



National Transportation Safety Board Aviation Accident Final Report

Location:	LAKE GENEVA, WI	Accident Number:	CHI96LA225
Date & Time:	07/01/1996, 0815 CDT	Registration:	N51SK
Aircraft:	Sisk BD-5	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Serious

Flight Conducted Under: Part 91: General Aviation -

Analysis

The experimental BD-5 aircraft had been towed to the run-up area in preparation for a heavy weight test flight. The preflight and run-up were normal. Witnesses indicated the engine developed full power during the takeoff roll, and that the aircraft accelerated to the Go/No-Go point on the 2,300 foot airstrip. The pilot continued the takeoff roll, but reportedly, the aircraft did not rotate. Witnesses reported that the airplane became airborne between 1,900 feet to 2,300 feet down the runway, but only climbed about 4 feet. Subsequently, it impacted a wire fence near the departure end of the runway, and then bounced and skidded across a divided four lane highway, inflicting minor damage to a car. The pilot's wife reported that the temperature was hot, and the wind was calm. The modified inboard marine engine exhibited continuity. The flight controls and drive train exhibited continuity. The propeller which had been carved by the pilot/builder was destroyed during impact.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: failure of the pilot to abort the takeoff, while there was sufficient runway remaining. The high temperature and calm wind were related factors.

Findings

Occurrence #1: ON GROUND/WATER COLLISION WITH OBJECT
Phase of Operation: TAKEOFF - ROLL/RUN

Findings

1. (F) WEATHER CONDITION - TEMPERATURE,HIGH
 2. (C) ABORTED TAKEOFF - NOT PERFORMED - PILOT IN COMMAND
 3. OBJECT - FENCE
 4. OBJECT - VEHICLE
-

Occurrence #2: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER
Phase of Operation: TAKEOFF - ROLL/RUN

Findings

5. TERRAIN CONDITION - DITCH
6. TERRAIN CONDITION - ROADWAY/HIGHWAY

Factual Information

On July 1, 1996, at 0815 central daylight time (CDT), an experimental Sisk BD-5, N51SK, was destroyed during takeoff when it impacted a fence on the departure end of runway 22 at Lake Geneva Aero Estates, Lake Geneva, Wisconsin. The airplane crossed over a divided highway and hit an automobile before it came to a stop on the highway embankment. The airline transport pilot received serious injuries, which included loss of memory. There were no injuries reported to the occupants of the automobile. The 14 CFR 91 flight was departing Lake Geneva Aero Estates on a local flight. Visual meteorological conditions prevailed and no flight plan was filed.

The pilot's son reported that the flight was planned as a heavy weight test flight. He reported that the pilot had conducted static and taxi tests prior to the flight, which had gone well.

The wife of the pilot reported that she had helped tow the aircraft to the run-up area for preflight and aircraft run-up. She reported that the preflight was normal and the aircraft was topped off with fuel. She reported that the flight was a test flight. During the flight, the pilot was going to record various parameters which included temperatures and RPM's at various altitudes.

She reported that the pilot had conducted 6 or 7 takeoff and landings at Lake Geneva Aero Estates. He had flown most of the flights in the experimental aircraft from Burlington Municipal Airport, Burlington, Wisconsin, and Rock County Airport, Janesville, Wisconsin, because they had longer runways.

She reported that the pilot had 3 or 4 propellers that he had carved, tested, and used on his aircraft. She did not know if the pilot had used the propeller which was on the aircraft the day of the accident on any of the other flights from Lake Geneva Aero Estates. One of the pilot's sons reported that the pilot had carved a new propeller with a lower pitch, and that the first time that the pilot had used it was on the day of the accident.

The wife of the pilot reported that the weather had been checked earlier in the morning. She reported that when they had towed the aircraft to the run-up area the temperature was about 70 to 75 degrees. She reported that by the time the aircraft was ready for takeoff 30 minutes later, the temperature had become exceptionally hot. She reported it as, "really hot and sticky," and, "...seemed really super hot." The wind was reported as calm.

She reported that the aircraft run-up was, "...great. Just outstanding." She reported that the engine was developing full power, and that the engine never missed. She reported that the engine stayed at full power during the takeoff run and that it, "...never missed a lick."

She reported that the engine sounded normal during takeoff roll. She reported that the aircraft was not off the ground by the time it had reached the tall oak tree that was adjacent to the runway. The oak tree marked the Go/No-Go point on the runway which was the decision point for aborting the takeoff. The oak tree was about at the 1,500 foot point of runway 22 which was 2,300 feet long. She reported that the pilot never pulled back on the power and that she knew, "...we were in big trouble..." because the aircraft was not off the runway and, "...it was going too fast to stop."

