



# Aviation Investigation Final Report

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<b>Location:</b>	Painesville, Ohio	<b>Accident Number:</b>	IAD01LA043
<b>Date &amp; Time:</b>	April 14, 2001, 09:45 Local	<b>Registration:</b>	N8081Q
<b>Aircraft:</b>	Piper PA-34-220T	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	2 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Instructional		

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## Analysis

The flight instructor said the purpose of the flight was to provide multi-engine instruction to the private pilot, and to practice short-field landings. The private pilot completed one short-field landing, and was on final approach for the second short-field landing when the landing gear struck the leading edge of the runway, and collapsed. He said the airplane was stabilized on the approach for landing when the flight instructor made an abrupt, nose-down input to the control yoke. The flight instructor stated that he had "lowered the nose" to increase airspeed during the approach, in compensation for gusty conditions. According to the flight instructor, the airplane encountered a downdraft in close proximity to the ground, and he was unable to take the controls and arrest the descent before the airplane struck the leading edge of the runway. Neither pilot obtained a weather briefing prior to departure. Both pilots reported there were no mechanical deficiencies with the airplane. According to an FAA Inspector, two wheel marks were observed in the muddy grass area approximately 4 feet from the approach end of the runway.

## 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 the proper descent rate and the flight instructor's inadequate supervision.

## Findings

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Occurrence #1: UNDERSHOOT

Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

1. (C) PROPER DESCENT RATE - NOT MAINTAINED - DUAL STUDENT
2. (C) SUPERVISION - INADEQUATE - PILOT IN COMMAND(CFI)

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Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

3. TERRAIN CONDITION - SOFT

## Factual Information

On April 14, 2001, at 0945 eastern daylight time, a Piper PA-34-220T, N8081Q, was substantially damaged when it landed short of Runway 20 at the Concord Airpark (2G1), Painesville, Ohio. The certificated flight instructor and private pilot were not injured. Visual meteorological conditions prevailed for the flight that originated at the Lost Nation Airport (LNN), Willoughby, Ohio. No flight plan was filed for the instructional flight conducted under 14 CFR Part 91.

During a telephone interview, the certified flight instructor (CFI) said the purpose of the flight was to provide instruction to the private pilot, and to practice short-field landings. He said the private pilot was flying the airplane at the time of the accident. According to the CFI:

"We took off around 0910 to do a short-field landing or two at Concord. We did one landing and came back around for another. The approach speed was 85 knots, just under blue line, and 30 degrees of flaps. We were aiming about 150 to 200 feet down the runway.

"Everything was normal. I mean there wasn't anything that made me think that anything was wrong, compared to what we had just done 5 minutes before. We came in over the trees and we hit a downdraft. We came all the way down and touched the ground. I went for the yoke, but I didn't get to the power. We flared, and the nose hit about 3 inches prior to the pavement. The main gear hit about 6 feet prior to the pavement. The leading edge of the runway was raised above the ground like a curb. The rain had washed the ground away from in front of the runway, and the gear sheared off on the front lip of the runway."

The CFI was asked to describe the winds, and any adjustments that were made in the flight profile to compensate for them. He said:

"There was a crosswind over the trees and it was somewhat gusty. I lowered the nose and added about 5 knots. The book calls for 75 knots and we were doing about 85 knots."

During a telephone interview, the private pilot said the purpose of the flight was to do multi-engine training in preparation for a checkride. He said:

"We went out in the Seneca and did a manual gear extension and some short-field landings. On the second landing, everything looked pretty stable. We were at about 80 to 85 knots and 20 to 30 feet when I started to level off.

"[The CFI] pushed the nose down and then instantaneously the nose gear caught the end of the runway and the nose gear got ripped off. It happened so fast. Everything was stabilized until I pulled back and [the CFI] pushed forward on the yoke.

The private pilot was asked if he felt the rate of descent prior to touchdown was commensurate with the control input by the CFI. He said:

"The push on the yoke was hard enough for me to say 'Geez'. Everything looked perfect, I mean, we were going to land 50 to 100 feet down the runway. It was where I started to ease back that the nose was pushed down."

The private pilot said he did not remember obtaining a weather briefing. He said the winds were from the west at about 10 knots. According to the private pilot:

"The trees were off to the right and the wind was from the right. According to the owner of the airport, the wind has been known to boil over off the tops of the trees and cause a downdraft."

