



Aviation Investigation Final Report

Location:	Talkeetna, Alaska	Accident Number:	ANC19LA047
Date & Time:	August 28, 2019, 19:00 Local	Registration:	N7236D
Aircraft:	Piper PA-22-150	Aircraft Damage:	Substantial
Defining Event:	Landing gear collapse	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

While dragging an off-airport landing site, the flight instructor heard an audible "pop" and noticed a partial separation of the left main landing gear. After returning to the departure airport, he conducted a fly by and was told that the left main landing gear was loose. The pilot conducted an emergency landing, which resulted in a ground loop and substantial damage to the fuselage.

Postaccident examination revealed that the aft left welded-on fuselage landing gear fitting had separated from the fuselage at the welding point. Examination of the fractured weld surfaces revealed an unacceptable weld file profile, which included incomplete fusion, a lack of penetration, and gross porosity in the weld deposit.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

A failure of the aft left weld-on fuselage landing gear fitting due to a poor weld joint.

Findings

Aircraft	Main landing gear attach sec - Failure
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Factual Information

History of Flight

Landing	Landing gear collapse (Defining event)
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On August 29, 2019, at about 1900 Alaska daylight time, a tundra tire and tailwheel-equipped Piper PA-22 airplane, N7236D, sustained substantial damage following a partial separation of the left main landing gear near Talkeetna, Alaska. The certificated flight instructor and certificated private pilot receiving instruction were not injured. The airplane was registered to Christianson Lake Rentals Maintenance LLC and operated by Alaska Floats and Skis, under the provisions of Title 14 *Code of Federal Regulations* Part 91 when the accident occurred. Visual meteorological conditions prevailed, and a company flight plan had been filed. The flight departed Talkeetna Airport (PATK), Talkeetna, Alaska.

According to the operator, while dragging an off-airport landing site, the flight instructor heard an audible "pop" and noticed a partial separation of the left main landing gear. They returned to Talkeetna, conducted a fly by and were informed that the left main landing gear was loose. During the ensuing emergency landing, the airplane ground looped and sustained substantial damage to the fuselage.

An initial examination of the airplane revealed that the aft left weld-on fuselage landing gear fitting had separated at the weld area from the fuselage.

A photographic visual examination of the fractured weld surfaces by the National Transportation Safety Board (NTSB) Materials Laboratory revealed an unacceptable weld file profile, which included incomplete fusion, a lack of penetration, and gross porosity in the weld deposit. The NTSB Materials Laboratory examination report is in the public docket for this accident.

The closest weather reporting facility is Talkeetna Airport, (PATK), Talkeetna, Alaska. At 1853, a METAR from PATK was reporting in part: wind, 200° at 4 knots; visibility, 5 statute miles, smoke, haze; sky condition, overcast clouds, 4,600 ft; temperature, 66° F; dew point 45° F; and an altimeter setting of 30.08 inches of mercury.

Pilot Information

Certificate:	Commercial; Flight instructor	Age:	23, Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	4-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane single-engine	Toxicology Performed:	No
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	April 23, 2019
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	June 20, 2019
Flight Time:	1200 hours (Total, all aircraft), 200 hours (Total, this make and model), 2 hours (Pilot In Command, all aircraft), 200 hours (Last 90 days, all aircraft), 60 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Pilot Information

Certificate:	Airline transport	Age:	58, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Unknown
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Unknown	Last FAA Medical Exam:	
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N7236D
Model/Series:	PA-22-150	Aircraft Category:	Airplane
Year of Manufacture:	1957	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	22-5062
Landing Gear Type:	Tailwheel	Seats:	
Date/Type of Last Inspection:	July 23, 2019 Continuous airworthiness	Certified Max Gross Wt.:	2000 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	3836.6 Hrs as of last inspection	Engine Manufacturer:	Lycoming
ELT:	C91 installed	Engine Model/Series:	O-320 SERIES
Registered Owner:	Christianson Lake Rentals Maintenance LI	Rated Power:	150 Horsepower
Operator:	Alaska Floats and Skis	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	PATK	Distance from Accident Site:	
Observation Time:	18:53 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	5 miles
Lowest Ceiling:	Overcast / 4600 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	200°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.07 inches Hg	Temperature/Dew Point:	19°C / 7°C
Precipitation and Obscuration:	Moderate - None - Haze		
Departure Point:	Talkeetna, AK (TKA)	Type of Flight Plan Filed:	Company VFR
Destination:	Talkeetna, AK (TKA)	Type of Clearance:	None
Departure Time:		Type of Airspace:	Class G

Airport Information

Airport:	Talkeetna TKA	Runway Surface Type:	Asphalt
Airport Elevation:	364 ft msl	Runway Surface Condition:	Dry
Runway Used:	19	IFR Approach:	None
Runway Length/Width:	3500 ft / 75 ft	VFR Approach/Landing:	Full stop;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	62.321388,-150.092773(est)

Administrative Information

Investigator In Charge (IIC): Banning, David

Additional Participating Persons:

Original Publish Date: November 19, 2020

Last Revision Date:

Investigation Class: [Class 3](#)

Note: The NTSB did not travel to the scene of this accident.

Investigation Docket: <https://data.ntsb.gov/Docket?ProjectID=100172>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).