



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	SANONA CREEK, AK	<b>Accident Number:</b>	ANC93FA167
<b>Date &amp; Time:</b>	09/02/1993, 1000 AKD	<b>Registration:</b>	N4713A
<b>Aircraft:</b>	PIPER PA-18A-150	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	2 Fatal

**Flight Conducted Under:** Part 91: General Aviation -

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## Analysis

THE AIRPLANE WAS OBSERVED TO FLY OVER THE AIRSTRIP FROM THE SOUTHWEST AT 200-300 FT AGL, THEN BEGIN A TURN TO THE LEFT AS A BASE TURN TO THE WEST THRESHOLD OF THE AIRSTRIP. THE TURN CONTINUED INTO A STEEP SPIRAL TURN, AND THE AIRPLANE IMPACTED THE GROUND IN A NEAR-VERTICAL ANGLE. THE WIND WAS FROM THE WEST AT ABOUT 30 MPH. THE AIRPLANE WAS EQUIPPED WITH 32X15 BALLOON TUNDRA TIRES. THERE IS NO DATA RELATING TO AN EVALUATION OF THE AIRPLANE'S FLIGHT PERFORMANCE AND HANDLING ENVELOPE WITH THESE TIRES INSTALLED. AIRPLANE HAD NO REGISTRATION, FLIGHT MANUAL, WEIGHT AND BALANCE RECORD, NOR FORM 337'S FOR THE COMPLETE REBUILD AFTER THE AIRPLANE WAS REPORTED DESTROYED IN 1989. IN ADDITION, THERE WERE INSUFFICIENT STC OR FAA FIELD APPROVAL DOCUMENTS FOR MODIFICATIONS. THE AIRPLANE WAS AT LEAST 117 LBS OVER MAX GROSS WEIGHT. SHOULDER HARNESSSES NOT INSTALLED.

## 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 FLYING SPEED DURING A DOWNWIND TURN FOR LANDING. FACTORS CONTRIBUTING TO THE ACCIDENT WERE: THE OVERWEIGHT CONDITION OF THE AIRPLANE, AND FAILURE TO ASSURE THAT THE AIRPLANE COMPLIED WITH ALL APPLICABLE AIRWORTHINESS REGULATIONS.

## Findings

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Occurrence #1: LOSS OF CONTROL - IN FLIGHT  
Phase of Operation: APPROACH - VFR PATTERN - BASE TURN

### Findings

1. (F) AIRCRAFT WEIGHT AND BALANCE - EXCEEDED - PILOT IN COMMAND
2. (F) ACFT/EQUIP,INADEQUATE COMPLIANCE DETERMINATION - OTHER MAINTENANCE PERSONNEL
3. (C) AIRSPEED - NOT MAINTAINED - PILOT IN COMMAND
4. STALL - INADVERTENT - PILOT IN COMMAND

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Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: APPROACH - VFR PATTERN - BASE TURN

## Factual Information

### HISTORY OF FLIGHT

On September 2, 1993, at approximately 1000 Alaska daylight time, a tundra tire equipped Piper PA-18A-150, N4713A, crashed during an approach to Sanona Creek airstrip, 35 miles north of Eureka, Alaska. The private pilot hunting guide and his client passenger were fatally injured. The unregistered airplane had departed Glacier Lodge airstrip, at mile 100 of the Glenn Highway at approximately 0930 in visual meteorological conditions, and was operating under 14 CFR Part 91, business. No flight plan was filed, and the guide partner of the pilot said, "he (the accident pilot) was bringing the client out there for me, to start his hunt." The airplane was destroyed.

A witness to the accident told investigators that the airplane overflew the airstrip at an altitude of 300 feet above ground level (agl) and entered a left turn with approximately 30 knots of tail wind. The airplane reportedly continued a left turn to vertical and "crashed straight down."

The accident pilot operated out of the Glacier Lodge for an outfitter-guide service, reportedly operated by Gary Pahl of Anchorage and Palmer. Mr. Pahl told investigators on September 2, "he was one of my guys, (or guides) he worked for me." The hunter client had arrived the previous day on a commercial flight from Texas to Anchorage.

### INJURIES TO PERSONS

Wade E. Garfield of Wasilla, Alaska, the pilot in command, received fatal injuries in the accident as did his passenger, Attorney William R. Hitchens of Kingsville, Texas.

### DAMAGE TO AIRCRAFT

With the exception of the empennage, all primary structural components of the airplane in the fuselage, cockpit, and wings sustained crushing, bending or twisting. The cockpit, seats and framework were telescoped into the engine compartment. The engine and its frame mounts were broken upward from its normal position, and the engine showed abrupt stoppage damage. Witness reported the engine sound to be uninterrupted prior to impact. (See witness interview summary.)

