

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



CEN21FA230

FIELD EXAMINATION REPORT

May 23, 2021

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A. Accident

CEN21FA230
Shreveport, Louisiana
May 23, 2021
1447 CDT

B. Investigative Team

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C. Summary of Investigation

On May 23, 2021, about 1447 central daylight time (CDT), a Sub-Sonex JSX-2 experimental amateur built jet airplane, N465JC, was destroyed when it impacted a small recreational lake (Cross Lake) near Shreveport, Louisiana. The pilot sustained fatal injuries. The personal flight was being conducted under the provisions of Title 14 *Federal Code of Regulations* Part 91.

The intent of the flight was to fly over Cross Lake after departing the Shreveport Regional Airport (SHV). Automatic Dependent Surveillance Broadcast (ADS-B) track data indicated the airplane departed runway (RWY) 24 at SHV, about 1439:00. The airplane made a right turn to the northeast and proceeded to fly over Cross Lake. See Figure 1.

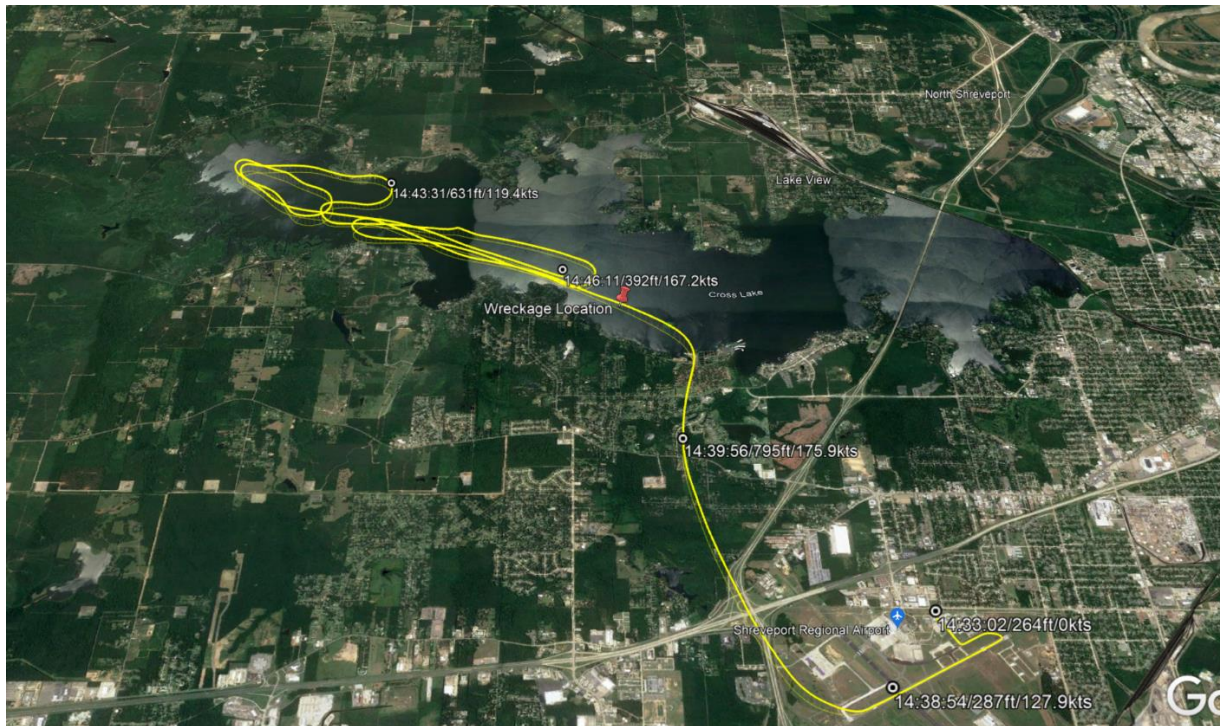


Figure 1. Overall Flight Track

The ADS-B track data showed the airplane maneuvering low-level over the lake until track data was lost at 1446:14. See figure 2.

