



Aviation Investigation Final Report

Location:	Memphis, Missouri	Accident Number:	CHI04LA073
Date & Time:	February 18, 2004, 14:00 Local	Registration:	N3419A
Aircraft:	Piper PA-22-135	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The tailwheel airplane operated by a commercially rated flight instructor, sustained substantial damage on impact with a snow bank during landing roll during an instructional flight. The Certified Flight Instructor (CFI) stated, "Upon descending to short final[,] the winds became light and so we landed, slightly right of the center line with very little aileron or rudder input. After rolling out for an unknown distance and before I could tell my student to start applying some light braking, a gust of wind hit the right side of the aircraft, lifting the right wing and pushing the tail to the left. The yoke was full aft and to the right and at that point I put in full left rudder to correct the direction of the roll out. The right wing became level but we were approximately 2 feet off the runway with the right main gear in the snow which had been pushed off the runway. At this point we were heading down the runway except for the right main gear which was still in the snow. Without brakes on the right side for assistance[,] we continued down the runway edge for approximately 40 feet before the right main gear either compacted with snow or hit some frozen snow making the aircraft tip forward [and] over on the windshield."

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Directional control not maintained by the flight instructor during the landing roll. The snow on the edge of the runway, and the wind gusts were factors.

Findings

Occurrence #1: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER

Phase of Operation: LANDING - ROLL

Findings

1. (F) WEATHER CONDITION - GUSTS
2. (C) DIRECTIONAL CONTROL - NOT MAINTAINED - PILOT IN COMMAND(CFI)
3. (F) TERRAIN CONDITION - SNOWBANK
4. (F) BRAKES(NORMAL) - NOT AVAILABLE - PILOT IN COMMAND(CFI)

Occurrence #2: NOSE OVER

Phase of Operation: LANDING - ROLL

Factual Information

On February 18, 2004, about 1400 central standard time, a Piper PA-22-135, N3419A, operated by a commercially rated flight instructor, sustained substantial damage on impact with a snow bank during landing roll at Memphis Memorial Airport (03D), Memphis, Missouri. The instructional flight was operated under 14 CFR Part 91. Visual meteorological conditions prevailed at the time of the accident. The flight instructor and student pilot sustained no injuries. No flight plan was on file. The flight originated from the Southeast Iowa Regional Airport (BRL) near Burlington, Iowa, about 1300, and was stopping at 03D for fuel en route to its final destination of Freeman Field Airport, near Junction City, Kansas.

The Certified Flight Instructor (CFI) stated:

We departed Burlington, Iowa at approximately 1300 hours enroute to Memphis, MO for refueling in order to make it back to Junction City, KS. The pilot that took us to Burlington was already on the ground at Memphis and stated that his landing was ok and he suggested runway 12, which concurred with the windsock. The winds aloft were strong and so my student pilot turned the aircraft over to me before short final. Upon descending to short final[,] the winds became light and so we landed, slightly right of the center line with very little aileron or rudder input. After rolling out for an unknown distance and before I could tell my student to start applying some light braking, a gust of wind hit the right side of the aircraft, lifting the right wing and pushing the tail to the left. The yoke was full aft and to the right and at that point I put in full left rudder to correct the direction of the roll out. The right wing became level but we were approximately 2 feet off the runway with the right main gear in the snow which had been pushed off the runway. At this point we were heading down the runway except for the right main gear which was still in the snow. Without brakes on the right side for assistance[,] we continued down the runway edge for approximately 40 feet before the right main gear either compacted with snow or hit some frozen snow making the aircraft tip forward [and] over on the windshield. To the south of the runway the terrain had some small hills, trees and farther south was a lake. The runway was in good shape.

The pilot reported no mechanical malfunctions with the airplane. His safety recommendation was the installation of foot brakes on the right crew station to assist with directional control.

At 1355, the recorded weather at Kirksville Regional Airport (IRK), approximately 26 nautical miles southwest of the accident airport, near Kirksville, Missouri, was: Wind 210 degrees at 18

knots gusting to 27 knots; visibility 10 statute miles; sky conditions clear; temperature 9 degrees C; dew point 1 degree C; altimeter 30.13 inches of mercury. Remarks: Peak winds 210 degrees at 28 knots at 1342.

At 1353, the recorded weather at Ottumwa Industrial Airport (OTM), approximately 41 nautical miles north of the accident airport, near Ottumwa Iowa, was: Wind 220 degrees at 16 knots; visibility 7 statute miles; sky conditions clear; temperature 7 degrees C; dew point -1 degree C; altimeter 30.09 inches of mercury.

Flight instructor Information

Certificate:	Commercial; Flight instructor	Age:	59, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	March 21, 2002
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	March 22, 2002
Flight Time:	1111 hours (Total, all aircraft), 1 hours (Total, this make and model), 957 hours (Pilot In Command, all aircraft), 6 hours (Last 90 days, all aircraft), 1 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Student pilot Information

Certificate:	Commercial	Age:	44, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Helicopter	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical-no waivers/lim.	Last FAA Medical Exam:	September 25, 2003
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	October 14, 2003
Flight Time:	4200 hours (Total, all aircraft), 12 hours (Total, this make and model), 4000 hours (Pilot In Command, all aircraft), 120 hours (Last 90 days, all aircraft), 20 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N3419A
Model/Series:	PA-22-135	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	22-1692
Landing Gear Type:	Tailwheel	Seats:	4
Date/Type of Last Inspection:	September 18, 2003 Annual	Certified Max Gross Wt.:	1950 lbs
Time Since Last Inspection:	1750 Hrs	Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	O-290-D2
Registered Owner:	Retsae H. Miller Jr.	Rated Power:	135 Horsepower
Operator:		Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KIRK,966 ft msl	Distance from Accident Site:	26 Nautical Miles
Observation Time:	13:55 Local	Direction from Accident Site:	214°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	18 knots / 27 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	210°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.12 inches Hg	Temperature/Dew Point:	9°C / 1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	BURLINGTON, IA (BRL)	Type of Flight Plan Filed:	None
Destination:	JUNCTION CITY, KS (3JC)	Type of Clearance:	None
Departure Time:	13:00 Local	Type of Airspace:	Class G

Airport Information

Airport:	MEMPHIS MEMORIAL 03D	Runway Surface Type:	Concrete
Airport Elevation:	813 ft msl	Runway Surface Condition:	Dry
Runway Used:	12	IFR Approach:	None
Runway Length/Width:	3300 ft / 60 ft	VFR Approach/Landing:	Full stop

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	40.447223,-92.226943

Administrative Information

Investigator In Charge (IIC):	Malinowski, Edward
Additional Participating Persons:	Rick McGuire; Federal Aviation Administration; Saint Anne, MO
Original Publish Date:	September 1, 2004
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=58775

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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](#).