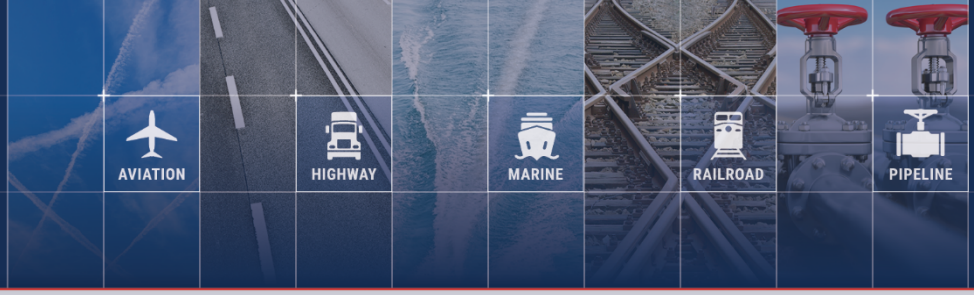

Aviation Investigation Final Report

Location:	KENNEY LAKE, Alaska	**Accident Number:**	ANC94LA003
Date & Time:	October 5, 1993, 07:05 Local	**Registration:**	N9230E
Aircraft:	AERONCA 11AC	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

THE AIRPLANE WAS HEARD TO TAKE OFF FROM A HIGHWAY AND COLLIDE WITH THE GROUND. VISIBILITY WAS 1/4 MI IN FOG AND LIGHT SNOW OR FREEZING RAIN. ICE OR FROST HAD FORMED ON THE SURFACES OF AUTOMOBILES AT THE TIME. THE PILOT WAS PROHIBITED FROM NIGHT FLYING. THE AIRPLANE WAS NOT INSTRUMENT EQUIPPED.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE PILOT'S INTENTIONAL VFR TAKEOFF INTO INSTRUMENT METEOROLOGICAL CONDITIONS WHICH RESULTED IN SPATIAL DISORIENTATION AND A LOSS OF CONTROL. FACTORS IN THE ACCIDENT WERE THE WEATHER AND LOW LIGHT CONDITIONS.

Findings

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

Findings
1. (F) LIGHT CONDITION - DAWN
2. (F) WEATHER CONDITION - FOG
3. (C) VFR FLIGHT INTO IMC - INITIATED - PILOT IN COMMAND
4. (C) SPATIAL DISORIENTATION - PILOT IN COMMAND

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

Factual Information

HISTORY OF FLIGHT

On October 5, 1993, at approximately 0705 Alaska daylight time, a wheel equipped Aeronca Chief 11AC airplane, N9230E, crashed after takeoff from a road near Kenney Lake, Alaska. The airplane was departing for Tetlin, near Tok, Alaska, operating under 14 CFR Part 91 for personal use. The private pilot, the sole occupant, sustained fatal injuries. No flight plan was on file and the accident occurred in nighttime conditions, 30 minutes before the beginning of dawn civil twilight. Witnesses described instrument meteorological conditions with fog and freezing precipitation prevailing at the time and place of the accident. The airplane was destroyed by post crash fire.

Witnesses told investigators from the Alaska State Troopers and the FAA that visibility was approximately 1/4 mile in fog, and that the temperature was approximately 25 degrees (F), and "ice or frost" had formed on the surface of automobiles at that time. Witnesses heard the airplane take off from the highway and collide with the ground. Evidence indicated that the airplane had taken off, completed a 180 degree turn to the left, and impacted the ground.

A post crash fire centered at the fuselage area, consumed the cockpit and instrument area. The engine and firewall area contained an aluminum fuel tank of approximately 10.5 gallons which had melted through (potting hole). A fuel line valve feeding that tank from the wing auxiliary tanks was in the closed position. (See wreckage and impact information.)

INJURIES TO PERSONS

The pilot, as sole occupant was fatally injured. Injuries described in the autopsy report indicated that the pilot succumbed to fatal impact injuries.

DAMAGE TO AIRCRAFT

The aircraft was totally destroyed by post crash fire. (See Wreckage and Impact information.)

