National Transportation Safety Board Aviation Accident Final Report

Location:	Aleknagik, AK	**Accident Number:**	ANC02FA106
Date & Time:	08/28/2002, 1600 AKD	**Registration:**	N4478
Aircraft:	de Havilland DHC-2 MK3	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Fatal, 1 Minor, 1 None
Flight Conducted Under:	Part 91: General Aviation - Business		

Analysis

The amphibious float-equipped airplane was returning to a lodge located on a remote lake after picking up supplies. The airplane departed from a paved runway on an airport. En route to the destination lake, the pilot noted the airplane would not attain its normal cruise airspeed and attitude. Believing the airplane was tail heavy, the pilot asked the aft cabin passenger to move forward. Upon touchdown on the lake, the airplane nosed down into the water. As the airplane nosed down, the supplies, which were not secured in the aft cabin, came forward, and pinned the pilot and front seat passenger against the instrument panel. The passenger in the aft cabin lifted as many of the supplies off the pilot and front seat passenger as he could, before he had to exit the sinking airplane. Both the pilot and front seat passenger exited the submerged airplane under their own power, but the pilot did not reach the surface. An autopsy of the pilot disclosed that he had drowned. A postaccident inspection of the airplane revealed the wheels had not been retracted after takeoff on the runway, consequently the airplane landed on the lake with the wheels fully extended. The front seat passenger said that the pilot did not use a checklist prior to landing.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:
The pilot's failure to use a checklist to ensure the airplane was in the proper landing configuration, which precipitated an inadvertent water landing on amphibious floats with the wheels extended. A factor contributing to the accident was the pilot's failure to secure the cargo in the aft cabin.

Findings

Occurrence #1: WHEELS DOWN LANDING IN WATER
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings
1. TERRAIN CONDITION - WATER
2. (C) CHECKLIST - NOT USED - PILOT IN COMMAND
3. (C) WHEELS DOWN LANDING IN WATER - INADVERTENT - PILOT IN COMMAND
4. (F) SECURITY OF CARGO - NOT PERFORMED - PILOT IN COMMAND

Occurrence #2: NOSE OVER
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Factual Information

HISTORY OF FLIGHT

On August 28, 2002, about 1600 Alaska daylight time, an amphibious float-equipped de Havilland DHC-2 MK 3 airplane, N4478, sustained substantial damage when it nosed over after landing with its wheels extended, on Lake Nerka, about 15 miles northwest of Aleknagik, Alaska. The airplane was being operated by General Communications Incorporated (GCI) of Anchorage, Alaska, as a visual flight rules (VFR) business flight under Title 14, CFR Part 91, when the accident occurred. The airline transport pilot received fatal injuries, one passenger received minor injuries, and the remaining passenger was not injured. Visual meteorological conditions prevailed, and company flight following procedures were in effect. The flight departed from a paved runway at the Dillingham Airport, Dillingham, Alaska, about 1540.

During a telephone conversation with the National Transportation Safety Board (NTSB) investigator-in-charge (IIC) on August 28, a GCI manager said he was calling to report an airplane accident at GCI's lodge at River Bay, on Lake Nerka. He said he received a telephone call from the lodge informing him that the company airplane, which was on amphibious floats, had landed on the lake in front of the lodge with its wheels extended. He said the airplane had apparently nosed over, and was floating upside down on the lake. He said the two passengers had been rescued, and a search for the pilot was in progress.

According to GCI's lodge manager/pilot, the pilot of the accident airplane was a relief pilot who had been flying the airplane for about a week. He said the airplane was stationed at the lodge, and the pilot had flown to Dillingham to pick up supplies. The two passengers were lodge employees.

During interviews conducted by the IIC on August 29, the right front seat passenger said they were returning from a supply run to Dillingham when the accident occurred. He said they had placed 400 pounds of supplies in the aft passenger compartment, and that the supplies were not secured. He said after takeoff the pilot complained about the airplane being tail heavy, and not reaching its normal cruise airspeed and attitude. He said the pilot asked a passenger in the aft cabin to move forward into one of the seats directly behind the pilot and front seat passenger. The passenger moved forward. He said the flight from Dillingham to the lodge on Lake Nerka is about 15 minutes, and when the airplane touched down on the lake it immediately nosed down into the water. He said he and the pilot were wearing only their lap belts, and were thrown into the instrument panel as the airplane nosed down into the lake. He said the cargo in the aft cabin came forward and pinned him against the instrument panel, and within seconds he found himself underwater. He said after struggling he was able to push himself away from the instrument panel, and released his lap belt. He said he looked toward the left, saw the pilot's door was open, and the pilot was nowhere to be seen. Once free of his lap belt, he said he pulled himself out of the pilot's door, and swam to the surface. On the surface he was picked up by a boat from the neighboring lodge (Wood River Lodge), but the pilot was still nowhere to be seen.

The front seat passenger said he flew often with the usual pilot of the airplane, and that the accident pilot was a relief pilot who had been at the lodge a little more than a week. He said the usual pilot has a pretakeoff and landing checklist/routine, and that he follows along as the pilot performs the list. He said the accident pilot did not use a checklist.

The passenger in the aft cabin told the IIC that during the flight from Dillingham to the lake he was asked to move forward in the cabin, as the pilot thought the airplane was tail heavy. He said when the airplane landed, it nosed down into the water, and the supplies came forward landing on the pilot and front seat passenger who were underwater. He said he was able to open the aft cabin door, start lifting supplies off the pilot and front seat passenger, and throwing them out of the airplane. He said the airplane started to sink rapidly, and he knew he had to get out, since he could not swim. He said as he climbed out the aft cabin door he was able to grab hold of a boat from the neighboring lodge.

