



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	San Antonio, Texas	<b>Accident Number:</b>	DFW08FA057
<b>Date &amp; Time:</b>	January 18, 2008, 12:30 Local	<b>Registration:</b>	N169CA
<b>Aircraft:</b>	Piper PA46-500TP	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>	Loss of control in flight	<b>Injuries:</b>	1 Fatal
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

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## Analysis

The pilot attempted to intercept an instrument landing system localizer three times without success. The pilot told Air Traffic Approach Control that he was having trouble performing a "coupled" approach and that he was trying to "get control" of the airplane. The airplane disappeared from radar, subsequently impacting a field and then a barn. The airplane came to rest in an upright position and a postcrash fire ensued. A review of radar and voice data for the flight revealed that during the three approach attempts the pilot was able to turn to headings and climb to altitudes when assigned by air traffic control. Postmortem toxicology results were consistent with the regular use of a prescription antidepressant, and the recent use of a larger-than-maximal dose of an over-the-counter antihistamine known to cause impairment. There were no preimpact anomalies observed during the airframe and engine examinations that would have prevented normal operation.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to execute an instrument approach. Contributing to the accident was the pilot's impairment due to recent use of over-the-counter medication.

## Findings

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<b>Aircraft</b>	(general) - Not attained/maintained
<b>Personnel issues</b>	Incorrect action performance - Pilot
<b>Personnel issues</b>	OTC medication - Pilot

## Factual Information

### HISTORY OF FLIGHT

On January 18, 2008, about 1230 central standard time, a single-engine turbo-prop Piper PA46-500TP airplane, N169CA, was destroyed during impact with terrain following a loss of control while on an instrument approach into the San Antonio International Airport (SAT), San Antonio, Texas. (Unless otherwise noted, all times in this report are central standard time based on a 24-hour clock.) The instrument rated private pilot, sole occupant of the airplane, was fatally injured. The airplane was registered to and operated by the pilot. Instrument meteorological conditions (IMC) prevailed throughout the area at the time of the accident. An instrument flight rules (IFR) flight plan was filed for the Title 14 Code of Federal Regulations Part 91 personal flight. The 140-nautical mile cross-country flight originated from the Waco Regional Airport (ACT), Waco, Texas, at 1102, with the San Antonio International Airport as its intended destination.

According to radar and voice data for the flight, the pilot attempted to intercept the SAT instrument landing system (ILS) localizer for runway 30L three times without success. The pilot reported that he was having trouble performing a "coupled" approach and that he was trying to "get control" of the airplane before the flight disappeared from radar at approximately 1227. The pilot was cleared for the first ILS approach at 1207.

An eyewitness, a retired Navy instructor pilot, located about one half mile northwest of the accident site, reported observing the accident airplane descending through the overcast about 1227. The airplane leveled off about 300 feet above ground level (AGL) and turned south on a compass heading of approximately 195 degrees. A couple of minutes later the witness observed the airplane heading north on an approximate heading of 15 degrees but at a "much slower" airspeed. The eyewitness then observed the airplane roll right wing down to an approximately 60 degree angle before the nose of the airplane fell through to an "extreme nose low attitude." After the airplane disappeared behind trees, the witness heard a crash and observed black smoke. The witness further stated, "The [airplane] exhibited a classic approach turn stall maneuver I had taught many times, but this time with no altitude to recover."

The airplane impacted in a field and subsequently a barn. There were two individuals working in the barn at the time of the accident; however, neither sustained injuries.

One individual in the barn was an aircraft mechanic. The mechanic reported hearing an airplane engine for approximately 30 to 60 seconds. He described the engine noise as getting progressively louder before he heard and felt an impact.

### PERSONNEL INFORMATION

The pilot, age 65, held a private pilot certificate with ratings for airplane single-engine land and instrument airplane. His last Federal Aviation Administration (FAA) third-class medical was issued on October 2, 2007, with the limitation of, "Holder shall wear corrective lenses."

An examination of the pilot's logbook revealed that he had logged his first flying lesson on September 23, 2001. His first solo was on April 10, 2002, at which time he had accumulated 66 flight hours. The pilot attempted his private pilot check ride on August 6, 2003, with a logged time of 226 flight hours, of which 206 hours were listed as instructional flights. The log entry for this check ride was recorded as "incomplete."

The pilot's logbook further indicated an estimated total flight time of 1,049 hours; of which 608 hours were listed as instructional, and 58 hours were in turbo-prop airplanes including this make and model. The pilot logged 26 hours in the last 90 days and 5 in the last 30 days. His last noted flight review was completed August 29, 2007.

Records further revealed that of the 58 hours in type, the pilot had accumulated 51 hours of instruction including 7 hours of actual instrument time. The pilot had logged 7 hours of solo time in type of which none were in IFR conditions.

