Aviation Investigation Final Report

Location:	Stuart, Florida	**Accident Number:**	ERA24LA051
Date & Time:	November 28, 2023, 18:28 Local	**Registration:**	N235N
Aircraft:	Lancair 235	**Aircraft Damage:**	Substantial
Defining Event:	Landing gear collapse	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot attempted to extend the landing gear of the experimental amateur-built airplane, but did not receive a green light cockpit indication for the nose landing gear. He performed the emergency landing gear extension procedure and ultimately received a green light for the nose landing gear during an airport flyby, in which ground personnel observed that the nose landing gear was extended. The pilot subsequently performed a soft-field landing; however, the nose landing gear collapsed when it contacted the runway. The airplane veered left, struck a taxiway sign, and came to rest upright in a grassy area to the left of the runway.

Examination of the wreckage revealed extensive streaking of hydraulic fluid on the lower left section of the airplane and the empennage beginning at the area between the fuselage and left wing root and flap. The left main landing gear strut had separated during the accident and could have been one source of hydraulic fluid on the empennage. The landing gear hydraulic pump operated normally when tested and the landing gear downlock switches were found to be electrically operational as well. The hydraulic fluid reservoir was found to be low (approximately 25% filled), consistent with a hydraulic leak; however, due to impact damage, the source of the leak could not be determined, nor could the landing gear system be fully tested.

Probable Cause and Findings

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

A landing gear collapse due to a hydraulic fluid leak in the landing gear system.

Findings

Aircraft	Hydraulic fluid - Fluid level
Aircraft	Gear extension and retract sys - Malfunction

Factual Information

History of Flight

Landing-landing roll	Landing gear collapse (Defining event)
Landing-landing roll	Loss of control on ground
Landing-landing roll	Runway excursion
Landing-landing roll	Collision with terr/obj (non-CFIT)

On November 28, 2023, about 1828 eastern standard time, an experimental amateur-built, Lancair 235, N235N, was substantially damaged when it was involved in an accident near Stuart, Florida. The pilot and passenger were not injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that about 5 months before the accident, he experienced a landing gear anomaly with the airplane. Specifically, the landing gear would not extend via the normal procedure and the pilot had to perform the emergency landing gear extension procedure. He subsequently landed uneventfully. Following that event, a mechanic observed that a hydraulic pump failed due to a hydraulic leak in the nose landing gear actuator. The actuator was replaced and the hydraulic pump was overhauled.

During the accident flight, the pilot attempted to extend the landing gear, but did not receive a "green light" cockpit indication for the nose landing gear. He performed the emergency landing gear extension procedure and ultimately received a green light for the nose landing gear during an airport flyby, in which ground personnel observed that the nose landing gear was extended. The pilot subsequently performed a soft-field landing; however, the nose landing gear collapsed when it contacted the runway. The airplane veered left, struck a taxiway sign, and came to rest upright in a grassy area to the left of the runway.

Examination of the wreckage by a Federal Aviation Administration inspector revealed substantial damage to the left wing. The inspector also noted extensive streaking of hydraulic fluid on the lower left section of the airplane and the empennage beginning at the area between the fuselage and left wing root and flap.

The wreckage was further examined by a mechanic following its recovery. He noted that the left main landing gear strut had separated during the accident. The landing gear hydraulic pump operated normally and the landing gear downlock switches were found to be electrically operational. The hydraulic fluid reservoir was found to be low (approximately 25% filled), consistent with a hydraulic leak; however, due to impact damage, the mechanic could not determine the source of the hydraulic leak or fully test the landing gear system.

Pilot Information

Certificate:	Airline transport; Commercial; Flight instructor	**Age:**	63,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	
Medical Certification:	Class 1 With waivers/limitations	**Last FAA Medical Exam:**	June 9, 2023
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	September 5, 2023
Flight Time:	13370 hours (Total, all aircraft), 56 hours (Total, this make and model), 8659 hours (Pilot In Command, all aircraft), 55 hours (Last 90 days, all aircraft), 22 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Lancair	**Registration:**	N235N
Model/Series:	235	**Aircraft Category:**	Airplane
Year of Manufacture:	2012	**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	071
Landing Gear Type:	Retractable - Tricycle	**Seats:**	2
Date/Type of Last Inspection:	April 22, 2023 Condition	**Certified Max Gross Wt.:**	1800 lbs
Time Since Last Inspection:	30 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	180 Hrs as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	C126 installed, not activated	**Engine Model/Series:**	O-320
Registered Owner:	On file	**Rated Power:**	150 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Night
Observation Facility, Elevation:	SUA,16 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	18:48 Local	**Direction from Accident Site:**	0°
Lowest Cloud Condition:	Scattered / 2200 ft AGL	**Visibility**	7 miles
Lowest Ceiling:	Broken / 3400 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots / None	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	310°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	30.16 inches Hg	**Temperature/Dew Point:**	16°C / 11°C
Precipitation and Obscuration:			
Departure Point:	Jacksonville, FL (HEG)	**Type of Flight Plan Filed:**	None
Destination:	Stuart, FL	**Type of Clearance:**	None
Departure Time:	16:15 Local	**Type of Airspace:**	Class D

Airport Information

Airport:	Whitman Field SUA	**Runway Surface Type:**	Asphalt
Airport Elevation:	16 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	30	**IFR Approach:**	None
Runway Length/Width:	5828 ft / 100 ft	**VFR Approach/Landing:**	Full stop

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:		**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	27.181699,-80.221293

Administrative Information

Investigator In Charge (IIC):	Gretz, Robert
Additional Participating Persons:	Juan Garcia; FAA/FSDO; Miramar, FL
Original Publish Date:	July 24, 2024
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=193450