



# Aviation Investigation Final Report

<b>Location:</b>	MCGRATH, Alaska	<b>Accident Number:</b>	ANC97LA138
<b>Date &amp; Time:</b>	September 1, 1997, 16:30 Local	<b>Registration:</b>	N9129M
<b>Aircraft:</b>	Cessna U206E	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 Serious, 1 Minor, 1 None
<b>Flight Conducted Under:</b>	Part 135: Air taxi & commuter - Non-scheduled		

## Analysis

The airplane landed hard and bounced into the air. During the subsequent touchdown, the nose wheel separated, and the airplane nosed over onto its back. Metallurgical examination of the nose wheel strut and forks revealed overstress fractures. The cargo was not secured, and struck the back seat passenger during the nose over. The aft passenger sustained serious neck injuries. The cargo was loaded on top of the aft seatbelts, making them unavailable to the aft passenger. The front seat, pilot-rated, passenger did not use the available lap belt or shoulder harness.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's improper flare and improper recovery from a bounced landing, which resulted in overload failure of the nose gear and a nose over. Factors associated with the accident were: the pilot's failure to follow procedures and directives by neglecting to tie down and secure the load, and his failure to ensure that the passengers had seatbelts available and utilized them.

### Findings

Occurrence #1: HARD LANDING  
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

1. (C) FLARE - IMPROPER - PILOT IN COMMAND
2. (C) RECOVERY FROM BOUNCED LANDING - IMPROPER - PILOT IN COMMAND

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

Findings

3. LANDING GEAR, NOSE GEAR - OVERLOAD

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Occurrence #3: NOSE OVER  
Phase of Operation: LANDING

Findings

4. (F) PROCEDURES/DIRECTIVES - NOT FOLLOWED - PILOT IN COMMAND
5. (F) MISC EQPT/FURNISHINGS, CARGO RESTRAINTS - NOT CONNECTED
6. (F) LOAD TIE-DOWN/SECURITY - NOT USED - PILOT IN COMMAND
7. (F) SEAT BELT - NOT AVAILABLE - PASSENGER
8. (F) SEAT BELT - NOT USED - PILOT PASSENGER
9. (F) SHOULDER HARNESS - NOT USED - PILOT PASSENGER

## Factual Information

On September 1, 1997, about 1630 Alaska daylight time, a Cessna U206E airplane, N9129M, was substantially damaged when it nosed over during landing at the Tatitna landing strip, seventy three miles east of McGrath, Alaska. The airline transport certificated pilot was uninjured. The front seat passenger sustained minor injuries. The back seat passenger sustained a serious neck injury.

The airplane was operated by Alaska Air Taxi, of Anchorage, Alaska. The flight was conducted under 14 CFR Part 135 as an on demand air taxi from Anchorage to the Tatitna strip. The flight departed Lake Hood strip at 1530. Visual meteorological conditions prevailed at the time of the accident, and a company flight plan was filed.

The pilot said that upon landing, the nose gear collapsed and the airplane nosed over onto its back.

Witnesses on the ground, and the passengers, observed the airplane land hard and bounce into the air. The passengers said the airplane bounced twice, and on the third touchdown, nosed over. Both passengers stated that the landing was slightly downwind.

The engine and empennage both separated from the airplane.

The nose landing gear assembly had been installed on the airplane twelve days prior to the accident. Inspection of the nose wheel, strut, and forks, revealed permanent deformation to the left. Further microscopic inspection of the failed components at the NTSB metallurgical laboratory revealed fractures typical of right to left overstress. A small region of fatigue was observed at the forward bolt hole of the right fork.

Neither passenger had their seatbelt fastened. Both passengers said that the cargo was not restrained, and had been placed on top of the rear seat passenger's lap belt, and that there was no belt available for the rear seat occupant. The passenger seated in the right, front seat said that his belt and shoulder harness were both available, but he did not wear them. During the accident sequence, the cargo struck the rear seat passenger.

## Pilot Information

<b>Certificate:</b>	Airline transport	<b>Age:</b>	44, Male
<b>Airplane Rating(s):</b>	Single-engine land; Single-engine sea; Multi-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Valid Medical—no waivers/lim.	<b>Last FAA Medical Exam:</b>	January 9, 1997
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	12500 hours (Total, all aircraft), 1500 hours (Total, this make and model), 340 hours (Last 90 days, all aircraft), 121 hours (Last 30 days, all aircraft), 7 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Cessna	<b>Registration:</b>	N9129M
<b>Model/Series:</b>	U206E U206E	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	U20601529
<b>Landing Gear Type:</b>	Tricycle	<b>Seats:</b>	6
<b>Date/Type of Last Inspection:</b>	August 8, 1997 100 hour	<b>Certified Max Gross Wt.:</b>	3600 lbs
<b>Time Since Last Inspection:</b>	44 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	7824 Hrs	<b>Engine Manufacturer:</b>	Continental
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	IO-520-F
<b>Registered Owner:</b>	JACK BARBER	<b>Rated Power:</b>	300 Horsepower
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	On-demand air taxi (135)
<b>Operator Does Business As:</b>	ALASKA AIR TAXI	<b>Operator Designator Code:</b>	JKGC

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>		<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>		<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Unknown	<b>Visibility</b>	20 miles
<b>Lowest Ceiling:</b>	Broken / 5000 ft AGL	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	/	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	0°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>		<b>Temperature/Dew Point:</b>	
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	LAKE HOOD STRIP, AK (Z41 )	<b>Type of Flight Plan Filed:</b>	Company VFR
<b>Destination:</b>	TATITNA , AK (AK48)	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	15:30 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>	TATITNA AK48	<b>Runway Surface Type:</b>	Gravel
<b>Airport Elevation:</b>	1490 ft msl	<b>Runway Surface Condition:</b>	Dry;Rough
<b>Runway Used:</b>	24	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	1200 ft / 12 ft	<b>VFR Approach/Landing:</b>	Full stop;Valley/terrain following

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	1 Serious, 1 Minor	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Serious, 1 Minor, 1 None	<b>Latitude, Longitude:</b>	63.609535,-154.780395(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Thomas, Matthew
<b>Additional Participating Persons:</b>	EDWARD A KORNFIELD; ANCHORAGE , AK
<b>Original Publish Date:</b>	September 4, 1998
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=3059">https://data.nts.gov/Docket?ProjectID=3059</a>

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](#).