



National Transportation Safety Board Aviation Accident Final Report

Location:	Shreveport, LA	Accident Number:	FTW03FA071
Date & Time:	01/02/2003, 1346 CST	Registration:	N9226L
Aircraft:	Grumman American AA-1A	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The personal flight originated as a flight of two airplanes. The father of the passenger flying in the trail position was flying the lead airplane on a local formation flight. The pilot of a Cessna 120 departed first and kept looking back to observe the position of the trailing aircraft. During the climb out, the pilot of the lead airplane observed an airplane below and behind him entering a spin to the right. The lead pilot failed to recognize the spinning airplane as his trailing aircraft. After being unable to contact the trail airplane, the pilot contacted the tower and reported that the airplane may have gone down. The wreckage of the airplane was found in an open meadow within 4 miles of the departure end of the runway. Signatures of the damage sustained by the airplane were consistent with a flat spin to the right. The non-instrument rated private pilot had accumulated a total of 125 hours of flight, with approximately 50 hours in the accident airplane. The local fire department was alerted as to the possibility of an aircraft accident at 1359; however the aircraft was not located from the air until 1427, approximately 41 minutes after the accident. The airplane ELT was found in the off position with an expired battery. Flight control continuity was established to all flight control surfaces. The engine was satisfactorily ran for over 12 minutes following the recovery of the airplane. No anomalies were found with the engine or airplane that would have prevented normal operation. No evidence of an in-flight fire was found either on the airframe on the pilot. There was no evidence of an in-flight fire was found.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain adequate airspeed resulting in a stall.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND
2. (C) STALL - INADVERTENT - PILOT IN COMMAND

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

Findings

3. TERRAIN CONDITION - GROUND

Factual Information

HISTORY OF FLIGHT

On January 2, 2003, at 1346 central standard time, a Grumman American AA-1A single-engine airplane, N9226L, was destroyed upon impact with terrain following a lost of control during initial takeoff climb near Shreveport, Louisiana. The non-instrument rated private pilot and his passenger were fatally injured. The airplane was owned and operated by the pilot. Visual meteorological conditions prevailed throughout the area for the 14 Code of Federal Regulations Part 91 personal flight. No flight plan was filed for the local flight that originated as a flight of two airplanes, from the Shreveport Downtown Airport (DTN) at 1342.

According to the air traffic control tower personnel at the DTN airport, the airplane was cleared for takeoff at 1342, as a flight of two airplanes, in which N2481N, a Cessna 120 airplane, was the lead aircraft, and N9226L, was the trail airplane. The pilot of the lead airplane maintained radio contact with the trail airplane, and he observed the trail airplane during his takeoff roll. Shortly after takeoff, the pilot of the trail airplane reported the he was in trail about a mile behind the lead airplane. About 10 to 15 seconds later, the pilot of the lead airplane reported that he looked back to determined the location of the trail airplane. He observed an airplane, which he did not immediately recognize, entering a spin to the right; however, he did not observe the airplane impact the terrain.

A few seconds later, the lead pilot reported to the DTN tower that "N9226L may have gone down." Two additional airplanes circled the area looking for the missing airplane. The wreckage of N9226L was located at 1427.

PERSONNEL INFORMATION

The pilot received his private pilot certificate with an airplane single engine land rating on August 19, 1977. According to the pilot's logbook, he accumulated a total of 50.5 flight hours prior to discontinuing his flying, and on March 5, 2000, the pilot started flying again in a Cessna 152. On April 19, 2001, the pilot purchased N9226L. According to his logbook, the pilot had accumulated a total of 125.1 flight hours as of his last entry on the logbook on November 30, 2002. The pilot was estimated to have accumulated a total of 49.6 hours in the accident airplane. The pilot completed his most recent biennial flight review (BFR) on August 4, 2002, in the accident aircraft. The pilot's most current FAA medical examination was completed on April 9, 2002. He was issued an FAA Third Class medical certificate, with a restriction to wearing corrected lenses for near and intermediate vision.

AIRCRAFT INFORMATION

The 1971-model airplane, serial number AA1A-0126, was manufactured by Grumman American Aircraft. The normal category airplane was registered to the owner on June 7, 2001. The most recent annual inspection was completed on July 22, 2002, at 823.2 aircraft hours (tachometer time), approximately 16.22 hours prior to the accident.

The airplane was powered with a 4-cylinder Lycoming O-235-C2C engine, serial number L-10526-15, rated at 115 horsepower. The engine was driving a fixed pitch, all metal, 2-bladed McCauley propeller, model number SCM 71575, serial number G16035. A review of the maintenance records revealed, the engine accumulated a total of 2,894.72 hours, with 159.32 hours since its last engine overhaul.

