



# Aviation Investigation Final Report

<b>Location:</b>	Port Huron, Michigan	<b>Accident Number:</b>	CHI03LA279
<b>Date &amp; Time:</b>	July 16, 2003, 13:05 Local	<b>Registration:</b>	N5359J
<b>Aircraft:</b>	Piper PA-34-220T	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 91: General aviation		

## Analysis

The airplane was damaged during a hard landing on runway 28. The pilot reported that the landing approach was normal. He reported that at touchdown on the main landing gear, wind gusts changed and caused the airplane to bounce off of the nose gear. The pilot attempted to settle the airplane back on the main gear, but it bounced higher and continued bouncing at least three more times veering to the left and in the grass. The weather reporting station located at the accident airport recorded the wind as 330 degrees at 6 knots. No gusts were recorded.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot misjudging the flare during landing, and his inadequate remedial action resulting in the inadvertent porpoise of the airplane.

## Findings

Occurrence #1: HARD LANDING  
Phase of Operation: LANDING

### Findings

1. (C) FLARE - MISJUDGED - PILOT IN COMMAND
2. (C) REMEDIAL ACTION - INADEQUATE - PILOT IN COMMAND
3. (C) PORPOISE/PILOT-INDUCED OSCILLATION - INADVERTENT - PILOT IN COMMAND

-----

Occurrence #2: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER  
Phase of Operation: LANDING

Findings

4. TERRAIN CONDITION - SOFT

## Factual Information

On July 16, 2003, about 1305 eastern daylight time, a Piper PA-34-220T, N5359J, piloted by a private pilot, was substantially damaged during a hard landing on runway 28 (4,001 feet by 75 feet, asphalt), at the St. Clair County International Airport (PHN), near Port Huron, Michigan. The 14 CFR part 91 business flight was operating in visual meteorological conditions. The pilot was not injured. The flight originated from the Flying Cloud Airport, Minneapolis, Minnesota, at 0915.

In a written statement, the pilot stated that he made a normal left-downwind approach for runway 28 at PHN. He indicated that all airspeeds on downwind, base, and final were normal. At touchdown of the main landing gear, wind gusts changed and caused the airplane to bounce off of the nose gear. The pilot attempted to settle the airplane back on the main gear, but it bounced higher and continued bouncing at least three more times veering to the left and in the grass. The airplane then continued to roll back to runway 28 and eventually came to a stop at the run-up area of runway 10.

The recorded weather at PHN at 1316 was:

Winds: 330 degrees at 6 knots

Visibility: 10 statute miles

Sky condition: clear

Temperature: 23 degrees Celsius

Dew Point: 16 degrees Celsius

Altimeter: 30.06 inches of mercury

The pilot reported having autopilot altitude hold problems during the en route portion of the flight. However, he reported no anomalies with the primary flight controls.

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	50, Male
<b>Airplane Rating(s):</b>	Multi-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>	
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 Valid Medical-w/ waivers/lim	<b>Last FAA Medical Exam:</b>	August 7, 2002
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	November 14, 2003
<b>Flight Time:</b>	976 hours (Total, all aircraft), 280 hours (Total, this make and model), 750 hours (Pilot In Command, all aircraft), 38 hours (Last 90 days, all aircraft), 13 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Piper	<b>Registration:</b>	N5359J
<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>	3449267
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	6
<b>Date/Type of Last Inspection:</b>	August 1, 2002 Annual	<b>Certified Max Gross Wt.:</b>	4773 lbs
<b>Time Since Last Inspection:</b>	170 Hrs	<b>Engines:</b>	2 Reciprocating
<b>Airframe Total Time:</b>	170 Hrs as of last inspection	<b>Engine Manufacturer:</b>	Teledyne Continental
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	TSIO-360-RB
<b>Registered Owner:</b>	A & K Equipment Co., Inc.	<b>Rated Power:</b>	220 Horsepower
<b>Operator:</b>		<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>	PHN,650 ft msl	<b>Distance from Accident Site:</b>	1 Nautical Miles
<b>Observation Time:</b>	13:16 Local	<b>Direction from Accident Site:</b>	323°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	6 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	330°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30.05 inches Hg	<b>Temperature/Dew Point:</b>	23°C / 16°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	MINNEAPOLIS, MN (FCM )	<b>Type of Flight Plan Filed:</b>	Unknown
<b>Destination:</b>	PORT HURON, MI (PHN )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	09:15 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>	ST CLAIR COUNTY INTL PHN	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	650 ft msl	<b>Runway Surface Condition:</b>	
<b>Runway Used:</b>	28	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	4001 ft / 75 ft	<b>VFR Approach/Landing:</b>	Full stop

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 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>	1 None	<b>Latitude, Longitude:</b>	42.910831,-82.528892

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Brannen, John
<b>Additional Participating Persons:</b>	Steven M Wuchte; FAA-Detroit-FSDO; Belleville, MI
<b>Original Publish Date:</b>	June 2, 2004
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=57795">https://data.ntsb.gov/Docket?ProjectID=57795</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](#).