



Aviation Investigation Final Report

Location:	Mojave, California	Accident Number:	WPR22LA133
Date & Time:	March 26, 2022, 12:00 Local	Registration:	N88KL
Aircraft:	ADAMS DENNIS ALLEN VARIEZE	Aircraft Damage:	Substantial
Defining Event:	Loss of engine power (total)	Injuries:	1 Serious, 1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that, after takeoff and about 500 ft above ground level, the engine lost total power and he chose to land on the open desert terrain. During the landing roll, the airplane collided with vegetation and the landing gear separated, resulting in substantial damage to the fuselage undercarriage.

Examination of the airplane revealed that the air intake duct between the air filter box and the carburetor was damaged during the accident sequence and partially separated from the airplane. The ducting was Scelet tubing that comprised wire coil encased between an inner and outer silicone-impregnated layer. The Scelet tubing was disassembled and exhibited debonding of the inner and outer layers. Oil and debris that was not consistent with the accident sequence were present in the debonded area. It is likely that the loss of engine power was due to the separation of the Scelet tubing inner layer, which then restricted airflow to the carburetor.

Probable Cause and Findings

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

The failure of the carburetor intake Scelet tubing, which resulted in a total loss of engine power.

Findings

Aircraft

Air intake - Failure

Factual Information

History of Flight

Initial climb	Loss of engine power (total) (Defining event)
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On March 26, 2022, about 1200 Pacific daylight time, an experimental, amateur-built VariEze, N88KL, was substantially damaged when it was involved in an accident near Mojave, California. The pilot sustained minor injuries and the pilot-rated passenger sustained serious injuries. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot reported that he departed from runway 26, and turned left to the south. About 500 ft above ground level (agl), the engine lost total power. As the pilot continued the left turn back toward the airport, he realized that the airplane would not reach the runway and he chose to land in open desert terrain. During the landing roll, the airplane collided with vegetation and the landing gear separated, resulting in substantial damage to the fuselage undercarriage.

Postaccident examination of the airplane revealed that the air intake duct between the air filter box and the carburetor was damaged during the accident sequence and partially separated from the airplane. The ducting was about 2 inches in diameter and consistent with Sceet tubing with both an inner and outer silicone-impregnated cloth with a wire coil between the layers. The Sceet tubing was disassembled and exhibited debonding of the inner and outer layer. Oil and debris that was not consistent with the accident sequence was present between the debonded area. The separation of the inner layer was consistent with unsupported areas during a negative pressure flow during engine operation.

Pilot Information

Certificate:	Commercial; Flight instructor	Age:	26, Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	Front
Other Aircraft Rating(s):	Glider	Restraint Used:	4-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Glider; Instrument airplane	Toxicology Performed:	
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	November 2, 2020
Occupational Pilot:	No	Last Flight Review or Equivalent:	August 16, 2020
Flight Time:	(Estimated) 1478 hours (Total, all aircraft), 120 hours (Total, this make and model), 1334 hours (Pilot In Command, all aircraft), 74 hours (Last 90 days, all aircraft), 19 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Pilot-rated passenger Information

Certificate:	Commercial	Age:	38, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Center
Other Aircraft Rating(s):	None	Restraint Used:	4-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	April 28, 2022
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	ADAMS DENNIS ALLEN	Registration:	N88KL
Model/Series:	VARIEZE	Aircraft Category:	Airplane
Year of Manufacture:	1983	Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	1644
Landing Gear Type:	Retractable - Tricycle	Seats:	2
Date/Type of Last Inspection:	March 20, 2022 Condition	Certified Max Gross Wt.:	1200 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	1192 Hrs at time of accident	Engine Manufacturer:	Continental Motors
ELT:	C91A installed, not activated	Engine Model/Series:	O-200-A
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:	KMHV,2787 ft msl	Distance from Accident Site:	2 Nautical Miles
Observation Time:	12:00 Local	Direction from Accident Site:	65°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	16 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	200°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.95 inches Hg	Temperature/Dew Point:	26°C / -14°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Mojave, CA	Type of Flight Plan Filed:	None
Destination:	Mojave, CA	Type of Clearance:	None
Departure Time:		Type of Airspace:	Class G

Airport Information

Airport:	Mojave Air and Space Port MHV	Runway Surface Type:	
Airport Elevation:	2801 ft msl	Runway Surface Condition:	Dry
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	1 Serious	Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	1 Serious, 1 Minor	Latitude, Longitude:	35.053475,-118.18486(est)

Administrative Information

Investigator In Charge (IIC):	Gutierrez, Eric
Additional Participating Persons:	Clarence Abbott; FAA; Van Nuys, CA
Original Publish Date:	August 15, 2023
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=104845

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](#).