#### AIRCRAFT INFORMATION

The 2007-model Piper PA46-500TP, serial number 4697300, was a low wing, semi-monocoque airplane, with a retractable landing gear, and was configured for six occupants. The airplane was powered by a Pratt & Whitney Canada, PT6A-42A turbo-prop engine rated at 500 shaft horsepower, which was driving a four-bladed constant speed reversible Hartzell propeller.

The airplane's logbooks were not recovered during the course of the investigation. The following information was obtained from Piper Aircraft records, and work orders supplied by Cutter Aviation, located in Dallas, Texas.

The airplane was delivered to the pilot, with a 50-hour inspection on August 27, 2007, with 45.5 hours total time since the airplane was manufactured. Based on the pilot's logbook and maintenance work orders the airplane's total time at the time of the accident was estimated to be 111 hours.

Investigators reviewed the airplane's maintenance work orders. The airplane had repeatedly experienced pitch trim problems including on instance of a "runaway trim." The last work order, dated December 4, 2007, revealed two discrepancies. First, the pilot reported that while taxiing, the airplane's co-pilot primary flight display (PFD) had gone blank. Second, the pilot had observed the airplane's pitch trim arbitrarily moving without input. Both discrepancies were signed off on December 4, 2007, as "no action taken." The work order noted that the PFD "started working and continued to do so" and that "upon relocating the aircraft from Waco to SAT, the trim system operated properly and on [a] subsequent trip it worked satisfactory."

According to the pilot's logbook, the pilot had flown the airplane approximately 7 hours since the completion of this work order.

A review of radar and voice data for the flight revealed that during the three approach attempts the pilot was able to turn to headings and climb to altitudes assigned by air traffic control (ATC). In addition, the autopilot was not required to fly the approach.

## METEOROLOGICAL INFORMATION

At 1153, the automated surface observing systems (ASOS) at the San Antonio International Airport (SAT), San Antonio, Texas, located 16.5 miles northwest from the accident site, reported wind from 10 degrees at 7 knots, 1.5 miles visibility with light rain and mist, broken clouds at 800 feet, overcast clouds at 1,700 feet, variable ceiling of 600 feet to 1,200 feet, temperature 37 degrees Fahrenheit, dew point 36 degrees Fahrenheit, and a barometric pressure setting of 30.16 inches of Mercury.

At 1253, the ASOS at SAT, reported wind from 20 degrees at 9 knots, 1.5 miles visibility with light rain and mist, overcast clouds at 800 feet, variable ceiling of 700 feet to 1,200 feet.

At 1204, the ASOS at the Stinson Municipal Airport (SSF), San Antonio, Texas, located 6 miles southwest from the accident site, reported wind from 360 degrees at 10 knots, 2 miles visibility with light rain and mist, overcast clouds at 600 feet, variable ceiling of 400 feet to 1,000 feet, temperature 37 degrees Fahrenheit, dew point 36-degrees Fahrenheit, and a barometric pressure setting of 30.14 inches of Mercury.

At 1244, the ASOS at SSF reported, wind from 10 degrees at 6 knots, 3 miles visibility with light rain and mist, overcast clouds at 800 feet, variable ceiling of 500 feet to 1,100 feet, temperature.

## AIRPORT INFORMATION

San Antonio International Airport was a controlled airport operating under class "C" classification airspace. The field elevation was 809 feet mean sea level (msl). Runway 30L was an 8,502 foot-long by 150 foot-wide concrete runway and was equipped with an instrument landing system (ILS).

## WRECKAGE AND IMPACT INFORMATION

The airplane's first point of impact was a farm field while on a heading of approximately 70 degrees. After the initial impact, the airplane continued about 23 feet in an eastward direction and subsequently impacted a barn. The airplane came to rest in an upright position on a heading of 230 degrees. A post crash fire ensued.

The cabin area including the instrument panel was nearly consumed in the post crash fire. The flight displays and instruments were thermally damaged to the point that no usable data could be extracted.

The right wing came to rest in an inverted position. The post crash fire consumed nearly all, but the inboard 5 feet. The right aileron was located separate from the wing and exhibited thermal damage. The right flap was consumed by fire.

The left wing and left aileron were found nearly consumed by the post crash fire. The left flap remained attached to a section of rear spar via the inboard hinge.

The horizontal stabilizer and elevator remained attached to the fuselage via their normal attachment points. The outboard left three feet of the horizontal stabilizer and elevator were bent 90-degrees down. The vertical stabilizer and rudder remained attached to the fuselage and were curled towards the airplane's right side.

All major components of the airplane were accounted for at the site. The landing gear and the flaps were found in the retracted position. Control continuity was established to all flight controls with the exception of the separated right wing. The cable separations for the right wing exhibited a broom strawed appearance.

