



## National Transportation Safety Board Aviation Accident Factual Report

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<b>Location:</b>	Bartow, FL	<b>Accident Number:</b>	ERA18LA265
<b>Date &amp; Time:</b>	09/28/2018, 1325 EDT	<b>Registration:</b>	N4592X
<b>Aircraft:</b>	Piper PA32	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Powerplant sys/comp malf/fail	<b>Injuries:</b>	2 Minor
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

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On September 28, 2018, about 1325 eastern daylight time, a Piper PA-32-300, N4592X, operated by the private pilot, was substantially damaged during a forced landing to a marsh, following a total loss of engine power during cruise flight near Bartow, Florida. The private pilot and passenger sustained minor injuries. The personal flight was conducted under the provisions of Title 14 *Code of Federal Regulations* Part 91. Visual meteorological conditions prevailed and an instrument flight rules flight plan was filed for planned flight to Tampa Executive Airport (VDF), Tampa, Florida. The flight originated from Boca Raton Airport (BCT), Boca Raton, Florida, about 1230.

The pilot reported that during cruise flight, the engine began to run rough. He notified air traffic control (ATC) and declared an emergency. Shortly thereafter, the engine cowling separated and the pilot observed that a cylinder had separated as oil began to cover the windscreen. Although ATC provided vectors to the nearest airport, the pilot could not see due to the oil, and flew via the instruments to the ground.

Examination of the accident site by a Federal Aviation Administration inspector revealed that during the landing in a marsh, the right wing contacted a tree and separated. The inspector also observed that the No. 3 cylinder had separated. Further examination of the engine following recovery revealed impact marks on the engine crankcase where the No. 3 cylinder secured to it. The marks were consistent with the cylinder impacting the case multiple times. The examination also revealed that several of the other cylinder nuts were below the required 50 ft/lbs of torque.

The six-seat, low-wing, fixed-tricycle-gear airplane was manufactured in 1975. It was powered by a Lycoming IO-540, 300-horsepower engine, equipped with a constant-speed, two-blade Hartzell propeller. Review of maintenance records revealed that the engine's most recent overhaul was completed on November 14, 2006. The airplane's most recent annual inspection was completed on March 16, 2018. At the time, the engine had accrued 353.58 hours since the overhaul. There was no record of any cylinder removal or replacement since the engine overhaul. The airplane had flown about 13 additional hours from the time of the most recent annual inspection, until the accident.

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	70, Male
<b>Airplane Rating(s):</b>	Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	3-point
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	BasicMed	<b>Last FAA Medical Exam:</b>	12/08/2017
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	09/28/2017
<b>Flight Time:</b>	465 hours (Total, all aircraft), 382 hours (Total, this make and model), 465 hours (Pilot In Command, all aircraft), 7 hours (Last 90 days, all aircraft), 3 hours (Last 30 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Piper	<b>Registration:</b>	N4592X
<b>Model/Series:</b>	PA32 300	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	1975	<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	32-7640039
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	6
<b>Date/Type of Last Inspection:</b>	03/16/2018, Annual	<b>Certified Max Gross Wt.:</b>	3400 lbs
<b>Time Since Last Inspection:</b>	13 Hours	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	4047 Hours as of last inspection	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	IO-540-K1A5
<b>Registered Owner:</b>	On file	<b>Rated Power:</b>	300 hp
<b>Operator:</b>	On file	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	BOW, 125 ft msl	Distance from Accident Site:	5 Nautical Miles
Observation Time:	1356 EDT	Direction from Accident Site:	90°
Lowest Cloud Condition:	Scattered / 3000 ft agl	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	110°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.07 inches Hg	Temperature/Dew Point:	32° C / 22° C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Boca Raton, FL (BCT)	Type of Flight Plan Filed:	IFR
Destination:	Tampa, FL (VDF)	Type of Clearance:	IFR
Departure Time:	1230 EDT	Type of Airspace:	

## Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	1 Minor	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Minor	Latitude, Longitude:	27.937222, -81.855556 (est)

## Administrative Information

Investigator In Charge (IIC):	Robert J Gretz
Additional Participating Persons:	Marco Grillo; FAA/FSDO; Orlando, FL
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	<a href="http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=98373">http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=98373</a>