



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	West Dover, VT	<b>Accident Number:</b>	NYC07FA038
<b>Date &amp; Time:</b>	12/02/2006, 1245 EST	<b>Registration:</b>	N9797Q
<b>Aircraft:</b>	Smith, Ted Aerostar 601P	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	1 Fatal
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

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## Analysis

On the day of the accident, the pilot was returning to his home airport, after dropping off friends at a different airport. No weather briefing or flight plan was filed with Flight Service for either flight. A witness and radar data depicted the accident airplane on a straight-in approach for runway 1, in a landing configuration, at a groundspeed of approximately 120 knots. The last radar target was recorded about 1/4 mile from the runway threshold, at an altitude of approximately 150 feet agl. The wreckage was later found about 1/2 mile east of the runway threshold. Review of weather information revealed general VFR conditions along the route of flight, and at reporting stations near the accident site. Gusty winds, low-level wind shear, and moderate to severe turbulence also prevailed at the time of the accident. In addition, weather radar depicted scattered light snow showers in the vicinity of the accident site, and possibly a snow squall. Examination of the wreckage did not reveal any preimpact mechanical malfunctions. The pilot had a total flight experience of 14,000 hours, with 8,500 hours in multiengine airplanes, including 2,600 hours in the same make and model as the accident airplane. He also had 4,100 hours of instrument flight experience.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A loss of control during approach for undetermined reasons, which resulted in a collision with trees.

## Findings

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Occurrence #1: LOSS OF CONTROL - IN FLIGHT  
Phase of Operation: APPROACH

### Findings

1. REASON FOR OCCURRENCE UNDETERMINED

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Occurrence #2: IN FLIGHT COLLISION WITH OBJECT  
Phase of Operation: DESCENT - UNCONTROLLED

### Findings

2. OBJECT - TREE(S)

## Factual Information

### HISTORY OF FLIGHT

On December 2, 2006, about 1245 eastern standard time, a Ted Smith Aerostar 601P, N9797Q, was destroyed when it impacted terrain while maneuvering near West Dover, Vermont. The certificated commercial pilot was fatally injured. Visual meteorological conditions prevailed for the flight that departed Westchester County Airport (HPN), White Plains, New York, destined for Mount Snow Airport (4V8), West Dover, Vermont. No flight plan was filed for the personal flight conducted under 14 CFR Part 91.

The pilot's son reported that during the day prior to the accident, the pilot flew to HPN, picked up several friends/business associates, and returned to 4V8. On the day of the accident, the pilot flew his friends back to HPN, and was returning to 4V8 alone.

A witness, who lived about 7 miles south of 4V8, stated that about the time of the accident, he observed the accident airplane on a final approach for runway 1, a 2,650-foot-long, 75-foot-wide, asphalt runway. The witness further stated that the airplane passed over his residence about 300 to 500 feet agl. The landing gear was extended, and the engines "sounded good." The witness did not observe the impact, and assumed that the airplane had landed at 4V8.

The airport elevation was 1,953 feet msl. Review of radar data revealed a target displaying a 1200 transponder code.

At 1242:08, the target was approximately 8 miles south of 4V8, traveling north, at 3,300 feet msl, at 132 knots groundspeed.

At 1244:08, the target was approximately 2 miles south of 4V8, traveling north, at 2,600 feet, at 120 knots groundspeed.

At 1245:20, the last radar target recorded was approximately 1/4 mile from the runway 1 threshold, at 2,100 feet msl, and no groundspeed was recorded; however, the previous target, recorded 12 seconds prior, displayed a groundspeed of 120 knots.

### PILOT INFORMATION

The pilot held a commercial pilot certificate, with ratings for airplane single engine land, airplane multiengine land, and instrument airplane. His most recent Federal Aviation Administration (FAA) second class medical certificate was issued on September 30, 2005.

The pilot's logbook was not recovered. According to an insurance form the pilot filed on September 5, 2006, he had accumulated a total flight experience of 14,000 hours. Of the total flight experience, 8,500 hours were in multiengine airplanes, and 2,600 hours were in the same make and model as the accident airplane. The pilot also reported 4,100 total hours of instrument flight experience. The form did not differentiate between simulated and actual instrument flight experience.

