



National Transportation Safety Board Aviation Accident Factual Report

Location:	NORTH LIMA, OH	Accident Number:	NYC99FA187
Date & Time:	08/01/1999, 1359 EDT	Registration:	N5526J
Aircraft:	Piper PA-32-260	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	4 Fatal, 1 Serious
Flight Conducted Under:	Part 91: General Aviation - Personal		

HISTORY OF FLIGHT

On August 1, 1999, at 1359 Eastern Daylight Time, a Piper PA-32-260, N5526J, was destroyed when it impacted terrain shortly after takeoff from Youngstown Elser Metro Airport (4G4), North Lima, Ohio. The certificated airline transport pilot, the certificated private pilot-passenger, and two additional passengers were fatally injured. Another passenger received serious injuries. Visual meteorological conditions prevailed at the time of the accident. No flight plan was filed for the flight between North Lima, and Pottstown Municipal Airport (N47), Pottstown, Pennsylvania. The personal flight was conducted under 14 CFR Part 91.

According to the surviving passenger, the airplane departed Wittman Regional Airport (OSH), Oshkosh, Wisconsin, earlier that same day, and landed at Youngstown to refuel. An employee at the airfield stated that during the refueling, he filled the main fuel tanks. He noticed that while the airplane was on the ramp, the tail was almost touching the ground, and that the airplane "was nose high." After takeoff, he saw that the airplane "was having a hard time climbing out, and [it] was hanging on the prop and mushing its way out. I saw [the airplane] take off, make a 180-degree turn to enter the downwind, and lost sight of him."

Another witness stated that the airplane "took off towards the west, and did a u-turn back toward the airport." He saw that the airplane was flying low, but noted that the engine "sounded real strong." However, the airplane "just couldn't get any elevation...Just before going down [it] was banking left." When asked if he heard the engine operating until the time of impact, the witness answered that he believed so; that it was "roaring." He also added that the pilot "may have cut the engine, but I don't know for sure. The engine sounded like he was really accelerating."

In an interview with the Ohio State Police, the surviving passenger stated that after takeoff, the airplane continued straight ahead for about 1/2 mile, before beginning a left turn. At that time, the airplane was about "2 1/2 football fields high." He further stated that the airplane made only one left turn. "It was a left banking turn. The nose was up and we started to lose altitude slowly. We then started to lose altitude fast, and struck the ground." When asked if the

airplane was "sliding (side slipping) to the left as it was banking and going down," the passenger replied, "yes." The passenger also noted that he could see that the flaps were up "straight" during the entire flight, that the pilot in the left seat was the only one who handled the flight controls, that the pilot did not appear to suffer any medical problems before or during the accident, and that he thought the engine was running throughout the flight, until impact.

The accident occurred during the hours of daylight, at 40 degrees, 57.34 minutes north, 80 degrees, 40.97 minutes west.

PERSONNEL INFORMATION

The pilot held an airline transport pilot certification for multi-engine land airplanes, and a commercial pilot certification for single-engine land airplanes. His latest second class medical certificate was dated February 18, 1999. According to the pilot logbook pages provided by the airplane's insurer, the pilot had about 1,770 hours of flight time, with about 1,470 hours in single-engine airplanes. His total time in make and model could not be determined. However, including the estimated time to and from Oshkosh, he had about 13 hours in Piper single-engine airplanes during the previous 6 months, with about 12 hours of that in the previous 2 months. During the previous 6 months, the pilot had approximately 21 hours in a Beech BE-55 Baron, and completed a biennial flight review in the Baron on February 11, 1999.

METEOROLOGICAL INFORMATION

Density altitude, at the published airport elevation for Elser Metro Airport, was calculated to be about 2,600 feet msl at the approximate time of the accident. Winds, at the same time, were from 320 degrees magnetic, at 12 knots.

WRECKAGE AND IMPACT INFORMATION

The wreckage was in a cornfield, about 1/2 statute mile, and 227 degrees magnetic from Elser Metro Airport. Both the cornfield and the airplane had been disturbed prior to the arrival of Safety Board personnel in order to facilitate the removal of the survivor and the victims' remains. In addition, the area had been doused with water to minimize the possibility of fire from ruptured fuel tanks and lines.

The main wreckage was located about 040 degrees magnetic, and 30 feet from an initial ground scar. Next to that ground scar was the left wing-tip fuel tank. The airplane was oriented about a 200-degree magnetic axis, and all control surfaces were found at the accident scene. The wings were bent forward, with the left wing upside down, and minimally attached to the fuselage. The tail was broken off to the left, and the engine compartment was bent to the right. The left wing had leading edge compression buckling along its entire length, and the wing tip fuel tank was separated from the wing. The right wing exhibited upward bending about mid-span, and leading edge compression was found along the outboard third of the

wing.

