



National Transportation Safety Board Aviation Accident Final Report

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| Location: | ST GEORGE, AK | Accident Number: | ANC96LA066 |
| Date & Time: | 05/03/1996, 1630 AKD | Registration: | N670PA |
| Aircraft: | Swearingen SW-4 | Aircraft Damage: | Substantial |
| Defining Event: | | Injuries: | 13 None |
| Flight Conducted Under: | Part 135: Air Taxi & Commuter - Scheduled | | |

Analysis

According to passenger's accounts, the airplane was flying low and approached the runway at an angle. The airplane made a right turn and dragged the right wing on the runway's surface. The airplane landed hard and sheared off the right main landing gear and the nose gear. The weather reported by AWOS was 300 foot overcast with a visibility of 2.5 miles with fog. The Captain stated the airplane drifted to the left side of the runway due to the crosswind, and he executed a right turn to realign with the runway. The cockpit voice recorder indicated that the stall warning horn sounded as the First Officer called for the application of power.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: failure of the captain to maintain proper altitude and wingtip clearance, while aligning the airplane with the runway before landing. His delay in aligning the aircraft with the runway was a related factor.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: LANDING

Findings

1. (F) PROPER ALIGNMENT - DELAYED - PILOT IN COMMAND
2. (C) ALTITUDE/CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND

Factual Information

HISTORY OF FLIGHT

On May 3, 1996, at 1630 Alaska daylight time, a retractable gear, wheel equipped Swearingen Metroliner III, model SW-4, N670PA, registered to and operated by Penair of Anchorage, Alaska, dragged a wing and landed hard while attempting to land on runway 11 at the New St. George Airport, St. George, Alaska. The hard landing collapsed the right main landing gear and nose landing gear. The scheduled commuter flight, operating under 14 CFR Part 135, departed St. Paul, Alaska, and the destination was St. George. A visual flight rules flight plan was in effect. Instrument meteorological conditions prevailed at the St. George Airport. The certificated airline transport captain, the first officer, and the eleven passengers were not injured. The airplane received substantial damage. The Captain stated he was manipulating the controls at the time of the accident.

AIRCRAFT INFORMATION

The accident airplane is a twin-engine turbo prop configured with 18 passenger and two crew member seats. During the investigation, the Operator indicated a concern about the roll response of the airplane, due to the airplane's extended wings. The airplane's wings each had an extension of approximately 6 feet added. This modification was accomplished by the manufacturer. This placed the ailerons approximately 6 feet inboard from each of the wingtips. The Operator felt that the extended wings made the airplane more stable and less roll responsive during critical phases of flight. The manufacturer was contacted and the flight test data was examined. According to 14 CFR Part 23, during the approach phase, using a favorable combination of controls, it must be possible to roll the airplane from a steady 30 degree banked turn, through level, through a 30 degree opposite banked turn, a total angle of 60 degrees, within 7 seconds or less. This requirement must be met by rolling the airplane in each direction with the flaps in the landing position, the landing gear extended, all engines operating at the power required for a 3 degree approach, and the airplane trimmed at Vref. The flight test data examined showed that the airplane started at 21.6 degrees bank angle. The airplane was rolled through level to a 39.0 degree opposite bank angle in 6.1 seconds.

METEOROLOGICAL CONDITIONS

The New Saint George airport, located on Saint George Island, is equipped with an Automated Weather Observation System (AWOS). The AWOS was reporting weather prior to the accident. According to the information provided by the Captain and FAA Air Traffic Evaluation Division, Alaska Region, the weather reported by the AWOS was a ceiling of 300 feet overcast, visibility of 2.5 miles, temperature of 40 degrees Fahrenheit, winds from 150 degrees at 20 knots with gusts to 25 knots.

According to Kenai Automated Flight Service Station, the Saint George Airport Manager called to report the accident and estimated the weather at the time of the accident as 100 foot overcast with the visibility at 1.5 miles with fog in the area. The airport manager was not certified as an official weather observer.

The Captain stated that he received weather from the ASOS (Automated Surface Observation System) which showed the weather at Saint George Airport to be 200 foot overcast with 2 miles of visibility and improving conditions.

According to the Alaska Supplement, the ASOS is the same as an AWOS-3 which reports altimeter settings, visibility, wind data, temperature and dewpoint, density altitude, and cloud and ceiling data.

AIDS TO NAVIGATION

There are no approved instrument approach procedures to the New Saint George Airport. The airport is equipped with a Non-directional Beacon (NDB) which is located on the airport.

FLIGHT RECORDERS

The airplane was equipped with a cockpit voice recorder. A review of the cockpit voice recorder tape showed that as the flight crew selected flaps one-half, they made comments concerning how poor the weather appeared. The Captain asked for gear down and commented that the speed was high. The Captain stated that unless he was able to see into the area of the airport he was not going to venture into the airport. The Captain stated: "there's the harbor, flaps full", and the first Officer responded "going." The First Officer then said "plus a few, power, Herman, power." This statement occurs as the audible stall warning horn sounds steadily. The stall warning horn stops and the sound of impact occurs approximately 1/2 second after the stall warning horn stops.

ADDITIONAL INFORMATION

According to the passenger statements and passenger interviews, the airplane was not aligned with the runway and appeared to be angling across the runway. One passenger did not feel the airplane was in a position to land. All the passengers felt the airplane bank to the right and remain in the bank until ground impact. Another passenger, Mr. Ed Zernia, stated that the flight to the Saint George Airport was low and they followed the shoreline. The airplane "popped up over a bluff" and was flying parallel to the runway very low. The airplane made a "swift turn to get over the runway" and the airplane never leveled off.

