



Aviation Investigation Final Report

Location:	Bullhead City, Arizona	Accident Number:	LAX06LA101
Date & Time:	February 3, 2006, 16:37 Local	Registration:	N88AA
Aircraft:	Cessna R182	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane was substantially damaged when the nose wheel collapsed while turning off the runway after landing. The pilot stated that that he verified that the green light was illuminated on the gear indicator, showing that all three landing gear were down and locked, then he made a normal landing. The pilot was taxiing off the runway after landing when the nose gear collapsed. The pilot further stated that he performed a normal touchdown and did not hit the runway excessively hard. An inspection by an Federal Aviation Administration Aviation Safety Inspector revealed that the nose gear collapsed as a result of sheared rivets that attach the bracket assembly for the nose gear hydraulic actuator. Smearing on the rivet shanks indicated a loading directionality from aft to forward, which is the direction of normal retraction for the nose gear. No other damage was noted to the firewall or other airframe structures consistent with a hard landing. The inspector opined that the evidence was not conclusive that the sheared rivets occurred on the accident landing, and may in fact represent damage resulting from prior ground handling (towing) operations.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: overload of the nose landing gear actuator attach bracket resulting in collapse of the nose gear while taxiing. It is undetermined when and under what circumstances the overload occurred.

Findings

Occurrence #1: GEAR COLLAPSED Phase of Operation: TAXI - FROM LANDING

Findings

1. (C) LANDING GEAR, NOSE GEAR ATTACH POINT - FAILURE, TOTAL

Factual Information

On February 3, 2006, about 1637 mountain standard time, a Cessna R182, N88AA, experienced a nose gear collapse during landing at Laughlin/Bullhead International Airport, Bullhead City, Arizona. Sawyer Aviation was operating the airplane under the provisions of 14 CFR Part 91. The private pilot, the sole occupant, was not injured; the airplane sustained substantial damage. The cross-country personal flight departed Scottsdale, Arizona, about 1600, with a planned destination of the Laughlin/Bullhead International Airport. Visual meteorological conditions prevailed, and no flight plan had been filed. The approximate global positioning system (GPS) coordinates of the primary wreckage were 35 degrees 09 minutes north latitude and 114 degrees 33 minutes west longitude.

The pilot stated that he verified that the green light was illuminated on the gear indicator, showing all three landing gear down and locked, then made a normal landing. After landing, he was taxiing and the nose gear collapsed before he could get off the runway. The pilot further stated that he performed a normal touchdown and did not hit the runway excessively hard.

The airplane was flown twice previously that same day and received minor maintenance before the first flight. The maintenance facility director stated that the airplane was not moved from its tie-down spot for the maintenance. The first pilot that flew the airplane, and the instructor pilot that flew with the accident pilot prior to the accident flight, stated that no hard landings occurred and no discrepancies were noted with the landing gear. They also stated that no structural damage was noticed during preflight walk-around.

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Pilot Information

Certificate:	Private	Age:	22,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Without waivers/limitations	Last FAA Medical Exam:	October 1, 2005
Occupational Pilot:	No	Last Flight Review or Equivalent:	January 1, 2006
Flight Time:	80 hours (Total, all aircraft), 4 hours (Total, this make and model), 22 hours (Pilot In Command, all aircraft), 38 hours (Last 90 days, all aircraft), 23 hours (Last 30 days, all aircraft), 8 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

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Aircraft Make:	Cessna	Registration:	N88AA
Model/Series:	R182	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	R18200483
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	November 1, 2005 Annual	Certified Max Gross Wt.:	3100 lbs
Time Since Last Inspection:	79 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	4594 Hrs	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	0-540
Registered Owner:	James O. Miller	Rated Power:	240 Horsepower
Operator:	Sawyer Aviation LLC	Operating Certificate(s) Held:	None
Operator Does Business As:	Sawyer Aviation	Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KIFP	Distance from Accident Site:	
Observation Time:	17:52 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	11 knots / None	Turbulence Type Forecast/Actual:	/
Wind Direction:	360°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.02 inches Hg	Temperature/Dew Point:	23°C / -3°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Scottsdale, AZ (SDL)	Type of Flight Plan Filed:	None
Destination:	Bullhead City, AZ (IFP)	Type of Clearance:	VFR
Departure Time:	16:00 Local	Type of Airspace:	

Airport Information

Airport:	Laughlin/Bullhead Internationa IFP	Runway Surface Type:	Asphalt
Airport Elevation:	695 ft msl	Runway Surface Condition:	Dry
Runway Used:	34	IFR Approach:	None
Runway Length/Width:	7520 ft / 150 ft	VFR Approach/Landing:	Full stop;Straight-in

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	35.150001,-114.550003

Administrative Information

Investigator In Charge (IIC):	Jones, Patrick
Additional Participating Persons:	William Sapp; Federal Aviation Administration; Scottsdale, AZ
Original Publish Date:	August 29, 2006
Last Revision Date:	
Investigation Class:	<u>Class</u>
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=63201

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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.