key West Intl (EYW)	Runway Surface Type:	Asphalt
Airport Elevation:	3 ft	Runway Surface Condition:	Dry
Runway Used:	09	IFR Approach:	None
Runway Length/Width:	4801 ft / 100 ft	VFR Approach/Landing:	Forced Landing; Full Stop

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	3 Minor, 2 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	4 Minor, 2 None		

Administrative Information

Investigator In Charge (IIC):	Ralph E Hicks	Adopted Date:	10/19/2015
Additional Participating Persons:	Don Casto; FAA/FSDO 19; Miramar, FL John Kent; Continental Motors Inc.; Mobile, AL		
Publish Date:	10/19/2015		
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=90569		

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