### PERSONNEL INFORMATION

The pilot-in-command was a private pilot, employed by Mr. Gary Pahl as a licensed assistant guide. A letter from the wife of the accident pilot, revealed that on the day of the accident her husband was transporting the deceased passenger, reportedly "as a favor" for Mr. William Stevenson, a licensed guide-outfitter, who's airplane had been recently damaged in a separate accident. An interview with Stevenson on 9/3/93 revealed that the accident pilot had only intended to transport the client to the hunting area "to start him out" on the hunt. Fish and Wildlife Protection officers of the state told investigators that they believed that the transportation of the client, who was found to be the only person in the airplane equipped to hunt, was for transportation only, and not incidental to guiding by the pilot.

The hunter-client had arrived at Anchorage International Airport on or about August 31, 1993, where he had been met by Stevenson. Stevenson told investigators that he had driven Mr. Hitchens to the Glacier Lodge at mile 100 of the Glenn Highway, as part of the guide-contract arrangement. Mr. Stevenson told investigators that the deceased pilot was related to him as his

brother-in-law and that the accident pilot's father was the inn keeper at the Glacier Lodge.

Investigators could find no record filed with the State of Alaska's Commercial Big Game Guide Board, of a sheep hunt or other big-game hunting contract between the deceased client and Messrs Paul, Stevenson or Garfield.

#### AIRCRAFT INFORMATION

The Piper PA-18A-150 Supercub airplane, serial number 18-4931, was manufactured in 1956 at Lockhaven, PA, and converted to an agricultural spray airplane and operated in a restricted category in Texas until approximately 1971. On March 16, 1959 the airplane was returned, under then governing Civil Air Regulations of CAA Note 3, to the normal airworthiness category. This conversion required the maximum gross weight to be changed according to the Piper Type Certificate for the PA-18A-150 from 2070 pounds to 1750 pounds. The empty weight of the airplane at that time was shown to be 1138, providing a useful load of crew, passengers, cargo and fuel of 612 pounds. The accident airplane, at the time of the crash, was calculated to weight at least 1867 pounds. (See computations, last paragraph)

After a series of owners in Texas and California, the airplane was registered to the First Nevada Corporation in 1975. FAA records showed that the airplane's registration was revoked in 1977 and it was not shown to be registered after that. Insurance records sent to the FAA showed that the airplane had been operating for Circle A Ranch and was destroyed in a crash near Winnemucca, Nevada on February 20, 1989. Records showed that the airplane wreckage was sold as salvage to Winnemucca Air Service at that time. In 1992 the FAA requested that the new owner, Mr. Ron Jenkins of Winnemucca Air Service, return an application of registry. There is no record of registry for the accident airplane since it was described as destroyed in 1989.

The accident pilot's flight log book indicates that local training was conducted in the accident airplane N4713A at Palmer, Alaska, on July 6, 1990. The aircraft was not registered and no bill of sale was recorded for the transfer from Jenkins to Garfield. The airplane's logs and records do not show how the airplane came to be in Alaska, nor how it navigated the airspace and en route airports of Canada without registry.

No records of rebuild were found to be entered or attached to the airplane's airframe logbooks. Annual inspection records, showing routine maintenance to have been accomplished are entered by FAA certified inspectors at "Wick Air, Inc., Repair Station WWKR104K, Palmer, Alaska, (Mark W. Bills, IA381549638) and found to be airworthy.

Inspector Bills referred to a weighing record of July 10, 1991, (by Ed Swanson, A&P 2142577). Earlier records, including an airframe log entry on 8/26/88, continued to recognize the airplane as having a maximum gross weight of a restricted category 2070 pounds, instead of that which was required for a normal category (1750 pounds). Inspectors certified the airplanes as airworthy with useful loads approximately 300 pounds over normal. (See log book entry indicating useful loads of 910.8 pounds on 8/26/88.

The airplane was equipped with 32X15 inch "racing slick" balloon tundra tires, manufactured as Schneider 11000C tires. While an STC exists for multiple applications of this tire on PA-18 Supercubs, no STC or field approval for that modification was found for this airplane. An examination of the STC for the Schneider 11000C tire showed no data relating to an evaluation of the plane's flight performance and handling envelope with the Schneider 11000C tires.

Records provided by family members after the accident included airframe and engine log books, pilot logs, and Major Repair and Alteration records (Form 337). The repair records predate the airplane's entry into Alaska on or about 1990. Receipts found to be made out to the deceased pilot and his brother-in-law, Mr. Bill Stevenson, that unreported mishaps occurred in 1991 (\$370 to repair propeller) and 1992 (\$340 to repair airplane's tail). No records of accidents or incidents were found to be in NTSB or FAA records.

Investigators found that the records of annual inspections did not reveal the fact that the airplane had no registration, flight manual, weight and balance record, insufficient STC or FAA Field Approval documents for modifications, nor Form 337's for the complete rebuild after the airplane was reported destroyed in 1989.

There is no evidence, beyond the logbooks, that the airplane found at Sanona Creek is in fact the same airplane reported destroyed near Winnemucca, NV in 1989. The airframe dataplate was not located on the airplane wreckage at Sanona Creek. Investigators learned that the Sanona Creek wreckage was subsequently returned to Wick Air, Inc., in Palmer, AK, for another rebuild.