### AIRCRAFT INFORMATION

The airplane's logbooks were not recovered; however, copies of excerpts from the airplane's logbooks were included with the insurance form the pilot filed on September 5, 2006. According to those copies, the airplane's most recent annual inspection was completed on February 15, 2006. At that time, the airplane had accumulated 2,852.6 total hours of operation. According to the insurance form, the airplane had accumulated 3031.6 total hours

of operation as of September 5, 2006.

#### METEOROLOGICAL INFORMATION

Review of FAA Flight Service information revealed that the pilot had contacted a flight service station (FSS) on December 1, 2006, for a trip that day from 4V8 to HPN, and return to 4V8.

There was no record of a FSS weather briefing or flight plan filed for either of the flights on the day of the accident.

Review of National Weather Service (NWS) information revealed general VFR conditions along the accident route of flight. A regional radar mosaic, created by the National Center for Atmospheric Research, at 1247, depicted very light echoes in the vicinity of the accident site, consistent with scattered light snow showers. The NWS Weather Surveillance Radar-1988, Doppler, located at Albany, New York, at 1244, depicted an area of snow showers or a snow squall in the vicinity of the accident site, moving east at 35 knots.

At the time of the accident, several airman's meteorological advisories (AIRMETs) were in effect for mountain obscuration, moderate turbulence below 12,000 feet, low-level wind shear, and moderate icing conditions below 8,000 feet in clouds and in precipitation. In addition, several pilot reports (PIREPs) noted low-level wind shear and moderate to severe turbulence. (For more information, see Meteorology Factual Report in the public docket.)

The reported weather at an airport located about 17 miles west of the accident site, at 1254, was: wind from 240 degrees at 9 knots, gusting to 20 knots; visibility 10 miles; overcast ceiling at 4,800 feet; temperature 39 degrees Fahrenheit (F); dew point 19 degrees F; altimeter 30.04 inches Hg.

The reported weather at an airport located about 19 miles southwest of the accident site, at 1252, was: wind from 260 degrees at 23 knots, gusting to 30 knots; visibility 10 miles; scattered clouds at 5,500 feet; temperature 41 degrees F; dew point 19 degrees F; altimeter 30.05 inches Hg.

The reported weather at an airport located about 27 miles east of the accident site, at 1255, was: wind from 280 degrees at 12 knots, gusting to 27 knots; visibility 10 miles; broken ceiling at 5,000 feet; temperature 41 degrees F; dew point 19 degrees F; altimeter 30.00 inches Hg.

#### WRECKAGE INFORMATION

The wreckage was located in a wooded area on December 3, 2006, about 1/2 mile east of the approach end of runway 1. The wreckage was examined on December 4, and all major components of the airplane were accounted for at the scene. An approximate 200-foot debris path was observed, that originated with tree strikes. The debris path extended on a course of approximately 095 degrees, and terminated at the main wreckage. Eight freshly cut tree branches were recovered along the left and right side of the debris path. They varied in diameter up to approximately 3 inches, and were cut at approximately 45-degree angles. The right outer wing panel was located near the beginning of the debris path, and slightly left of centerline. The right engine cowl and right engine intercooler were located about midpoint along the debris path, and were left of centerline. The left outer wing panel was located near the end of the debris path. The fuselage nosecone was located abeam the left outer wing panel, and right of centerline.

The main wreckage was resting inverted, and oriented about a 180-degree heading. The cabin

and cockpit area were consumed by fire. Due to the damage, flight control continuity could not be verified. The empennage, including vertical stabilizer, rudder, right horizontal stabilizer, and elevator, remained intact. The left horizontal stabilizer had folded underneath the aft fuselage. The left elevator had separated from the stabilizer, and was located in two pieces at the main wreckage. A measurement of the elevator trim jackscrew corresponded to an approximate neutral/slight nose up position. A measurement of the rudder trim jackscrew corresponded to an approximate neutral/slight nose right position.

The landing gear and flaps were observed in the retracted position. The throttle quadrant was located in the cockpit area, but had been consumed by fire. Approximately two-thirds of both wings, the inboard sections including engines, remained intact, but were fire damaged. The approximate one-third outboard section of both wings had separated. The propellers remained attached to both engines, and were partially buried in the ground.

The engines were subsequently examined on January 9 and 10, 2007, at a recovery facility.

