

Aviation Investigation Final Report

Location:	BREA, California		Accident Number:	LAX94FA047
Date & Time:	November 15, 1993	, 11:53 Local	Registration:	N8238Y
Aircraft:	PIPER	PA-30	Aircraft Damage:	Destroyed
Defining Event:			Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General avi	ation - Personal		

Analysis

THE AIRPLANE WAS OBSERVED FLYING OVER ROLLING HILL TERRAIN AT A LOW ALTITUDE WHEN IT ENCOUNTERED A BUNDLE OF HELIUM BALLOONS. A POPPING NOISE WAS HEARD FOLLOWED BY THE AIRPLANE ENTERING A VERTICAL DIVE WHICH CONTINUED TO GROUND IMPACT. THE AIRPLANE STRUCK THE GROUND IN A 75-DEGREE NOSE-DOWN ATTITUDE SPREADING THE WRECKAGE IN A DIRECTION OPPOSITE THE FLIGHT PATH BEFORE ENCOUNTERING THE BALLOONS. THE AIRCRAFT DISINTEGRATED ON IMPACT AND THERE WAS NO EVIDENCE OF MECHANICAL FAILURE OR MALFUNCTION FOUND DURING THE WRECKAGE EXAMINATION.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE PILOT'S CHOICE OF AN INADEQUATE CRUISE ALTITUDE OVER ROLLING HILL TERRAIN WHICH RESULTED IN AN IN-FLIGHT COLLISION WITH HELIUM BALLOONS AND AN IN-FLIGHT LOSS OF CONTROL FOR UNDETERMINED REASONS. A FACTOR IN THE ACCIDENT WAS THE PILOT'S INADEQUATE VISUAL OUTLOOK.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT Phase of Operation: CRUISE

Findings

1. OBJECT - OTHER 2. (C) VISUAL LOOKOUT - INADEQUATE - PILOT IN COMMAND 3. (C) ALTITUDE - INADEQUATE - PILOT IN COMMAND

Occurrence #2: LOSS OF CONTROL - IN FLIGHT Phase of Operation: CRUISE

Findings 4. (C) REASON FOR OCCURRENCE UNDETERMINED

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER Phase of Operation: DESCENT - UNCONTROLLED

Findings 5. TERRAIN CONDITION - OPEN FIELD

Factual Information

History of the Flight

On November 15, 1993, at 1153 hours Pacific standard time, a Piper PA-30, N8238Y, collided with level terrain near Brea, California. The airplane, registered to the pilot and others, was destroyed by impact forces and postimpact fire. The certificated commercial pilot, the sole occupant, was fatally injured. Visual meteorological conditions prevailed. The flight originated at Fullerton Airport, Fullerton, California, about 1115 hours.

One witness was riding a horse along the Telegraph Canyon Trail in Chino Hills State Park. The witness observed the airplane flying west over a ridge north of her location. The witness stated during a telephone interview she heard a popping noise and saw what appeared to be confetti falling from the back of the plane. The confetti was followed by what appeared to be a "red flare." The witness indicated the falling debris landed on the ridge to her north, and there was no fire in the area after the debris landed.

Witnesses reported, and the wreckage examination confirmed, that the airplane struck the ground in a near vertical attitude in a southeast direction. Before the impact, the witness' attention was directed to the airplane by a whistling noise and an engine noise described as an engine acceleration.

Pilot Information

The pilot held a commercial pilot certificate which was issued on February 27, 1981, with ratings for airplane single-engine land, instruments, and private pilot privileges for multiengine land airplanes. Review of the pilot's airman records on file with the Federal Aviation Administration (FAA) Airmen Certification Branch revealed the pilot obtained his multiengine class rating on March 12, 1977.

The most recent second-class medical certificate was issued to the pilot on January 4, 1993, and contained the limitation that correcting lenses shall be worn while exercising the privileges of his airman certificate.

No personal flight records were located for the pilot and the aeronautical experience listed on page 3 of this report was obtained from a review of the FAA airmen records on file in the Airman and Medical Records Center located in Oklahoma City. In addition, information was obtained from a review of the pilot's application for aviation insurance.

On January 4, 1993, the pilot reported on his application for medical certificate a total time of 4,000 hours, 30 of which were in the preceding 6 months.

The pilot reported to his insurance broker on May 18, 1993, that his total aeronautical experience consisted of about 4,000 hours, of which 2,100 were accrued in multiengine airplanes. The pilot reported a total of 100 hours in the Piper PA-30.

Aircraft Information

The Piper PA-30 airplane, serial No. 30-1364, was manufactured on November 11, 1966. The airplane was purchased by the pilot and two other partners on May 18, 1991. At the time of purchase, the airplane had accrued about 3,530 hours.

The airplane's total time could not be determined. Examination of the maintenance records revealed that the most recent annual inspection was accomplished on June 24, 1993, at 3,726 hours total airframe time.

Wreckage and Impact Information

The wreckage site was located about 10 miles east of the Fullerton Airport on Carbon Canyon Road. The airplane collided with level soil on top of rolling terrain about 50 feet north of the road in a near vertical nose-down attitude. The road cut through the rolling terrain in the accident area and was about 30 feet below the level of the initial impact point. The airplane then slid across the ground on an 160-degree azimuth and became airborne as the terrain dropped vertically to the road.

The airplane then struck power transmission cables that paralleled Carbon Canyon Road on the south side severing three cables. A postimpact fire erupted burning the tops of several trees on the south side and about 80 acres of dry grass on the north side. The wreckage was scattered south of the road for another several hundred feet across a lemon tree orchard and in Carbon Creek.

