



National Transportation Safety Board Aviation Accident Final Report

Location:	Atlantic City, NJ	Accident Number:	ERA14LA141
Date & Time:	03/04/2014, 1650 EST	Registration:	N1449H
Aircraft:	PIPER PA-28-161	Aircraft Damage:	Substantial
Defining Event:	Loss of engine power (partial)	Injuries:	1 Minor
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The pilot said that, before departure, he cleared “minor snow accumulation” from the bottom of the engine compartment. The pilot performed the preflight inspection, engine start, taxi, run-up, and before takeoff checks in accordance with the applicable checklists. The engine accelerated normally during the takeoff roll with a “slight hesitation” at 2,200 to 2,300 rpm as the takeoff continued. When the airplane was at 70 knots and over the departure end of the runway, the engine experienced a partial loss of power. Rather than attempt to return to the runway or land straight ahead to wooded terrain, the pilot chose to perform a forced landing to the airport perimeter road. The airplane’s left wing struck a tree and a fence and then separated from the airplane, and the airplane then impacted the road and came to rest inverted. Examination of the airplane revealed no preimpact mechanical anomalies, and, during a test run, the engine started immediately, accelerated smoothly, and ran without interruption through several rpm changes. The magnetos were tested and functioned as designed.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A partial loss of engine power at takeoff for reasons that could not be determined during a postaccident examination or engine test run.

Findings

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

Factual Information

On March 4, 2014, at 1650 eastern standard time, a Piper PA-28-161, N1449H, operated by the FAA Flying Club, INC, was substantially damaged when it collided with terrain and a fence during a forced landing following a partial loss of engine power after takeoff from Atlantic City International Airport (ACY), Atlantic City, New Jersey. The airline transport pilot received minor injuries. Visual meteorological conditions (VMC) prevailed, and no flight plan was filed for the personal flight, which was conducted under the provisions of Title 14 Code of Federal Regulations Part 91.

In a written statement, the pilot stated the purpose of the flight was to travel in order to give a presentation on cold weather survival and civilian air intercept procedures. He said he specifically checked to see if the airplane was "clear of snow and ice" prior to departure, and determined that it was, but then later described clearing the "minor snow accumulation" at the bottom of the engine compartment. The pilot described his preflight inspection, engine start, taxi, run-up, and before takeoff checks as performed in accordance with the checklist.

He then described a "normal" acceleration of the engine during the takeoff roll, with a "slight hesitation" at 2,200-2,300 rpm, as he continued the takeoff. At 70 knots and over the departure end of the runway, the engine "lost significant power." Rather than attempt a return to the runway, or land straight ahead to wooded terrain, the pilot elected to perform a forced landing to the airport perimeter road. Just prior to ground contact, the airplane's left wing struck a tree and a fence, and the airplane impacted the road and came to rest inverted.

The pilot held a commercial pilot certificate with ratings for airplane single engine land and instrument airplane. He also held an airline transport pilot certificate with a rating for rotorcraft-helicopter. His most recent Federal Aviation Administration (FAA) third class medical certificate was issued on October 21, 2013. He reported 3,245 total hours of flight experience, of which 318 hours were in single-engine airplanes.

According to FAA records, the airplane was manufactured in 1977. Its most recent annual inspection was completed September 12, 2013, at 5,038.1 aircraft hours. The airplane accrued 37.1 hours of flight time after the inspection.

At 1654, the weather conditions reported at ACY included calm winds, clear skies, and 10 miles of visibility. The temperature was -4 degrees C, the dew point was -9 degrees C, and the altimeter setting was 30.28 inches of mercury.

Examination of photographs revealed the airplane came to rest inverted on the airport perimeter road, entangled in a fence. The left wing was separated from the airplane at the wing root. Photographs taken at the original point of touchdown, revealed slash and paint transfer marks in the pavement that were consistent with the color and dimension of the propeller blades. The airplane was removed from the site, and recovered to the operator's ramp space at ACY. Later, it was moved to an aircraft recovery facility in Clayton, Delaware for a detailed inspection which was performed by the FAA on May 14, 2014.

The airplane was secured to a flatbed trailer, with the left wing separated by impact, and the right wing removed by recovery personnel. A substitute propeller and aircraft battery were installed, and an auxiliary fuel supply was plumbed into the fuel system to attempt an engine run.

The engine started immediately, accelerated smoothly, and ran without interruption. The magnetos were tested, and found to be functioning as designed. Several rpm changes, through rapid accelerations and decelerations, were accomplished with smooth operation throughout.

History of Flight

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

Pilot Information

Certificate:	Airline Transport; Commercial	Age:	36
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Without Waivers/Limitations	Last Medical Exam:	09/19/2013
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	3245 hours (Total, all aircraft), 46 hours (Total, this make and model), 2200 hours (Pilot In Command, all aircraft), 15 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	PIPER	Registration:	N1449H
Model/Series:	PA-28-161	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	28-7716025
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	09/12/2013, Annual	Certified Max Gross Wt.:	
Time Since Last Inspection:	37 Hours	Engines:	1 Reciprocating
Airframe Total Time:	5038 Hours	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	O-320
Registered Owner:	FAA FLYING CLUB INC	Rated Power:	160 hp
Operator:	FAA FLYING CLUB INC	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	ACY, 75 ft msl	Observation Time:	1654 EST
Distance from Accident Site:	1 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:	130°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	-4° C / -9° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	Calm	Visibility (RVR):	
Altimeter Setting:	30.28 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Precipitation		
Departure Point:	Atlantic City, NJ (ACY)	Type of Flight Plan Filed:	VFR
Destination:	PHILADELPHIA, PA (PNE)	Type of Clearance:	VFR
Departure Time:	1650 EST	Type of Airspace:	Class C

Airport Information

Airport:	ATLANTIC CITY INTL (ACY)	Runway Surface Type:	Asphalt
Airport Elevation:	74 ft	Runway Surface Condition:	Dry
Runway Used:	13	IFR Approach:	None
Runway Length/Width:	10000 ft / 150 ft	VFR Approach/Landing:	Forced Landing

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC):	Brian C Rayner	Adopted Date:	04/27/2015
Additional Participating Persons:			
Publish Date:	04/27/2015		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=88874		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report.