



# Aviation Investigation Final Report

<b>Location:</b>	PALO ALTO, California	<b>Accident Number:</b>	LAX95LA014
<b>Date &amp; Time:</b>	October 12, 1994, 15:02 Local	<b>Registration:</b>	N8154C
<b>Aircraft:</b>	PIPER PA-34-220T	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	3 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

THE AIRCRAFT WAS LANDING ON RUNWAY 30 WITH A GUSTY LEFT CROSSWIND CONDITION. THE PILOT SAID HE REDUCED POWER TOO RAPIDLY IN THE LANDING FLARE DUE TO HIS PREOCCUPATION WITH THE CROSSWIND AND THE AIRCRAFT LANDED HARD ON THE MAIN GEAR AND BOUNCED. THE PILOT REPORTED THAT IN THE BOUNCE RECOVERY HE DID NOT USE ENOUGH BACK PRESSURE ON THE ELEVATOR CONTROL AND THE AIRCRAFT PORPOISED. AFTER SEVERAL OSCILLATIONS, THE NOSE LANDING GEAR COLLAPSED.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's improper bounced landing recovery technique.

## Findings

Occurrence #1: NOSE GEAR COLLAPSED  
Phase of Operation: LANDING - FLARE/TOUCHDOWN

### Findings

1. WEATHER CONDITION - CROSSWIND
2. WEATHER CONDITION - GUSTS
3. THROTTLE/POWER CONTROL - IMPROPER USE OF - PILOT IN COMMAND
4. (C) FLARE - INADEQUATE - PILOT IN COMMAND
5. (C) RECOVERY FROM BOUNCED LANDING - INADEQUATE - PILOT IN COMMAND

- 6. PORPOISE/PILOT-INDUCED OSCILLATION - INADVERTENT - PILOT IN COMMAND
- 7. LANDING GEAR,NOSE GEAR STRUT - OVERLOAD

## Factual Information

On October 12, 1994, at 1502 hours Pacific daylight time, a Piper PA-34-220T, N8154C, porpoised following a bounced landing recovery and collapsed the nose gear at Palo Alto, California. The aircraft was operated by the West Valley Flying Club of Palo Alto, and was rented by the pilot for a personal cross-country flight. The aircraft was substantially damaged. The certificated commercial pilot and the two passengers were not injured. Visual meteorological conditions prevailed and a VFR flight plan was filed. The flight had originated at Sedona, Arizona, on the day of the accident at 1141 mountain standard time.

The aircraft was landing on runway 30 with a gusty left crosswind condition. The pilot said he reduced power too rapidly in the landing flare due to his preoccupation with the crosswind and the aircraft landed hard on the main gear and bounced. The pilot reported that in the bounce recovery he did not use enough back pressure on the elevator control and the aircraft porpoised. After several oscillations, the nose landing gear collapsed.

### Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	46, Male
<b>Airplane Rating(s):</b>	Single-engine land; 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>	No
<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 3, 1993
<b>Occupational Pilot:</b>	UNK	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	695 hours (Total, all aircraft), 41 hours (Total, this make and model), 537 hours (Pilot In Command, all aircraft), 47 hours (Last 90 days, all aircraft), 8 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	PIPER	<b>Registration:</b>	N8154C
<b>Model/Series:</b>	PA-34-220T PA-34-220T	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal; Provisional (Special)	<b>Serial Number:</b>	34-7970391
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	6
<b>Date/Type of Last Inspection:</b>	March 9, 1994 Annual	<b>Certified Max Gross Wt.:</b>	4570 lbs
<b>Time Since Last Inspection:</b>	183 Hrs	<b>Engines:</b>	2 Reciprocating
<b>Airframe Total Time:</b>	2248 Hrs	<b>Engine Manufacturer:</b>	CONTINENTAL
<b>ELT:</b>		<b>Engine Model/Series:</b>	TSIO-360E
<b>Registered Owner:</b>	BRIAN MARCHANT	<b>Rated Power:</b>	200 Horsepower
<b>Operator:</b>	WEST VALLEY FLYING CLUB	<b>Operating Certificate(s) Held:</b>	None
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	PAO ,5 ft msl	<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>	15:02 Local	<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	30 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	15 knots / 25 knots	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	260°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	29 inches Hg	<b>Temperature/Dew Point:</b>	19°C / 7°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	SEDONA , AZ (SEZ )	<b>Type of Flight Plan Filed:</b>	VFR
<b>Destination:</b>	(PAO )	<b>Type of Clearance:</b>	VFR
<b>Departure Time:</b>	11:41 Local	<b>Type of Airspace:</b>	Class D;Class E

## Airport Information

<b>Airport:</b>	PALO ALTO PAO	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	5 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	30	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	2500 ft / 65 ft	<b>VFR Approach/Landing:</b>	Full stop;Traffic pattern

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	2 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	3 None	<b>Latitude, Longitude:</b>	37.450325,-122.100685(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Petterson, George
<b>Additional Participating Persons:</b>	ANTHONY COSTANZA; SAN JOSE , CA
<b>Original Publish Date:</b>	May 16, 1995
<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=28967">https://data.ntsb.gov/Docket?ProjectID=28967</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](#).