Aviation Investigation Final Report

Location:	NONDALTON, Alaska	**Accident Number:**	ANC99LA015
Date & Time:	December 4, 1998, 14:55 Local	**Registration:**	N36755
Aircraft:	Stinson 10A	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 None
Flight Conducted Under:	Part 135: Air taxi & commuter - Non-scheduled		

Analysis

The certificated commercial pilot, and the sole passenger, departed for an on-demand air taxi flight over remote terrain. The passenger was conducting moose counting research for the Alaska Department of Fish and Game. The airplane carried four hours of fuel divided between two wing mounted fuel tanks. Each fuel tank is equipped with an electric fuel gauge. After flying for two hours with the left fuel tank selected, the fuel in the left tank was almost exhausted, and the pilot switched to the right fuel tank. He then flew for about 1.5 hours on the right tank before the engine suddenly quit. The pilot switched back to the left tank and climbed to about 1,000 feet above the ground. After about 6 minutes on the left tank, the engine quit running again. The pilot selected an emergency landing area on a small, frozen pond. The surface of the pond contained slushy ice and drifted snow. During the landing roll, the airplane entered deep snow and nosed over. The passenger reported she flew in the accident airplane two days before the accident. During that flight, she noticed the right fuel gauge in the airplane was inoperative. During the accident flight, two days later, she again noticed the right fuel gauge was still inoperative. Following recovery of the airplane, evidence of fuel staining was observed on the upper surface of the right wing, adjacent to the right fuel cap.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's continued operation of the airplane with known deficiencies, a failure of company maintenance personnel to replace an inoperative fuel gauge, and subsequent fuel exhaustion. Factors in the accident were siphoning of fuel from the right wing fuel cap, and slush covered terrain.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL
Phase of Operation: CRUISE

Findings
1. (C) FLUID,FUEL - EXHAUSTION
2. (C) OPERATION WITH KNOWN DEFICIENCIES IN EQUIPMENT - CONTINUED - PILOT IN COMMAND
3. (F) ENGINE INSTRUMENTS,FUEL QUANTITY GAGE - INOPERATIVE
4. (F) FUEL SYSTEM,CAP - SIPHONING

Occurrence #2: FORCED LANDING
Phase of Operation: EMERGENCY DESCENT/LANDING

Occurrence #3: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER
Phase of Operation: EMERGENCY DESCENT/LANDING

Findings
5. (F) TERRAIN CONDITION - SLUSH COVERED

Occurrence #4: NOSE OVER
Phase of Operation: EMERGENCY DESCENT/LANDING

Factual Information

On December 4, 1998, about 1455 Alaska standard time, a tundra tire equipped Stinson 10A airplane, N36755, sustained substantial damage during a forced landing, about 9 miles east of Nondalton, Alaska. The airplane was being operated as a visual flight rules (VFR) domestic on-demand passenger flight under Title 14 CFR Part 135 when the accident occurred. The airplane was operated by Lake Clark Air Inc., Port Alsworth, Alaska. The certificated commercial pilot, and the sole passenger, were not injured. Visual meteorological conditions prevailed. VFR company flight following procedures were in effect. The flight originated from a private airstrip at Port Alsworth, Alaska, at 1139.

During a telephone conversation with the National Transportation Safety Board (NTSB) investigator-in-charge (IIC), on December 6, 1998, at 1000, the pilot reported the flight was conducted for the Alaska Department of Fish and Game. The passenger was conducting a moose count. The pilot said that after departure with full fuel tanks, he flew for two hours with the left fuel tank selected. After two hours of flight, the fuel in the left tank was almost exhausted, and the pilot switched to the right fuel tank. He then flew for about 1.5 hours on the right tank before the engine suddenly quit. The pilot switched back to the left tank and climbed to about 1,000 feet above the ground. After about 6 minutes on the left tank, the engine quit running again. The pilot selected an emergency landing area on a small, frozen pond. The surface of the pond contained slushy ice and drifted snow. During the landing roll, the airplane entered deep snow and nosed over. The airplane received damage to the left wing lift strut, the rudder, and the right wing tip.

The operator reported the airplane is equipped with a 150 horsepower engine. The airplane has two wing mounted fuel tanks that contain 20 gallons each. Total useable fuel is 36 gallons. The fuel selector has positions for left, right, and off. Each fuel tank has an electric fuel gauge.

The passenger was contacted by telephone and interviewed by the NTSB IIC. The passenger reported she flew in the accident airplane two days before the accident. During that flight, she noticed the right fuel gauge in the airplane was inoperative. During the accident flight, two days later, she again noticed the right fuel gauge was still inoperative.

The operator reported that when the airplane was recovered from the accident site, evidence of fuel staining was observed on the upper surface of the right wing, adjacent to the right fuel cap.

A Federal Aviation Administration (FAA) operations inspector with the Anchorage Flight Standards District Office, Anchorage, Alaska, inspected the airplane after it was recovered. He found evidence of fuel staining on the right wing, adjacent to the right wing fuel cap.

Pilot Information

Certificate:	Commercial	**Age:**	29,Male
Airplane Rating(s):	Single-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 2 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	March 27, 1998
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	5724 hours (Total, all aircraft), 26 hours (Total, this make and model), 5621 hours (Pilot In Command, all aircraft), 348 hours (Last 90 days, all aircraft), 68 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Stinson	**Registration:**	N36755
Model/Series:	10A 10A	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	8168
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	November 14, 1998 100 hour	**Certified Max Gross Wt.:**	1823 lbs
Time Since Last Inspection:	15 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	4359 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	O-320-A2B
Registered Owner:	SONNET ALSWORTH	**Rated Power:**	150 Horsepower
Operator:	LAKE CLARK AIR INC.	**Operating Certificate(s) Held:**	On-demand air taxi (135)
Operator Does Business As:		**Operator Designator Code:**	HXXC

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:		**Distance from Accident Site:**	
Observation Time:		**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	2 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	325°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29 inches Hg	**Temperature/Dew Point:**	-6°C / -8°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	PORT ALSWORTH , AK	**Type of Flight Plan Filed:**	Company VFR
Destination:		**Type of Clearance:**	None
Departure Time:	11:39 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:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	59.959922,-154.869201(est)

Administrative Information

Investigator In Charge (IIC):	Erickson, Scott
Additional Participating Persons:	TOM NOBLE (FAA); ANCHORGE , AK
Original Publish Date:	February 16, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=45458