The engine was found in an upright orientation. The propeller and the reduction gearbox front housing had separated from the rest of the engine. The gas generator exhibited some creasing along with the exhaust duct. The aft portion of the engine exhibited thermal and post impact fire damage. The fire had melted the inlet case and the integral oil tank.

The engine was removed from the wreckage and examined at the accident site. The compressor turbine and the power turbine exhibited rotational scoring in a manner consistent with engine power at the time of impact.

The propeller shaft was fractured just aft of the transfer sleeve. Visual examination of the fracture surface revealed signatures consistent with torsional overload.

The propeller remained attached to the propeller shaft. Blade "A" exhibited "S" bending along its length. Blade "B" was bent forward approximately 30-degrees. Blade "C" was twisted along its length and exhibited a gradual bend aft. Blade "D" was separated about 8 inches from the hub. The separated section, located near the wreckage, was curled aft along its length. All four blades exhibited gouges, polishing, and chordwise scratches.

There were no preimpact anomalies observed during the airframe or engine examination that would have prevented "normal" operation.

#### MEDICAL AND PATHOLOGICAL INFORMATION

The Office of the Medical Examiner of Bexar County, located in San Antonio, Texas, performed an autopsy on the pilot on January 19, 2008. The cause of death was listed as "multiple blunt force injuries." The toxicology report accompanying the autopsy noted the finding of Doxylamine and Sertraline in heart blood and femoral blood without quantification.

The Federal Aviation Administration (FAA), Toxicology Accident Research Laboratory, located in Oklahoma City, Oklahoma, conducted toxicological testing on the pilot. The results were negative for carbon monoxide, cyanide, and ethanol. The report also noted the following; 0.132 (ug/ml, ug/g) Sertraline detected in blood, Sertraline detected in kidney, 0.628 (ug/ml, ug/g) Desmethylsertraline detected in blood, Desmethylsertraline detected in kidney, 0.417 (ug/ml, ug/g) Doxylamine detected in blood, Doxylamine detected in liver, Ephedrine detected in liver, and Pseudoephedrine detected in liver

An FAA Regional Flight Surgeon reviewed the pilot's FAA medical records and noted that neither Sertraline nor Doxylamine was reported to the FAA on the pilot's applications for airman medical certificate.

### History of Flight

Approach-IFR initial approach	Loss of control in flight (Defining event)
Uncontrolled descent	Loss of visual reference
Uncontrolled descent	Collision with terr/obj (non-CFIT)

### Pilot Information

Certificate:	Private	Age:	65, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Unknown
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:	October 2, 2007
Occupational Pilot:	No	Last Flight Review or Equivalent:	August 29, 2007
Flight Time:	1049 hours (Total, all aircraft), 58 hours (Total, this make and model), 26 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft)		

### Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N169CA
Model/Series:	PA46-500TP	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	4697300
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	August 31, 2007	Certified Max Gross Wt.:	4850 lbs
Time Since Last Inspection:	66 Hrs	Engines:	1 Turbo prop
Airframe Total Time:	111 Hrs at time of accident	Engine Manufacturer:	Pratt & Whitney Canada
ELT:	Installed, not activated	Engine Model/Series:	PT6A-42A
Registered Owner:		Rated Power:	500 Horsepower
Operator:		Operating Certificate(s) Held:	None

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	Condition of Light:	Day
Observation Facility, Elevation:	SSF, 577 ft msl	Distance from Accident Site:	6 Nautical Miles
Observation Time:	12:04 Local	Direction from Accident Site:	230°
Lowest Cloud Condition:	Clear	Visibility	2 miles
Lowest Ceiling:	Overcast / 600 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	10 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	360°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.13 inches Hg	Temperature/Dew Point:	3° C / 2° C
Precipitation and Obscuration:	In the vicinity - None - Mist		
Departure Point:	WACO, TX (ACT )	Type of Flight Plan Filed:	IFR
Destination:	SAN ANTONIO, TX (SAT )	Type of Clearance:	IFR
Departure Time:	11:02 Local	Type of Airspace:	

## Airport Information

Airport:	San Antonio International SAT	Runway Surface Type:	Concrete
Airport Elevation:	809 ft msl	Runway Surface Condition:	Unknown
Runway Used:	30L	IFR Approach:	ILS
Runway Length/Width:	8502 ft / 150 ft	VFR Approach/Landing:	None

## Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	N/A	Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	29.346389, -98.294441

## Administrative Information

<b>Investigator In Charge (IIC):</b>	LeBaron, Timothy
<b>Additional Participating Persons:</b>	Jesse Sanchez; Federal Aviation Administration; San Antonio, TX Michael C McClure; Piper Aircraft Inc.; Duncanville, TX Paul F Crosby; Pratt & Whitney Canada; Bridgeport, WV
<b>Original Publish Date:</b>	March 3, 2010
<b>Note:</b>	The NTSB traveled to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=67401">https://data.nts.gov/Docket?ProjectID=67401</a>

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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](#).