PERSONNEL INFORMATION

The pilot, Darrell Leroy Sonnenberg, was reportedly a public school teacher in the Gateway School District of Tok, Alaska. He was neither instrument nor nighttime qualified. In FAA records, the pilot listed his occupation as school teacher and entrepreneur. Witnesses said that he had flown from Tok to Kenney Lake the previous day and stayed overnight in the Kenney Lake High School. A private pilot, he was rated in single engine land airplanes, with a restriction requiring the wearing of glasses (he had 20/200 correctable), and have available a

second pair, as well as a restriction, prohibiting flight at night, or by color signal control (color blindness).

FAA medical records beginning with his original pilot certificate in 1979 the pilot had indicated that he had no previous flying experience. In 1983, he listed total pilot time as 15 hours, having flown 3 hours in 6 months. Consistent with this rate of accumulated hours, the pilot listed total pilot hours as 47 hours in 1985, with none flown in the previous 6 months.

On April 8, 1985, the pilot was involved in an automobile accident wherein he sustained internal injuries, a collapsed lung (hemothorax on the left side) and was hospitalized with internal bleeding. In 1987 he listed his total flight time as 216 hours to date.

On October 5, 1988, he was medevac transported from Tok to Fairbanks and admitted to the cardiac care unit with pericarditis and complaining of chest pains. He was released with treatment for pericarditis, but without a diagnosis of any cardio-vascular accident having occurred and with a good prognosis.

Following an application for a 3rd class medical certificate renewal in September 1989, the FAA found the pilot medically disqualified for his history of a heart condition. The pilot listed 485 hours, total pilot time at the time of this medical application. FAA FSDO-3 operations inspectors advised the NTSB that the pilot may have been operating contrary to 14 CFR Part 61.53, since his hospitalization for a cardiac condition, as such operation as pilot in command with known medical deficiency is proscribed.

The pilot reapplied for a 3rd class medical certificate on September 20, 1991, stating that his total pilot time was then 575 hours, with 25 hours logged in the past 6 months. His medical certificate was reinstated December 17, 1991, with a caution to comply with Part 61.53 if a disqualifying medical condition was to recur.

Records indicate that the pilot stated that he had flown approximately 350 hours over a three-year period, during which he was not in compliance with 14 CFR Part 61, either by his knowledge of medically disqualifying conditions or under actual medical disqualification as determined by the FAA Aeromedical Certification Division.

AIRCRAFT INFORMATION

The two-place Aeronca 11AC, manufactured on or about 1946 with a 65 HP engine, had been modified by Supplemental Type Certificate (STC) SA685NM, with a Lycoming O-235-C2C, 115 HP engine. The fuel system was modified from original with wing fuel tanks of 10.5 gallons each and the nose (firewall mounted) fuel tank was changed from an original 15 gallon tank to a 10.5 gallon aluminum tank. These modifications, as well as the removal of the 8 gallon reserve tank, previously mounted behind the pilot's compartment, were completed prior to the opening of the airframe logbook beginning June 24, 1978. No records found predate this log book.

The NTSB Investigator-in-Charge interviewed the inspector who had last inspected the accident airplane. He stated that the fuel valve described as found in the wreckage, if closed, was in the proper position for takeoff, as normal fuel feed should be by gravity from the main tank on the firewall. The shut-off for that tank remained an original design, an instrument panel mounted fuel shut off. The shut off was designed so to prevent gravity flow from the auxiliary tank, overfilling the main tank.

A video record taken by Alaska State Trooper Sergeant G. Tanner, shortly after the fire was extinguished showed that the auxiliary fuel flow valve was in the closed position. That position is consistent with the takeoff position of that valve, as the fuel feeds from the firewall main tank to the engine and the auxiliary valve serves to replenish the firewall main tank.

The mechanic said that the pilot was a friend of his and that to his knowledge the airplane was running without problems. Asked if it was instrument equipped, the mechanic said "no," and that it had only a suction-driven turn needle and ball. He also said, "I knew Darrel for a long time. He took a lot of chances."

