



National Transportation Safety Board Aviation Accident Factual Report

Location:	Galax Hillsville, VA	Accident Number:	ERA15LA257
Date & Time:	07/01/2015, 1704 EDT	Registration:	N43503
Aircraft:	PIPER PA28	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	1 Minor, 1 None
Flight Conducted Under:	Part 91: General Aviation - Personal		

On July 1, 2015, about 1704 eastern daylight time, a Piper PA-28-151, N43503, was substantially damaged when it impacted terrain while on approach to Twin Country Airport (HLX), Galax Hillsville, Virginia. The commercial pilot sustained a minor injury and the pilot-rated passenger was not injured. The airplane was privately owned and operated under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed at the time and no flight plan was filed. The flight originated from New River Valley Airport, Dublin, Virginia, about 1643, and was destined for HLX.

The pilot stated that after takeoff he flew towards HLX, and the wind direction favored landing on runway 19. He entered a midfield left downwind leg of the traffic pattern for runway 19, and when the airplane was "abeam the numbers," he lowered the flaps to the first notch (10 degrees), went full rich on the mixture control, and descended 300 feet, but did not turn on carburetor heat. He turned onto the base leg and then onto a short final approach leg for landing. The airplane was 500 feet above ground level (agl) at an airspeed of 80 mph, and the next thing he knew they were on the ground. He indicated the engine was "running OK," and that it did not sputter or experience any type of power loss. He believed the airplane may have descended due to a microburst, and when asked if there was a rain shower nearby, he reported "no." He also indicated that when the airplane was low to the ground, the passenger put his hand on top of his, which was on the throttle control and added full power, but it was too late. He was asked if he stalled the airplane and reported that he did not. On the NTSB Pilot/Operator Aircraft Accident/Incident Report form submitted by the pilot, he indicated there was no mechanical failure or malfunction with the airplane.

The pilot-rated passenger indicated that the pilot listened to the automated weather observing system (AWOS) prior to entering the traffic pattern and the winds were variable across the runway at 7 to 10 mph. He indicated that the pilot entered the traffic pattern for runway 01 at 3,400 feet mean sea level (msl) at an airspeed of 100 mph. The pilot then decided to fly across midfield to look at the windsock and elected to land on runway 19. The passenger indicated all seemed normal except for being lower than the traffic pattern altitude, but later reported that was typical for the pilot since he was a bush pilot in Alaska. The passenger became preoccupied with an I-pad as the flight continued, and noticed a drop in engine rpm as the pilot was turning onto the final approach leg of the traffic pattern. He looked up and saw terrain but did not see

the runway. He looked quickly at the gauges and saw no irregularity and instantly grabbed the pilot's hand and pushed the throttle. He indicated that at almost the same time he felt a tremendous impact force. He and the pilot then exited the airplane after it came to rest.

A witness reported seeing the airplane fly over the runway at midfield in a steeper than normal left bank; the witness estimated the altitude to be between 200 and 250 feet agl. About 1 minute later, the same witness was notified by an individual that the airplane may have crashed.

Pilot Information

Certificate:	Commercial	Age:	70, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With Waivers/Limitations	Last Medical Exam:	03/26/2015
Occupational Pilot:	No	Last Flight Review or Equivalent:	04/28/2015
Flight Time:	21273 hours (Total, all aircraft), 2000 hours (Total, this make and model), 1 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	PIPER	Registration:	N43503
Model/Series:	PA28 151	Aircraft Category:	Airplane
Year of Manufacture:	1974	Amateur Built:	No
Airworthiness Certificate:	Normal; Utility	Serial Number:	28-7415502
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	04/01/2015, Annual	Certified Max Gross Wt.:	2325 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	3229 Hours	Engine Manufacturer:	LYCOMING
ELT:	C91 installed, not activated	Engine Model/Series:	O-320 Series
Registered Owner:	KEMPFER, ROGER L	Rated Power:	150 hp
Operator:	KEMPFER, ROGER L	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	HLX, 2694 ft msl	Observation Time:	1655 EDT
Distance from Accident Site:		Condition of Light:	Day
Direction from Accident Site:		Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:		Temperature/Dew Point:	25° C / 16° C
Lowest Ceiling:	Broken / 4800 ft agl	Visibility	10 Miles
Wind Speed/Gusts, Direction:	7 knots, 240°	Visibility (RVR):	
Altimeter Setting:	30 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Dublin, VA (PSK)	Type of Flight Plan Filed:	None
Destination:	Galax Hillsvill, VA (HLX)	Type of Clearance:	None
Departure Time:	1643 EDT	Type of Airspace:	

