



Aviation Investigation Final Report

Location:	ELYRIA, Ohio	Accident Number:	GAA19CA049
Date & Time:	November 4, 2018, 13:30 Local	Registration:	N21ZA
Aircraft:	Flight Design CTLS	Aircraft Damage:	Substantial
Defining Event:	Hard landing	Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that, during landing, the airplane encountered a gusting crosswind from the right. The airplane was configured with 0° flaps, and the airspeed was about 55 knots, and the airplane was about 5 ft above ground level. The airplane's airspeed was too slow for the gusting right crosswind conditions, and the airplane landed hard on the runway. The right main landing gear wheel separated from the airplane during the landing, and the airplane exited the runway to the right.

The airplane sustained substantial damage to the right main landing gear attachment points and the cabin's monocoque structure.

The pilot reported that there were no mechanical malfunctions or failures with the airplane that would have precluded normal operation.

The METAR at the airport reported that, about the time of the accident, the wind was from 140° at 11 knots, gusting to 19 knots.

Probable Cause and Findings

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

The pilot's failure to maintain adequate airspeed during landing in variable gusting crosswind conditions, which resulted in a hard landing and runway excursion.

Findings

Personnel issues	Aircraft control - Pilot
Aircraft	Airspeed - Not attained/maintained
Environmental issues	Variable wind - Effect on operation
Environmental issues	Gusts - Effect on operation
Environmental issues	Crosswind - Effect on operation

Factual Information

History of Flight

Landing	Other weather encounter
Landing	Hard landing (Defining event)
Landing	Part(s) separation from AC
Landing	Runway excursion

Pilot Information

Certificate:	Sport Pilot	Age:	60,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	4-point
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Sport pilot None	Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	June 4, 2018
Flight Time:	(Estimated) 145 hours (Total, all aircraft), 81 hours (Total, this make and model), 142 hours (Pilot In Command, all aircraft), 1.7 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Flight Design	Registration:	N21ZA
Model/Series:	CTLS Undesignat	Aircraft Category:	Airplane
Year of Manufacture:	2011	Amateur Built:	
Airworthiness Certificate:	Special light-sport (Special)	Serial Number:	F-10-09-04
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	July 5, 2018 100 hour	Certified Max Gross Wt.:	1320 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	2396.3 Hrs as of last inspection	Engine Manufacturer:	Rotax
ELT:	Installed, not activated	Engine Model/Series:	912 ULS
Registered Owner:		Rated Power:	100 Horsepower
Operator:		Operating Certificate(s) Held:	Pilot school (141)

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KLPR, 794 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	18:32 Local	Direction from Accident Site:	333°
Lowest Cloud Condition:	Clear	Visibility	2 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	11 knots / 19 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	140°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.22 inches Hg	Temperature/Dew Point:	13°C / 0°C
Precipitation and Obscuration:	Moderate - None - Haze		
Departure Point:	ELYRIA, OH (LPR)	Type of Flight Plan Filed:	None
Destination:	ELYRIA, OH (LPR)	Type of Clearance:	None
Departure Time:	12:55 Local	Type of Airspace:	Class G

Airport Information

Airport:	Lorain County Rgnl LPR	Runway Surface Type:	Asphalt
Airport Elevation:	793 ft msl	Runway Surface Condition:	Dry
Runway Used:	07	IFR Approach:	None
Runway Length/Width:	5002 ft / 100 ft	VFR Approach/Landing:	Full stop

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:	41.344165,-82.17778(est)

Administrative Information

Investigator In Charge (IIC):	Hicks, Michael
Additional Participating Persons:	Julio Galarza ; FAA; Cleveland, OH
Original Publish Date:	November 6, 2019
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=98602

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