



Aviation Investigation Final Report

Location:	Anoka, Minnesota	Accident Number:	CEN15LA309
Date & Time:	July 17, 2015, 15:45 Local	Registration:	N6511V
Aircraft:	Cessna 172RG	Aircraft Damage:	Substantial
Defining Event:	Sys/Comp malf/fail (non-power)	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The flight instructor and commercial-rated pilot receiving instruction departed the airport. When the commercial pilot retracted the landing gear, the pilots both heard a loud "clang" from the vicinity of the left main landing gear. The pilots lowered the landing gear; the right main gear extended but the left main gear did not extend. The pilots recycled the landing gear and then attempted the emergency gear extension procedure, which were both unsuccessful in lowering the left main gear. The pilots flew to the airport and the tower controller reported that the gear was partially extended. The instructor then attempted several maneuvers to get the gear to go down and lock, but these had no effect. When the pilots determined that they would not be able to lower the left main landing gear, the flight instructor performed an intentional gear-up landing. A postaccident examination of the airplane revealed a fractured left main landing gear actuator. Numerous attempts to obtain the broken actuator from the operator were unsuccessful, and a detailed examination of the actuator was not possible.

Probable Cause and Findings

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

Failure of the left landing gear actuator for reasons that could not be determined because the actuator was not made available for examination.

Findings

Aircraft	Gear extension and retract sys - Failure
Not determined	(general) - Unknown/Not determined

Factual Information

History of Flight

Takeoff	Sys/Comp malf/fail (non-power) (Defining event)
Landing-flare/touchdown	Landing gear not configured

On July 17, 2015, about 1545 central daylight time, a Cessna 172RG airplane, N6511V, was substantially damaged when it landed gear up at the Anoka County-Blaine Airport (KANE), Minneapolis, Minnesota. The flight instructor and the commercial pilot receiving instruction were not injured. The airplane was registered to Kilo Delta LLC and operated by a private individual under the provisions of 14 Code of Federal Regulations Part 91 as an instructional flight. The flight originated from KANA about 1500.

According to the pilot after conducting a landing at another airport, they taxied and departed. On departure, when the commercial pilot retracted the landing gear, they heard a loud "clang" sound from the vicinity of the left main landing gear. They lowered the landing gear and were unable to get the left main landing gear to extend. Using the normal and emergency extension procedures, they were still unable to get the left main landing gear to extend. They decided to land gear up at KANE. An examination of the airplane found damage to the bulkhead and a fractured left landing gear actuator.

Numerous attempts to obtain the broken actuator from the operator were unsuccessful and a detailed examination of the actuator was not possible.

Pilot Information

Certificate:	Commercial; Flight instructor	Age:	61, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	December 8, 2014
Occupational Pilot:	No	Last Flight Review or Equivalent:	June 12, 2015
Flight Time:	1878 hours (Total, all aircraft), 126 hours (Total, this make and model), 1696 hours (Pilot In Command, all aircraft), 103 hours (Last 90 days, all aircraft), 49 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Pilot Information

Certificate:	Private	Age:	25, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
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:	May 22, 2013
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	301 hours (Total, all aircraft), 27 hours (Total, this make and model), 262 hours (Pilot In Command, all aircraft), 36 hours (Last 90 days, all aircraft), 8 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N6511V
Model/Series:	172RG	Aircraft Category:	Airplane
Year of Manufacture:	1980	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	172RG0741
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	October 10, 2014 Annual	Certified Max Gross Wt.:	2650 lbs
Time Since Last Inspection:	122 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	7887 Hrs as of last inspection	Engine Manufacturer:	LYCOMING
ELT:	C91 installed, not activated	Engine Model/Series:	O-360-F1A6
Registered Owner:	On file	Rated Power:	180 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KANE,912 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	20:48 Local	Direction from Accident Site:	330°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	320°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.73 inches Hg	Temperature/Dew Point:	29°C / 21°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	MINNEAPOLIS, MN (ANE)	Type of Flight Plan Filed:	None
Destination:	MINNEAPOLIS, MN (ANE)	Type of Clearance:	None
Departure Time:	14:00 Local	Type of Airspace:	Class D

Airport Information

Airport:	ANOKA COUNTY-BLAINE ARPT(JANES ANE	Runway Surface Type:	Asphalt
Airport Elevation:	912 ft msl	Runway Surface Condition:	Dry
Runway Used:	36	IFR Approach:	None
Runway Length/Width:	4855 ft / 100 ft	VFR Approach/Landing:	Full stop

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:	45.141387,-93.209999(est)

Administrative Information

Investigator In Charge (IIC):	Aguilera, Jason
Additional Participating Persons:	David R Nelson; FAA; Minneapolis, MN
Original Publish Date:	November 28, 2016
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=91591

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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](#).