An AWOS report taken at the accident airport at 1655, indicated the wind was from 240 degrees at 7 knots, the visibility was 10 statute miles and broken clouds existed at 4,800, 5,000, and 11,000 feet agl. The temperature and dew point were 25 and 16 degrees Celsius, respectively, and the altimeter setting was 30.00 inches of mercury. The AWOS observation did not detect any significant precipitation during the period. There was no indication of microburst activity (dry or wet) within 10 miles of the accident site, and no outflow boundaries were identified in the vicinity of the accident site.

The Roanoke/Blacksburg (RNK) morning and afternoon upper air soundings surrounding the period were also reviewed. The 1900 sounding depicted a destabilizing atmosphere with a Lifted Index of -3 and supported scattered thunderstorms and rain shower development during the afternoon period. The estimated cloud base was near 4,000 feet agl. Both soundings showed a light low-level wind shear environment below 800 feet agl with an approximately 15 knots shear.

There were no pilot reports of low-level wind shear, but there was a report of moderate turbulence at 7,000 feet.

Airport Information

Airport:	Twin County Airport (HLX)	Runway Surface Type:	Asphalt
Airport Elevation:	2694 ft	Runway Surface Condition:	Unknown
Runway Used:	19	IFR Approach:	None
Runway Length/Width:	4204 ft / 75 ft	VFR Approach/Landing:	Full Stop; Traffic Pattern

Wreckage and Impact Information

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

Additional Information

GPS Data

The airplane was equipped with a portable Garmin 396 GPS receiver, and although the pilot indicated he was not using it, the GPS receiver was retained and sent to the NTSB Vehicle Recorder Laboratory for read-out. The unit was downloaded and found to contain data covering the entire flight. Review of a plot of the GPS data points revealed the airplane proceeded to the destination airport and flew across the runway, then turned to the left and flew in a northerly direction east of the runway consistent with a downwind leg. While on the downwind leg of the traffic between 1703:07 and 1703:34, the groundspeed slowed from 80 knots to 65 knots, or approximately 75 mph. The data indicated that the airplane turned onto the base leg of the traffic pattern and climbed slightly to 2,831 feet GPS altitude, or about 190 feet above the runway elevation, then turned onto the final approach leg of the traffic pattern. It then descended to 2,618 feet (near ground level) and slowed to 62 knots groundspeed, or about 71 mph. The last data point with a valid groundspeed of 62 knots was at 1703:53; the airplane at that time was located about 470 feet from the approach end of runway 19.

Weight Information

Weight calculations were performed using the latest empty weight of the airplane provided by the pilot/owner (1477.2 pounds), and the weights of the pilot and pilot-rated passenger per their last medical examination of 174 and 261 pounds, respectively. The calculations also included the estimated fuel burn for the 21 minute flight subtracted from the full usable fuel load at takeoff, which resulted in a useable fuel load of approximately 272 pounds. The calculation indicated that at the time of the accident, the airplane gross weight was about 2,184 pounds.

Stall Speed Information

According to the Pilot's Operating Manual (POM), based on the airplane's calculated weight at the time of the accident, the approximate power-off stall speed with no bank and flaps retracted was approximately 64 mph. The POM did not specify the stall speed at any flap setting other than retracted or fully extended.

Performance Study

According to the NTSB Performance Study which utilized data from the GPS receiver, and winds aloft of 7 knots from 240 degrees, the airplane was slowing on the downwind leg of the approach. At the last point before the airplane's turn onto the final approach leg of the traffic pattern, its equivalent airspeed with the winds was 65 mph. The next two calculated airspeeds showed the airplane continuing to slow through the turn. Based on the radius of turn between the downwind and final legs of the traffic pattern using 65 mph, the necessary bank angle was calculated to be about 27 degrees. Extrapolating stall speed based on a bank angle of 27 degrees resulted in 69 mph for flaps up and 62 mph for flaps down. The study indicated that the accident airplane was lighter than gross weight; therefore, the stall speed was estimated to be 2 to 3 mph slower (67 and 60 mph), respectively.

Administrative Information

Investigator In Charge (IIC):	Timothy W Monville
Additional Participating Persons:	Charles Monola; FAA/FSDO; Charleston, WV
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=91486