Aviation Investigation Final Report

Location:	Sandy Valley, Nevada	**Accident Number:**	GAA19CA242
Date & Time:	May 5, 2019, 08:00 Local	**Registration:**	N175LM
Aircraft:	Flight Design CTLS	**Aircraft Damage:**	Substantial
Defining Event:	Hard landing	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The pilot reported that, during a biennial flight review, the flight instructor told him to expect a simulated engine failure during takeoff and an engine-out approach to a perpendicular runway. After departure and about 400 ft above ground level (agl), the instructor reduced power, and the pilot turned left to land on the perpendicular runway. He overshot the runway, banked to 40°, and felt a "strong sink." He leveled the wings and added full power about 150 to 200 ft agl, but the airplane continued to descend. The instructor stated he considered taking the flight controls, but the pilot maintained control. The airplane landed hard, the right main landing gear (MLG) struck a hole, the airplane veered right, and the left MLG separated.

The airplane sustained substantial damage to the fuselage.

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

Probable Cause and Findings

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

The pilot's steep bank turn at low altitude, which resulted in a rapid descent and hard landing.

Findings

Aircraft	Lateral/bank control - Incorrect use/operation
Personnel issues	Aircraft control - Pilot

Factual Information

History of Flight

Landing	Landing area overshoot
Landing	Hard landing (Defining event)
Landing	Landing gear collapse
Landing	Part(s) separation from AC

Pilot Information

Certificate:	Airline transport; Sport Pilot	**Age:**	67,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	4-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Sport pilot	**Last FAA Medical Exam:**	
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	May 5, 2019
Flight Time:	(Estimated) 24500 hours (Total, all aircraft), 1000 hours (Total, this make and model), 10000 hours (Pilot In Command, all aircraft), 25 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft), 0.5 hours (Last 24 hours, all aircraft)		

Flight instructor Information

Certificate:	Commercial; Flight instructor; Military	**Age:**	80,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	4-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine	**Toxicology Performed:**	No
Medical Certification:	Class 3 Without waivers/limitations	**Last FAA Medical Exam:**	November 13, 2017
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	November 13, 2017
Flight Time:	(Estimated) 12000 hours (Total, all aircraft), 10000 hours (Pilot In Command, all aircraft), 20 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Flight Design	**Registration:**	N175LM
Model/Series:	CTLS Undesignat	**Aircraft Category:**	Airplane
Year of Manufacture:	2012	**Amateur Built:**	
Airworthiness Certificate:	Experimental light sport (Special)	**Serial Number:**	F-12-03-10
Landing Gear Type:	Tricycle	**Seats:**	2
Date/Type of Last Inspection:	October 29, 2018 Condition	**Certified Max Gross Wt.:**	1320 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	491 Hrs at time of accident	**Engine Manufacturer:**	Rotax
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	912 ULS
Registered Owner:	On file	**Rated Power:**	100 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:	KHND,2458 ft msl	**Distance from Accident Site:**	26 Nautical Miles
Observation Time:	14:56 Local	**Direction from Accident Site:**	65°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	10 knots /	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	220°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	29.79 inches Hg	**Temperature/Dew Point:**	22°C / 1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Sandy Valley, NV (3L2)	**Type of Flight Plan Filed:**	None
Destination:	Sandy Valley, NV (3L2)	**Type of Clearance:**	None
Departure Time:	07:20 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	SKY RANCH 3L2	**Runway Surface Type:**	Dirt
Airport Elevation:	2599 ft msl	**Runway Surface Condition:**	Dry;Holes;Rough;Vegetation
Runway Used:	12	**IFR Approach:**	None
Runway Length/Width:	3300 ft / 105 ft	**VFR Approach/Landing:**	Simulated forced landing

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:**	35.793609,-115.626663(est)

Administrative Information

Investigator In Charge (IIC):	Benhoff, Kathryn
Additional Participating Persons:	Bruce W Thompson; FAA; Las Vegas, NV
Original Publish Date:	March 3, 2020
Last Revision Date:	
Investigation Class:	Class
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=99377