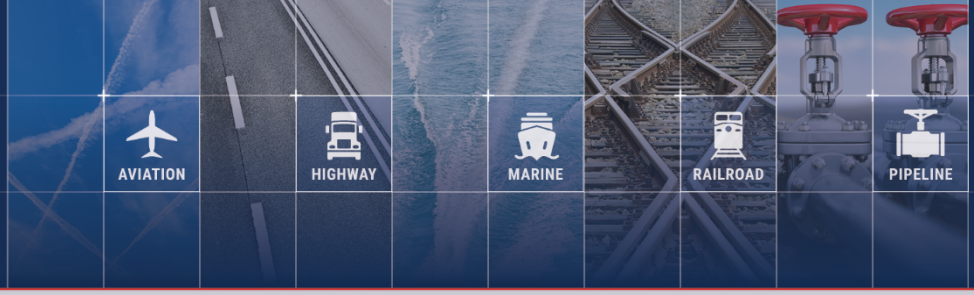


# Aviation Investigation Final Report

| | | | |
|---|---|---|---|
| **Location:** | Kingsburg, California | **Accident Number:** | LAX06FA054 |
| **Date & Time:** | December 10, 2005, 11:31 Local | **Registration:** | N3039B |
| **Aircraft:** | Piper PA-32RT-300 | **Aircraft Damage:** | Destroyed |
| **Defining Event:** | | **Injuries:** | 2 Fatal |
| **Flight Conducted Under:** | Part 91: General aviation - Personal | | |

## Analysis

The airplane impacted trees and terrain while descending in instrument meteorological conditions. The airplane was reported overdue about 5 hours after its departure. No flight plan had been filed. Due to thick ground fog in the area, the search was restricted until daylight the following day when the wreckage was located. Family members reported that the pilot and his wife contacted them via telephone about 1000 and said they were running a little late. Records at the departure airport show the airplane departed at 1026. The pilot and his wife were scheduled to be at the destination airport around 1100 for an appointment. Review of recorded radar data noted a secondary 1200 (VFR) beacon code at a mode C reported altitude of 1,600 feet mean sea level (msl) 12 nautical miles(nm) northwest of the destination airport. The target continued climbing while proceeding on a southeasterly course, which appeared to track towards the airport. About 3.8 nm northwest of the airport at a mode C reported altitude of 2,100 feet msl, the target began a gradual descending right turn. The target tracked back towards the northwest until radar contact was lost at 11:31:10, at a mode C reported altitude of 300 feet. The last recorded radar target was 1.5 nm south of the accident site. The distance from the initial impact point near the top of a 100-foot-tall tree to the main wreckage was approximately 370 feet. Aviation routine weather reports for the destination airport and the airports within 20 miles showed widespread low stratus and fog conditions with visibilities 1/4-mile or less under a 100-foot overcast, with the tops of the cloud layer reported at 800 feet.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's in-flight decision to continue VFR flight into instrument meteorological conditions during descent, which resulted in an in-flight collision with trees and terrain. Fog, low ceiling,

and obscuration were factors.

## Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER
Phase of Operation: DESCENT

Findings
1. (F) WEATHER CONDITION - FOG
2. (F) WEATHER CONDITION - LOW CEILING
3. (F) WEATHER CONDITION - OBSCURATION
4. (C) VFR FLIGHT INTO IMC - CONTINUED - PILOT IN COMMAND
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Occurrence #2: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: DESCENT

Findings
5. OBJECT - TREE(S)
6. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND
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Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
7. TERRAIN CONDITION - GROUND

## Factual Information

HISTORY OF FLIGHT

On December 10, 2005, at 1131 Pacific standard time, a Piper, PA32RT-300, N3039B, descended into trees and crashed into a cherry orchard near Kingsburg, California. The owner/pilot was operating the airplane under the provisions of 14 CFR Part 91. The commercial pilot and one passenger were fatally injured; the airplane was destroyed during the impact sequence and post impact fire. The cross-country personal flight departed Reid-Hillview Airport of Santa Clara County (RHV), San Jose, California, at 1026, with a planned destination of Visalia Municipal Airport (VIS), Visalia, California. Instrument meteorological conditions prevailed at VIS, and no flight plan had been filed. The approximate global positioning system (GPS) coordinates of the primary wreckage were 36 degrees 26.270 minutes north latitude and 119 degrees 35.018 minutes west longitude.

At 1614, on December 10, 2005, the Federal Aviation Administration (FAA) issued an alert notification (ALNOT) after notice from a concerned family member that the airplane was missing and overdue. Both the Civil Air Patrol and local authorities were notified of the overdue aircraft. Due to thick ground fog in the area, the search for the airplane was restricted until daylight the following day. Search and rescue personnel from the Kings County Sheriff's Department located the airplane wreckage at 1215, on December 11, 2005.

