Aviation Investigation Final Report

Location:	HAINES, Alaska	**Accident Number:**	ANC95FA101
Date & Time:	July 7, 1995, 14:56 Local	**Registration:**	N6281J
Aircraft:	PIPER PA-32R-300	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	6 Fatal
Flight Conducted Under:	Part 135: Air taxi & commuter - Non-scheduled - Sightseeing		

Analysis

AFTER DEPARTING ON AN AIR TOUR FLIGHT, THE PILOT CIRCLED ABOUT 700 FEET ABOVE GROUND LEVEL ALONG A SHORELINE TO OBSERVE A MOOSE. AT THE TIME, THE PILOT WAS IN RADIO COMMUNICATION WITH ANOTHER AIR TOUR PILOT WHO WAS ABOUT 1/2 MILE IN TRAIL. AFTER COMPLETING THE TURN ABOVE THE MOOSE, THE PILOT WAS OBSERVED BY THE IN-TRAIL PILOT TO BEGIN A DESCENT. THE ACCIDENT PILOT RADIOED TO THE IN-TRAIL PILOT THAT HE WANTED TO CIRCLE AROUND A BEAR AND HER CUBS ON THE SHORELINE. THE IN-TRAIL PILOT, AS WELL AS A GROUND WITNESS, OBSERVED THE ACCIDENT AIRPLANE INITIATE TURNS TOWARD RAPIDLY RISING TERRAIN, THEN LEVEL THE WINGS AND CLIMB IN A NOSE-HIGH ATTITUDE TOWARD THE RISING TERRAIN. THE AIRPLANE IMPACTED TREES ABOUT 500 FEET ABOVE THE SHORELINE. NO DISTRESS CALLS WERE REPORTED. EXAMINATION OF THE WRECKAGE DID NOT REVEAL ANY EVIDENCE OF A PREIMPACT MECHANICAL MALFUNCTION. AN ON-SHORE WIND OF ABOUT 10 KNOTS PREVAILED AT THE TIME. THE DIRECTOR OF FLIGHT OPERATIONS STATED THAT HE RECOMMENDS TO HIS PILOTS TO NOT CIRCLE GAME DURING FLIGHTSEEING FLIGHTS.

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 AN ADEQUATE ALTITUDE ABOVE AND CLEARANCE FROM THE SURROUNDING TERRAIN. A FACTOR RELATED TO THE ACCIDENT WAS THE PILOT'S IMPROPER DECISION TO CONDUCT THE MANEUVER IN SUCH CLOSE PROXIMITY TO THE RISING TERRAIN.

Findings

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

Findings
1. (F) IN-FLIGHT PLANNING/DECISION - IMPROPER - PILOT IN COMMAND
2. TERRAIN CONDITION - MOUNTAINOUS/HILLY
3. (C) ALTITUDE/CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND

Factual Information

HISTORY OF FLIGHT

On July 7, 1995, at 1456 Alaska daylight time, N6281J, a Piper PA-32R-300, operated by L.A.B Flying Service, Inc., collided with terrain while maneuvering and was destroyed near Haines, Alaska. There was a postcrash fire. The commercial pilot and all five passengers were fatally injured. Visual meteorological conditions prevailed and a company flight plan had been filed. The on-demand air tour flight departed from Haines Airport at 1450 and was conducted under 14 CFR 135.

According to a tour agent employed by L.A.B., a group of about 30 passengers disembarked from a cruise ship in Haines and were scheduled for flightseeing flights with L.A.B. The tour agent greeted the passengers and escorted them onto an L.A.B bus for transportation to the airport. After boarding the bus, the tour agent gave a short briefing about the tour and may have indicated that the passengers would not be getting the "Glacier Bay" tour, but the "alternate" tour, because of the adverse weather conditions that prevailed inside the glacier passes.

The tour agent then escorted the passengers off the bus and onto the main gate of the Haines Airport. He then asked the passengers to break up into groups, and he designated the first five to go with the accident pilot, and the next three to another L.A.B pilot. He escorted both groups to their respective airplanes and told the passengers to inform the pilots of their weights for aircraft weight and balance considerations.

The tour agent further stated that the pilots were providing a safety briefing to the passengers as he left the passengers with their assigned pilots. The agent indicated that the actions of the accident pilot and passengers were unremarkable. The tour agent then departed and did not pay further attention to the taxi and departure of the airplanes.

According to a company pilot that witnessed the accident, he first saw the accident pilot resting and awake in the back seat of the accident airplane prior to the arrival of the passengers. The witness pilot stated that he spoke to the accident pilot briefly in passing, just to say hello. He also stated that he told the accident pilot that he had less familiarity with the "alternate" tour route and asked the accident pilot of his intentions on the upcoming flight. The accident pilot told him to "just follow me." The witness pilot indicated that the accident pilot appeared to be "feeling fine," and his demeanor was described as normal and relaxed.

The witness pilot stated that he looked back at the accident pilot's airplane on the ramp and suddenly realized that all of the accident pilot's passengers had boarded the airplane and were ready to depart. The witness pilot then boarded his airplane. The two airplanes were started

and taxied to runway 08 for takeoff. The accident pilot's airplane departed first. When the airplane was about 700 feet above the ground (agl) and on a crosswind leg, the witness pilot started his takeoff and followed the accident pilot about 1/2 mile in trail.

The witness pilot stated he was in radio communication with the accident pilot on the Haines Airport Common Traffic Advisory Frequency (CTAF) during the flight. The witness pilot followed the accident pilot and the two airplanes departed on a right downwind leg, heading northwest along the western shore of the Chilkat Inlet. The accident pilot radioed that he saw a moose along the shoreline and circled to the right around the moose at an altitude of about 700 feet agl. During the circling maneuver, the two airplanes reversed their courses and were flying southeast along the western shore.

At this point, the accident airplane began to descend from 700 feet and the accident pilot radioed that he "was going to try to view" a bear and her cubs that someone may have spotted earlier along the shoreline. The witness pilot continued to follow the accident airplane along the shoreline about 1/2 mile in trail. The witness pilot then heard the accident pilot on the radio say something similar to "off my right wing." He observed the accident airplane perform a "steep bank" to the right about 45 degrees. The witness pilot stated that he was taken by surprise at the accident airplane's course since he was expecting it to continue south toward Rainbow Glacier. Instead, the accident airplane was turning right and reversing his course to the northwest.

Still behind the accident airplane, the witness pilot watched and prepared to follow the accident pilot in the right turn. He stated that he was alternating his focus from the airspace in front of him to the accident pilot's airplane. As the accident airplane was turning through a heading greater than 90 degrees and less than 180 degrees from its original heading prior to the right turn, the witness pilot observed the accident airplane roll out of the right turn and into a left turn, toward the rising terrain to the west of the shoreline.

The witness pilot stated that he was looking to the right (about his three o'clock position) when he observed the accident airplane "heading into the hill" in a "steep angle of attack." The witness pilot also stated that the accident airplane appeared to be "mushing" in a stall. The witness pilot then looked away for a moment in order to fly his own airplane; when he looked back, the accident airplane had disappeared.

No distress calls were radioed by the accident pilot, and no smoke or fire were seen from the accident airplane while it was flying.

The witness pilot attempted to hail the accident pilot on the radio, but there was no response. He began to circle around the area. About 15 to 30 seconds after he had lost sight of the accident airplane, the witness pilot saw smoke billowing up from the terrain. He radioed to L.A.B. personnel at the Haines Airport that there was an emergency.

A ground witness located directly across the Chilkat Inlet on the eastern shore also

observed the accident. She stated that she first saw the accident airplane flying south, followed by the witness pilot's airplane. She stated that she last saw the accident airplane "... heading straight up" into the terrain. She then observed dark grey smoke rising from the area where she last saw the accident airplane.

The wreckage was located about 500 feet above the inlet in heavily wooded, rising terrain. According to Alaska State Troopers, bear tracks were found on wet sand at the shoreline directly below the accident site. The Trooper's report (attached) stated: "These tracks showed that two bears, one obviously a young cub, had recently been walking on the beach."

The accident occurred during the hours of daylight at 59 degrees, 14.7 minutes North and 135 degrees, 31.20 minutes West.

PERSONNEL INFORMATION

The pilot, male, age 25, possessed a commercial pilot certificate containing ratings for single-engine land, multi-engine land, and instrument airplane. According to FAA records, the pilot was issued an FAA First Class Medical Certificate on September 29, 1994, with no limitations. FAA records did not indicate any prior accident/incident history or enforcement actions.

An examination of the pilot's personal logbook revealed that he had logged about 1,425 hours of total flight time, including 1,160 hours as pilot-in-command and 68 hours in multiengine airplanes.

An examination of the pilot's most recent flight and duty time records beginning seven days prior to the accident revealed that his duty times were within prescribed FAA limits. The records revealed that the pilot did not fly on July 5, flew two flights totalling 1.1 hours on July 6, and flew seven flights totalling 4.7 hours on the day of the accident.

The pilot was hired by L.A.B Flying Service on May 31, 1994. An examination of the pilot's training records revealed that the pilot had met all of the FAA and company flight/ground training requirements to conduct flight operations under 14 CFR 135. On April 11, 1995, the pilot received FAA approval to conduct checks in enroute operating experience in single engine land airplanes. According to the FAA, the pilot was due for an annual flight check in June of 1995, and was currently flying in the grace month at the time of the accident.

According to the pilot's wife and the pilot's friend, also a company pilot, the pilot did not appear to be under any emotional stress prior to the accident. The pilot had "slept well" on the evening prior to the accident, and was "in a great mood" on the day of the accident. The pilot did not complain of any physical ailments. The pilot's friend also stated that the accident pilot was awaiting news as to whether or not he would receive an opportunity to interview with a major air carrier for pilot employment. The news of his status with the carrier was supposed to have come in about two weeks from the date of the accident.

AIRCRAFT INFORMATION

The aircraft, a 1976 Piper PA-32R-300, was owned, operated, and maintained by L.A.B. The low-wing airplane was powered by a single 300-horsepower engine. The airplane was configured to seat five passengers, and no headsets for the passengers had been installed. The published indicated stall speed of the airplane for level flight, maximum gross weight, and flaps retracted is 53 knots.

According to L.A.B dispatch records, the accident pilot had reported that the airplane had 4 hours of fuel on board prior to departure of the accident flight. According to the operator, this figure equates to about 48 gallons.

Postaccident calculations of the airplane's weight and balance at takeoff and at the time of the accident were performed by the Safety Board. Passenger weight records and the reported fuel load were utilized in the calculations. The calculations revealed that the weight and balance were within FAA prescribed limits for the airplane.

Examination of the airplane's engine and aircraft log books, as well as the airplane's "discrepancy log," indicated no open or deferred maintenance items at the time of the accident.

METEOROLOGICAL INFORMATION

The reported meteorological conditions in the Haines area about 4 minutes after the accident were: sky conditions - 3,400 feet agl scattered; ceiling 4,500 feet agl; visibility 10 miles, temperature 66 degrees F; dew point 59 degrees F; winds from 140 degrees at 5 knots. No precipitation was reported.

Remarks from rescue personnel and photographs of the accident site taken immediately after the accident indicate that on-shore winds estimated at 10 knots prevailed at the accident site.

WRECKAGE AND IMPACT INFORMATION

The airplane wreckage was examined at the accident site on July 8, 1995. The wreckage was found aligned along a magnetic heading of 340 degrees. Its longitudinal axis was perpendicular to a descending slope of about 10 degrees. The terrain consisted of soft, heavily wooded soil.

The initial point of impact was indicated by the tops of sheared trees beginning about 125 feet from the main wreckage The sheared trees were oriented along a magnetic bearing of 220 degrees, and were located along rising terrain. The height of the sheared trees closest to the wreckage site were slightly taller than the trees found downrange. Another area of shorter

trees with their tops sheared off was found. The trees were located in the immediate area of the wreckage and were oriented along a magnetic bearing of 270 degrees.

Evidence of a ground fire encompassed the immediate area of the wreckage, and also an area upslope of the wreckage opposite the direction of the shoreline. No evidence of a ground fire was found below the wreckage along downsloping terrain towards the shoreline.

The center fuselage section and the entire tail of the airplane were consumed by fire. Both wings were still attached to the fuselage. The inboard areas of the wings, near the fuselage were burned. Both wing fuel tanks and associated fuel lines were compromised. About 15 gallons of fuel was drained from the undamaged portion of the right wing tank. The left tank, which was located upslope from the right tank, was consumed by fire.

All primary and secondary flight control surfaces were accounted for at the accident site. Flight control system cable continuity was established to the point of impact-related damage. No evidence was found to indicate a flight control deficiency. An examination of the position of the manual flap torque tube revealed that the flaps were in the fully retracted position. The main landing gear were also found in the retracted position.

The instrument panel was destroyed by fire. The remains of the throttle, mixture, and propeller control cable assemblies were examined; all controls were found in the full forward position.

The engine, a Lycoming model IO-540-K1G5D, and propeller were examined; they remained attached to the airframe and were embedded into the ground in a nose down attitude. The entire engine crankcase exhibited evidence of thermal damage and was partially separated from the forward cabin area. The nos. 2, 4, and 6 cylinders were partially melted. The oil sump, oil filter, fuel flow distribution valve, magnetos, vacuum pump, starter, and alternator were all destroyed by fire. Fuel lines to cylinder no. 1, 3, and 5 were found intact. Fuel lines to the remainder of the cylinder were destroyed by fire. The ignition harness was intact to the upper spark plugs and the no. 1 and no. 3 lower spark plugs. The top spark plugs were removed and examined; their leads appeared unremarkable. No evidence of preimpact catastrophic mechanical failure was found.

The two-bladed Hartzell metal propeller remained attached to the engine. One blade exhibited evidence of distinct chordwise scratching and leading edge gouging along the outboard 12 inches of the blade. This blade also exhibited evidence of "S" bending, and about 3 inches of the blade's tip had been sheared off. The other blade was intact and straight; it did not exhibit evidence of "S" bending, chordwise scratching, or leading edge gouging.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot by Dr. Norman H. Thompson, M.D., of the Alaska State Medical Examiner Office, Anchorage, Alaska, on July 12, 1995. According to the autopsy

report, no specimen suitable for toxicological analysis could be obtained from the pilot.

ADDITIONAL INFORMATION

Background and Safety Record of the Operator.

L.A.B Flying Service operates under 14 CFR 135 as a scheduled air carrier. The company, founded in 1956, operates scheduled service in Southeast Alaska year round with 40 aircraft, mostly single-engine airplanes. L.A.B Flying Service is the oldest and largest air taxi operator currently operating in Southeast Alaska. The majority of operations are conducted during the summer months with a maximum of approximately 35 pilots. The operator provides 14 CFR 135 flights for flightseeing, scheduled passenger service and charter flights by wheel and float aircraft throughout Alaska and Western Canada, and low impact helicopter tours and glacier landings. About 9,500 operations are conducted each month by L.A.B during the summer months.

The last fatal aircraft accident involving an L.A.B airplane occurred on May 18, 1976.

FAA Surveillance.

FAA surveillance of L.A.B. is provided by the FAA Flight Standards District Office (FSDO) in Juneau, Alaska. The Juneau FSDO is the certificate holding district office (CHDO) of L.A.B.

The FAA conducted a Regional Aviation Safety Inspection Program (RACIP) inspection of L.A.B. from December 12 through December 15, 1994. The stated purpose of the inspection was to determine the status of the certificate holder's compliance with Federal Aviation Regulations and FAA accepted safety standards. The report also stated: "The CHDO reports that the operator has a good compliance and safety record."

Several discrepancies related to L.A.B's operations were noted in the RACIP report; the majority of the discrepancies related to paperwork inconsistencies, and none of the discrepancies were directly related to the facts, conditions, and circumstances of the accident.

The FAA Principal Operations Inspection (POI) for L.A.B had been in that position for about 7 years at the time of the accident. According to the FAA, the POI and other FSDO inspectors conducted 16 enroute checks in the 12 months preceding the accident.

Pilot Training.

According to the Director of Flight Operations for L.A.B, newly hired pilots undergo an extensive two-week training process involving ground and flight instruction and evaluation. Ground school consists of 14 hours of videotaped instruction, with an additional 7 hours of videotaped instruction on aircraft familiarization and winter operations.

The Safety Board reviewed excerpts of the video tapes and verified that the following topics were addressed: previous aircraft accidents in Southeast Alaska, passenger pressures, effects of on-shore winds, and the hazards associated with maneuvering aircraft for passenger photographs.

The Director of Flight Operations stated that he recommends to his pilots to not circle game during flightseeing flights. At the Safety Board's Forum on Aviation Safety in Alaska conducted in Juneau on May 22, 1995, two weeks prior to the accident, the Director of Flight Operations gave the following testimony:

... I tell my people, that no matter how bored -- you have been up there five times that day and probably 500 times this season, and [you are] are just bored stiff as a pilot. These [passengers] in the back are excited just being in the airplane. So, you have to keep that in mind, that you just keep the tour the same every time, don't try to get down and thrill anybody...

Description of the "Glacier Bay" Tour and "Alternate" Tour.

The primary tour given by L.A.B Flying Service is the "Glacier Bay" tour. This tour appears on the operator's advertising brochures and consists of a single predetermined route. The tour involves flying south from Haines Airport along the Chilkat River, and then west into the Lynn Fjord and Glacier Bay National Park.

If adverse weather conditions exist inside Glacier Bay National Park, as they did on the day of the accident, the "Alternate Tour" is utilized. This tour involves flying along the faces of several glaciers located to the east of Haines. Three different routes can be used for the Alternate Tour.

Release of Aircraft Wreckage.

The aircraft wreckage was released to Mr. Neil A. Webster, Aviation Claims Manager, Professional Adjusters of Alaska, Inc, Anchorage, Alaska, on July 8, 1995. Mr. Webster is representing the registered owner of the airplane.

Pilot Information

Certificate:	Commercial	**Age:**	25,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
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:**	September 29, 1994
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	1425 hours (Total, all aircraft), 1156 hours (Pilot In Command, all aircraft), 125 hours (Last 90 days, all aircraft), 111 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	PIPER	**Registration:**	N6281J
Model/Series:	PA-32R-300 PA-32R-300	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	32R-7680348
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	June 27, 1995 100 hour	**Certified Max Gross Wt.:**	3400 lbs
Time Since Last Inspection:	59 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	6977 Hrs	**Engine Manufacturer:**	LYCOMING
ELT:	Installed, not activated	**Engine Model/Series:**	IO-540-K1G5D
Registered Owner:	L.A.B. FLYING SERVICE, INC.	**Rated Power:**	300 Horsepower
Operator:		**Operating Certificate(s) Held:**	On-demand air taxi (135)
Operator Does Business As:		**Operator Designator Code:**	LABA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	HNS	**Distance from Accident Site:**	3 Nautical Miles
Observation Time:	15:00 Local	**Direction from Accident Site:**	30°
Lowest Cloud Condition:	Scattered / 3400 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	Overcast / 4500 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	140°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	19°C / 15°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	, AK (HNS)	**Type of Flight Plan Filed:**	Company VFR
Destination:		**Type of Clearance:**	None
Departure Time:	14:50 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:**	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	5 Fatal	**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	6 Fatal	**Latitude, Longitude:**	59.15921,-135.85913(est)

Administrative Information

Investigator In Charge (IIC):	Guzzetti, Jeffrey
Additional Participating Persons:	ROBERT W KOLVIG; JUNEAU , AK GERALD R JAMES; DALLAS , TX LYNN BENNETT; HAINES , AK
Original Publish Date:	March 21, 1996
Last Revision Date:	
Investigation Class:	Class
Note:	
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