



Aviation Investigation Final Report

Location:	Daytona Beach, Florida	Accident Number:	MIA01LA226
Date & Time:	September 3, 2001, 17:01 Local	Registration:	N3516Z
Aircraft:	Piper PA-22-160	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

While descending, and at an altitude of about 900 feet msl, in preparation for entry into the traffic pattern at the airport, the pilot reported, ".....the aircraft commenced an abrupt, uncommanded roll to the right." She regained level flight by applying full left aileron and full left rudder, however the airplane remained in a right wing low attitude and in a gradual right turn. The pilot stated that she ".....realized that directional control was compromised," and due to the high density of housing in the area of the airport, she elected to attempt a force landing in a cow pasture. After landing, the airplane impacted a drainage ditch. Examination of the airplane's fuel system after the accident revealed that the fuel tanks were not breached, the left fuel tank was full of fuel, and no fuel was found in the right fuel tank. The fuel selector handle was found positioned on the "right tank." About 1 ounce of fuel was drained from the forward fuel filter, and about 1/3 of a pint of fuel was drained from the aft fuel filter. Examination of the flight controls revealed that they operated normally and were found to be in serviceable condition. Examination of the propeller revealed that one propeller blade was bent aft 30 degrees and scratched, the other blade was straight and clean.

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 due to the pilot's improper procedures by not placing the fuel selector on the tank with the most fuel, after a reported restricted movement of the flight controls for undetermined reasons, which resulted in fuel starvation and a forced landing in a

pasture.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL

Phase of Operation: APPROACH

Findings

1. FLIGHT CONTROL SYSTEM - MOVEMENT RESTRICTED
2. FLIGHT CONTROL SURFACES/ATTACHMENTS - UNDETERMINED
3. (C) FUEL TANK SELECTOR POSITION - IMPROPER - PILOT IN COMMAND
4. (C) FLUID,FUEL - STARVATION

Occurrence #2: FORCED LANDING

Phase of Operation: EMERGENCY DESCENT/LANDING

Occurrence #3: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER

Phase of Operation: LANDING - ROLL

Findings

5. TERRAIN CONDITION - DITCH

Factual Information

On September 3, 2001, at 1701 eastern daylight time, a Piper PA-22-160, N3516Z, owned and operated by an individual, operating as a Title 14 CFR Part 91 personal flight impacted the ground during a forced landing near the Spruce Creek Airport, Daytona Beach, Florida. Visual meteorological conditions prevailed. No flight plan was filed. The airplane was substantially damaged. The private-rated pilot and one passenger reported no injuries. The flight departed Vandenberg Airport, Tampa, Florida, at 1600.

The pilot stated that while on a "gradual descent" at an altitude of about 900 feet msl, and in preparation for entry into the traffic pattern at the airport, "...the aircraft commenced an abrupt, uncommanded roll to the right." The pilot corrected the situation and regained level flight by applying "full left aileron and full left rudder," however the airplane remained in a "right wing" low attitude and "gradual right turn."

The pilot stated that she realized that "directional control was compromised," and that due to the "high density" of housing in the area of the airport, she elected to attempt a forced landing in the "only" area that was clear of houses trees and cattle. After landing the airplane impacted an "overgrown" drainage ditch not visible from the air.

According to the FAA inspector's statement, the pilot said the right wing suddenly dropped (lost lift), and the engine was at 2100 rpm. The landing was made in a cow pasture west of the airport. In addition, the passenger told the FAA inspector he turned off the ignition just prior to impact with the ground. The airplane came to rest in a "shallow" drainage ditch about 50 feet from initial touchdown. Examination of the airplane's fuel system revealed that the forward fuel filter bowl was slightly displaced from the top of the filter assembly. The fuel tanks were not breached, and the left fuel tank was full of fuel. A rubber hose had to be inserted into the lowest point of the right fuel tank in an attempt to recover fuel from the tank. No fuel was found in the right fuel tank. Examination of the fuel selector handle in the cockpit revealed that the fuel selector was positioned on the "right tank." About "1 ounce" of fuel was drained from the forward fuel filter, and about "1/3 of a pint" of fuel was drained from the aft fuel filter. Examination of the flight controls revealed that they "...operated normally and found to be in serviceable condition." Examination of the propeller revealed that one propeller blade was bent aft 30 degrees and scratched, the other blade was straight and clean.

Pilot Information

Certificate:	Private	Age:	59,Female
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-w/ waivers/lim	Last FAA Medical Exam:	February 8, 2001
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	August 19, 2001
Flight Time:	600 hours (Total, all aircraft), 300 hours (Total, this make and model), 500 hours (Pilot In Command, all aircraft), 40 hours (Last 90 days, all aircraft), 12 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N3516Z
Model/Series:	PA-22-160	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	22-7413
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	June 6, 2001 Annual	Certified Max Gross Wt.:	2000 lbs
Time Since Last Inspection:	7.2 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	3274.98 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	O-320-B2B
Registered Owner:	On file	Rated Power:	160 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	DAB,35 ft msl	Distance from Accident Site:	6 Nautical Miles
Observation Time:	16:52 Local	Direction from Accident Site:	60°
Lowest Cloud Condition:	Few / 2500 ft AGL	Visibility	10 miles
Lowest Ceiling:	Overcast / 2500 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	80°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.95 inches Hg	Temperature/Dew Point:	31°C / 23°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Tampa, FL (VDF)	Type of Flight Plan Filed:	None
Destination:	Spruce Creek, FL (7FL6)	Type of Clearance:	None
Departure Time:	15:55 Local	Type of Airspace:	Class E

Airport Information

Airport:	Spruce Creek 7FL6	Runway Surface Type:	
Airport Elevation:	24 ft msl	Runway Surface Condition:	Unknown
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	29.079999,-81.046669

Administrative Information

Investigator In Charge (IIC):	Yurman, Alan
Additional Participating Persons:	Dave King; FAA; Orlando, FL
Original Publish Date:	June 18, 2002
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=53175

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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](#).