Family members reported that the owner/pilot and his wife contacted them via telephone about 1000 and said they were running a little late. Airport records at RHV indicated the accident airplane departed at 1026. The pilot and his wife were scheduled to be at VIS around 1100.

The National Transportation Safety Board investigator-in-charge (IIC) reviewed recorded radar data and noted a secondary 1200 (VFR) beacon code at a mode C reported altitude of 1,600 feet mean sea level (msl), 12 nautical miles(nm) northwest of VIS. The target continued climbing while proceeding on a southeasterly course, which appeared to track towards VIS. About 3.8 nm northwest of VIS, at a mode C reported altitude of 2,100 feet msl, the target began a gradual descending right turn. The target tracked back towards the northwest until radar contact was lost at 11:31:10, at a mode C reported altitude of 300 feet. The last recorded radar target was 1.5 nm south of the accident site.

PERSONNEL INFORMATION

A review of FAA airman records revealed that the pilot held a commercial pilot certificate with ratings for airplane single engine land, instrument airplane, and private pilot airplane multiengine land limited to VFR only.

The pilot held a third-class medical certificate issued on April, 2004. It had the limitations that the pilot must possess glasses for near distant vision.

No personal flight records were located for the pilot. The IIC obtained the aeronautical experience data listed in this report from a review of the FAA airmen records on file in the Airman and Medical Records Center located in Oklahoma City. The pilot reported on his most recent Airman Certificate and/or Rating Application in the file, dated August 25, 1999, that he had a total time of 423 hours.

## AIRCRAFT INFORMATION

The airplane was a Piper PA32RT-300, serial number 32R-7985019. A review of the airplane's logbooks revealed that the airplane had a total airframe time of 2304.91 hours at the last annual inspection on November 5, 2004. The Hobbs hour meter read 1093.5 at the accident site.

The engine was a Textron Lycoming IO-540-KIG5D, serial number L-18684-48A. Total time recorded on the engine at the last annual inspection on November 5, 2004, was 2,304.91 hours. The last major overhaul was completed on October 11, 2004.

Examination of the maintenance and flight department records revealed no unresolved maintenance discrepancies against the airplane prior to departure.

## METEOROLOGICAL INFORMATION

The closest aviation weather observation station was at the Hanford Municipal Airport (HJO), which was located 7.5 nm southwest of the accident site. The elevation of the weather observation station was 244 feet msl. A routine weather report (METAR) for HJO was issued at 1153, 27 minutes after the accident. It stated: winds were calm; visibility less than 1/4 mile; skies 100 feet overcast; temperature 7 degrees Celsius; dew point 6 degrees Celsius; altimeter 30.22 inHg.

The second closest aviation weather observation station was at the Visalia Municipal Airport, which was located 11.67 nm southeast of the accident site. The elevation of the weather observation station was 295 feet msl. A routine weather report (METAR) for VIS was issued at 1135. It stated: winds were calm; visibility less than 1/4 mile; skies 100 feet overcast; temperature 7 degrees Celsius; dew point 7 degrees Celsius; altimeter 30.25 inHg.

The third closest aviation weather observation station was at the Fresno Yosemite International Airport (FAT), which was located 21.7 nm northwest of the accident site. The elevation of the weather observation station was 336 feet msl. A routine weather report (METAR) for FAT was issued at 1156. It stated: winds were calm; visibility less than 1/2 mile; skies 300 feet broken; temperature 9 degrees Celsius; dew point 7 degrees Celsius; altimeter

30.22 inHg.

A pilot weather report (PIREP) was filed by a pilot flying from Delano Municipal Airport (DLO) to FAT at 1145. The pilot reported that the top of the overcast layer was 800 feet msl.

WRECKAGE AND IMPACT INFORMATION

The Safety Board investigator-in-charge (IIC), the FAA aviation safety inspector, and investigators representing New Piper Aircraft Company and Textron Lycoming examined the wreckage at the accident scene.

The first identified point of contact (FIPC) was near the top of a 100-foot tree. One propeller blade tip about 6 inches long was found lying on the ground near the base of the tree and numerous fallen branches. The next impact point was a ground scar, which was 320 feet away on a bearing of 328 degrees magnetic. Red semicircular glass shards were located about 8 feet from the apex of the ground scar. The left wing tip was separated from the left wing and was located about 16 feet from the apex of the ground scar. The tip sustained impact damage but no fire damage. The main wreckage was located about 50 feet beyond the initial ground impact, coming to rest in sections among several cherry trees. The sections were located over a distance of about 46 feet, with the cabin area coming to rest on a heading of about 200 degrees. The debris field from the initial ground impact to the main wreckage was on a bearing of 320 degrees.

