



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Winchester, Virginia	Accident Number:	NYC01LA099
Date & Time:	April 20, 2001, 23:23 Local	Registration:	N286FT
Aircraft:	Piper PA-28-161	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot stated that he departed with full fuel tanks, and the fuel selector was initially positioned to the left tank. The pilot reported that he switched fuel tanks every 15 minutes. However, about 3 hours en route to his intended destination, the left fuel gauge displayed "E", and the right gauge displayed "1/4." The pilot decided to divert to a closer airport, but he could not activate the pilot-controlled runway lighting. Therefore, he continued to his original destination, and continued to select the left fuel tank. While on approach to the intended airport, the engine lost all power, and the pilot made a forced landing into trees. Examination of the wreckage by a Federal Aviation Administration inspector did not reveal any pre-impact mechanical malfunctions. The right wing had separated from the airplane, and the right fuel tank was compromised. The left fuel tank was still intact, and the inspector found approximately 1 to 2 pints of fuel remaining in the left tank. Additionally, the airport manager at the alternate airport reported that he tested the pilot-controlled lighting, and it functioned properly. The pilot reported a total flight experience of 84 hours, of which, about 55 were in the make and model accident airplane. He obtained his private pilot certificate about 2 months prior to the accident.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate fuel management, which resulted in fuel starvation.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL
Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Findings

1. FLUID,FUEL - STARVATION
2. (C) FUEL MANAGEMENT - INADEQUATE - PILOT IN COMMAND

Occurrence #2: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: DESCENT - EMERGENCY

Findings

3. OBJECT - TREE(S)

Factual Information

On April 20, 2001, about 2323 eastern daylight time, a Piper PA-28-161, N286FT, was substantially damaged during a forced landing, while on approach to Winchester Regional Airport (OKV), Winchester, Virginia. The certificated private pilot was not injured. Visual meteorological conditions prevailed and a visual flight rules flight plan had been filed for the personal flight conducted under 14 CFR Part 91.

The pilot stated that the fuel tanks were "topped off," and he departed Tweed-New Haven Airport (HVN), New Haven, Connecticut, about 2000. The pilot estimated that with the full tanks, the airplane had an endurance of at least 4.5 hours. He began the flight with the fuel selector positioned to the left tank, and he switched fuel tanks about every 15 minutes. The pilot added that after 3 hours en route, he was near Eastern West Virginia Regional Airport (MRB), Martinsburg, West Virginia. The pilot observed that the left fuel gauge displayed "E" and the right fuel gauge displayed "1/4." As a precaution, he diverted to MRB, but was unable to activate the pilot-controlled runway lighting. Therefore, he did not land, and continued to OKV.

While on a straight-in approach to runway 14, on an approximate 1.5-mile final leg, the engine "sputtered." The pilot turned the electric fuel pump "OFF," then back "ON." The engine momentarily sounded normal, but then started sputtering after 30 seconds. The pilot then applied carburetor heat, and the engine "shuttered." He also moved the fuel selector from "LEFT" to "RIGHT." The engine revved for about 1/2 second, then lost all power. The airplane was about 800 feet above the ground, and the pilot positioned the fuel selector back to the left tank, but the engine did not restart. The airplane struck trees and came to rest about 3/4 mile prior to the runway.

Examination of the wreckage by a Federal Aviation Administration (FAA) inspector, and a local mechanic, revealed that the right wing had separated from the airplane, and the right fuel tank had been compromised during the impact. The left wing was displaced 45 degrees upward, but the left fuel tank was not compromised. The inspector and mechanic drained approximately 1 cup of fuel from the left tank, and it appeared absent of contamination. When the airplane was recovered, a salvage crew drained the remaining fuel from the left tank, which equaled about 1 pint. The FAA inspector added that after the accident, the MRB Airport Manager tested the pilot controlled lighting, and it functioned normally.

Review of a PA-28-161 pilot's operating handbook revealed that at 75 percent best power cruise setting, the engine would consume 10.0 gallons of fuel per hour. Each wing contained a 25-gallon fuel tank; of which, 24 gallons of fuel were useable.

The pilot reported a total flight experience of approximately 84 hours, of which, about 55 were

in the make and model accident airplane. He obtained his private pilot certificate on February 27, 2001.

Pilot Information

Certificate:	Private	Age:	45,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	July 10, 2000
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	February 27, 2001
Flight Time:	84 hours (Total, all aircraft), 55 hours (Total, this make and model), 38 hours (Pilot In Command, all aircraft), 31 hours (Last 90 days, all aircraft), 16 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N286FT
Model/Series:	PA-28-161	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	28-8216205
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	March 29, 2001 Annual	Certified Max Gross Wt.:	2325 lbs
Time Since Last Inspection:	22 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	7850 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	O-320
Registered Owner:	Blesair Inc.	Rated Power:	180 Horsepower
Operator:		Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Night
Observation Facility, Elevation:	OKV,727 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	23:20 Local	Direction from Accident Site:	140°
Lowest Cloud Condition:	Unknown	Visibility	10 miles
Lowest Ceiling:	Overcast / 7000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	/ None	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.2 inches Hg	Temperature/Dew Point:	15°C / 7°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	New Haven, CT (HVN)	Type of Flight Plan Filed:	VFR
Destination:	Winchester, VA (OKV)	Type of Clearance:	None
Departure Time:	20:00 Local	Type of Airspace:	Class G

Airport Information

Airport:	Winchester Regional Airport OKV	Runway Surface Type:	Asphalt
Airport Elevation:	727 ft msl	Runway Surface Condition:	Dry
Runway Used:	14	IFR Approach:	None
Runway Length/Width:	5500 ft / 100 ft	VFR Approach/Landing:	Forced landing;Straight-in

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	39.170398,-78.169517(est)

Administrative Information

Investigator In Charge (IIC):	Gretz, Robert
Additional Participating Persons:	William Voss; FAA FSDO-27; Dulles, VA
Original Publish Date:	November 23, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=52098

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).