



# Aviation Investigation Final Report

<b>Location:</b>	Lewiston, Idaho	<b>Accident Number:</b>	WPR18LA175
<b>Date &amp; Time:</b>	May 29, 2018, 09:00 Local	<b>Registration:</b>	N7546K
<b>Aircraft:</b>	Cessna P210N	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Abnormal runway contact	<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

After climbing to cruise altitude, the pilot noted that the landing gear position indicator lights showed that the landing gear were not retracted, and the pilot was unable to fully extend or retract the gear. He declared an emergency and landed with the landing gear retracted, resulting in substantial damage to the horizontal stabilizer.

Examination revealed that the rigid hydraulic line connecting the hydraulic powerpack to the bulkhead had failed at the ferrule. A review of maintenance records revealed that this line had recently been duplicated and replaced due to a failure in the same area. The reason for the failure was not determined based on the available evidence.

## Probable Cause and Findings

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

The failure of a hydraulic line in the landing gear system, which resulted in the pilot's inability to lower the gear and a subsequent gear-up landing.

## Findings

Aircraft	Main landing gear - Failure
Aircraft	Gear extension and retract sys - Failure

# Factual Information

## History of Flight

Enroute-cruise	Sys/Comp malf/fail (non-power)
Landing-flare/touchdown	Abnormal runway contact (Defining event)

On May 29, 2018 about 0900 Pacific daylight time, a Cessna P210, N7546K, was substantially damaged when it was involved in an accident near Lewiston, Idaho. The private pilot, the sole occupant, was not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that, following departure, he climbed to his planned enroute altitude of 7,500 ft mean sea level. He noticed that the airspeed was lower than expected and then saw that the landing gear position indicator light showed that the gear was not retracted. The pilot cycled the gear but was unable to fully extend or retract them. He then attempted to manually lower the landing gear with the emergency hand pump but was unsuccessful. He declared an emergency and subsequently landed with the gear retracted, resulting in substantial damage to the horizontal stabilizer spar.

Examination revealed that the rigid hydraulic line connecting the powerpack to the bulkhead had failed at the ferrule. A review of the airplane's maintenance records revealed that, on March 13, 2018, at a tachometer time of 384 hours, a maintenance facility completed a check of the landing gear. A subsequent entry, dated May 17, 2018, and about 8.6 flight hours after the previous maintenance, stated, "Landing gear inop for up/dn. Pilot report did pump gear down." The entry indicated that personnel performed troubleshooting on the source of a hydraulic fluid leak, which they determined to be at the hydraulic power pack gear system. The entry stated that the tube fitting line cracked at the flare below the ferrule, and a new line of aluminum tubing the same size and length as the failed tubing was fabricated and installed.

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	65, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	3-point
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 With waivers/limitations	<b>Last FAA Medical Exam:</b>	December 9, 2017
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	(Estimated) 3000 hours (Total, all aircraft), 1385 hours (Total, this make and model), 3000 hours (Pilot In Command, all aircraft), 450 hours (Last 90 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N7546K
<b>Model/Series:</b>	P210N	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	1979	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	P21000407
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	6
<b>Date/Type of Last Inspection:</b>	Annual	<b>Certified Max Gross Wt.:</b>	4000 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	Reciprocating
<b>Airframe Total Time:</b>	6450 Hrs	<b>Engine Manufacturer:</b>	Continental
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	TSIO-520
<b>Registered Owner:</b>		<b>Rated Power:</b>	
<b>Operator:</b>	On file	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	KLWS,1436 ft msl	<b>Distance from Accident Site:</b>	0 Nautical Miles
<b>Observation Time:</b>	15:56 Local	<b>Direction from Accident Site:</b>	66°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	/	<b>Turbulence Type Forecast/Actual:</b>	None / None
<b>Wind Direction:</b>		<b>Turbulence Severity Forecast/Actual:</b>	N/A / N/A
<b>Altimeter Setting:</b>	29.97 inches Hg	<b>Temperature/Dew Point:</b>	18°C / 8°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Joseph, OR (JSY )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Lewiston, ID (LWS )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	08:00 Local	<b>Type of Airspace:</b>	Class E

## Airport Information

<b>Airport:</b>	LEWISTON-NEZ PERCE COUNTY LWS	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	1441 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	30	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	5002 ft / 100 ft	<b>VFR Approach/Landing:</b>	Full stop

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 None	<b>Latitude, Longitude:</b>	46.373332,-117.021385(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Keliher, Zoe		
<b>Additional Participating Persons:</b>	Kevin Marsac; Federal Aviation Administration; Spokane, WA		
<b>Original Publish Date:</b>	May 25, 2021	<b>Investigation Class:</b>	3
<b>Note:</b>	The NTSB did not travel to the scene of this accident.		
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=97547">https://data.nts.gov/Docket?ProjectID=97547</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](#).