According to data provided by several sources, the airplane had been previously involved in a mishap on July 20, 2001. The previous mishap was reported to be the result of fuel starvation due to a defective or improperly installed fuel selector valve, which resulted in a forced landing near Monroe, Louisiana. No records of the reported accident were available in the NTSB or FAA accident database. As result of the mishap, the airplane was reported to been out of service until May 2002. All necessary repairs were performed at a repair station at the DTN airport.

COMMUNICATIONS

The pilot of the Cessna 120 aircraft reported that he had been communicating with the accident airplane on 123.45. No distress calls were received from the pilot of the accident airplane on either 123.45 or on the tower frequency.

WRECKAGE AND IMPACT INFORMATION

The Global Positioning System (GPS) location of the accident site, provided by a member of the Sheriff Department, was recorded at 32 degrees 35 minutes and 35 seconds north latitude and 93 degrees, 45 minutes, 56 seconds west longitude.

The airplane impacted the ground in a 100-foot wide pasture, which was oriented on a measured heading of 340 and 160 degrees magnetic heading. The ground was soft with several saturated sections. The nose and main landing gear tires made ground impressions varying in depth from 8 to 12 inches deep. The aircraft impacted the ground and came to rest on a measured heading of 280 degrees, approximately 4 nautical miles from the departure end of the runway at DTN.

The engine remained partially attached to the airframe. The two top engine mounts separated from the airframe at the airframe mounting point as the attaching hardware pulled out of the honeycomb. The engine was found canted forward about 30 degrees nose low. No evidence of a catastrophic engine failure was noted. The barrel of the #3 cylinder showed evidence of exposure to high heat (paint peeling and bluing). Engine control continuity was established to the throttle, mixture control and carburetor heat. The mixture control was found in the full rich position, the throttle was found in the closed position, and the carburetor heat was found in the cold/off position.

Five quarts of oil were present in the engine crankcase. The oil had an olive-green color and appeared to be clean. The propeller was rotated by hand and continuity to the engine accessory section was confirmed. The oil filter canister was removed from the aircraft and opened for inspection during the engine examination. No metal chips or any other contaminants were found within the paper elements of the oil filter.

The propeller remained attached to the engine. The bottom half of the chromed spinner dome was found crushed inwards and did not show any evidence or signatures of rotational damage. No leading edge damage was found on either propeller blade. One propeller blade was found slightly bend aft about 5 to 10 degrees. The other blade was undamaged.

Approximately 2.5 ounces of straw colored fuel were drained from the carburetor bowl during the engine examination.

The muffler and some of the exhaust pipes were crushed; however, the carburetor remained attached to the engine, and appeared to be undamaged.

The windshield assembly was not compromised and was found separated from the aircraft. The sliding canopy, reported to have been removed by the first responders, was found in the closed and locked position at the time of the accident. The fuselage was buckled in several areas. The underside of the airplane was crushed upwards.

Both wings remained attached to the airframe. There was no leading edge damage to either or the wings or the horizontal stabilizers. The wings were buckled and pushed upward. The flaps were found extended to the 2/3 (two third) position. The elevator trim indicator in the cockpit was found in the neutral position; however, the elevator trim was found in the full up (nose down) position.

All flight control surfaces, with the exception of the rudder and vertical stabilizer, remained attached to their respective surfaces. Flight control continuity was established to the elevators, rudder, and ailerons. The vertical stabilizer and the rudder were found partially separated to the airframe, and rotated towards the left side of the airframe.

The nose landing gear was folded in the aft direction. The nose gear tire was destroyed by a minor post-impact fire. The main landing gears were pushed up into the skin for the lower portion of both wings. Also, the gears were spread and the laminations of the fiberglass main landing gear legs were spread. The tubular nose landing gear assembly was buckled.

The fuel selector was found in the off position; however, one of the first responders to the accident later reported that the fuel selector had been found in the left position and was moved to the off position by one of the first responders. The aircraft's 12-gallons tubular fuel cells were intact and not compromised. Both fuel tanks were found near the full position. Fuel was drained from both tanks during recovery. The fuel drained from the airplane appeared to be straw colored, and had the odor consistent with automotive gasoline. No evidence of water contamination was found in the gasoline.

The antennas on the bottom of the airplane were crushed and found lying on their left side

Neither of the two occupants of the airplane made contact with the instrument panel during the impact sequence, thus the instruments and gauges were mostly undamaged. The airspeed indicator was reading zero. The altimeter was reading minus 90 feet. The altimeter setting was found reading 30.14 inches. The directional gyro was reading 216 degrees. The attitude indicator was level in a slight right turn. The magnetic compass was reading 277 degrees. The OBS on NAV 1 was set on 046 degrees. The clock was stopped at 2:37. The Hobbs meter was reading 2,606.7 hours. The engine tachometer was reading 0839.32 hours. The fuel primer was found in the locked position. The cabin heater was found in the off position.

