



# Aviation Investigation Final Report

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<b>Location:</b>	HARWINTON, Connecticut	<b>Accident Number:</b>	IAD02LA032
<b>Date &amp; Time:</b>	February 16, 2002, 17:10 Local	<b>Registration:</b>	N81072
<b>Aircraft:</b>	Grumman American AA-5B	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	2 Minor
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

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## Analysis

Prior to take-off, the pilot performed an engine run-up, and used a checklist to prepare the airplane for a normal take-off. The pilot said that the elevator trim was set to the take-off position, flight control continuity was performed, the flaps were retracted, and the engine run-up was normal. He then lined the airplane up on the runway, applied full power, and rotated at 65 knots. As the airplane began to climb, the pilot said that he tried to maintain 65 knots. When the airplane reached an altitude of approximately 40-50 feet above the ground, the left wing dropped and the stall horn came on. The stall horn remained on as the airplane turned to the left and collided with trees. Examination of the Gulfstream American AA-5B Tiger Pilot Operating Handbook (POH) revealed that for a normal take-off a pilot should, "accelerate to 50 KIAS before applying a light back pressure on the control wheel to lift off the nose wheel...When airborne, accelerate to the desired climb speed." According to the POH, the best angle of climb speed was 70 knots and normal climb out speed was 90 knots. Examination of the airplane revealed that there were no mechanical deficiencies.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: pilot's failure to obtain adequate airspeed during take-off, which resulted in an aerodynamic stall.

## Findings

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Occurrence #1: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (C) AIRSPEED - NOT OBTAINED - PILOT IN COMMAND
2. (C) STALL/MUSH - INADVERTENT - PILOT IN COMMAND

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Occurrence #2: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: DESCENT - UNCONTROLLED

Findings

3. OBJECT - TREE(S)

## Factual Information

On February 16, 2002, at 1710 eastern standard time, a Grumman American AA-5B, N81072, was substantially damaged when it collided with trees after take-off from Mountain Meadow Airport, Harwinton, Connecticut. The certificated private pilot and passenger sustained minor injuries. Visual meteorological conditions prevailed and no flight plan was filed for the personal flight conducted under 14 CFR Part 91.

The pilot had flown into Mountain Meadow, where he and his wife enjoyed a late lunch. After lunch, the pilot prepared to fly back to his home airport in Bridgeport, Connecticut. He performed a pre-flight inspection and took-off on runway 19. In a written statement, he said:

"Accelerated to 65 knots take-off roll, tracking the centerline. Ascended above tree line to approximately 40-50 feet agl. Unexpectedly felt substantial wing lift on right wing - entered left bank. Lowered nose and tried to level wings but bank continued. Stall warning sounded, plane turned sharply left. Wings came level, but plane heading for trees and no time to recover altitude. Hit trees on runway edge ~15 feet agl. Right wing sheared off - plane continued for about 50-60 feet into forest and spun around to the right. Came to rest on ground."

In another written statement, the pilot said:

"My plane lifted to an altitude just above the surrounding tree line. At this time my plane started to bank left out of my control. I was then unable to level the wings or lower the nose. The stall warning alarm then sounded and remained on. The plane started to lose altitude and proceed toward the trees to my left side."

A Federal Aviation Administration (FAA) inspector interviewed the pilot. According to the inspector's record of conversation:

"[Pilot] performed his preflight and taxied out towards runway 19. [Pilot] performed his engine run check and found no problems with the engine. [Pilot] lined up for take-off on runway 19 and applied full power. At 65 knots he rotated the aircraft into the air. Still trying to climb and maintain 65 knots, [pilot] said the left wing started to drop and the stall warning horn came on."

The inspector asked the pilot if he tried to lower the nose and level the wings. The pilot responded, "Things happened so fast I thought I tried to lower the nose, but the stall horn continued to sound and before I knew it, the aircraft was approaching the trees on the left side of the runway."

The inspector also asked the pilot if there were any problems with the engine. The pilot responded, "I had no problem with the engine at all."

In a telephone conversation, the pilot said that it was not a gusty day and there were no storms in the area. He said the windssock was "limp", and no large aircraft had departed or landed prior to him taking off.

Additionally, the pilot said he used the checklist to prepare the airplane for a normal take-off. He said the elevator trim was set to the take-off position, flight control continuity was confirmed, and the flaps were retracted.

The FAA inspector performed an on-scene examination of the airplane. According to the inspector, the airplane collided with trees in a flat attitude, and came to rest on its belly about 150 feet from the runway. The right wing had separated from the airplane and the left wing exhibited leading edge impact damage. The engine was found broken off its mounts and had separated from the airplane. Control continuity was established for all flight control surfaces, and no mechanical deficiencies were noted.

The pilot reported a total of 82.8 flight hours, of which 15.1 hours were in make and model. He also reported that there were no mechanical deficiencies.

Runway 19 was a 3,420-foot long and 45-foot wide asphalt runway.

Examination of the Gulfstream American AA-5B Tiger Pilot Operating Handbook (POH), page 4-16 to 4-17, revealed that for a normal take-off the pilot should, "accelerate to 50 KIAS (58 MPH) before applying a light back pressure on the control wheel to lift off the nose wheel...When airborne, accelerate to the desired climb speed." According to the POH, the best angle of climb speed was 70 knots and normal climb out speed was 90 knots.

Weather information reported at Hartford-Brainard Airport, 16 nautical miles east of the accident site, at 1653, included wind from 270 degrees at 5 knots, and clear skies.

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	32, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 Valid Medical-w/ waivers/lim	<b>Last FAA Medical Exam:</b>	April 23, 2001
<b>Occupational Pilot:</b>	UNK	<b>Last Flight Review or Equivalent:</b>	November 18, 2001
<b>Flight Time:</b>	82 hours (Total, all aircraft), 15 hours (Total, this make and model), 27 hours (Pilot In Command, all aircraft), 11 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Grumman American	<b>Registration:</b>	N81072
<b>Model/Series:</b>	AA-5B	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	0421
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	April 1, 2001 Annual	<b>Certified Max Gross Wt.:</b>	
<b>Time Since Last Inspection:</b>	202 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	4585 Hrs as of last inspection	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	O-360-a4k
<b>Registered Owner:</b>	CARNEY AVIATION	<b>Rated Power:</b>	180 Horsepower
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	HFD,19 ft msl	<b>Distance from Accident Site:</b>	18 Nautical Miles
<b>Observation Time:</b>	16:53 Local	<b>Direction from Accident Site:</b>	93°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	5 knots / None	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	270°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	29.69 inches Hg	<b>Temperature/Dew Point:</b>	12°C / 5°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	HARWINTON, CT (22B )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	BRIDGEPORT, CT (BDR )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	17:10 Local	<b>Type of Airspace:</b>	Class E

## Airport Information

<b>Airport:</b>	MOUNTAIN MEADOW 22B	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	1000 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	19	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	3400 ft / 40 ft	<b>VFR Approach/Landing:</b>	None

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Minor	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	1 Minor	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	2 Minor	<b>Latitude, Longitude:</b>	

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Yeager, Leah
<b>Additional Participating Persons:</b>	DALE JOHNSON; WINDSOR LOCKS, CT
<b>Original Publish Date:</b>	October 23, 2002
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=54211">https://data.nts.gov/Docket?ProjectID=54211</a>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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 [here](#).