METEOROLOGICAL INFORMATION

Weather information was obtained from eyewitness to the takeoff and the crash, as well as from the Alaska State Troopers. At the time of takeoff the witnesses said that "foggy, freezing" conditions prevailed. An ear witness to the crash, occupying a trailer home, approximately one quarter mile away, said that they were drawn to the location of the burning aircraft by "the glow in the fog," but could not see the airplane. Witnesses described instrument meteorological conditions prevailing, of obscured and one-quarter mile visibility in fog, light snow or freezing rain.

Witnesses also said that a coating of ice had formed on their automobiles during the night. Video record of the accident scene taken several hours later, in the daylight, showed snow to a depth of approximately one half inch covering the ground. The snow had melted from a circle of approximately 25 feet around the crash site.

The time of takeoff was approximately 30 minutes before the onset of dawn civil twilight. The sun was more than eight degrees below the horizon at the time of the accident.

WRECKAGE AND IMPACT INFORMATION

The aircraft reportedly became airborne from State Route 10 from a location one-half mile from the Kenney Lake High School. After a short climb and a left turn of 180 degrees, enough to clear electrical wires alongside the highway, the aircraft impacted in a nose down attitude approximating 90 degrees, on an easterly heading. Damage and crushing signatures indicate that the airplane was still in a steep left turn, estimated to be nearly 80 degrees of left bank, striking the left wing tip, pivoting about the left wing tip and then striking the nose in an attitude

of wing-leading-edge parallel with the ground, the fuselage vertical. Crushing signatures on the leading edge of both wing- forming metal showed nearly vertical flattening of that material to the wood main spar.

The ground scars from both the nose hole and the leading edge marks on the grass were consistent with vertical impact kinematics. The wing alignment of the airplane at impact was indexed from the fragments of red lens plastic in the wingtip strike hole.

PATHOLOGICAL INFORMATION

Autopsy findings indicate that the cause of death was multiple injuries associated with impact. Internal organ damage was consistent with high G-load impact. The report also confirmed that the fire which burned the pilot occurred in post-crash events. A toxicological examination indicated no presence of alcohol or illicit drugs.

Pilot Information

Certificate:	Private	**Age:**	56,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):		**Restraint Used:**	
Instrument Rating(s):		**Second Pilot Present:**	
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	January 6, 1993
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	800 hours (Total, all aircraft), 200 hours (Total, this make and model), 800 hours (Pilot In Command, all aircraft), 20 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	AERONCA	**Registration:**	N9230E
Model/Series:	11AC 11AC	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	11AC-864
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	March 26, 1993 Annual	**Certified Max Gross Wt.:**	1250 lbs
Time Since Last Inspection:	20 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	3335 Hrs	**Engine Manufacturer:**	LYCOMING
ELT:	Installed	**Engine Model/Series:**	O-235-C2C
Registered Owner:	DARREL L.SONNENBERG	**Rated Power:**	115 Horsepower
Operator:	SONNENBERG, DARREL L.	**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Dawn
Observation Facility, Elevation:		**Distance from Accident Site:**	
Observation Time:		**Direction from Accident Site:**	
Lowest Cloud Condition:		**Visibility**	0.25 miles
Lowest Ceiling:		**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	0°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:		**Temperature/Dew Point:**	-4°C / -4°C
Precipitation and Obscuration:	N/A - None - Snow		
Departure Point:		**Type of Flight Plan Filed:**	None
Destination:	TETLIN , AK (5TE)	**Type of Clearance:**	None
Departure Time:	00:00 Local	**Type of Airspace:**	Class G

Airport Information

Airport:		**Runway Surface Type:**	
Airport Elevation:		**Runway Surface Condition:**	
Runway Used:	0	**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	63.180912,-143.10086(est)

Administrative Information

Investigator In Charge (IIC):	Herlihy, Douglas
Additional Participating Persons:	GREG TANNER; ANCHORAGE , AK KENNETH R EPPERSON; ANCHORAGE , AK
Original Publish Date:	December 2, 1994
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=2461

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.