



National Transportation Safety Board Aviation Accident Final Report

Location:	ST. PAUL, MN	Accident Number:	CHI97FA200
Date & Time:	07/02/1997, 0720 CDT	Registration:	N83353
Aircraft:	Piper PA-32R-301	Aircraft Damage:	Substantial
Defining Event:		Injuries:	3 Fatal, 1 Serious, 1 Minor
Flight Conducted Under:	Part 91: General Aviation - Business		

Analysis

Shortly after takeoff in gusty winds, the forward baggage door opened. The pilot attempted to return to the airport when the airplane impacted trees and descended into the river. The passengers stated the airplane was at a low altitude, the wings were rocking left and right, and a buzzer was sounding just before the accident. One passenger stated to his knowledge the baggage door was latched, but not locked prior to takeoff. Inspection of the baggage door latch after the accident showed it was in the latched position. No failure of the latch was noted which would have resulted in it opening during the flight. The takeoff was performed on runway 16 and the winds were from 210 degrees at 13 knots, gusting to 21 knots.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain adequate airspeed which resulted in a stall. Related factors were the pilot's diverted attention and gusty wind conditions.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (F) DOOR,CARGO/BAGGAGE - NOT SECURED
2. (F) DOOR,CARGO/BAGGAGE - OPEN
3. (F) DIVERTED ATTENTION - PILOT IN COMMAND
4. (F) WEATHER CONDITION - GUSTS
5. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND
6. (C) STALL/MUSH - INADVERTENT - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: DESCENT - UNCONTROLLED

Findings

7. OBJECT - TREE(S)

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings

8. TERRAIN CONDITION - WATER

Factual Information

HISTORY OF FLIGHT

On July 2, 1997, at 0720 central daylight time (cdt), a Piper PA- 32, N83353, operated by Corporate Aviation, Inc., sustained substantial damage when it impacted trees and water after departing from the South St. Paul Municipal Airport, St. Paul, Minnesota. Witnesses reported that the forward baggage door opened during the takeoff. The pilot and two passengers sustained fatal injuries. One passenger sustained serious injuries and one sustained minor injuries. The 14 CFR Part 91 business flight was destined for Fort Dodge, Iowa. Visual meteorological conditions prevailed and an IFR flight plan was filed.

One of the passengers stated he arrived at the airplane around 0630 cdt. He stated the airplane was already out and the pilot and passenger doors were open. He reported the forward baggage door was closed and the pilot went into the hangar to get the key. They opened the baggage door and put a briefcase in. The same passenger stated that since not all the passengers were there yet he decided to make some telephone calls on his cell phone which was in the briefcase. He stated he made the calls and he put the briefcase back in the baggage area once again. He stated he thinks he closed and latched the baggage door, but he was not sure. He reported that he did not "double latch" the door because he knew others were coming and figured they would have baggage to stow. He stated the pilot then went into the hangar to answer the telephone and he went to use the facilities. When he returned the other passengers had arrived at which time they entered the airplane.

The passenger stated he was in the front right seat for takeoff. The pilot started the engine and did the "mag checks" and everything was normal. He stated they departed to the south and at an altitude of about 50 feet above the ground the front cargo door opened and stayed "straight up" the entire time. The pilot stated they would have to go back and land. The passenger stated the airplane seemed to "wallow" as they climbed and likened it to landing in a strong crosswind. According to the passenger, the pilot made a comment about needing to turn the airplane into the wind at which time the pilot initiated a turn to the left. The passenger stated the airplane motion became more erratic as they climbed. He stated the pilot raised the gear and he recalled hearing a buzzer going off. The pilot then moved the flap handle and stated "...we're going in." He stated the right side of the airplane then contacted the trees and the airplane descended into the water. He stated the green water filled the airplane followed by darkness. The passenger reported he unlatched his seat belt and felt around thinking he needed to go to the right. He stated his shoulder harness was still catching and after he freed it he was able to exit the airplane.

The other surviving passenger reported that it was turbulent and after takeoff the wings were rocking left to right. He stated he heard a couple of "buzzers" go off, but he wasn't alarmed as he had heard them before when flying in this airplane. He reported they flew over powerlines and noticed the altitude was low. He stated the nose was higher than normal and the pilot was fighting with the controls because of the turbulence. He reported that at this point, he felt they were going to crash. He reported the airplane impacted trees along the river then dove into the water in a 45 degree nose down attitude. This passenger reported the engine sounded normal until the airplane impacted the trees. He exited the airplane through a broken window.

PERSONNEL INFORMATION

The pilot was born on September 15, 1943. He was the holder of a commercial pilot certificate with single engine land and instrument ratings. He also held a flight instructor certificate with single engine land and instrument ratings. The pilot held a second class medical certificate issued on October 4, 1996. The medical certificate contained the limitation that the holder must wear corrective lenses for distant vision and must possess glasses for near vision. At the time of his last medical, the pilot reported having 1,950 hours of flight time.

AIRCRAFT INFORMATION

N83353 was a Piper PA-32R-301, s/n 32R-8313004. The airplane was equipped with a Lycoming IO-540-K1G5D engine. The hobbs time on the airplane at the time of the accident was 4848.4 hours. The last annual inspection on the airplane and engine was accomplished on January 8, 1997, at a tach time of 4727 hours. At the time of the inspection the engine had 633 hours since overhaul.

METEOROLOGICAL CONDITIONS

The local weather observation recorded at the South St. Paul Municipal Airport, at 0756 cdt, reported the weather as 3,000 foot broken, 10 miles visibility, temperature 61 degrees F, dewpoint 53 degrees F, winds from 210 at 13 knots gusting to 21 knots, and an altimeter setting of 29.47".

The maximum demonstrated crosswind velocity for the airplane is 17 knots.

WRECKAGE AND IMPACT INFORMATION

The airplane was recovered from the Mississippi River. The right wing was separated from the airplane and was not located. The upper and lower spar caps were separated at the outboard bolt line. The left wing remained attached to the fuselage at the front and main attach points which were bent forward. The aft attach point was separated. The inboard section of the left wing near the wing root was crushed back as was the outboard half of the leading edge. The left wing aileron received minor damage and was free to move. The aileron control cables remained attached. The flap remained attached to the wing and it had contained minor damage.

The fuselage was bent downward in the middle. The right side of the fuselage sustained heavy impact damage. The engine and firewall were partially separated in the forward baggage area. The upper portion of the main cabin door was separated and remained attached to the lower portion only by the weather stripping.

The aft cabin and cargo doors were in place and secure. The forward baggage door received moderate damage. The surrounding structure was displaced and it had sustained heavy damage. The forward baggage door latch was found in the closed (latched) position. The catch was fully extended. The latch and lock operated normally with the exception that the latch could be closed when the key was removed and the lock was in the locked position. The latching mechanism cover plate was removed and no anomalies were noted. The forward baggage door striker plate was intact and no signs of wear were noted.

The vertical stabilizer and rudder were intact with little damage. The majority of the left horizontal stabilizer was torn from the airplane and was missing. The right horizontal stabilizer was attached and had crush damage along the leading edge.

The engine remained attached to the engine mounts, but most of the mount tubes were bent

and broken. The engine mounts were partially separated from the firewall. The engine was removed from the airplane and transported to Buldoch Aviation at the Anoka County Airport for an engine run. After preparing the engine for the test run it was started during which time it ran with no anomalies noted.

MEDICAL AND PATHOLOGICAL INFORMATION

A post mortem examination of the pilot was conducted on July 3, 1997, at the Regina Medical Center, Hastings, Minnesota.

A toxicological examination of specimens from the pilot were tested at the Federal Aviation Administration Civil Aeromedical Institute in Oklahoma City, Oklahoma. The tests were negative for those substances tested with the exception of Quinine which was found in the urine.

ADDITIONAL INFORMATION

Parties to the investigation were The New Piper Aircraft and Textron Lycoming.

Upon completion of the investigation the wreckage was released to a representative from the USAIG insurance.

Pilot Information

Certificate:	Flight Instructor; Commercial	Age:	53, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane Single-engine; Instrument Airplane	Toxicology Performed:	Yes
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	10/04/1996
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	1950 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N83353
Model/Series:	PA-32R-301 PA-32R-301	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	32R-8313004
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	01/08/1997, Annual	Certified Max Gross Wt.:	3615 lbs
Time Since Last Inspection:	121 Hours	Engines:	1 Reciprocating
Airframe Total Time:	4848 Hours	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	IO-540
Registered Owner:	CORPORATE AVIATION, INC.	Rated Power:	300 hp
Operator:	CORPORATE AVIATION, INC.	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	SGS, 820 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	0756 CDT	Direction from Accident Site:	0°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	10 Miles
Lowest Ceiling:	Broken / 3000 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	13 knots / 21 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	210°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	16° C / 12° C
Precipitation and Obscuration:			
Departure Point:	(SGS)	Type of Flight Plan Filed:	IFR
Destination:	FORT DODGE, IA (FOD)	Type of Clearance:	None
Departure Time:	0000	Type of Airspace:	Class E

Airport Information

Airport:	SOUTH ST. PAUL-FLEMING (SGS)	Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Precautionary Landing

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:	2 Fatal, 1 Serious, 1 Minor	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 Fatal, 1 Serious, 1 Minor	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	WESLEY M ROBBINS	Report Date:	09/28/1999
Additional Participating Persons:	ROLLAND SNYDER; MINNEAPOLIS, MN MICHAEL C MCCLURE; ARLINGTON, TX GREGORY ERICKSON; WAYNE, IL		
Publish Date:			
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/ .		

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