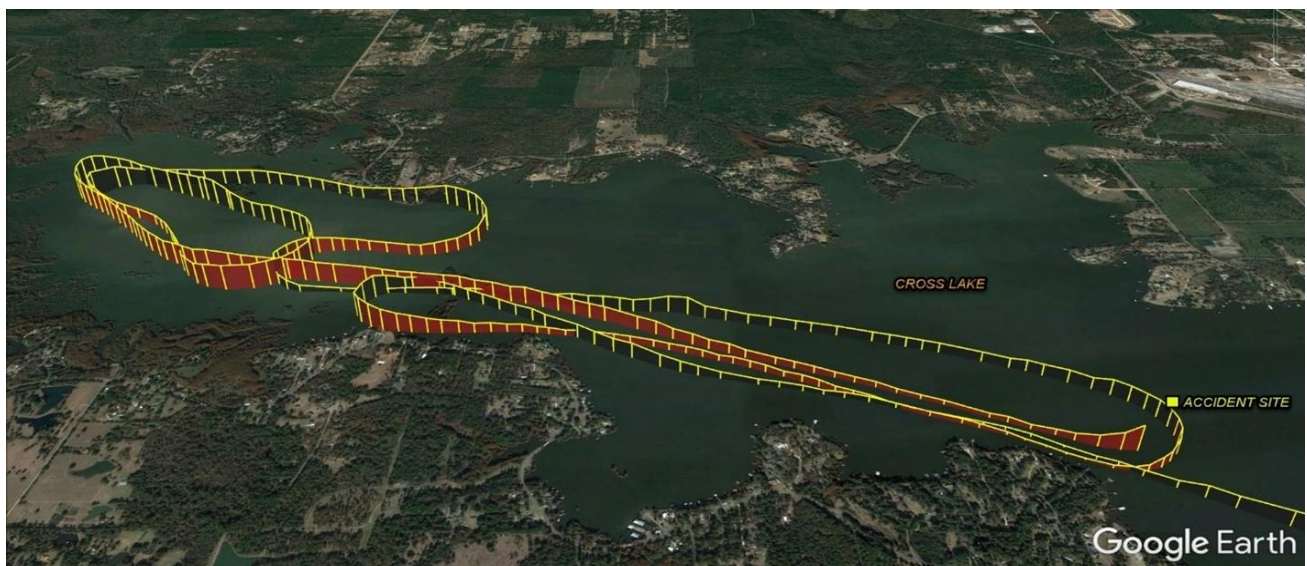


Figure 2. Flight Path Over Cross Lake and the Accident Location

At the last track data point, the airplane was over Cross Lake at an altitude of 625 ft MSL, 142 kts ground speed, and on a 100° heading. An onboard Garmin GDU 460 cockpit display recorded 13 minutes and 9 seconds of the airplane's flight. At the last recorded point at 1446:20, the airplane was about 400 ft AGL, 170 knots

indicated airspeed, and heading 100°. Before the data was lost, the airplane pitch showed an abrupt pitch up to 15 degrees.

A witness reported that he and several other persons were on a pier on the lakeshore and saw the airplane fly low across the lake at about 200 ft AGL. The witness reported that just before the accident he saw the airplane roll to the right until it was inverted and then it abruptly nosed down and impacted the water in a near vertical attitude. There were no radio or distress calls heard from the pilot.

D. Airframe and Engine Examination

1.0 Accident Site

The airplane's wreckage was located submerged in a shallow recreational lake. The airplane wreckage was recovered and taken to a secured hangar at SHV for examination.

2.0 Airframe Examination

Airframe damage showed evidence that the airplane impacted the water in near vertical, nose-low, right wing down attitude. The airplane's cabin and cockpit sections were broken open. The right wing was crushed aft along the entire span of the spar. The left wing was separated at the fuselage and was folded rearward and buckled. The empennage was buckled forward. The right ruddervator showed impact crush damage to its leading edge. The left ruddervator had minimal impact damage. Flight control continuity was confirmed. The airplane was equipped with a ballistic recovery system (BRS). The BRS cockpit deployment lever was found in the stowed position.

3.0 Engine Examination

The airplane's engine was separated from the fuselage at pylon base. Witness marks on the ring cowlings corresponded to similar marks on the top fuselage. The engine was rotated by hand and drive continuity was established from the compressor rearward to the exhaust. The inlet compressor blades did not show any deformation and showed no binding during rotation. The engine control unit was recovered and downloaded and showed that the engine functioned normally up to the time of the accident.

4.0 Pilot Information

The pilot held type ratings in the CE-500, EA-500S, IA-Jet, LR-60 (Second-in-Command only), LR-Jet, and MS-760. He was authorized to fly the AV-L39 and the Sub-Sonex experimental aircraft VFR only.

5.0 Aircraft Information

The airplane, serial number JSX-0006, was certificated as an amateur-built experimental airplane on April 13, 2017. The pilot/owner acquired the airplane on July 17, 2020, and the date of the application for registration was July 19, 2020.

Maintenance logbooks were reviewed, and no mechanical discrepancies were noted in the entries. The airplane was maintained under 14 CFR Part 43 for annual condition inspections. According to entries in the airframe logbook, the airplane completed its Phase One flight testing for airworthiness for standard flights on July 10, 2017. No entries were found after Phase Two for flight testing to perform aerobatics maneuvers. (14 CFR, Part 91.319(b)).

The airplane was ADS-B equipped and transmitting ADS-B data at the time of the accident. It was also equipped with a Ballistic Recovery System (BRS). Upon recovery, the BRS system appeared to have been activated and deployed upon impact (The manual pull handle was not activated). The airplane was equipped with a Garmin G3X multi-function display. As of November 17, 2020, airplane logbooks indicated that its total time was about 93-hours. The airplane's engine was a model PBS TJ-100, FADEC controlled turbojet. According to engine logbooks, the engine total time was about 100-hours.

E. Additional Information

Title 14 *Code of Federal Regulations* Part 91, General Operating and Flight Rules, Subpart D Special Flight Operations, Paragraph 91.303 Aerobatic flight states:

No person may operate an aircraft in aerobatic flight—

- (a) Over any congested area of a city, town, or settlement;
- (b) Over an open air assembly of persons;
- (c) Within the lateral boundaries of the surface areas of Class B, Class C, Class D, or Class E airspace designated for an airport;
- (d) Within 4 nautical miles of the center line of any Federal airway;
- (e) Below an altitude of 1,500 feet above the surface; or
- (f) When flight visibility is less than 3 statute miles.

For the purposes of this section, aerobatic flight means an intentional maneuver involving an abrupt change in an aircraft's attitude, an abnormal attitude, or abnormal acceleration, not necessary for normal flight.

Submitted by:

Alex Lemishko
Investigator-in-Charge