#### ADDITIONAL INFORMATION

On September 3, 1993, an eyewitness to the accident was interviewed by NTSB and FAA investigators near the accident site.

Mr. John Partner, of PO Box 471, Vanburen, MO (314-323-8318) said that he was on a hunting trip at the Sanona Creek Airstrip, 60 miles north of Eureka and witnessed the crash of N4713A. He recalled that on the previous day, at around 10 AM, the accident airplane came from the southwest and crossed overhead the airstrip at approximately 200 to 300 foot altitude. Mr. Partner recalled that the airplane was flying in a "strong (tail) wind from the west of about 30 miles per hour. He described the airplane to begin a turn to the left as a base turn to the west threshold of the airstrip. He said that it "just became a steep spiral turn to the left, two thirds of a full turn" and impacted in nearly a vertical angle. (See photographs.)

The witness and his son were asked if they remembered any unusual sound or sight from the airplane. They reported that engine did not change sound until it impacted and that they could recall nothing falling or separating from the airplane.

The interview revealed that when the Partner reached the accident scene, five to seven minutes after the impact, they found no sign of life. He said that he assisted in the removal of the deceased and their supplies and equipment. Mr. Partner recalled that the pilot weighed approximately 240 pounds, and the passenger about 200. He said that he saw a backpack frame weighing about 30 pounds, a single rifle with ammunition weighing about 10 pounds, a duffle bag with 30 pounds of supplies, and three additional bags of dry food weighing 30 more pounds each. He said that there was a gallon of "Coleman Fuel" which weighed about six pounds. Supplies also "filled" the baggage compartment beneath the cockpit, but the condition of the wreckage prevented the removal.

Mr. Partner said that he saw the pilot and passenger to have been wearing seat belts, but not shoulder harnesses. He said that the fuel cap was on the left wing and estimated the fuel to be half tanks. There was no fire at the site.

An extensive fuel spill was present subsequent to the impact, as noted in the pathology report of the pilot that stated, in part, "Extensive skin slip is present secondary to fuel contamination."

No attempt to quantify the fuel spilled was made, as the aircraft nose, engine and crushed cockpit rested in Sanona Creek, and the stream's flow carried the fuel away.

Investigators calculated the airplane to have weighed at least 1867 pounds at the time of the accident, without allowing for the weight of unknown amounts in the belly baggage compartments. The airplane flew for approximately 45 minutes and burned approximately 51 pounds of additional fuel en route from the Glacier Park Lodge Strip at Glenn Highway, Mile 100.

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	24, Male
<b>Airplane Rating(s):</b>	Single-engine Land	<b>Seat Occupied:</b>	Front
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 3 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	08/03/1993
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	400 hours (Total, all aircraft), 375 hours (Total, this make and model), 375 hours (Pilot In Command, all aircraft), 90 hours (Last 90 days, all aircraft), 30 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	PIPER	<b>Registration:</b>	N4713A
<b>Model/Series:</b>	PA-18A-150 PA-18A-150	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	18-4931
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	08/05/1993, Annual	<b>Certified Max Gross Wt.:</b>	1750 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	3200 Hours	<b>Engine Manufacturer:</b>	LYCOMING
<b>ELT:</b>	Installed	<b>Engine Model/Series:</b>	O-320
<b>Registered Owner:</b>	NOT REGISTERED	<b>Rated Power:</b>	150 hp
<b>Operator:</b>	GARFIELD, WADE E.	<b>Operating Certificate(s) Held:</b>	None
<b>Operator Does Business As:</b>	GARY PAHL'S GUIDE SERVICE	<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	, 0 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	1000	Direction from Accident Site:	0°
Lowest Cloud Condition:	Clear / 0 ft agl	Visibility	40 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	15 knots / 30 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	260°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	10° C
Precipitation and Obscuration:			
Departure Point:	GLACIER LODGE, AK	Type of Flight Plan Filed:	None
Destination:	EUREKA, AK	Type of Clearance:	None
Departure Time:	0900 ADT	Type of Airspace:	Class G

## Airport Information

Airport:	SANONA CREEK AIRSTRIP	Runway Surface Type:	Grass/turf
Airport Elevation:	2900 ft	Runway Surface Condition:	Dry; Vegetation
Runway Used:	27	IFR Approach:	None
Runway Length/Width:	800 ft / 30 ft	VFR Approach/Landing:	Valley/Terrain Following

## Wreckage and Impact Information

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

## Administrative Information

Investigator In Charge (IIC):	DOUGLAS R HERLIHY	Report Date:	12/02/1994
Additional Participating Persons:	GREG TANNER; GLENN ALLEN, AK MAURICE D HENDRICKSON; ANCHORAGE, AK CHARLES F KELLY; ANCHORAGE, AK SGT JOE CAMPBELL; ANCHORAGE, AK		
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 <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

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](#).