She reported that the airplane became airborne about one half way between the oak tree and the runway threshold, which would be at about 1,900 feet. She reported that she saw the right

wing tip hit the ground on the hill. She reported that she did not see the airplane hit any car. She did not see the aircraft bounce on the ground before it hit the roadway ditch embankment or hill. She reported that the airplane spun around, like a groundloop and not a cartwheel, after the wing tip hit the hill. She reported that both wings separated from the fuselage and came to rest near the airplane after impact. She reported that the engine was still operating at full power after the impact until the fuel in the fuel lines and carburetor were exhausted.

Witnesses at the airstrip reported that the engine sounded like it was developing full power during takeoff roll. One of the witnesses reported that the airplane's nose wheel was still on the ground as it passed the oak tree.

A witness who observed the takeoff from an area near the oak tree, reported that the aircraft was developing full power and was on the centerline of the runway. He reported that the airplane did not rotate until it was in the turn-around area where the yellow displaced threshold arrows are located at the departure end of runway 22. He reported seeing the airplane get about 4 feet in the air and then the airplane's nose wheel impacting the wire fence at the departure end of runway 22. He reported that the airplane flipped and cartwheeled across the highway. He reported that he did not see the airplane hit a car when the airplane crossed Highway 12. He reported that he did not see the aircraft bounce before impacting the wire fence.

The examination of the wreckage path indicated that the aircraft had become airborne and bounced on the asphalt of the displaced threshold at the departure end of runway 22. A series of three parallel tire marks were visible at the departure end of the runway. The set of marks formed a straight path to the point where the airplane impacted the fence and came to rest on the west side of a four lane highway. The first two sets of tire marks were 47 inches at their widest. The third set of marks was 51 inches wide at their widest and were located on a perimeter road that went around the airstrip. The marks indicated that the asphalt was gouged where the brake housing hit the pavement. The aircraft hit a wire fence that stood about 3 to 4 feet high. The nose wheel separated from the aircraft and remained on the east side of the fence. The aircraft continued on a path of about 240 degrees as it bounced and skidded over a four lane divided highway. The aircraft and most of the wreckage came to rest on an embankment on the west side of the highway. During the emergency extraction of the pilot from the aircraft, some of the parts had been moved, most notably the wings for safety purposes.

The automobile that was reported to have been hit by the airplane as it bounced and skidded across Highway 12 was not at the accident site during the examination. The reported damage to the automobile was reported to be minor with no injuries to the occupants.

The inspection of the aircraft revealed that the engine exhibited continuity. The cylinders had good compression and the spark plugs looked normal. The drive train from the engine to the propeller exhibited continuity. The propeller was destroyed. The hub was still attached to the propeller flange but only 6 to 8 inches of the propeller blades remained. The flight controls exhibited continuity.

The aircraft logbook and maintenance records were not found.

The aircraft was an experimental BD-5. The pilot/builder had obtained the Certificate of Aircraft Registration on January 16, 1975. The Special Airworthiness Certificate was issued on December 5, 1994. The hobbs meter indicated 132.0 hours but the total number of actual flight

hours on the aircraft was not determined.

The engine used on the aircraft was an 80 horsepower inboard marine engine that had been modified by the pilot to operate in his airplane. The wings were modified BD-5 "A" wings. The pilot had modified the originally designed "A" wing and had extended it from 14.3 feet to 16.3 feet. The pilot had carved his own propeller. It was not determined what the pitch was on the propeller he had installed on the aircraft prior to the accident.

Pilot Information

Certificate:	Airline Transport	Age:	53, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land; Single-engine Sea	Seat Occupied:	Front
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	04/24/1996
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	18100 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Sisk	Registration:	N51SK
Model/Series:	BD-5 BD-5	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental	Serial Number:	1632
Landing Gear Type:	Retractable - Tricycle	Seats:	1
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	750 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Mercury
ELT:		Engine Model/Series:	INBOARD
Registered Owner:	VADIE G. SISK	Rated Power:	80 hp
Operator:	VADIE G. SISK	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	UE, 911 ft msl	Distance from Accident Site:	30 Nautical Miles
Observation Time:	0745 CDT	Direction from Accident Site:	30°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	10 Miles
Lowest Ceiling:	Broken / 25000 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	260°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	23° C
Precipitation and Obscuration:			
Departure Point:	(W189)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	0815 CDT	Type of Airspace:	Class E

Airport Information

Airport:	LAKE GENEVE AERO ESTATES (W189)	Runway Surface Type:	Asphalt
Airport Elevation:	823 ft	Runway Surface Condition:	Dry
Runway Used:	22	IFR Approach:	
Runway Length/Width:	2300 ft / 75 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

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

Administrative Information

Investigator In Charge (IIC):	JAMES P SILLIMAN	Report Date:	04/03/1997
Additional Participating Persons:	DUANE M HAHN; MILWAUKEE, WI		
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/ .		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

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](#).