



# National Transportation Safety Board

## Aviation Accident Data Summary

<b>Location:</b>	Palo Alto, CA	<b>Accident Number:</b>	LAX05FA058
<b>Date &amp; Time:</b>	01/02/2005, 1337 PST	<b>Registration:</b>	N4165P
<b>Aircraft:</b>	Piper PA-46-350P	<b>Injuries:</b>	1 Minor, 3 None
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

### Analysis

The airplane landed long and overran the runway, colliding with a berm and marshy terrain about 300 yards beyond the runway end. The first leg of the flight originated at Mammoth Lakes, California, destined for Palo Alto. En route at 18,000 feet over the Sierra Nevada Mountains, the pilot observed erratic high oil temperature and low oil pressure readings and diverted to Modesto to have the engine checked. No mechanics were available at the airport and the pilot subsequently departed for Palo Alto, after adding oil to the engine for the 65-mile remaining trip, heading west. En route to Palo Alto, and in actual IFR conditions, the pilot experienced erratic operation of both GPS navigation systems (one failed after losing a lock on the satellites), which troubled the pilot since she had had a very bad prior experience with losing the navigation systems in actual IFR and icing conditions in a non-radar environment. Shortly after that, the oil pressure and oil temperature indications became erratic again, with the oil temperature flickering near the upper limit and the oil pressure flickering near the lower limit. The pilot said she pushed the reset buttons and cycled the circuit breakers and the audible alarms for the oil temperature and pressure sounded. In addition, the ice warning system activated, alerting the pilot to select the deice functions, and after turning them on, the pilot observed clear ice breaking off the wings. Then the fuel gages started to give erratic indications, cycling to near empty and back again. The pilot told the TRACON controller she needed to land as soon as possible and the controller suggested two nearby airports, one with an 11,000-foot-long runway; however, since the original destination was only 8 minutes further on, the pilot elected to continue to Palo Alto. As she approached the airport, the oil temperature continued to fluctuate and the associated warning horn sounded. She continued to reset (silence) the horn as she approached the airport. The pilot was given the winds at Palo Alto (120 degrees at 8 knots) and since she was concerned with losing the engine over a populated city area, she requested runway 31 in order to make a straight-in approach. The pilot was cleared to land on the 2,500-foot-long runway 31. The pilot said she realized she was high on the approach but did not think about a go-around because of the concern with the potential for an engine failure. The airplane landed about halfway down the runway and could not stop before overrunning the runway and colliding with a berm and marshy terrain about 300 yards beyond the runway end. The aircraft is equipped with an integrated engine parameter instrument and warning system (EMIS), which is a precision measurement and display system containing both analog and digital displays of engine related parameters with alarms for parameter exceedances. In normal operation mode, the Enhanced Digital Indicator (EDI) posts a digital enhancement of the selected analog indicators. The automatic exceedance warning mode has the highest priority. When an exceedance is detected, the EDI will automatically select that indicator and display the readings on the LCD. The peak exceedance value of the indicator will flash in the display and be recorded in non volatile memory for future extraction. The EDI was powered up and placed into exceedance review mode. While in exceedance review mode, the EDI reported the following exceedances: 1) Oil Temperature (OT) recorded three events with a peak exceedance of 278 with an average exceedance of 278 for 11 seconds; 2) Oil Pressure (OP) recorded one event with a peak exceedance of 0 (zero) with an average exceedance of 0 for 81 seconds; 3) Manifold Pressure (MP) recorded nine events with a

peak exceedance of 42.0 with an average exceedance of 42.0 for 2 seconds; 4) Turbine Inlet Temperature (T.I.T.) recorded one event of 43 seconds at an average exceedance of 1750. The Cylinder Head Temperature (CHT), Fuel Flow (FF), and Propeller rpm (rpm) indicators did not report any exceedances. A functional test of the EMIS system, to include all probes, analog gages, and associated wiring, was conducted, with no anomalies found. The electrical connection of the temperature probe was forcibly manipulated in an attempt to make the indicator fluctuate. All attempts to duplicate a fluctuating oil temperature indication failed. A detailed examination of the engine found no evidence of a malfunction with the lubricating system or evidence of lubrication related damage to the core engine.

### Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's misjudged distance and speed on final approach, which led to a long landing and a runway overrun. Also causal was the pilot's inadequate in-flight decision to continue flight with indications of apparent serious system anomalies, failure to divert to a more suitable destination alternate, and failure to perform a go-around when an overshoot became obvious. Factors in the accident were the short runway at Palo Alto and the pressure placed on the pilot by the apparent indications of multiple system failures and the potential for a catastrophic engine failure. The cause of the erratic engine instrument indications was not resolved.

### Findings

Occurrence #1: OVERRUN  
Phase of Operation: LANDING

#### Findings

1. ENGINE INSTRUMENTS,ELECTRONIC FLT INFO SYSTEM - ERRATIC
2. (C) IN-FLIGHT PLANNING/DECISION - INADEQUATE - PILOT IN COMMAND
3. (F) PRESSURE INDUCED BY CONDITIONS/EVENTS - PILOT IN COMMAND
4. (C) OPERATION WITH KNOWN DEFICIENCIES IN EQUIPMENT - CONTINUED - PILOT IN COMMAND
5. (F) NOT PERFORMED - PILOT IN COMMAND
6. (F) TERRAIN CONDITION - SHORT RUNWAY/LANDING AREA
7. WEATHER CONDITION - TAILWIND
8. (C) DISTANCE/SPEED - MISJUDGED - PILOT IN COMMAND
9. (C) PROPER TOUCHDOWN POINT - NOT ATTAINED - PILOT IN COMMAND
10. (C) GO-AROUND - NOT PERFORMED - PILOT IN COMMAND

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

#### Findings

11. TERRAIN CONDITION - BERM

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	45
<b>Airplane Rating(s):</b>	Single-engine Land	<b>Instrument Rating(s):</b>	Airplane
<b>Other Aircraft Rating(s):</b>	None	<b>Instructor Rating(s):</b>	None
<b>Flight Time:</b>	990 hours (Total, all aircraft), 600 hours (Total, this make and model), 940 hours (Pilot In Command, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Manufacturer:</b>	Piper	<b>Registration:</b>	N4165P
<b>Model/Series:</b>	PA-46-350P	<b>Engines:</b>	1 Reciprocating
<b>Operator:</b>	Bjorg A. Sky	<b>Engine Manufacturer:</b>	Textron Lycoming
<b>Air Carrier Operating Certificate:</b>	None	<b>Engine Model/Series:</b>	TIO-540-AE2A
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

## Meteorological Information and Flight Plan

<b>Observation Facility, Elevation:</b>	PAO, 5 ft msl	<b>Weather Information Source:</b>	Weather Observation Facility
<b>Conditions at Accident Site:</b>	Visual Conditions	<b>Lowest Ceiling:</b>	Overcast / 4000 ft agl
<b>Condition of Light:</b>	Day	<b>Wind Speed/Gusts, Direction:</b>	8 knots, 120°
<b>Temperature:</b>	9°C / 7°C	<b>Visibility</b>	6 Miles
<b>Precipitation and Obscuration:</b>	Light - No Obscuration		
<b>Departure Point:</b>	Modesto, CA (MOD)	<b>Destination:</b>	Palo Alto, CA (PAO)

## Airport Information

<b>Airport:</b>	Palo Alto (PAO)	<b>Runway Surface Type:</b>	Asphalt
<b>Runway Used:</b>	31	<b>Runway Surface Condition:</b>	Wet
<b>Runway Length/Width:</b>	2443 ft / 70 ft		

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Minor	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	3 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None

## Administrative Information

<b>Investigator In Charge (IIC):</b>	George E Petterson	<b>Adopted Date:</b>	04/25/2006
<b>Investigation Docket:</b>	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

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