Flap position prior to impact could not be verified. The flap selector handle was found in the "flaps fully extended" (40 degrees) position, as were the flap torque tube and control rod. However, the release button on the end of the flap handle selector was jammed into the selector, which would have allowed unabated handle movement throughout the range of flap settings.

Aileron control cables were still attached to the bellcranks, and cable continuity was established to the cabin floor area. The rudder control cables were still attached to the bellcrank, and cable continuity was established to the forward cabin floor area. The stabilator control cables were still attached to the stabilator control rod, and cable continuity was established to the forward cabin floor area. All of the control cables were bound in the forward cabin floor area by deformation of the floor.

The propeller blades exhibited both chordwise and spanwise scoring, and also exhibited some "s-bending." The propeller flange was fractured, and the propeller axis was oriented along the left side of engine. Rotational marks were found on the starter housing, and the crankshaft flange was also bent.

Engine examination confirmed drive train continuity and cylinder compression. The magnetos produced spark, and the upper spark plugs were gray in color, while the lower spark plugs were covered in oil. The lower, number-two spark plug could not be removed for inspection due to impact damage. The engine exhaust manifold on the left side of the engine exhibited some bending and folding.

The fuel selector valve was found in the "right main" tank position. Approximately 1 ounce of fuel was found in the carburetor bowl. Fuel samples were taken from the wreckage and from the airport refueling facility, and found to be blue in color and absent of debris. The electric fuel pump switch was in the "off" position, and the carburetor heat control was destroyed."

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot's remains by the Mahoning County Coroner's Office, Youngstown, Ohio. Toxicological testing was performed by the FAA Toxicology and Accident Research Laboratory, Oklahoma City, Oklahoma, and was negative for carbon monoxide, ethanol, and legal and illegal drugs.

TESTS AND RESEARCH

The stall warning light bulb was examined at the Safety Board Materials Laboratory. The filament was intact, and in good condition, with no evidence of stretching of the individual coils.

Weights of the occupants and baggage were obtained for weight and balance calculations. Baggage was found in both the forward baggage compartment, and in the aft sections of the airplane. According to the surviving passenger, some of the baggage had been stowed next to him, where a sixth seat would have normally been, while the rest was stowed behind him. Due to the shifting of baggage during the impact, the exact weight distribution could not be determined, and several weight and balance computations were performed. The estimated weight of the airplane in all cases was approximately 3,390 pounds, while the center of gravity computations ranged from 94.4 inches to 95.2 inches aft of datum. The published maximum gross weight for the airplane was 3,400 pounds, while the acceptable center of gravity range at that weight ranged from 91.4 inches to 95.5 inches.

ADDITIONAL INFORMATION

The wreckage was released to a representative from Gemco Aviation Services, Inc., Youngstown, Ohio.

Pilot Information

Certificate:	Airline Transport	Age:	53, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	02/18/1999
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	1768 hours (Total, all aircraft), 23 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N5526J
Model/Series:	PA-32-260 PA-32-260	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	32986
Landing Gear Type:	Tricycle	Seats:	5
Date/Type of Last Inspection:	10/01/1998, Annual	Certified Max Gross Wt.:	3400 lbs
Time Since Last Inspection:	167 Hours	Engines:	1 Reciprocating
Airframe Total Time:	4159 Hours	Engine Manufacturer:	Lycoming
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	O-540-E4B5
Registered Owner:	BARN SWALLOWS, INC.	Rated Power:	250 hp
Operator:	BARN SWALLOWS, INC.	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	YNG, 1060 ft msl	Distance from Accident Site:	18 Nautical Miles
Observation Time:	1351 EDT	Direction from Accident Site:	10°
Lowest Cloud Condition:	Scattered / 5000 ft agl	Visibility	10 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	12 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	320°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	27° C / 17° C
Precipitation and Obscuration:			
Departure Point:	(4G4)	Type of Flight Plan Filed:	None
Destination:	POTTSTOWN, PA (N47)	Type of Clearance:	None
Departure Time:	1358 EDT	Type of Airspace:	Class G

Airport Information

Airport:	YOUNGSTOWN ELSER METRO (4G4)	Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	3 Fatal, 1 Serious	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	4 Fatal, 1 Serious	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	PAUL R COX
Additional Participating Persons:	LEIGH J WHITE; CLEVELAND, OH KRIS WETHERELL; VERO BEACH, FL DAVID MOORE; WILLIAMSPORT, PA
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .