



Aviation Investigation Final Report

Location:	JUNEAU, Alaska	Accident Number:	ANC94FA089
Date & Time:	July 19, 1994, 16:50 Local	Registration:	N39GT
Aircraft:	AEROSPATIALE AS-350	Aircraft Damage:	Substantial
Defining Event:		Injuries:	7 None
Flight Conducted Under:	Part 135: Air taxi & commuter - Non-scheduled - Sightseeing		

Analysis

THE PILOT STATED HE LANDED ON THE GLACIER WHERE HE NORMALLY LANDED, 'IN THE SAME TRACKS.' WHILE HE WAS LEANING OUT THE DOOR TO CHECK THE POSITION OF THE SKIDS THE HELICOPTER NOSED DOWN AND THE MAIN ROTOR BLADES CONTACTED THE SURFACE OF THE ICE WHICH CAUSED THE HELICOPTER TO PIVOT 180 DEGREES ABOUT THE NOSE. EXAMINATION OF THE LANDING AREA SHOWED A DEEP CREVASSE, IN THE AREA OF THE RIGHT SKID'S LANDING POSITION, THAT WAS FILLED WITH CLEAR WATER. THE TOE OF THE RIGHT SKID HAD NO ICE TO REST ON AND FELL INTO THE CREVASSE.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE PILOT'S SELECTION OF UNSUITABLE LANDING TERRAIN. A FACTOR WAS THE CREVASSE IN THE ICE.

Findings

Occurrence #1: NOSE DOWN
Phase of Operation: STANDING - IDLING ROTORS

Findings

1. (F) TERRAIN CONDITION - ROUGH/UNEVEN
2. (C) UNSUITABLE TERRAIN OR TAKEOFF/LANDING/TAXI AREA - SELECTED - PILOT IN COMMAND

Occurrence #2: DRAGGED WING, ROTOR, POD, FLOAT OR TAIL/SKID
Phase of Operation: STANDING - IDLING ROTORS

Factual Information

HISTORY OF FLIGHT

On July 19, 1994, at 1650 Alaska daylight time, a skid/ski equipped Aerospatiale, AS-350 Helicopter, N39GT, registered to Geneva Aviation Inc., of Everett, Washington, and operated by Temsco Helicopters, Inc., rocked up on its nose, struck its main rotor blades on the ice, rotated 180 degrees, and slide backwards into a depression after landing on the Herbert Glacier, located approximately 20 miles northwest of the Juneau Airport, Juneau, Alaska. The Air Taxi sightseeing flight, operating under 14 CFR Part 135, departed the Temsco Helipad on the Juneau Airport and the destination was the Herbert Glacier. The helicopter received substantial damage and the pilot and the six passengers were not injured.

According to the pilot, he landed on the ice where he normally lands, "in the same tracks." He pulled the fuel flow lever to the idle position, frictioned the cyclic and latched the collective with his left hand. He opened his door and leaned out to take a look at the position of his skids. The pilot stated he was moving "back into the cockpit" but still looking through the gap in the front door when the helicopter began to nose down. He saw the main rotor blade strike the ice in front of the helicopter. The helicopter's nose continued downward and the entire helicopter then began to pivot to the right around the nose of the helicopter which was now resting on the ice.

The pilot stated that he placed the right skid next to a puddle on the ice during the landing. He stated the puddle was too large to step across but there was room to stand on the ice between the skid and the puddle. He was leaning out to check the skid to ensure that the heel and toe of the skid were firmly placed on the surface.

ADDITIONAL INFORMATION

The on site examination of the landing area and accident site showed that there was a water filled crevasse shaped in an "H" shape. The left side, based upon the direction of landing had solid ice beneath approximately 2 inches of water. The center of the "H" was a thin rivulet of water connecting the shallow puddle with the puddle on the right. This puddle was very deep and was filled with clear water. The depth of the crevasse was estimated in excess of 15 feet. The forward portion of this crevasse was chipped and covered with paint chips of the same color as the helicopter. Approximately 10 feet directly in front of this crevasse were a series of gouges determined to have been caused by the main rotor blades striking the ice.

Further examination of the surface of the ice in the landing area shows the ice to be white in color and opaque. It was extremely difficult to determine the thickness of the ice by visual inspection. According to other pilots, who have numerous take offs, landings, and operations

on the surface of glaciers, the white opaque ice will melt when pressure is applied, such as the weight of the aircraft. When the same area is used over and over, the ice will become worn. The condition or relief of the ice beneath the surface can never be known because the glacier is constantly moving and crevasses are opening and closing as a result of that movement.

The pilot stated that the passenger sitting next to him, who could have reached the collective, did not pull up on the collective. All the passengers were still seated with their seatbelts fastened.

Pilot Information

Certificate:	Airline transport	Age:	33, Male
Airplane Rating(s):	None	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Helicopter	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	April 20, 1994
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	2130 hours (Total, all aircraft), 320 hours (Total, this make and model), 2080 hours (Pilot In Command, all aircraft), 210 hours (Last 90 days, all aircraft), 96 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	AEROSPATIALE	Registration:	N39GT
Model/Series:	AS-350 AS-350	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	1149
Landing Gear Type:	Skid	Seats:	7
Date/Type of Last Inspection:	July 13, 1994 100 hour	Certified Max Gross Wt.:	4630 lbs
Time Since Last Inspection:	18 Hrs	Engines:	1 Turbo shaft
Airframe Total Time:	5618 Hrs	Engine Manufacturer:	TURBOMECA
ELT:	Installed, not activated	Engine Model/Series:	ARRIEL 1 B
Registered Owner:	GENEVA AVIATION, INC.	Rated Power:	640 Horsepower
Operator:	TEMSCO HELICOPTERS, INC.	Operating Certificate(s) Held:	On-demand air taxi (135)
Operator Does Business As:		Operator Designator Code:	HXSA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	JNU ,19 ft msl	Distance from Accident Site:	20 Nautical Miles
Observation Time:	17:18 Local	Direction from Accident Site:	150°
Lowest Cloud Condition:	Scattered / 500 ft AGL	Visibility	4 miles
Lowest Ceiling:	Broken / 1000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	5 knots / 5 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	50°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	
Precipitation and Obscuration:			
Departure Point:	, AK (JNU)	Type of Flight Plan Filed:	Company VFR
Destination:	HERBERT GLACIER, AK	Type of Clearance:	None
Departure Time:	16:30 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:	Full stop

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	6 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	7 None	Latitude, Longitude:	58.580608,-134.769943(est)

Administrative Information

Investigator In Charge (IIC):	Kobelnyk, George
Additional Participating Persons:	JULIO FIGUEROA; JUNEAU , AK
Original Publish Date:	May 9, 1995
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=2447

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