



Aviation Investigation Final Report

Location:	Lake Port, California	Accident Number:	WPR20LA257
Date & Time:	August 7, 2020, 12:30 Local	Registration:	N290MH
Aircraft:	Sportine Aviacija LAK17	Aircraft Damage:	Substantial
Defining Event:	Aerodynamic stall/spin	Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot departed on a local flight in his newly purchased self-launching motorglider in day visual meteorological conditions. Flight track data showed the glider complete multiple turns in the vicinity of the airport at various altitudes. About 20 minutes into the flight, flight track data ended near the accident site. The end of the data showed the glider in a short, steep climb before turning left and losing about 70 ft of altitude. The final data point showed the glider about 564 ft above ground level. There were no witnesses to the accident. Although the recorded data did not capture engine operation for the accident flight, examination of the wreckage indicated that the engine was operating at the time of impact.

The pilot had over 1,600 hours of flight experience in gliders and about 4.5 hours in the accident glider. Although the flight track data did not show an aerodynamic stall causing the glider to descend to the ground, it is likely that one occurred. According to photos supplied by first responders, the glider was found in multiple sections scattered within about a 100 ft radius. In the immediate vicinity of the debris field and wreckage, trees and bushes were not damaged indicating that the glider was most likely in a nose low descent at the time of impact.

Probable Cause and Findings

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

The pilot's exceedance of the glider's critical angle of attack during flight, which resulted in an aerodynamic stall and subsequent impact with terrain.

Findings

Aircraft	Angle of attack - Not attained/maintained
Personnel issues	Aircraft control - Pilot

Factual Information

History of Flight

Maneuvering

Aerodynamic stall/spin (Defining event)

On August 7, 2020, about 1230 Pacific daylight time, a Sportine Aviacija Lak-17B FES Mini motorized glider, N290MH, was substantially damaged when it was involved in an accident near Lakeport, California. The private pilot was fatally injured. The glider was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot departed from runway 28 at Lampson Field Airport (102), Lakeport, California, about 1200 on a local flight. A video was taken from the start end of runway 28 at 102, where a family member acted as a wing runner while the glider started its takeoff roll. The glider started on the left side of the runway and became airborne after about 1,000 ft of ground roll. The glider maintained runway heading in a steep climb until reaching an altitude of about 500 ft above ground level before the glider was out of view. The motor could be heard throughout the video.

When the pilot did not return from the flight, family members checked information from his personal locator beacon, which indicated his last position. The accident site was located later in the day.

There were no witnesses to the accident.

Flight track data for the accident flight was downloaded from an onboard flight computer. The data indicated that the pilot departed and performed turning maneuvers within 2 miles of 102 for about 20 minutes, and the glider reached a maximum altitude of 2,871 mean sea level (msl), about 1,500 ft above ground level (agl); the altitude then slowly decreased throughout the rest of the flight. The data near the accident site showed the glider in a short, steep climb before it turned left and descended about 70 ft; the last recorded altitude was about 564 ft agl.

Pilot Information

Certificate:	Private	Age:	89, Male
Airplane Rating(s):	None	Seat Occupied:	Single
Other Aircraft Rating(s):	Glider	Restraint Used:	Unknown
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	None	Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	May 10, 2019
Flight Time:	1556 hours (Total, all aircraft), 4.53 hours (Total, this make and model)		

The pilot purchased the glider several months before the accident. Although he had logged over 1,500 hours of flight experience in gliders, the pilot had less than 5 hours in the accident glider.

The pilot had recently imported the glider and was involved in recent months of fulfilling FAA airworthiness requirements. The pilot was also coordinating with a designated airworthiness representative (DAR) to complete three takeoffs and landings and five hours of flight time. In an email dated July 9, 2020, the pilot requested to the DAR that he change the location of his introductory flights from 102 to Air Sailing Gliderport (NV23), Sparks, Nevada, where the pilot had explained he had flown for the past 18 years. He also stated that he would get more acquainted with the new glider by taking several aerotows before moving to self launches. The email request was approved the following day.

On July 12, 2020, the pilot conducted an aerotow at NV23 and completed a 4-hour and 15-minute flight in the accident glider.

Aircraft and Owner/Operator Information

Aircraft Make:	Sportine Aviacija	Registration:	N290MH
Model/Series:	LAK17 B	Aircraft Category:	Glider
Year of Manufacture:	2020	Amateur Built:	
Airworthiness Certificate:	None	Serial Number:	029
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	June 12, 2020 Unknown	Certified Max Gross Wt.:	771 lbs
Time Since Last Inspection:	3 Hrs	Engines:	1 Electric
Airframe Total Time:		Engine Manufacturer:	Sportine Aviacija
ELT:	Not installed	Engine Model/Series:	FES-LAK-M100
Registered Owner:		Rated Power:	
Operator:		Operating Certificate(s) Held:	None

The single-seat, high-performance motor glider, serial number 029, was manufactured in 2020. According to the airframe logbook, the glider had less than 5 total hours of flight time before the accident flight.

The glider was equipped with a single-shaft, 23-kilowatt (maximum power) FES-LAK-M100 front electric sustainer (FES) motor, which powered a FES-LAK-P10-100, 1-meter diameter, two-bladed propeller. The foldable propeller was located at the nose of the glider; when not in use, the blades folded aft against the fuselage. The motor was powered by two 116-volt batteries located behind the cabin area.

Per the glider flight manual, the glider's normal operating airspeed range was 54 to 92 kts. Its never-exceed airspeed in smooth air was 124 kts.

The glider was equipped with an LXNav LX9000 glide computer/GPS that captured flight information for the accident flight and previous flights.

According to a family member and flight track data, on June 20, 2020, before the pilot's first orientation flight, it was noted that the spoiler sensor and the landing gear sensor were installed in the wrong positions. The propeller blades would also not retract into their folded positions after a FES ground run. The sensors were repaired. After the glider departed the airport area, the FES was getting hot and was shut down before reaching the planned altitude. While announcing the return to the airport over the radio, the FES restarted and was shut down again by the pilot. The propeller continued to rotate during the descent and the blades would not retract into their folded positions. During the landing, the pilot kept the glider's nose up to prevent propeller blade impact with the runway, and the main tire blew upon touchdown. The landing gear was repaired, and electronic downloads were installed to adjust the propeller

docking position. Also, an adjustment was made to avoid radio activation of the FES. The electronic downloads were not found in the logbooks.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	K102,1380 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	12:00 Local	Direction from Accident Site:	270°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	None / None
Wind Direction:		Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.88 inches Hg	Temperature/Dew Point:	36°C / 13°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Lakeport, CA (102)	Type of Flight Plan Filed:	None
Destination:	Lakeport, CA (102)	Type of Clearance:	None
Departure Time:	12:00 Local	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	38.934165,-122.87722(est)

The wreckage was located on steep, wooded terrain about 1 mile west of the departure end of runway 28 at 102. According to photos supplied by first responders, the glider was found in multiple sections scattered within about a 100 ft radius. In the immediate vicinity of the debris field and wreckage, trees and bushes were not damaged.

Due to the Covid-19 pandemic, the NTSB did not travel to the accident site. Local law enforcement responded to the accident site, and onsite photographic documentation was accomplished. An airframe examination was performed at the accident site and the wreckage was recovered to a secured facility for further examination.

The postaccident examination of the wreckage revealed the forward fuselage had excessive impact damage and was found in multiple sections. The motor remained attached to the forward support structure (canopy holder) and instrument panel, which separated from the main wreckage. Battery cables and various wires near the motor were cut during the recovery of the wreckage.

The propeller blades separated from the motor hub and were found with impact damage to the blades and to the mounting ends. The cambered sides of the propeller blades displayed rotational scuff marks. Both propeller blades' mounting end sections remained attached to the hub. The spinner exhibited rotational scoring near the aft edge as well as impact damage near the blade mounts consistent with the blades being in the deployed (forward) position. (see Figure 1.) The motor housing displayed rotational scoring.

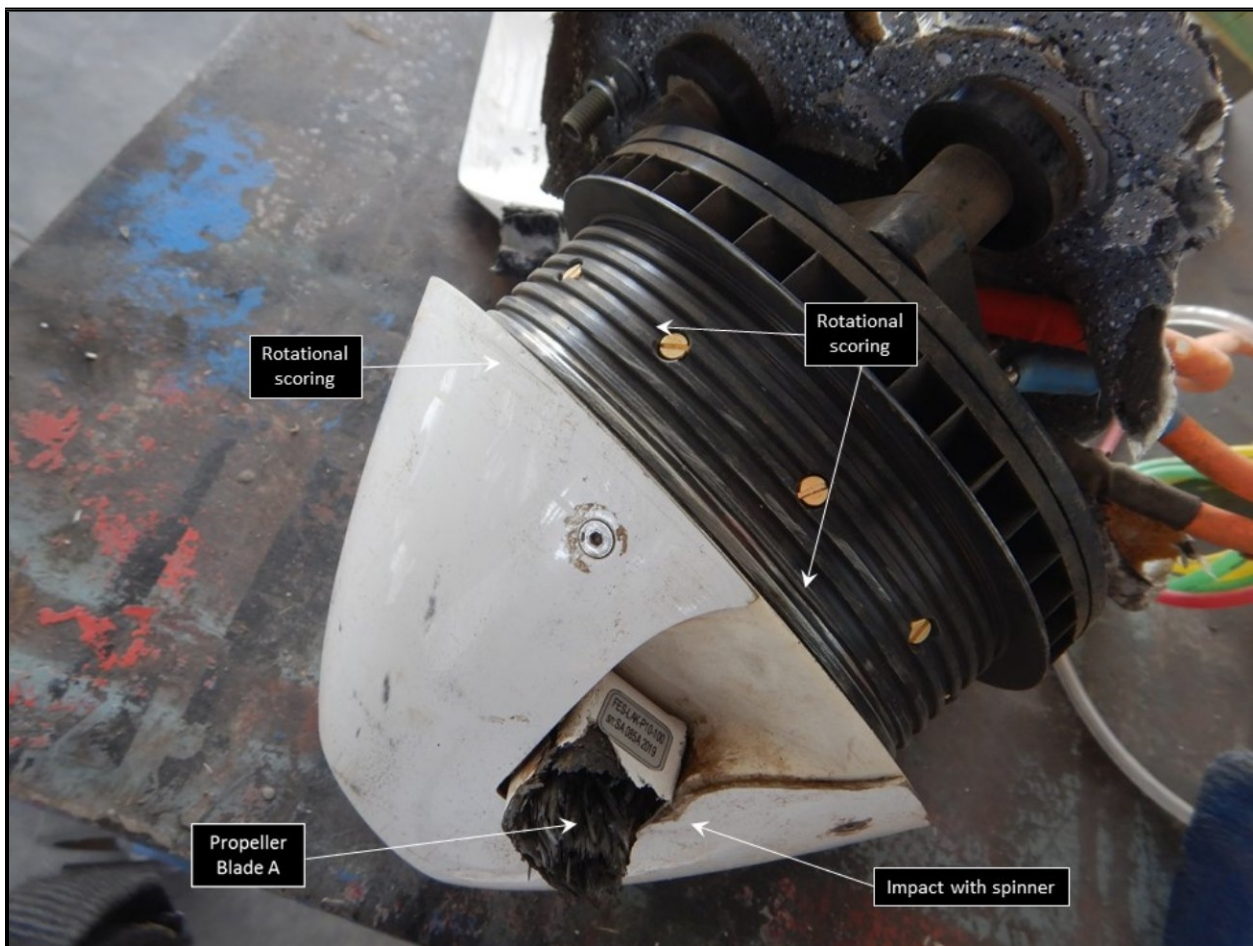


Figure 1. FES Motor assembly and impact marks

The motor rotated normally by hand. The air vent linkage in the hub operated normally by hand from the cable.

The examination of the wreckage revealed no evidence of preexisting malfunctions or failures that would have precluded normal operation.

Medical and Pathological Information

According to the autopsy performed by Bennett Omalu Pathology, the cause of death was high velocity polytrauma. In addition, severe atherosclerotic heart disease was identified with up to 90% stenosis of the left anterior descending and right coronary arteries; however, no scarring from previous ischemia was identified.

According to the testing performed by Central Valley Toxicology Inc., ethanol was detected in chest blood at 0.14 gm/dl; no other common acidic, neutral, or basic drugs were identified.

Toxicology testing performed by the FAA's Forensic Sciences Laboratory identified ethanol at 0.130gm/dl along with N-propanol in cavity blood but no ethanol in vitreous. No other tested-for substances were detected.

Administrative Information

Investigator In Charge (IIC): Swick, Andrew

Additional Participating Persons: Jeffery Snider; FAA-FSDO; Sacramento, CA
Grant C. Hilty; Prescott Area Flying; Prescott, AZ

Original Publish Date: January 25, 2023

Investigation Class: 3

Note: The NTSB did not travel to the scene of this accident.

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=101758>

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).