When asked about the performance and handling of the airplane, the private pilot said:

"It was fine. It was a real nice plane."

On April 16, 2001, Federal Aviation Administration (FAA) Aviation Safety inspectors examined the airplane at the scene. According to the inspectors' report:

"Two wheel marks were observed in the muddy grass area approximately 4 feet from the approach end of runway 20 at Concord Airpark (2G1), inline and just to the left of runway center. Propeller strike marks from each engine driven propeller were observed in the pavement. These propeller strike marks begin seven (7) feet from the beginning of the runway hard surface. They repeat eight (8) times at twenty (20) inch intervals."

According to the report, the propeller blades from both the left and right propellers were bent aft at mid-span and displayed chordwise scratching.

The CFI reported that there were no deficiencies in the performance or handling of the airplane. He said:

"The airplane was flying okay, and the engines were running okay. All the numbers were normal."

The CFI reported 2,500 hours of flight experience, of which 1,850 hours were providing flight instruction. He said he had approximately 180 hours of experience in the PA-34.

The private pilot reported 215 hours of flight experience, of which 13 hours were in the PA-34.

When asked if he obtained a weather briefing prior to the flight, the CFI responded:

"No. It was clear and beautiful so we didn't bother."

At 0945, the winds reported at the Cuyahoga County Airport, 14 miles southwest of Concord, were from 260 degrees at 8 knots.

The runway at Concord Airpark was 2,200 feet long and 38 feet wide.

### Flight instructor Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	24, Male
<b>Airplane Rating(s):</b>	Single-engine land; Multi-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane multi-engine; Airplane single-engine; Instrument airplane	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Valid Medical—no waivers/lim.	<b>Last FAA Medical Exam:</b>	April 28, 2000
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	January 18, 2001
<b>Flight Time:</b>	2500 hours (Total, all aircraft), 180 hours (Total, this make and model), 2400 hours (Pilot In Command, all aircraft), 200 hours (Last 90 days, all aircraft), 60 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	23, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Valid Medical—w/ waivers/lim	<b>Last FAA Medical Exam:</b>	April 2, 2001
<b>Occupational Pilot:</b>	UNK	<b>Last Flight Review or Equivalent:</b>	January 10, 2001
<b>Flight Time:</b>	215 hours (Total, all aircraft), 13 hours (Total, this make and model), 148 hours (Pilot In Command, all aircraft), 65 hours (Last 90 days, all aircraft), 29 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Piper	<b>Registration:</b>	N8081Q
<b>Model/Series:</b>	PA-34-220T	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	34-8233075
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	6
<b>Date/Type of Last Inspection:</b>	April 3, 2001 Annual	<b>Certified Max Gross Wt.:</b>	4750 lbs
<b>Time Since Last Inspection:</b>	3 Hrs	<b>Engines:</b>	2 Reciprocating
<b>Airframe Total Time:</b>	3263 Hrs at time of accident	<b>Engine Manufacturer:</b>	Continental
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	TSIO 360 KB1B
<b>Registered Owner:</b>	Flight Wings, Inc	<b>Rated Power:</b>	220 Horsepower
<b>Operator:</b>	T&G Flying, Inc	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	CGF,879 ft msl	<b>Distance from Accident Site:</b>	15 Nautical Miles
<b>Observation Time:</b>	09:45 Local	<b>Direction from Accident Site:</b>	250°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	7 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	8 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	260°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30.05 inches Hg	<b>Temperature/Dew Point:</b>	12°C / 2°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Willoughby, OH (LNN )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Painesville, OH (2G1 )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	09:10 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>	Concord Airpark 2G1	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	995 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	20	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	2200 ft / 38 ft	<b>VFR Approach/Landing:</b>	Full stop;Traffic pattern

## Wreckage and Impact Information

<b>Crew Injuries:</b>	2 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	2 None	<b>Latitude, Longitude:</b>	41.666942,-81.196945

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Rayner, Brian
<b>Additional Participating Persons:</b>	Dave Pesarchick; FAA; Cleveland , OH
<b>Original Publish Date:</b>	May 13, 2003
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	The NTSB traveled to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=52081">https://data.ntsb.gov/Docket?ProjectID=52081</a>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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](#).