



Aviation Investigation Final Report

Location:	Grand Junction, Colorado	Accident Number:	DEN02LA093
Date & Time:	August 9, 2002, 13:45 Local	Registration:	N111KC
Aircraft:	Cessna 310N	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

According to the instructor, the pilot receiving instruction made a hard landing. The instructor took the controls and initiated a go-around. Suspecting landing gear damage, he kept the landing gear extended and diverted to a nearby airport. On the approach, the right main landing gear fell off the aircraft. Because of the limited emergency equipment at the second airport, he was advised to divert to a third airport. While keeping the landing gear extended, they made a low pass over the runway, and witnesses confirmed the missing right main landing gear. The instructor retracted the landing gear and made an intentional gear-up landing. The airplane sustained extensive damage to the lower fuselage skin and bulkheads and substantial damage to the right main landing gear attachment point.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The dual student's inadequate aircraft control resulting in a hard landing. Contributing factors include, the dual student's inadequate airspeed and high flare, the inadequate supervision by the instructor, the in-flight separation of the right main landing gear and the intentional wheels-up landing.

Findings

Occurrence #1: HARD LANDING

Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

1. (C) AIRCRAFT CONTROL - INADEQUATE - DUAL STUDENT
2. (F) AIRSPEED - NOT MAINTAINED - DUAL STUDENT
3. (F) FLARE - HIGH - DUAL STUDENT
4. (F) SUPERVISION - INADEQUATE - PILOT IN COMMAND(CFI)
5. GO-AROUND - INITIATED - PILOT IN COMMAND(CFI)

Occurrence #2: MISCELLANEOUS/OTHER

Phase of Operation: CRUISE

Findings

6. (F) LANDING GEAR,MAIN GEAR - SEPARATION

Occurrence #3: WHEELS UP LANDING

Phase of Operation: EMERGENCY LANDING

Findings

7. (F) WHEELS UP LANDING - INTENTIONAL - PILOT IN COMMAND(CFI)

Factual Information

On August 9, 2002, at approximately 1345 mountain daylight time, a Cessna 310N, N111KC, was substantially damaged during a hard landing at Glenwood Springs Municipal Airport (GWS), Glenwood Springs, Colorado. At 1456, the airplane was further damaged during an intentional gear-up landing at Walker Field (GJT), Grand Junction, Colorado. The airline transport pilot, and the pilot receiving instruction, were not injured. Visual meteorological conditions prevailed. No flight plan had been filed for this instructional cross-country flight being conducted under Title 14 CFR Part 91. The flight originated at Pueblo Memorial Airport, Pueblo, Colorado, at approximately 1245.

According to the instructor, the pilot receiving instruction made a hard landing at Glenwood Springs. The instructor took the controls and initiated a go-around. Suspecting landing gear damage, he kept the landing gear extended and diverted to Garfield County Regional Airport (RIL), in Rifle, Colorado. On the approach to Garfield County Regional, the right main landing gear fell off the aircraft. Because of the limited emergency equipment at Garfield County Regional, he was advised to divert to Walker Field, in Grand Junction, Colorado. While keeping the landing gear extended, they made a low pass over the runway at Walker Field, and witnesses confirmed the missing right main landing gear. The instructor retracted the landing gear and made an intentional gear-up landing. The airplane sustained extensive damage to the lower fuselage skin and bulkheads and substantial damage to the right main landing gear attachment point.

Pilot Information

Certificate:	Airline transport; Commercial; Flight instructor	Age:	55, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):		Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	August 1, 2001
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	May 14, 2002
Flight Time:	6488 hours (Total, all aircraft), 336 hours (Total, this make and model), 6070 hours (Pilot In Command, all aircraft), 116 hours (Last 90 days, all aircraft), 59 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Co-pilot Information

Certificate:	Private	Age:	Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):		Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	April 1, 2001
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	April 4, 2002
Flight Time:	395 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N111KC
Model/Series:	310N	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	310N-0005
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	September 20, 2001 Annual	Certified Max Gross Wt.:	5200 lbs
Time Since Last Inspection:	125 Hrs	Engines:	2 Reciprocating
Airframe Total Time:	3570 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	TIO-540-A2B
Registered Owner:	Russell Andrews	Rated Power:	310 Horsepower
Operator:		Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	GJT,4858 ft msl	Distance from Accident Site:	
Observation Time:	14:56 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	11 knots / 0 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	310°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.18 inches Hg	Temperature/Dew Point:	33°C / 7°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Pueblo, CO (PUB)	Type of Flight Plan Filed:	None
Destination:	Glenwood Spring, CO (GWS)	Type of Clearance:	VFR
Departure Time:	12:45 Local	Type of Airspace:	Class D

Airport Information

Airport:	Grand Junction GJT	Runway Surface Type:	Asphalt
Airport Elevation:	4858 ft msl	Runway Surface Condition:	Dry
Runway Used:	29	IFR Approach:	Unknown
Runway Length/Width:	10500 ft / 150 ft	VFR Approach/Landing:	Full stop;Straight-in

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:	39.110088,-108.529281(est)

Administrative Information

Investigator In Charge (IIC):	STRUHSAKER
Additional Participating Persons:	Dennis Seals; Salt Lake City FSDO; Salt Lake City, UT
Original Publish Date:	August 26, 2003
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=55483

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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](#).