An employee of the Wood River Lodge (next door to GCI's lodge) was interviewed and stated that she heard the accident airplane returning to the lake. She said she went outside to watch it land. She said she noticed that the wheels were extended, and wondered how that would affect a water landing. She watched as the airplane nosed over. She told other workers at the lodge who responded in boats and picked up the survivors.

PILOT INFORMATION

The pilot held an airline transport pilot certificate with an FAA rating for airplane multi-engine land, and commercial pilot ratings for airplane single-engine land, airplane single-engine sea, and helicopter. The pilot was issued an FAA First Class Medical Certificate on November 2, 2001. According to company records, he had accumulated 26,300 total flying hours, 200 of which were in the accident airplane make and model. The pilot had flown 100 hours within the previous 90 days, 30 hours within the previous 30 days, and 3 hours within the previous 24 hours.

AIRPLANE INFORMATION

The accident airplane was a 1967 de Havilland DHC-2 MK3, Magnum Beaver, equipped with amphibious floats. At the time of the accident, the airplane had accrued a total airframe time of 9,103 hours, and 256 hours since the last inspection. The airplane's engine had accrued a total of 1,464 hours since new.

The airplane was not equipped with an aural landing gear position warning system. The airplane was equipped with landing gear position indicator lights located in the pilot's center console. The lights are green for wheels down and locked for hard surface landings, and blue indicating wheels retracted for flight and water landings.

GCI's chief pilot said there were no known mechanical anomalies with the airplane prior to the accident.

METEOROLOGICAL INFORMATION

The weather conditions at the departure airport 35 miles south of the accident site at the time of the accident were reported as: 25 miles visibility, scattered clouds at 5,000 and 7,000 feet, variable winds at 3 knots, and temperature of 61 degrees F. Witnesses reported similar weather conditions at the accident site.

WRECKAGE AND IMPACT INFORMATION

The accident site was located on the west end of River Bay at Nerka Lake. The west end of River Bay is the headwaters of the Agulowak River, and the landing was made to the east, headed upstream on the river. The landing area on the river is about 100 yards wide and the surface current is 1 to 2 knots. After the airplane nosed down into the water, it began drifting

downstream. Employees from the Wood River Lodge, who responded to the accident in boats, pushed the airplane, which was suspended upside down from its floats, into shallow water, along the south bank of the river. During an inspection of the airplane at the accident site, the IIC noted that the airplane came to rest with the top of its wings on the river bottom. The noses of the floats were underwater, and the aft portions of the floats were extending above the water. The wheels of the amphibious floats were in the fully extended and locked position.

A postaccident inspection of the airplane, at an independent maintenance facility, revealed that the landing gear, and the landing gear position lights on the pilot's center console, were in working order.

PATHOLOGICAL INFORMATION

About three hours after the accident, scuba divers recovered the pilot from the lake. He was found in approximately 20 feet of water, at the boundary of the lake and the headwaters of the river.

A postmortem examination of the pilot was conducted under the authority of the Alaska State Medical Examiner, 4500 South Boniface Parkway, Anchorage, Alaska, on August 29, 2002. The examination revealed the cause of death for the pilot was drowning. No evidence of "control injuries," seatbelt related injuries, or significant traumatic injuries were found.

A toxicological examination was conducted by the FAA's Civil Aero medical Institute (CAMI) on October 18, 2002, and no evidence of alcohol or drugs were found.

WRECKAGE RELEASE

The Safety Board did not take custody of the wreckage. No parts or components were retained by the Safety Board.

Pilot Information

Certificate:	Airline Transport	**Age:**	63, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land; Single-engine Sea	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 1 Valid Medical--w/ waivers/lim.	**Last FAA Medical Exam:**	11/02/2001
Occupational Pilot:		**Last Flight Review or Equivalent:**	02/01/2002
Flight Time:	26300 hours (Total, all aircraft), 200 hours (Total, this make and model), 100 hours (Last 90 days, all aircraft), 30 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	de Havilland	**Registration:**	N4478
Model/Series:	DHC-2 MK3	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	1653TB
Landing Gear Type:	Retractable - Amphibian	**Seats:**	8
Date/Type of Last Inspection:	02/01/2002, Annual	**Certified Max Gross Wt.:**	6000 lbs
Time Since Last Inspection:	256 Hours	**Engines:**	1 Turbo Prop
Airframe Total Time:	8847 Hours as of last inspection	**Engine Manufacturer:**	Pratt & Whitney
ELT:	Installed, not activated	**Engine Model/Series:**	PT6A-60A
Registered Owner:	General Communications Inc.	**Rated Power:**	650 hp
Operator:	General Communications Inc.	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	**Condition of Light:**	Day
Observation Facility, Elevation:	PADL, 86 ft msl	**Distance from Accident Site:**	35 Nautical Miles
Observation Time:	1550 ADT	**Direction from Accident Site:**	320°
Lowest Cloud Condition:	Scattered / 5000 ft agl	**Visibility**	25 Miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	3 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	Variable	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.85 inches Hg	**Temperature/Dew Point:**	16°C / 6°C
Precipitation and Obscuration:			
Departure Point:	Dillingham, AK (PADL)	**Type of Flight Plan Filed:**	None
Destination:	Aleknagik, AK	**Type of Clearance:**	None
Departure Time:	1540 ADT	**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Minor, 1 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal, 1 Minor, 1 None	**Latitude, Longitude:**	59.433333, -158.850000

Administrative Information

Investigator In Charge (IIC):	Lawrence R Lewis	**Report Date:**	04/18/2003
Additional Participating Persons:	Tony A Fischer; FAA Anchorage FSDO-03; 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 pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at http://dms.ntsb.gov/pubdms/.		

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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.