The severity of the impact and distribution of debris in dense vegetation precluded locating, documenting, and examining the entire wreckage. The damage to the airplane was consistent with overload forces of a high-speed vertical terrain impact. Except for the engines, there was no part of the airplane left that could not be carried by one person. Two of the airplane's propeller blades and many engine parts were not located.

The initial impact point was marked with a 36-foot-long ground scar oriented in a southwest to northeast direction nearly perpendicular to the wreckage path. The ground scar exhibited five distinct gouges consistent with the airplane's tip tanks, engine nacelles, and fuselage.

Fragments of green glass from the left position light were found at the most northeast point along the ground scar. About 13 feet along the ground scar a 3-foot by 1-foot ground disturbance was found with a propeller blade embedded in the soil. The blade was broken from the propeller hub. The propeller blade was twisted and exhibited chordwise scoring and

"S-bending."

At the midpoint of the ground scar, a 6-inch deep, 3-foot by 4- foot gouge was found with the nose gear steering control tubes embedded in the ground. The control tubes were excavated and straight sticks were placed in the holes. One of the sticks was measured with a pocket transit at an angle of 75 degrees from the horizontal along a 160-degree azimuth and 5 degrees right of vertical along the same azimuth.

About 6 feet southwest of the nose gear steering control rods, another gouge corresponding to the right engine nacelle was found. There were small pieces of the engine case in the gouge. There were no propeller blades found in the gouge.

The end of the ground scar was marked with a ground disturbance about 10 inches in diameter. The ground disturbance was about 19 feet southwest of the nose gear steering control rods.

Flight control and engine control continuity could not be established as a result of impact damage to the airplane. The engine control quadrant was found detached from the control cables. The throttle control, the propeller control, and fuel cut off levers moved freely and their position at impact could not be determined.

A search of the terrain below the airplanes flight path revealed a cluster of seven helium balloons in the area where a witness stated a flare had landed. There was no evidence of fire found in the shrubbery around the balloons. The balloons were not covered with soot or dust and did not appear to have been on the ground long. The balloons appeared to have come in contact with a hot object. Several of the balloons were melted and bonded to each other.

The balloons were also attached to each other by pink and white ribbons. Fragments of similar ribbon were found in the shrubbery on the spur along the flight path as described by the witness. The ribbon fragments led to the location of the balloons. The line formed by the ribbon fragments and the balloons pointed directly to the airplanes initial impact point.

Medical and Pathological Information

A postmortem examination was conducted by the Orange County Coroner's Office on November 16, 1993. According to the coroner's report, the cause of death for the pilot was attributed to multiple traumatic injuries due to blunt force trauma. No suitable specimens were available for toxicological analysis.

Tests and Research

Engine Examination

The engines were examined after they were recovered from the accident site at National

Aircraft Transportation, Inc., Long Beach, California, on November 18, 1993. Examination of the engine maintenance records revealed the engines were originally installed at the time of airframe manufacture. Both engines were overhauled on September 12, 1985, at 2,306 hours total time.

Both engines exhibited extensive impact damage. The No. 1 cylinder was broken from both engines and the No. 3 cylinder was also broken from the right engine. Both engines accessory gearboxes and attached accessories were destroyed. Three of the magnetos were tested by hand rotation and produced sparks at the ignition harness leads. The right magneto from the left engine was destroyed and could not be tested.

Four of the airplane's 16 spark plugs were present. The left engine No. 4 cylinder upper and lower spark plug were examined. The barrel on the lower plug was broken. The electrodes were examined and found dry with normal electrode wear patterns.

The left engine No. 2 and 4 cylinder upper spark plugs were present. The electrodes were examined and found dry with normal electrode wear.

Further examination of the engines did not reveal any evidence of mechanical failure or malfunction.

Additional Information

Wreckage Release

The wreckage was released to the representatives of the owner on January 26, 1994.

Certificate:	Commercial; Private	Age:	59,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 2 Valid Medicalw/ waivers/lim	Last FAA Medical Exam:	January 4, 1993
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	4000 hours (Total, all aircraft), 100 h all aircraft)	ours (Total, this make and model), 1 h	ours (Last 24 hours,

Pilot Information

Aircraft and Owner/Operator Information

Aircraft Make:	PIPER	Registration:	N8238Y
Model/Series:	PA-30 PA-30	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	1364
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	June 24, 1993 Annual	Certified Max Gross Wt.:	3600 lbs
Time Since Last Inspection:		Engines:	2 Reciprocating
Airframe Total Time:		Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	IO-320-C1A
Registered Owner:	HANSEN, GORDON S.	Rated Power:	160 Horsepower
Operator:		Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	FUL ,96 ft msl	Distance from Accident Site:	10 Nautical Miles
Observation Time:	10:46 Local	Direction from Accident Site:	235°
Lowest Cloud Condition:	Clear	Visibility	35 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	5 knots / None	Turbulence Type Forecast/Actual:	/
Wind Direction:	180°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	21°C / -3°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	FULLERTON (FUL)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	11:15 Local	Type of Airspace:	Class G

Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:		Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	On-ground
Total Injuries:	1 Fatal	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	Wilcox, Thomas
Additional Participating Persons:	ROGER A KARI; LONG BEACH , CA CHARLES R LITTLE; WILLIAMSPORT , PA
Original Publish Date:	September 13, 1994
Last Revision Date:	
Investigation Class:	<u>Class</u>
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=28505

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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 <u>here</u>.