



National Transportation Safety Board Aviation Accident Factual Report

Location:	HILLIARD, FL	Accident Number:	MIA99FA208
Date & Time:	08/01/1999, 1125 EDT	Registration:	N9888L
Aircraft:	Gulfstream American AA-1B	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Fatal, 1 Serious
Flight Conducted Under:	Part 91: General Aviation - Personal		

HISTORY OF FLIGHT

On August 1, 1999, about 1125 eastern daylight time, a Gulfstream American AA-1B, N9888L, registered to a private owner, operated as a 14 CFR Part 91 personal flight, crashed on takeoff from Hilliard Airpark, Hilliard, Florida. Visual meteorological conditions prevailed and no flight plan was filed. The airplane was destroyed. The private-rated pilot sustained serious injuries, and the flight instructor-rated passenger received fatal injuries. The flight was originating at the time of the accident.

The pilot stated that they flew to Hilliard Airpark to practice soft field techniques, and after the initial soft field landing they taxied the length of the field and discussed the takeoff, density altitude, obstacles on the climbout, takeoff weight, and selected a point on the field beyond which point they would initiate a rejected takeoff if necessary. The pilot further stated that after a brief run-up, they initiated the takeoff and climbout with the engine developing normal power, but as they approached the trees on climbout he relinquished control to the flight instructor-rated passenger when it became apparent they were not going to clear the trees. The pilot stated that the rated passenger assumed control and tried to turn the airplane slightly to the left to an area where the trees were shorter and offered better clearance, but the right wing hit a tree and the aircraft crashed nose down and came to rest inverted. The pilot also stated he was conscious during the whole ordeal, and subsequently crawled for help.

PERSONNEL INFORMATION

The pilot held an FAA private pilot certificate, issued on December 2, 1997. He also held an FAA third class medical certificate issued on September 2, 1997, with no limitations.

The pilot's logbook showed one flight each month in 1999 except for April and May, when the logbook showed three and two flights respectively. The last flight logged in the pilot's logbook prior to the accident was in July 1999. Additional information on the pilot is contained in this report under First Pilot Information and in attachments to this report.

The rated-passenger held an FAA commercial pilot certificate with airplane single and multiengine land instrument ratings, as well as a flight instructor certificate with airplane single and multiengine land instrument ratings. FAA records showed that the flight instructor-rated passenger's last medical certificate was a Class III, issued in October 1996.

AIRCRAFT INFORMATION

Information pertaining to N9888L is contained in this report on page 2, under Aircraft Information.

METEOROLOGICAL INFORMATION

Visual meteorological conditions prevailed at the time of the accident. For additional information, please see Weather Information on page 3 of this report.

AIRPORT INFORMATION

On January 13, 1999, the State of Florida Department of Transportation conducted an inspection of Hilliard Airpark, and determined that the airport did not meet the minimum State standards for a public airport. The inspection report stated that a public airport must have at least 2,000 feet of usable runway, and stated that in order to meet this requirement the trees at the ends of the runways at Hilliard Airpark must be cut. The State also requested that the Airport Manager issue a notam on the status of the airport. Notam 02/003 was subsequently issued closing the airport, and at the time of the accident the notam was still in effect. In addition, at the time of the accident, runways 36 and 18 were marked with tires, painted white, and arranged to depict an X pattern at the approach/departure ends. The grass on the runway, as well as in the area around the X pattern had been freshly mowed.

WRECKAGE AND IMPACT INFORMATION

The aircraft crashed about 700 feet off the departure end of runway 36 that it had departed from, slightly to the left of the runway centerline in a 358 degree magnetic bearing, in a lightly wooded area. The wreckage debris field began at about 500-feet from the end of the runway, at the beginning of the wooded area, and extended about 200 feet in a swath centered along the 358 degree magnetic bearing. Several trees along the debris swath were freshly broken, and others exhibited fresh angled cuts, with dark colored marks that were consistent with the paint color on the propeller.

Examination of the aircraft showed that the main wreckage of the aircraft came to rest inverted, with the engine and propeller still attached to the airframe. The left wing was broken at the root but remained partially attached to the main wreckage at the aft spar. The right wing and right horizontal stabilizer showed impact damage on their leading edges, and were completely sheared off at the roots, and lay detached close to the main wreckage. The fuel tanks were ruptured at the wing roots, but there was no fuel or smell of fuel in the area of the main

wreckage. There also were no indications of fire. The empennage was bent slightly to the left, with compression buckling on the left side of the fuselage forward of the empennage. All components of the aircraft which were necessary to sustain flight were located in the immediate area of the main wreckage.

Examination of the flight control system revealed continuity of the system, which was confirmed by tracing the cables to the flight control surfaces, or to the point where the control surfaces were sheared from the main fuselage. There were no separation points in the cables, other than at the separation point of the right wing, and the right horizontal stabilizer from the fuselage.

Both seats were in place in the aft most position, and the flight instructor-rated passenger's seatbelt and shoulder harness were attached. The pilot's seatbelt and shoulder harness were unfastened and there were drag marks leading from the first pilot's cockpit position along the ground to a nearby house.

Examination of the propeller and spinner after recovery from the accident site showed that there was damage consistent with engine rotation at the time of impact. The propeller blades had some minor bending and chordwise scratching. The spinner was compressed and exhibited rotational crushing.

