



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	West Cobb, Arkansas	Accident Number:	CEN21LA471
Date & Time:	September 29, 2021, 14:00 Local	Registration:	N419SD
Aircraft:	JUST AIRCRAFT LLC HIGHLANDER	Aircraft Damage:	Substantial
Defining Event:	Windshear or thunderstorm	Injuries:	1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported he departed from the airport to practice a short takeoff and landing (commonly known as “STOL”) race circuit in preparation for a race that was going to occur at the airport. As the pilot was on approach for landing, he noticed the wind speed had increased while he was turning base to final at 60 ft agl. The pilot had a 16-mph buffer above the airplane’s aerodynamic stall speed, with two notches of flaps applied, and a 15° bank turn. The airplane was then “hit by a gust” that elevated the right wing to about 30° of bank. The pilot attempted to correct the high bank angle with no success. He reported “all of my lift disappeared,” and the airplane became uncontrollable at about 55 ft agl. The pilot concluded that a “large tail wind shear” aerodynamically stalled the airplane, and he was unable to recover at the low altitude with the various obstacles and structures present on the STOL race circuit course. The airplane “pancaked” and came to rest upright in a field, next to a fence line.

The airplane sustained substantial damage to the fuselage and both wings. The pilot reported there were no preimpact mechanical malfunctions or failures with the airframe and engine that would have precluded normal operation. A review of meteorological data showed that gusting wind conditions and low-level wind shear were likely present in the area at the time of the accident.

Probable Cause and Findings

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

The airplane's encounter with gusting wind conditions and low-level wind shear on final approach, which resulted in a loss of control, an aerodynamic stall, and a subsequent hard landing.

Findings

Personnel issues	Aircraft control - Pilot
Environmental issues	Gusts - Effect on equipment
Environmental issues	Windshear - Effect on equipment
Aircraft	Descent/approach/glide path - Attain/maintain not possible

Factual Information

History of Flight

Approach	Simulated/training event
Approach-VFR pattern final	Other weather encounter
Approach-VFR pattern final	Windshear or thunderstorm (Defining event)
Approach-VFR pattern final	Attempted remediation/recovery
Approach-VFR pattern final	Loss of lift
Approach-VFR pattern final	Loss of control in flight
Approach-VFR pattern final	Aerodynamic stall/spin
Landing	Off-field or emergency landing
Landing	Hard landing

Pilot Information

Certificate:	Airline transport	Age:	47,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:	No
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	September 4, 2021
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	September 14, 2021
Flight Time:	(Estimated) 13500 hours (Total, all aircraft), 400 hours (Total, this make and model), 4900 hours (Pilot In Command, all aircraft), 140 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	JUST AIRCRAFT LLC	Registration:	N419SD
Model/Series:	HIGHLANDER NO SERIES	Aircraft Category:	Airplane
Year of Manufacture:	2008	Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	JAESC0129
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	August 11, 2021 Condition	Certified Max Gross Wt.:	1320 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	1247 Hrs as of last inspection	Engine Manufacturer:	ROTAX
ELT:	C126 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
Operator Does Business As:	On file	Operator Designator Code:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KFYV, 1259 ft msl	Distance from Accident Site:	29 Nautical Miles
Observation Time:	13:53 Local	Direction from Accident Site:	313°
Lowest Cloud Condition:		Visibility	10 miles
Lowest Ceiling:	Broken / 4400 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	7 knots / None	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	200°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.92 inches Hg	Temperature/Dew Point:	29°C / 18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	West Cobb, AR	Type of Flight Plan Filed:	None
Destination:	West Cobb, AR	Type of Clearance:	None
Departure Time:		Type of Airspace:	Class G

Airport Information

Airport:	BYRD'S BACKCOUNTRY AIRSTRIP 51AR	Runway Surface Type:	Grass/turf
Airport Elevation:	800 ft msl	Runway Surface Condition:	Dry;Vegetation
Runway Used:	07/25	IFR Approach:	None
Runway Length/Width:	2500 ft / 30 ft	VFR Approach/Landing:	Stop and go;Traffic pattern;Valley/terrain following

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	1 Serious	Latitude, Longitude:	35.677288,-93.732683(est)

Administrative Information

Investigator In Charge (IIC):	Hodges, Michael
Additional Participating Persons:	Nathan Bradshaw; FAA Little Rock FSDO; Little Rock, AR
Original Publish Date:	April 29, 2022
Last Revision Date:	
Investigation Class:	Class 4
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=104045

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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](#).