The left wing separated from the fuselage at the wing root. The wing separated into several sections and was destroyed by impact and fire. The inboard section of the wing came to rest on its trailing edge, with landing gear extended and the flap surface attached. The aileron bellcrank assembly separated from the wing at the attachment point. Both aileron cables remained attached to the bellcrank arms, which were bent. The aileron cables in the area of the wing root were broomstrawed at the separation point. The aileron push/pull rod end remained attached to the bellcrank, but the rod had separated. The leading edge skins were crushed aft and the skins were ripped open. The inboard portion of the fuel tank separated from the wing and was destroyed. The outboard section of the wing with the aileron surface attached separated from the inboard section of the wing. The outboard section was destroyed and mostly consumed by fire.

The right wing also separated from the fuselage at the wing root. The wing sustained extensive post impact fire damage and was mostly consumed. The aileron remained attached to the outboard section of the wing. The aileron bellcrank assembly separated from the wing at the attachment point. Both aileron cables in the area of the wing root exhibited broomstrawed ends. The aileron push/pull rod end remained attached to the bellcrank, but the rod had separated. A burned section of the flap was located within the crash site. The landing gear sustained fire damage and had separated from the wing.

The empennage sustained fire damage and was destroyed. The T-tail assembly was resting

on the vertical surface and the right side horizontal stabilizer. The leading edge of the right horizontal was crushed aft. The outboard section of the left horizontal was mostly consumed by fire. Control cables remained attached to all surface control attachment points. The emergency locating transmitter (ELT) remained attached to its mounting tray, but it had sustained fire damage and was destroyed.

The forward cockpit and fuselage section sustained extensive fire damage and was destroyed. The instrument panel and cockpit controls were destroyed. All avionics were destroyed. An unidentified hour meter separated from the aircraft and was located outside the burn area. The meter sustained impact damage, and its faceplate was missing. The meter indicated a time of 1093.5 hours. The fuel selector assembly was destroyed by fire.

The engine and firewall section sustained fire damage. The propeller remained attached to the engine and sustained fire damage. The blades exhibited aft bending and torsional twisting. The fuel injector servo and the magneto assembly were destroyed by fire. The vacuum pump sustained heat damage, but its rotor, vanes, and drive coupling were found intact. Continuity of the valve train and gear train components was established during hand crankshaft rotation. Thumb compression was produced in all six cylinders.

## MEDICAL AND PATHOLOGICAL INFORMATION

The FAA Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, performed toxicological testing on specimens from the pilot. Analysis of the specimens contained no findings for volatiles and tested drugs.

## TESTS AND RESEARCH

The FAA, Piper, and Textron Lycoming were parties to the investigation.

Investigators examined the wreckage at Aircraft Recovery Service, Littlerock, California, on December 14, 2005.

All of the engine accessories were destroyed by thermal effect and were not tested.

The engine remained attached to the airframe by the engine mount. The engine was observed to have sustained significant thermal effect damage. According to the manufacturer's representative, visual examination of the engine revealed no evidence of preimpact catastrophic mechanical malfunction or fire.

The spark plugs were secure at each position and had been subjected to impact and thermal effect energy. The top spark plugs were removed and displayed no mechanical deformation. The ignition harness had been subjected to fire and displayed thermal damage. The harness appeared to have been attached at each spark plug lead.

The starter, alternator, and rear-mounted vacuum pump were all secure at their respective mounting pads but had sustained fire damage.

A borescope inspection of the engine revealed no mechanical deformation on the valves, cylinder walls, or cylinder heads.

The propeller was removed to facilitate examination. The propeller remained attached at the crankshaft flange. The spinner and dome were displaced from the propeller hub. The propeller blades were still attached to the hub. The blades displayed leading edge gouging, torsional twisting, chordwise striations across the cambered surface, and trailing edge "S" bending. The propeller governor was displaced from the mounting pad. The pitch control rod remained securely attached at the control wheel. The propeller governor drive was intact and free to rotate by hand.

Investigators manually rotated the crankshaft using a tool that was placed in an accessory drive gear. The crankshaft rotated freely, and according to the engine manufacturer's representative, the valves moved approximately the same amount of lift in firing order. The fuel pump plunger moved up and down, and the gears in the accessory case turned freely. Investigators obtained thumb compression on all cylinders in firing order.

The oil suction screen was clean and devoid of foreign materials. The oil filter was detached and crushed. According to the manufacturer's representative, there was no evidence of any premishap lubrication system contamination.

The fuel injection servo was displaced from the engine, and the portion that remained attached at the mounting pad was secure. According to the manufacturer's representative, the fracture surface signatures were consistent with overload. The throttle and mixture controls were securely attached to the servo at their respective control arm fitting. The fuel injection servo and induction system were observed to be free of obstruction. The fuel flow divider remained secure in its mounting bracket. The fuel lines remained secure at each flow divider fitting, and to the fuel injectors, at each cylinder.

Investigators disassembled the flow divider. The diaphragm had been destroyed by the thermal effects of the post impact ground fire. The fuel pump was partially consumed from the thermal effects of the post impact fire. The fuel pump mounting flange remained attached at the mounting pad. The two mounting bolts remained in place and were safety wired.

There was no residue observed in the exhaust system gas path. There was significant ductile bending of the exhaust system components.

ADDITIONAL INFORMATION

The IIC released the wreckage to the owner's representative on December 30, 2005.

## Pilot Information

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|---|---|---|---|
| **Certificate:** | Commercial | **Age:** | 48,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):** | None | **Toxicology Performed:** | Yes |
| **Medical Certification:** | Class 3 With waivers/limitations | **Last FAA Medical Exam:** | April 1, 2004 |
| **Occupational Pilot:** | No | **Last Flight Review or Equivalent:** | |
| **Flight Time:** | 423 hours (Total, all aircraft), 282 hours (Pilot In Command, all aircraft) | | |

## Aircraft and Owner/Operator Information

| | | | |
|---|---|---|---|
| **Aircraft Make:** | Piper | **Registration:** | N3039B |
| **Model/Series:** | PA-32RT-300 | **Aircraft Category:** | Airplane |
| **Year of Manufacture:** | | **Amateur Built:** | |
| **Airworthiness Certificate:** | Normal | **Serial Number:** | 32R-7985019 |
| **Landing Gear Type:** | Retractable - Tricycle | **Seats:** | 6 |
| **Date/Type of Last Inspection:** | November 1, 2005 Annual | **Certified Max Gross Wt.:** | 3600 lbs |
| **Time Since Last Inspection:** | | **Engines:** | 1 Reciprocating |
| **Airframe Total Time:** | 2349 Hrs at time of accident | **Engine Manufacturer:** | Lycoming |
| **ELT:** | Installed | **Engine Model/Series:** | IO-540-K1G5D |
| **Registered Owner:** | On file | **Rated Power:** | 300 Horsepower |
| **Operator:** | On file | **Operating Certificate(s) Held:** | None |

## Meteorological Information and Flight Plan

| | | | |
|---|---|---|---|
| **Conditions at Accident Site:** | Instrument (IMC) | **Condition of Light:** | Day |
| **Observation Facility, Elevation:** | VIS,295 ft msl | **Distance from Accident Site:** | 12 Nautical Miles |
| **Observation Time:** | 11:35 Local | **Direction from Accident Site:** | 114° |
| **Lowest Cloud Condition:** | | **Visibility** | 0.25 miles |
| **Lowest Ceiling:** | Overcast / 100 ft AGL | **Visibility (RVR):** | |
| **Wind Speed/Gusts:** | / | **Turbulence Type Forecast/Actual:** | / |
| **Wind Direction:** | | **Turbulence Severity Forecast/Actual:** | / |
| **Altimeter Setting:** | 30.25 inches Hg | **Temperature/Dew Point:** | 7°C / 7°C |
| **Precipitation and Obscuration:** | In the vicinity - None - Fog | | |
| **Departure Point:** | SAN JOSE, CA (RHV ) | **Type of Flight Plan Filed:** | None |
| **Destination:** | VISALIA, CA (VIS ) | **Type of Clearance:** | None |
| **Departure Time:** | 10:26 Local | **Type of Airspace:** | |

## Airport Information

| | | | |
|---|---|---|---|
| **Airport:** | VISALIA MUNI VIS | **Runway Surface Type:** | |
| **Airport Elevation:** | 295 ft msl | **Runway Surface Condition:** | |
| **Runway Used:** | | **IFR Approach:** | None |
| **Runway Length/Width:** | | **VFR Approach/Landing:** | None |

## Wreckage and Impact Information

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|---|---|---|---|
| **Crew Injuries:** | 1 Fatal | **Aircraft Damage:** | Destroyed |
| **Passenger Injuries:** | 1 Fatal | **Aircraft Fire:** | On-ground |
| **Ground Injuries:** | N/A | **Aircraft Explosion:** | None |
| **Total Injuries:** | 2 Fatal | **Latitude, Longitude:** | 36.435832,-119.58361 |

## Administrative Information

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|---|---|
| **Investigator In Charge (IIC):** | Jones, Patrick |
| **Additional Participating Persons:** | Jim B Williams; Federal Aviation Administration; Fresno, CA<br>Charles Little; New Piper Aircraft; Vero Beach, CA<br>Mark Platt; Lycoming; Williamsport, PA |
| **Original Publish Date:** | May 29, 2007 |
| **Last Revision Date:** | |
| **Investigation Class:** | Class |
| **Note:** | The NTSB traveled to the scene of this accident. |
| **Investigation Docket:** | https://data.ntsb.gov/Docket?ProjectID=62935 |