The left engine was removed from the airframe for inspection. The valve covers and sparkplugs were removed from the engine. The top and bottom sparkplug electrodes were intact, and light to medium gray in color. The left engine sustained more heat damage than the right engine, and the left engine crankshaft could not be rotated. However, the oil sump and lower crankcase had melted away from the left engine, which provided an access opening. Crankshaft, camshaft, and valve train continuity was confirmed via borescope through the cylinders and access opening.

The number five cylinder on the left engine was also removed to provide an additional access opening. There was no evidence of catastrophic failure or lack of oil lubrication throughout the engine. The magnetos were destroyed by fire and could not be tested. The oil filter sustained heat damage, and some ferrous material was recovered. The turbochargers were removed. The compressor impeller blades had melted, but the shafts were able to be rotated with a drive tool. The fuel manifold was removed and found to be clear of any debris.

One propeller blade on the left propeller exhibited s-bending and blade tip damage. The other two blades exhibited heat damage and were bent aft.

The right engine was removed from the airframe for inspection. The valve covers and sparkplugs were removed from the engine, and oil was present throughout the engine. The sparkplug electrodes were intact, and medium to dark gray in color. The magnetos were heat damaged and could not be tested. The turbochargers were also heat damaged and could not be rotated. The turbocharger compressor impeller blades had melted. The fuel manifold was removed and found to be clear of any debris. The oil filter was also found to be absent of debris.

The right engine propeller was rotated by hand. Thumb compression was obtained on all cylinders. Crankshaft, camshaft, and valve train continuity were confirmed. The right propeller blades exhibited s-bending, chordwise scratching, and leading edge gouging.

#### MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot by the Vermont State Department of Health, Office of the Chief Medical Examiner, Burlington, Vermont.

Toxicological testing was conducted on the pilot at the FAA Toxicology Accident Research Laboratory, Oklahoma City, Oklahoma.

## ADDITIONAL INFORMATION

The wreckage was released to a representative of the owner's insurance company on December 4, 2006.

### Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	64, 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, Shoulder harness
<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 With Waivers/Limitations	<b>Last FAA Medical Exam:</b>	09/01/2005
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	07/01/2006
<b>Flight Time:</b>	14000 hours (Total, all aircraft), 2600 hours (Total, this make and model)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Smith, Ted Aerostar	<b>Registration:</b>	N9797Q
<b>Model/Series:</b>	601P	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	61P-0432-160
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	6
<b>Date/Type of Last Inspection:</b>	02/01/2006, Annual	<b>Certified Max Gross Wt.:</b>	6000 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	2 Reciprocating
<b>Airframe Total Time:</b>	2953 Hours as of last inspection	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	IO-540
<b>Registered Owner:</b>	SRQ Inc.	<b>Rated Power:</b>	290 hp
<b>Operator:</b>	Robert B. North Jr.	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	DDH, 827 ft msl	Distance from Accident Site:	17 Nautical Miles
Observation Time:	1254 EST	Direction from Accident Site:	170°
Lowest Cloud Condition:		Visibility	10 Miles
Lowest Ceiling:	Overcast / 4800 ft agl	Visibility (RVR):	
Wind Speed/Gusts:	9 knots / 20 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	240°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.04 inches Hg	Temperature/Dew Point:	4° C / -7° C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	White Plains, NY (HPN)	Type of Flight Plan Filed:	None
Destination:	West Dover, VT (4V8)	Type of Clearance:	None
Departure Time:	1200 EST	Type of Airspace:	

## Airport Information

Airport:	Mount Snow Airport (4V8)	Runway Surface Type:	Asphalt
Airport Elevation:	1953 ft	Runway Surface Condition:	Dry
Runway Used:	1	IFR Approach:	None
Runway Length/Width:	2650 ft / 75 ft	VFR Approach/Landing:	Straight-in

## 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:	42.923333, -72.857778

## Administrative Information

Investigator In Charge (IIC):	Robert J Gretz	Report Date:	09/27/2007
Additional Participating Persons:	Joseph S Simokaitis; FAA/FSDO; Portland, ME Edward Rogalski; Lycoming Engines; Williamsport, PA George Hollingsworth; Piper Aircraft; Vero Beach, FL		
Publish Date:			
Investigation Docket:	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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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](#).