FIRE

The top of the battery case was found separated from the fiberglass battery case. The inner side of the battery case top had evidence of a post-impact fire. The top of the battery did not show any evidence of fire damage. Two of the screw-on filler caps on the battery were missing.

The inside of the engine cowling showed evidence of fire and smoke damage to the area above the engine driven fuel pump. The electric fuel pump was wet from an apparent leak. The fuel system was tested for leaks on the airplane using the aircraft electrical system. Fuel was observed leaking from the engine driven fuel pump when the system was pressurized.

The inside of the side Plexiglas windows in the airplane bore the smell of smoke; however, no evidence of an in-flight fire was found in the engine compartment or cabin. The airplane was

not equipped with a hand-held fire extinguisher.

METEOROLOGICAL INFORMATION

The 1353 METAR weather report from the DTN airport reported winds from 310 degrees at 13 knots, gusting to 22 knots, visibility 10 statute miles, with few clouds at 4,100 feet, temperature 9 degrees Centigrade, dew point of minus 1 degree Centigrade, and an altimeter setting of 30.01 inches of Mercury.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy and toxicological tests were requested and performed on the pilot. Forensic Pathologists, Inc., of Bossier City, Louisiana, performed the autopsy on January 3, 2003, as requested by the Caddo Parish Coroner's Office. The FAA's Civil Aero medical Institute (CAMI) in Oklahoma City, Oklahoma performed toxicological tests. Toxicological tests were negative for alcohol or drugs.

SURVIVAL FACTORS

The airplane was found to be equipped with a NARCO model ELT-10 electronic locator transmitter (ELT). The ELT, which was installed in the tail cone of the aircraft, was found to be in the "off" position. The ELT battery was found to have expired on June 2002 (the last annual inspection was completed on July 21, 2002). The ELT did not operate and thus did not aid in locating the wreckage of the airplane.

The fire department was alerted as to the possibility of an aircraft accident at 1359; however, the aircraft was located from the air until 1427, approximately 41 minutes after the accident.

The airplane was equipped with shoulder harnesses and seat belts for both occupant of the airplane. The seat belts and shoulder harnesses had a "like-new" appearance to them and it was assumed that they had been installed at the time the interior was refurbished. None of the seat belts or shoulder harness was found stretched or damaged on any way.

According to the first responders, the passenger was found in the cargo compartment located aft of the two side-by-side seats.

Examination and evaluation of the signatures of the damage sustained by seat tracks, the bottom of both seat cushions, and both seat backs, were consistent with both occupants of the airplane occupying their respective seats at the time of the accident.

TEST AND RESEARCH

An engine examination and complete wreckage layout examination was conducted at ASOD on January 7, 2003. The engine was successfully ran for 12 minutes. In order to facilitate the engine run, the carburetor float assembly and the electrical harnesses for both magnetos were replaced. Both items had been fire damaged.

ADDITIONAL INFORMATION

The wreckage was recovered by ASOD prior to 1730 on January 3, 2003, and transported to Lancaster, Texas. The wreckage was released to the owner's representative following the layout examination and engine run.

Pilot Information

Certificate:	Private	Age:	48, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	04/09/2002
Occupational Pilot:		Last Flight Review or Equivalent:	08/04/2002
Flight Time:	125 hours (Total, all aircraft), 50 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Grumman American	Registration:	N9226L
Model/Series:	AA-1A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	AA1A-0126
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	07/22/2002, Annual	Certified Max Gross Wt.:	1500 lbs
Time Since Last Inspection:	16.12 Hours	Engines:	1 Reciprocating
Airframe Total Time:	2894.72 Hours at time of accident	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	O-235-C2C
Registered Owner:	John A. Jordan	Rated Power:	115 hp
Operator:	John A. Jordan	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	KDTN, 179 ft msl	Distance from Accident Site:	4 Nautical Miles
Observation Time:	1353 CST	Direction from Accident Site:	180°
Lowest Cloud Condition:	Few / 4100 ft agl	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	13 knots / 22 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	310°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.01 inches Hg	Temperature/Dew Point:	9°C / -1°C
Precipitation and Obscuration:			
Departure Point:	Shreveport, LA (DTN)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	1342 CST	Type of Airspace:	Class G

Airport Information

Airport:	Shreveport Downtown Airport (KDTN)	Runway Surface Type:	Unknown
Airport Elevation:	179 ft	Runway Surface Condition:	Unknown
Runway Used:	NA	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Unknown

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Fatal	Latitude, Longitude:	32.593056, -93.765556

Administrative Information

Investigator In Charge (IIC):	Hector R Casanova	Report Date:	03/30/2004
Additional Participating Persons:	Richard S Gordon; FAA FSDO; Baton Rouge, LA		
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 pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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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](#).