Examination of the engine assembly, and accessories were performed after recovery from the accident site. The engine was rotated by hand, and continuity was established with the crankshaft, camshaft, valve train, and accessory drive gears. All cylinders produced compression.

No obstructions were found in the engine induction system. The cockpit carburetor heat control was found in the full on position, but the valve in the induction air box was in the cold position, and the control cables were distorted.

The carburetor float and needle valve operated normally and all passages within the carburetor were clear, clean and unobstructed. The inlet and carburetor screens were clean and clear of obstructions. The carburetor, engine driven pump, boost pump and system hoses contained residual fuel, and the pump activated when operated by hand. The mixture control was set to rich, and the path from the mixture control to the fuel nozzles were unobstructed.

The magneto switch was in the both position, and the switch operated normally. Both magnetos were examined, and fired on all points. The magneto timing was checked, and found to perform to specifications. Each spark plug exhibited some wear and had combustion coloration varying from medium to dark brown, consistent with normal engine operation. In addition, the exhaust system was unobstructed, and showed no signs of leakage.

MEDICAL AND PATHOLOGICAL INFORMATION

Postmortem examination of the flight instructor-rated passenger was done by Dr. Margarita Arruza, M. D., Deputy Chief Medical Examiner, Office of the Medical Examiner, Jacksonville, Florida, on August 2, 1999. The cause of death was attributed to multiple blunt force trauma. Postmortem toxicology studies of specimens from the flight instructor-rated passenger was performed by the Medical Examiner. The specimens were checked for blood alcohol, urine drugs and blood carbon monoxide. Five percent saturation carbon monoxide was detected in the blood, and caffeine was detected in the urine.

Forensic toxicology was also performed by the FAA Toxicology Laboratory, Oklahoma City, Oklahoma, on the flight instructor-rated passenger. The tests were negative for carbon monoxide, cyanide, ethanol, and drugs.

The pilot was admitted to the University Medical Center, Jacksonville Florida on August 1, 1999, for medical treatment as a result of the accident. Toxicological samples were not taken from the pilot by the hospital upon his admittance.

TEST AND RESEARCH

The information handbook for the Gulfstream American AA-1B Section 5 specifies that for takeoff at an altitude of 2000 feet, and a ambient temperature of 52 degrees Fahrenheit, a ground roll of 912 feet, and a total distance to clear a 50-foot obstacle of 1,810 feet is needed, if there is no wind. The handbook specifies an increase in ground run of 7 percent for each 20 degree Fahrenheit increment above standard temperature, as well as a power loss of 7 percent in the rate of climb, attributable to the presence of humidity. The flight information handbook does not address any penalties for takeoff from a grass strip.

The length of the grass strip at Hilliard Airpark is 2,490 feet. The metar report for KJAX, the nearest reporting station at the time of the accident specified 95 and 77 degrees Fahrenheit for the temperature and dew point respectively. The reported surface wind direction at KJAX at the time of the accident was 270 degrees magnetic, and the velocity was 4 knots. Computed density altitude at the airport for the time of the accident was 2,500 feet.

ADDITIONAL INFORMATION

The airplane wreckage was released to Mr. John M. Seldomridge, owner & operator of Seldomridge Body Shop and Service Center on August 2, 1999.

Pilot Information

Certificate:	Private	Age:	46, 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:	Yes
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	09/02/1997
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	207 hours (Total, all aircraft), 60 hours (Total, this make and model), 77 hours (Pilot In Command, all aircraft), 3 hours (Last 90 days, all aircraft), 1 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Gulfstream American	Registration:	N9888L
Model/Series:	AA-1B AA-1B	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Utility	Serial Number:	AA1B-0600
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	10/07/1998, Annual	Certified Max Gross Wt.:	1560 lbs
Time Since Last Inspection:	19 Hours	Engines:	1 Reciprocating
Airframe Total Time:	3682 Hours	Engine Manufacturer:	Lycoming
ELT:	Installed, activated	Engine Model/Series:	O-235-C2C
Registered Owner:	KEVIN BRUCE MOORE	Rated Power:	
Operator:	KEVIN BRUCE MOORE	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	JAX, 30 ft msl	Distance from Accident Site:	20 Nautical Miles
Observation Time:	1155 EDT	Direction from Accident Site:	150°
Lowest Cloud Condition:	Clear / 0 ft agl	Visibility	3 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	260°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	35° C / 25° C
Precipitation and Obscuration:			
Departure Point:	(01J)	Type of Flight Plan Filed:	None
Destination:	FERNANDINA BCH, FL (55J)	Type of Clearance:	None
Departure Time:	1124 EDT	Type of Airspace:	Class G

Airport Information

Airport:	HILLIARD AIRPARK (01J)	Runway Surface Type:	Grass/turf
Airport Elevation:	59 ft	Runway Surface Condition:	Dry
Runway Used:	36	IFR Approach:	None
Runway Length/Width:	2490 ft / 125 ft	VFR Approach/Landing:	

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal, 1 Serious	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	JOHN W LOVELL
Additional Participating Persons:	JEFFREY L KENNEDY; MIAMI, FL SUSAN M DILLON; ORLANDO, FL EDWARD G ROGALSKI; BELLEVIEW, FL
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 pubinquiry@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .