



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	N. LITTLE ROCK, AR	<b>Accident Number:</b>	FTW94FA090
<b>Date &amp; Time:</b>	03/01/1994, 1850 CST	<b>Registration:</b>	N2QY
<b>Aircraft:</b>	CESSNA P337H	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	1 Fatal

**Flight Conducted Under:** Part 91: General Aviation - Business

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## Analysis

THE PILOT CANCELED IFR & FLEW TO HIS PRIVATE STRIP, WHERE HE ENTERED A RIGHT TRAFFIC PATTERN FOR LANDING ON RUNWAY 36 IN DARK NIGHT CONDITIONS. THE STRIP WAS LOCATED IN A RURAL AREA WITH FEW GROUND LIGHTS, EXCEPT FOR THE FIRST 1500 FEET OF THE STRIP, WHICH HAD MEDIUM INTENSITY RUNWAY LIGHTING (MIRL). SOUTH OF THE STRIP WAS A LARGE MILITARY MANEUVERING AREA THAT HAD NO LIGHTING. AS THE PILOT WAS MANEUVERING TO LAND, WITNESSES OBSERVED THE AIRPLANE ENTER A STEEP DESCENT. SUBSEQUENTLY, IT CRASHED IN A STEEP NOSE DOWN, RIGHT WING LOW ATTITUDE. AN EXAM OF THE WRECKAGE REVEALED EVIDENCE THAT THE SPOILERS WERE EXTENDED. TOXICOLOGY TESTS OF THE PILOT'S LIVER & KIDNEY TISSUE SHOWED 0.74 UG/ML & 0.159 UG/ML, RESPECTIVELY, OF BROMPHENIRAMINE (AN ANTIHISTAMINE). AN FAA TOXICOLOGIST STATED THESE WERE WITHIN A THERAPEUTIC RANGE. ACCORDING TO THE PILOT'S SON, HE TOOK DRIXORAL FOR SINUS PROBLEMS & A SLIGHT HEAD COLD; THE MEDICATION WAS NOT APPROVED FOR FLYING.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: FAILURE OF THE PILOT TO MAINTAIN CONTROL OF THE AIRCRAFT, WHILE MANEUVERING TO LAND. FACTORS RELATED TO THE ACCIDENT WERE: DARKNESS AND POSSIBLE SPATIAL DISORIENTATION.

## Findings

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Occurrence #1: LOSS OF CONTROL - IN FLIGHT  
Phase of Operation: APPROACH - VFR PATTERN - BASE TURN

### Findings

1. (F) LIGHT CONDITION - DARK NIGHT
2. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND
3. (F) SPATIAL DISORIENTATION - PILOT IN COMMAND
4. USE OF INAPPROPRIATE MEDICATION/DRUG - PILOT IN COMMAND

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Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: DESCENT - UNCONTROLLED

## Factual Information

### HISTORY OF FLIGHT

On March 1, 1994, at approximately 1850 central standard time, a Riley modified Cessna P337H, N2QY, was destroyed when it collided with the ground near North Little Rock, Arkansas. The airplane, owned and flown by an instrument rated commercial pilot, was on a business cross country flight. An instrument flight rules flight plan had been filed and cancelled and dark night visual meteorological conditions prevailed. The pilot, the sole occupant, received fatal injuries.

The pilot departed West Lafayette, Indiana, approximately 1620 central standard time on an IFR flight plan to Little Rock, Arkansas. At 1834, Little Rock Approach Control cleared the flight for an ILS approach to runway 4L at the Little Rock Adams Field airport. At 1838, the pilot advised the tower that he was VFR and stated he would like to cancel his flight plan and proceed VFR to his private strip, which was about 17 miles north of the airport. The tower granted the request and gave an advisory that the restricted areas north of the airport were not active. The tower then handed off the flight back to approach control. At 1842, the pilot requested and received a frequency change so he could activate the lighting at his air strip. At 1846, the pilot returned to the approach control frequency and advised that he had the strip in sight. Radar service was terminated at that time.

According to the pilot's son, who was waiting for him at the air strip, it was his father's habit to file IFR and then cancel and fly to the strip. The son stated that the pilot had called him prior to his departure from West Lafayette, and advised of his estimated time of arrival. As a result, the son was able to monitor the progress of the approach and the pilot's decision to cancel and proceed to the strip over a hand held radio. The son stated that at that point, he drove to the south end of the strip to check for deer. He then positioned his vehicle at mid-field where he waited for his father's arrival.

The son further stated that at approximately 1845, the runway lights were activated and he proceeded to the south end of the runway and positioned his vehicle so that the headlights shined on the threshold. He then contacted the pilot over the hand held radio and advised him as to the status of the runway, which he said was "sloppy." The son then saw the airplane approaching from the northwest, flying southeast, as was the pilot's normal approach path. He observed both landing lights on.