During the flight crew interview, the Captain stated that he was able to see the runway approximately 1 mile away. He made a slight left turn to align for landing and the airspeed was 120 knots. The airplane drifted to the left edge of the runway due to the wind. The Captain stated that at this point the airplane was aligned with the left edge of the runway. He executed a right turn to line up on the runway. The Captain stated they crossed the runway's threshold approximately 50 feet above the ground.

A diagram submitted by a passenger, Mr. Steven McClain, shows that the airplane did not cross the runway's threshold but crossed onto the runway from the right side. An interview with another passenger, Mr. Jeffery Arndt, who was seated on the right side of the airplane, stated he could see the entire runway from his window seat in the airplane. He stated the airplane was turning across the runway and he saw the wing hit the runway's surface.

Pilot Information

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| Certificate: | Airline Transport | Age: | 59, Male |
| Airplane Rating(s): | Multi-engine Land; Single-engine Land; Single-engine Sea | Seat Occupied: | Left |
| Other Aircraft Rating(s): | None | Restraint Used: | Seatbelt, Shoulder harness |
| Instrument Rating(s): | Airplane | Second Pilot Present: | Yes |
| Instructor Rating(s): | None | Toxicology Performed: | Yes |
| Medical Certification: | Class 1 Valid Medical--w/ waivers/lim. | Last FAA Medical Exam: | 04/29/1996 |
| Occupational Pilot: | Last Flight Review or Equivalent: | | |
| Flight Time: | 19100 hours (Total, all aircraft), 5500 hours (Total, this make and model), 18900 hours (Pilot In Command, all aircraft), 340 hours (Last 90 days, all aircraft), 120 hours (Last 30 days, all aircraft), 7 hours (Last 24 hours, all aircraft) | | |

Aircraft and Owner/Operator Information

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|--------------------------------------|--|---------------------------------------|--|
| Aircraft Make: | Swearingen | Registration: | N670PA |
| Model/Series: | SW-4 SW-4 | Aircraft Category: | Airplane |
| Year of Manufacture: | | Amateur Built: | No |
| Airworthiness Certificate: | Normal | Serial Number: | AC-613B |
| Landing Gear Type: | Retractable - Tricycle | Seats: | 18 |
| Date/Type of Last Inspection: | 04/28/1996, Continuous Airworthiness | Certified Max Gross Wt.: | 16000 lbs |
| Time Since Last Inspection: | 31 Hours | Engines: | 2 Turbo Prop |
| Airframe Total Time: | 17167 Hours | Engine Manufacturer: | Garrett |
| ELT: | Installed, activated, did not aid in locating accident | Engine Model/Series: | TPE-331-11 |
| Registered Owner: | PENAIR, INC. | Rated Power: | 1000 hp |
| Operator: | PENAIR, INC. | Operating Certificate(s) Held: | Commuter Air Carrier (135); On-demand Air Taxi (135) |
| Operator Does Business As: | | Operator Designator Code: | TNSA |

Meteorological Information and Flight Plan

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|----------------------------------|----------------------------|---|------------------|
| Conditions at Accident Site: | Instrument Conditions | Condition of Light: | Day |
| Observation Facility, Elevation: | , 0 ft msl | Distance from Accident Site: | 0 Nautical Miles |
| Observation Time: | 0000 | Direction from Accident Site: | 0° |
| Lowest Cloud Condition: | Unknown / 0 ft agl | Visibility | 2.5 Miles |
| Lowest Ceiling: | Overcast / 300 ft agl | Visibility (RVR): | 0 ft |
| Wind Speed/Gusts: | 20 knots / 25 knots | Turbulence Type Forecast/Actual: | / |
| Wind Direction: | 150° | Turbulence Severity Forecast/Actual: | / |
| Altimeter Setting: | | Temperature/Dew Point: | 4° C |
| Precipitation and Obscuration: | | | |
| Departure Point: | ST PAUL ISLAND, AK (A8L) | Type of Flight Plan Filed: | VFR |
| Destination: | ST GEORGE ISLAND, AK (SNP) | Type of Clearance: | None |
| Departure Time: | 1605 ADT | Type of Airspace: | Class G |

Airport Information

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|----------------------|---------------------|---------------------------|------------------------|
| Airport: | NEW ST GEORGE (A8L) | Runway Surface Type: | Gravel |
| Airport Elevation: | 125 ft | Runway Surface Condition: | Wet |
| Runway Used: | 11 | IFR Approach: | None |
| Runway Length/Width: | 5000 ft / 150 ft | VFR Approach/Landing: | Full Stop; Straight-in |

Wreckage and Impact Information

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|---------------------|---------|----------------------|-------------|
| Crew Injuries: | 2 None | Aircraft Damage: | Substantial |
| Passenger Injuries: | 11 None | Aircraft Fire: | None |
| Ground Injuries: | N/A | Aircraft Explosion: | None |
| Total Injuries: | 13 None | Latitude, Longitude: | |

Administrative Information

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|-----------------------------------|--|--------------|------------|
| Investigator In Charge (IIC): | GEORGE KOBELNYK | Report Date: | 01/08/1997 |
| Additional Participating Persons: | PEYTON STARR; 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 pubinquiry@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](#).