



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	ANVIK, AK	<b>Accident Number:</b>	ANC01LA066
<b>Date &amp; Time:</b>	06/02/2001, 0930 AKD	<b>Registration:</b>	N25BA
<b>Aircraft:</b>	Helio H-391B	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 None

**Flight Conducted Under:** Part 91: General Aviation - Business

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## Analysis

The private certificated pilot was departing a river in a float-equipped airplane. During the takeoff run, the airplane came up on-step, but started to veer to the left. The pilot was holding full right rudder, but the airplane continued to turn left. He aborted the takeoff, but the left float collided with the bank of the river, and the right wing struck a tree. The airplane received damage to the left float assembly, the fuselage at the forward left float attach point, and the leading edge wing slat of the right wing. The float assembly was installed the previous month, 11.5 hours before the accident under a Supplemental Type Certificate (STC). Since the float installation, the pilot said he had trouble obtaining full right rudder travel of the aerodynamic rudder. After the accident, a mechanic found an incorrect set of springs, as part of the water rudder/aerodynamic rudder rigging, installed on the airplane. An FAA airworthiness inspector reviewed the tail spring concerns raised by the pilot. She found that the float installation STC specified the use of D-376 water rudder steering springs. Due to the lack of immediate availability, the installer used Scott 3200 tailwheel steering springs. The installer told the FAA inspector that due to the similarity of the two spring sets, he has utilized Scott 3200 tailwheel springs in the past on other float installations, utilizing FAA field approvals, and substitution of the springs have been widely used in the floatplane industry. In this case, the installer did not obtain an FAA field approval. The installer told the FAA that when the floats were installed on the accident airplane, the rigging of the water and aerodynamic rudders allowed proper movement of each assembly. The installer reported that the difference in the two spring assemblies, as measured by applying a 40 pound weight to each set, was 3/8 inch further extension of the D-376 springs.

## 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 accident airplane with known equipment deficiencies, and an improper installation of the float assembly by maintenance personnel. A factor in the accident was the pilot's delay in aborting the takeoff.

## Findings

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Occurrence #1: LOSS OF CONTROL - ON GROUND/WATER

Phase of Operation: TAKEOFF - ROLL/RUN

### Findings

1. (C) OPERATION WITH KNOWN DEFICIENCIES IN EQUIPMENT - CONTINUED - PILOT IN COMMAND
2. LANDING GEAR,FLOAT ASSEMBLY
3. (C) MAINTENANCE,INSTALLATION - IMPROPER - OTHER MAINTENANCE PERSONNEL

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Occurrence #2: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER

Phase of Operation: TAKEOFF - ABORTED

### Findings

4. TERRAIN CONDITION - DIRT BANK/RISING EMBANKMENT
5. (F) ABORTED TAKEOFF - DELAYED - PILOT IN COMMAND

## Factual Information

On June 2, 2001, about 0930 Alaska daylight time, a float-equipped Helio H-391B airplane, N25BA, sustained substantial damage during an aborted takeoff from the Anvik River, about 21 miles northwest of Anvik, Alaska. The airplane was being operated as a visual flight rules (VFR) cross-country business flight under Title 14, CFR Part 91, when the accident occurred. The airplane was operated by Aurora Ventures Inc., dba Anvik River Lodge. The private certificated pilot, the sole occupant, was not injured. Visual meteorological conditions prevailed. VFR company flight following procedures were in effect.

During a telephone conversation with the National Transportation Safety Board (NTSB) investigator-in-charge (IIC), on June 11, 2001, the pilot reported he was planning to fly to Anvik to pick up cargo for the lodge. He said the float assembly was installed in May 2001, 11.5 hours before the accident under a Supplemental Type Certificate (STC), and since the float installation, he had trouble obtaining full right rudder travel of the aerodynamic rudder. The water rudders appeared to have sufficient travel. On the accident flight, the pilot said he was departing the Anvik River that was running about 4 knots of current. During the takeoff run, the airplane came up on-step, but started to veer to the left. He said he was holding full right rudder, but the airplane continued to turn left. He aborted the takeoff, but the left float collided with the bank of the river, and the right wing struck a tree. The airplane received damage to the left float assembly, the fuselage at the forward left float attach point, and the leading edge wing slat of the right wing.

The pilot reported that after the accident, he asked a mechanic from Anvik to inspect the airplane. The mechanic indicated an incorrect set of springs, as part of the water rudder/aerodynamic rudder rigging, was installed on the airplane. The mechanic installed the correct springs on June 12, 2001.

A Federal Aviation Administration (FAA) airworthiness inspector, Anchorage Flight Standards District Office, reviewed the tail spring concerns raised by the pilot. She found that the float installation STC specified the use of D-376 water rudder steering springs. Due to the lack of immediate availability, the installer used Scott 3200 tailwheel steering springs. The installer told the FAA inspector that due to the similarity of the two spring sets, he has utilized Scott 3200 tailwheel springs in the past on other float installations, utilizing FAA field approvals, and substitution of the springs have been widely used in the floatplane industry. In this case, the installer did not obtain an FAA field approval. The installer told the FAA that when the floats were installed on the accident airplane, the rigging of the water and aerodynamic rudders allowed proper movement of each assembly. The installer reported that the difference in the two spring assemblies, as measured by applying a 40 pound weight to each set, was 3/8 inch further extension of the D-376 springs.

According to the Pilot/Operator Report (NTSB form 6120.1/2) submitted by the pilot, the pilot indicated he had accrued 126.3 hours total time, of which 101.8 hours were accrued in the previous 90 days. The pilot accrued 66.1 hours in the accident airplane make and model, with 59.8 hours accrued in the previous 90 days.

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	46, Male
<b>Airplane Rating(s):</b>	Single-engine Land; Single-engine Sea	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Valid Medical--w/ waivers/lim.	<b>Last FAA Medical Exam:</b>	12/08/2000
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	05/14/2001
<b>Flight Time:</b>	126 hours (Total, all aircraft), 66 hours (Total, this make and model), 78 hours (Pilot In Command, all aircraft), 102 hours (Last 90 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Helio	<b>Registration:</b>	N25BA
<b>Model/Series:</b>	H-391B	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	011
<b>Landing Gear Type:</b>	Float	<b>Seats:</b>	1
<b>Date/Type of Last Inspection:</b>	05/11/2001, Annual	<b>Certified Max Gross Wt.:</b>	3000 lbs
<b>Time Since Last Inspection:</b>	67 Hours	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	2225 Hours at time of accident	<b>Engine Manufacturer:</b>	LYCOMING
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	G-0435C2B2-6
<b>Registered Owner:</b>	CLIFFORD HICKSON	<b>Rated Power:</b>	260 hp
<b>Operator:</b>	AURORA VENTURS INC.	<b>Operating Certificate(s) Held:</b>	None
<b>Operator Does Business As:</b>	ANVIK RIVER LODGE	<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	20 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	360°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	13° C
Precipitation and Obscuration:			
Departure Point:	ANVIK, AK	Type of Flight Plan Filed:	Company VFR
Destination:	ANVIK, AK (K40)	Type of Clearance:	None
Departure Time:	0930 ADT	Type of Airspace:	Class G

## Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	62.869444, -160.742778

## Administrative Information

Investigator In Charge (IIC):	SCOTT ERICKSON	Report Date:	02/20/2002
Additional Participating Persons:	SILVIA VILLA; FAA-AL-ANC 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 <a href="mailto:pubinquiry@ntsb.gov">pubinquiry@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

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](#).