The pilot then advised that he had lost his instrument lights and the son advised him to reset the circuit breaker and of its position. The pilot advised he had regained the instrument lights and asked "how do I look." The son advised that the airplane appeared to be "a little high." The son stated that at that point the airplane turned south, approximately paralleling the runway on the east side, on a right downwind. The son said that the pilot then stated that he was going to start his base turn. The son further revealed that at that point the airplane pitched nose down to what appeared to him to be a 45 degree nose down attitude. He attempted to contact the pilot and said "What are you doing down there? You're too low. Pull up, pull up." He related that the airplane appeared to begin a pull up as he lost sight of it behind a ridge which was located south of the runway. He subsequently saw a bright flash.

The son immediately called emergency services and the Little Rock tower and advised them of the accident. The accident site was subsequently located on the Camp Robinson Military

Reservation. The accident site was two miles south of the threshold of the private strip on a heading of 195 degrees, west of the extended center line of the runway.

#### WITNESSES

In addition to the pilot's son, a second witness observed the accident from outside his truck which was parked about 1/4 mile from the accident site. The witness stated that the airplane made a roll to the left and seemed to spiral straight down "with little to no time to recover." He further stated that the airplane impacted nose first and exploded.

#### PERSONNEL INFORMATION

The commercial pilot held multi-engine and instrument ratings. He received a check out in the accident airplane and a biennial flight review on May 26, 1993. After a review of the pilot's personal log, it was estimated he had accumulated a total of 472 hours of night time and 140 hours in the accident airplane. According to the pilot's son, his routine during the 72 hours prior to the accident was normal. The pilot had departed for the business trip to Indiana on February 27, 1994, and had had normal business meetings and rest periods during the ensuing three days.

#### AIRCRAFT INFORMATION

The airplane was temporarily certificated in the Experimental (Market Survey) category at the time of the accident. This was due to extensive modifications being performed by the Riley International Corporation. The certificate was to have expired at midnight on the date of the accident; however, the FAA had agreed to issue another certificate. The modifications included, but were not limited to the installation of two 310 horsepower Continental TSIO-520-NB engines, with Hartzell three bladed propellers, re-instrumentation, new interior, and avionics. The airplane was also equipped with a Horton STOL kit, which included spoilers and wing cuffs. The spoilers allowed for increased rates of descent and control of descent rates. Discussions with FAA and Riley test pilots indicated that the stall characteristics of the airplane in steep turns with the spoilers deployed had not been explored, nor was it required.

Discussions with the pilot's son and the mechanic who conducted routine maintenance on the airplane revealed that they were aware of the instrument light circuit breaker having popped on at least two previous occasions. Both were after the instrument panel had been rewired as part of the modification program. After the first occurrence, the mechanic checked the instrument panel wiring, but did not find any short circuits or evidence of overheating. When the breaker tripped the second time on February 2, 1994, the mechanic removed and replaced the 5 amp breaker with a like breaker.

It was estimated that the airplane was within the prescribed limits for weight and center of gravity, both at takeoff and at the time of the accident. The airplane had been refueled with 95.9 gallons of 100LL aviation gasoline prior to departure on the accident flight.

#### AERODROME INFORMATION

Runway 36, was equipped with 1,500 feet of medium intensity runway lights on the south end. The strip is located in a rural area with few ground lights other than the 1,500 feet of runway lighting. Likewise, the area to the south of the strip, where the accident occurred, was a large military maneuver area with no ground lighting.

#### WRECKAGE AND IMPACT INFORMATION

The airplane impacted the ground about 1/4 mile west of the extended center line of runway 36, for which the pilot was in a right traffic pattern. Impact occurred in an open area surrounded by woods. The main impact crater was measured to be 12 feet wide by 8 feet across and 5 to 6 feet deep in the center. In addition, a long thin imprint extended outward from the crater to the south. Pieces of the right wing tip were found at the end of the imprint. The wing imprint was about 6 inches deep along the span and was deeper at the tip end. A diagonal imprint was found which ran between the wing imprint and the crater. The diagonal imprint corresponded to the normal placement of the right wing strut. Additionally, a round imprint was found immediately aft of the diagonal imprint and was found to correspond to the right main landing gear tire which was found to be covered in mud for 1/2 of the diameter. The right wing imprint was oriented on a measured heading of 015 degrees, which corresponded to an airplane heading at impact of 105 degrees. All of the separated wreckage pieces and mud blown out of the crater were located to the north and west of the crater. Pieces of airplane windshield and the left rudder balance weight were found just forward of the east side of the crater.

The forward engine separated from the mounts and was found in the main crater. The aft engine was found attached to the aft fuselage section. The right wing was found in several pieces, while the left wing was found intact, 129 feet north of the wreckage. The left wing leading edge was compression damaged from root to tip. Remnants of the main fuselage floor and instrument panel were found about 50 feet north northwest of the crater. All of the flight controls were accounted for at the accident site. Control continuity could not be established due to the disintegration of the structure; however, all of the cable fractures and separations appeared to be overstress. Evidence, in the form of pulled panels and hinge impact marks, indicated that the spoilers were deployed at impact. The "spoiler deployed" light panel was located. The bulbs were LED type and therefore a filament analysis was not possible.

#### MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed by the Arkansas State Crime Laboratory Medical Examiner. Toxicology testing was performed by the FAA Civil Aeromedical Institute. The findings were not considered significant. The toxicology tests found 0.74 ug/ml of Brompheniramine (antihistamine) in the liver, 0.159 ug/ml in the kidney and an undetermined amount in the lung. These levels were within the therapeutic range. According to the son, the pilot took Drixoral for sinus problems and a slight "head cold."

Antihistamines are contraindicated for flying and the Physician's Desk Reference contained warnings for the use of Drixoral which stated in part "May cause drowsiness" and "Use caution when driving a motor vehicle or operating machinery." According to the CAMI flight surgeon, the use of antihistamines while flying can mask other symptoms which can induce vertigo. According to the director of the toxicology lab at CAMI, "the pilot should not have been taking Brompheniramine for two reasons: (1) Definitely for the medication, most antihistamines can cause drowsiness, (2) Possibly for the underlying condition that was being treated."

#### FIRE

According to the two witnesses, the airplane exploded on impact. Evidence at the site supported their statements. The left wing, cabin floor, and the rear section of the fuselage were involved in a post-crash fire and several small grass fires were ignited.

#### TEST AND RESEARCH

**Engine Tear Down and Examination:** Following recovery of the wreckage, both engines were partially disassembled and examined. No evidence of pre-impact failure or malfunction was found in either. Both vacuum pumps were examined. Both were intact as were their respective drives. The rotors were shattered on both. Mud was found in the front vacuum pump.

**Instrument Panel Light Examination:** The instrument panel light circuit breaker was located in the separated circuit breaker panel. The breaker was not tripped or damaged as a result of impact and showed no evidence of distress. Examination of several light bulbs recovered from the instrument panel revealed evidence of filament stretch.

**ADDITIONAL INFORMATION**

**Wreckage Release:** The wreckage was released to the owner's representative on July 22, 1994. No components or airplane records were retained.

**Pilot Information**

<b>Certificate:</b>	Commercial	<b>Age:</b>	72, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 2 Valid Medical--w/ waivers/lim.	<b>Last FAA Medical Exam:</b>	07/14/1992
<b>Occupational Pilot:</b>	<b>Last Flight Review or Equivalent:</b>		
<b>Flight Time:</b>	3289 hours (Total, all aircraft), 141 hours (Total, this make and model), 3271 hours (Pilot In Command, all aircraft), 33 hours (Last 90 days, all aircraft), 20 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

Aircraft Make:	CESSNA	Registration:	N2QY
Model/Series:	P337H P337H	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Experimental	Serial Number:	P3370298
Landing Gear Type:	Retractable - Tricycle	Seats:	5
Date/Type of Last Inspection:	01/19/1994, Continuous Airworthiness	Certified Max Gross Wt.:	4630 lbs
Time Since Last Inspection:	300 Hours	Engines:	2 Reciprocating
Airframe Total Time:	2238 Hours	Engine Manufacturer:	CONTINENTAL
ELT:	Installed, not activated	Engine Model/Series:	TSIO-520-NB
Registered Owner:	BOBWHITE HILL RANCH, INC.	Rated Power:	310 hp
Operator:	BOBWHITE HILL RANCH, INC.	Operating Certificate(s) Held:	None

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	LRF, 311 ft msl	Distance from Accident Site:	5 Nautical Miles
Observation Time:	1850 CST	Direction from Accident Site:	120°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	4 Miles
Lowest Ceiling:	Overcast / 1400 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	30°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	9°C / 7°C
Precipitation and Obscuration:			
Departure Point:	WEST LAFAYETTE, IN (LAF)	Type of Flight Plan Filed:	IFR
Destination:	(NONE)	Type of Clearance:	None
Departure Time:	1620 CST	Type of Airspace:	Restricted Area

## Airport Information

Airport:	BOBWHITE HILL RANCH (NONE)	Runway Surface Type:	Grass/turf
Airport Elevation:	350 ft	Runway Surface Condition:	Soft; Wet
Runway Used:	36	IFR Approach:	None
Runway Length/Width:	4500 ft / 50 ft	VFR Approach/Landing:	Traffic Pattern

## Wreckage and Impact Information

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

## Administrative Information

<b>Investigator In Charge (IIC):</b>	WARREN V WANDEL,	<b>Report Date:</b>	06/01/1995
<b>Additional Participating Persons:</b>	DAVID HALL; LITTLE ROCK, AR		
<b>Publish Date:</b>			
<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> .		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).