



Aviation Investigation Factual Report

Location:	Glendale, Arizona	Accident Number:	WPR21LA037
Date & Time:	November 4, 2020, 12:20 Local	Registration:	N87GX
Aircraft:	REMOS AIRCRAFT GMBH FLUGZEUGBAU GX	Aircraft Damage:	Substantial
Defining Event:	Landing gear collapse	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Factual Information

On November 04, 2020, at 1220 mountain standard time, a Remos Aircraft GMBH Fleugzebau, GX, N87GX, was substantially damaged when it was involved in an accident near Glendale, Arizona. The certificated flight instructor and the student pilot were not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The flight instructor reported that the purpose of the flight was for the student pilot to practice takeoffs and landings. The flight instructor reported that during a landing, the airplane veered left of the runway centerline, and, in response, he took the controls to prevent a runway excursion. The flight instructor noted that maneuvering the airplane back to the runway centerline was difficult. The airplane subsequently made a grinding noise, and they could feel an unusual vibration. The flight instructor was able to maneuver the airplane to the nearest taxiway, where he shut down the airplane.

A postaccident examination revealed that the aluminum carry-through of the main landing gear failed during landing. A portion of the failed aluminum carry through remained attached to the landing gear and breached the composite structure, entering the cabin floor under the passenger seat. About 12-inches of the carry through structure had separated from the airplane, permitting the horizontal stabilizer and elevator to skid on runway surface, eroding the composite structure.

The failed carry through was sent to the National Transportation Safety Board's Material Laboratory, and the Senior Material Engineer reported that the carry-through appeared to have failed in overstress. The fracture surfaces all exhibited features consistent with overstress and hardness plus conductivity measurements were consistent with a material that met the minimum strength requirements.

A review of the airframe maintenance logbook indicated that all aircraft safety alerts and airworthiness directives for the airframe had been complied with. On December 17, 2009, the manufacturer issued Service Bulletin SB-002-landing-gear for the accident airplane. The service bulletin required the inspection of the aluminum carry through for the main landing gear immediately if there had been a hard landing in the past, within the next 50 landings, and during scheduled maintenance (100-hr, and Annual Condition Inspection), and after any hard landing. During an interview with the recently hired Light Sport Repairman Maintainer, he reported that he completed the required inspection for cracks, specifically near the weight reduction holes on October 29, 2020.

During the October 2020 100-hr inspection, the maintainer recalled that there were no visible cracks or signatures of deformation to the carry-through. According to the service bulletin, replacement of the carry-through was required as soon as practical but at the latest after detection of cracks, or after 800 total landings, whichever came first. At the time of the maintainer's inspection, the airplane had accumulated 402 estimated landings and amassed

317.9 total airframe hours. At the time of the accident, the airplane had accumulated 437 estimated landings.

Flight instructor Information

Certificate:	Commercial; Flight instructor; Remote	Age:	43, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	4-point
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Helicopter	Toxicology Performed:	
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	February 26, 2020
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	March 4, 2019
Flight Time:	(Estimated) 3374 hours (Total, all aircraft), 20.1 hours (Total, this make and model), 3238.6 hours (Pilot In Command, all aircraft), 25.7 hours (Last 90 days, all aircraft), 21.3 hours (Last 30 days, all aircraft), 0.7 hours (Last 24 hours, all aircraft)		

Student pilot Information

Certificate:	Student	Age:	67, Male
Airplane Rating(s):	None	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	4-point
Instrument Rating(s):	None	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	None With waivers/limitations	Last FAA Medical Exam:	November 30, 2004
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	(Estimated) 128.9 hours (Total, all aircraft), 68.2 hours (Total, this make and model), 27 hours (Pilot In Command, all aircraft), 32.8 hours (Last 90 days, all aircraft), 12.9 hours (Last 30 days, all aircraft), 0.7 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	REMOS AIRCRAFT GMBH FLUGZEUGBAU	Registration:	N87GX
Model/Series:	GX	Aircraft Category:	Airplane
Year of Manufacture:	2009	Amateur Built:	
Airworthiness Certificate:	Special light-sport (Special)	Serial Number:	351
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	October 29, 2020 Condition	Certified Max Gross Wt.:	1320 lbs
Time Since Last Inspection:	16.9 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	334.8 Hrs at time of accident	Engine Manufacturer:	Rotax
ELT:	C126 installed, not activated	Engine Model/Series:	912ULS/309120110
Registered Owner:	Culprit Aviation LLC	Rated Power:	100 Horsepower
Operator:	Fly Eagle Sport	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KGEU, 1066 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	11:50 Local	Direction from Accident Site:	53°
Lowest Cloud Condition:		Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.1 inches Hg	Temperature/Dew Point:	28°C / 3°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Glendale, AZ	Type of Flight Plan Filed:	None
Destination:	Glendale, AZ	Type of Clearance:	VFR
Departure Time:		Type of Airspace:	Class D

Airport Information

Airport:	Glendale Municipal Airport GEU	Runway Surface Type:	Asphalt
Airport Elevation:	1071 ft msl	Runway Surface Condition:	Dry
Runway Used:	01	IFR Approach:	None
Runway Length/Width:	7150 ft / 100 ft	VFR Approach/Landing:	Full stop;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	33.526917,-112.29513(est)

Administrative Information

Investigator In Charge (IIC):	Hicks, Michael
Additional Participating Persons:	Thomas Dickerson; FAA; Scottsdale, AZ
Report Date:	July 27, 2022
Last Revision Date:	
Investigation Class:	Class 3
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=102241

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](#).