Aviation Investigation Final Report

Location:	Buffalo, New York	**Accident Number:**	NYC03LA097
Date & Time:	May 5, 2003, 19:29 Local	**Registration:**	N448VP
Aircraft:	Piper PA-23-250	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 None
Flight Conducted Under:	Part 135: Air taxi & commuter - Non-scheduled		

Analysis

The pilot was approaching to land on runway 23 with a tower reported wind from 170 degrees at 10 knots. He reported that at 20 feet, and an airspeed of 100-110 mph, the airplane fell to the runway. The airport was equipped with a low level windshear detection system. According to data from 2 minutes before the accident to 2 minutes after the accident, from the on-airport sensors, the wind was variable by 40 degrees, and the velocity changed by about 5 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 sufficient airspeed to prevent an inadvertent stall. Factors were the variable and gusty winds.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Findings
1. (F) WEATHER CONDITION - GUSTS
2. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND
3. (F) WEATHER CONDITION - VARIABLE WIND
4. STALL/MUSH - INADVERTENT - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
5. LANDING GEAR - COLLAPSED
6. FLARE - NOT POSSIBLE - PILOT IN COMMAND
7. TERRAIN CONDITION - RUNWAY

Factual Information

On May 5, 2003, at 1929 eastern daylight time, a Piper PA-23-250, N448VP, operated by Northeast Aviation, as flight 606, was substantially damaged while landing at the Buffalo Niagara International Airport (BUF), Buffalo, New York. The certificated commercial pilot and additional crewmember were not injured. Visual meteorological conditions prevailed for the non-scheduled cargo flight, which originated from Dutchess County Airport (POU), Poughkeepsie, New York. Flight 606 was conducted on an instrument flight rules (IFR) flight plan under 14 CFR Part 135.

According to the operator, the additional crewmember was onboard to observe operations and assist with the cargo. He held a commercial pilot certificate, and was being considered for employment. He had not passed a flight check for the airplane and was not operating as a pilot on the operator's certificate

The pilot reported that the flight to Buffalo, was without incident. When he initially obtained the ATIS (Airport Terminal Information Service), the winds were "gusty." The airplane was radar vectored for the ILS 23 approach. At the outer marker, the landing gear was lowered, and the pilot performed a "GUMP" check. The pilot further stated:

"...I was approaching at 100-110 mph. Slowly started to power back over the runway. Just when I was about to begin the flare, I felt the bottom drop out below me. I was going to full power, but by that time, I had hit the ground so I pulled the power back to idle. Next thing I knew we were skidding down the runway...."

The additional crewmember reported that as the airplane crossed the threshold for runway 23, it just stopped flying and struck the ground. The pilot added power, but there was insufficient time to prevent runway contact. He was not observing the airspeed and was unaware of the airspeed at the time the airplane encountered what he described as "wind shear." In addition, he reported that he did not touch the flight controls during the approach or landing.

A witness stated:

"...I was directly under the aircraft as it was on its final approach across I-90. I noticed that the aircraft was really being pitched by the winds and making very radical moves to correct alignment (all this happened in a couple of seconds). As the aircraft approached the end of the runway, the aircraft seemed to be having difficulty getting alignment. As the aircraft aligned over the runway, the aircraft made a very sudden and hard drop on to the runway. I did not see actual contact by the aircraft, but I did witness subsequent smoke after the touchdown...the contact seemed hard and very fast from approximately 20 feet."

According to an inspector from the Federal Aviation Administration (FAA), the airplane struck the runway, on centerline, about mid-way from the approach end of runway 23 and taxiway BRAVO. It slid for about 500 feet, and came to rest at the intersection of taxiway BRAVO, with the airplane partially off the runway. The landing gear had collapsed rearward. The outboard section of the left wing had scrape marks on the underside. There were no scrapes on the underside of the right wing.

A small post-crash fire developed in the left engine nacelle, and was extinguished by airport fire fighting personnel.

Buffalo airport was equipped with a low level wind shear detection system. It consisted of 2 on-airport and 4 off-airport sensors. Data was sampled every 10 seconds at each sensor, and recorded using UTC time (local time + 4 hours). According to FAA data, the time of the accident was listed as 1929 (2329 UTC). Data between 2257:10, and 2359:50 was received. A detailed examination of the data between 2327, and 2331 revealed that for the 2 on-airport sensors, the maximum variation in wind direction was 40 degrees, and the maximum spread in wind velocity was 5 knots. For the sensor located in the northeast quadrant, the direction the pilot approached from, the maximum variation in wind direction was 40 degrees, and the maximum spread in wind velocities was 12 knots.

According to the airplane owner's manual, the stall speed of the airplane with landing gear extended, and a flap setting of 50 degrees is 68 mph at 5,200 pounds, and decreases to 61 mph at 4,200 pounds.

Pilot Information

Certificate:	Commercial	**Age:**	26,Male
Airplane Rating(s):	Single-engine land; Multi-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	**Toxicology Performed:**	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	February 13, 2003
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	December 27, 2002
Flight Time:	2000 hours (Total, all aircraft), 400 hours (Total, this make and model), 1800 hours (Pilot In Command, all aircraft), 210 hours (Last 90 days, all aircraft), 80 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N448VP
Model/Series:	PA-23-250	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	27-4414
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	March 23, 2003 100 hour	**Certified Max Gross Wt.:**	5200 lbs
Time Since Last Inspection:	88 Hrs	**Engines:**	2 Reciprocating
Airframe Total Time:	6944 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	IO-540
Registered Owner:	Northeast Aviation	**Rated Power:**	250 Horsepower
Operator:		**Operating Certificate(s) Held:**	On-demand air taxi (135)
Operator Does Business As:		**Operator Designator Code:**	NAHA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	BUF,724 ft msl	**Distance from Accident Site:**	
Observation Time:	19:54 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:		**Visibility**	10 miles
Lowest Ceiling:	Overcast / 3400 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	150°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.76 inches Hg	**Temperature/Dew Point:**	10°C / 7°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Poughkeepsie, NY (POU)	**Type of Flight Plan Filed:**	IFR
Destination:	Buffalo, NY (BUF)	**Type of Clearance:**	IFR
Departure Time:	18:00 Local	**Type of Airspace:**	Class C

Airport Information

Airport:	Buffalo Niagara Intl Arpt BUF	**Runway Surface Type:**	Asphalt
Airport Elevation:	724 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	23	**IFR Approach:**	ILS
Runway Length/Width:	8102 ft / 150 ft	**VFR Approach/Landing:**	Full stop;Straight-in

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:**	42.946109,-78.721946

Administrative Information

Investigator In Charge (IIC):	Hancock, Robert
Additional Participating Persons:	Richard Lansill; Federal Aviation Administration; Rochester, NY
Original Publish Date:	March 2, 2004
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=56946