



# Aviation Investigation Final Report

<b>Location:</b>	Wetumpka, Alabama	<b>Accident Number:</b>	ERA23LA325
<b>Date &amp; Time:</b>	August 3, 2023, 13:26 Local	<b>Registration:</b>	N3HH
<b>Aircraft:</b>	LONG CHARLES JACKSON AVID FLYER	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Fuel exhaustion	<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The pilot was flying his experimental airplane from Florida to Alabama. The airplane was equipped with a 15-gallon fuel tank and the engine consumed about 4.5 gallons of fuel per hour. The pilot said he departed with full fuel and then made 4 fuel stops along the route, stopping about every 70 to 90 minutes. At each stop he filled the fuel tank. On his last fuel stop, after he filled the fuel tank, he took a sample of fuel from the tank's fuel drain valve to check for water and noticed a few drips of fuel coming from the valve, but no major leaks. The pilot then departed on his final leg of the trip. About 90 minutes into the flight, the engine stopped producing power, and the pilot noted that the fuel sight tube was completely empty. The pilot made a forced landing, resulting in substantial damage to the airframe.

A postaccident examination of the airplane revealed the fuel tank was intact and empty. No other breaches in the fuel system were observed; however, blue staining was noted around the fuel sump-valve consistent with it having been leaking. Fuel staining was also observed on the right flaperon. The pilot said the fuel valve was leaking a few months before the accident, but he fixed it and had not had another problem with the drain valve until the accident flight. Based on this information, it is likely that fuel leaking from the drain valve decreased the amount of fuel available over the duration of the accident flight, ultimately resulting in fuel exhaustion and a subsequent total loss of engine power.

## Probable Cause and Findings

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

A loss of engine power due to fuel exhaustion because of a leaking fuel drain valve.

## Findings

Aircraft	Fuel filter-strainer - Failure
Aircraft	Fuel - Fluid level

# Factual Information

## History of Flight

Enroute-descent	Fuel exhaustion (Defining event)
Landing	Collision with terr/obj (non-CFIT)

On August 3, 2023, at 1326 central daylight time, N3HH, an experimental amateur-built Long Charles Jackson Avid Flyer airplane, sustained substantial damage when it was involved in an accident near Wetumpka, Alabama. The pilot was not injured. The airplane was operated as a 14 *Code of Federal Regulations* Part 91 personal flight.

The pilot was flying the airplane from Wimauma, Florida, to Wetumpka Airport (08A), Wetumpka, Alabama. The airplane was equipped with a 15-gallon fuel tank located in the wing and the engine consumed about 4.5 gallons of fuel per hour. The pilot said he departed with full fuel and made 4 fuel stops along the route, stopping about every 70-90 minutes. At each stop he filled the fuel tank.

On his third fuel stop, he noted that it took 10 gallons to fill the tank when it should have only taken about 7 gallons. He justified the discrepancy by thinking that he had filled the tanks too quickly on the previous stops, causing the fuel to overflow the cap before it had a chance to settle into the other chambers of the tank.

The pilot then flew to Dawson, Georgia, which was his last fuel stop before landing at 08A. In Dawson, he purchased 6 gallons of fuel. He looked at the airplane’s fuel sight-gauge and it was “full.” Before departure, the pilot took a sample of fuel via the fuel drain valve located under the right wing and it was absent of water. When he took the sample, he observed a few drops of fuel drip from the valve, but no noticeable leaks.

The pilot then departed for 08A. The pilot said that when he was about 6 miles from the airport, about 90 minutes into the flight, the engine began to misfire. The fuel sight tube was completely empty and the clear fuel filter located under the panel was “intermittently gushing fuel.” Seconds later, the engine stopped producing power. The pilot attempted to make a forced landing to a rural gravel road but landed to the right of it and flipped over into a ditch, resulting in substantial damage to the fuselage.

A postaccident examination of the airplane revealed the fuel tank was intact and empty of fuel. No other breaches in the fuel system were observed; however, the fuel drain valve did exhibit blue staining consistent with a leak. Fuel staining was also observed on the right flaperon.

The pilot said that the fuel drain valve had been leaking a few months before the accident. He fixed it by removing the valve and cleaning the O-ring seal, which had a small piece of debris

stuck in it from inside the fuel tank. He also flushed the tank with fuel to be sure there was no debris in it. The pilot said that he had not had another problem with the drain valve until the accident flight.

### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	32, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	3-point
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 3 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	June 13, 2019
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	February 14, 2022
<b>Flight Time:</b>	173 hours (Total, all aircraft), 106 hours (Total, this make and model), 27 hours (Last 90 days, all aircraft), 8 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	LONG CHARLES JACKSON	<b>Registration:</b>	N3HH
<b>Model/Series:</b>	AVID FLYER MK IV	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	1993	<b>Amateur Built:</b>	Yes
<b>Airworthiness Certificate:</b>	Experimental (Special)	<b>Serial Number:</b>	1066D
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	March 10, 2023 Condition	<b>Certified Max Gross Wt.:</b>	1150 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	225.3 Hrs as of last inspection	<b>Engine Manufacturer:</b>	Rotax
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	582UL
<b>Registered Owner:</b>	HODGE TYLER A	<b>Rated Power:</b>	65 Horsepower
<b>Operator:</b>	On file	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	KMXF, 171 ft msl	<b>Distance from Accident Site:</b>	12 Nautical Miles
<b>Observation Time:</b>	12:55 Local	<b>Direction from Accident Site:</b>	216°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	7 knots /	<b>Turbulence Type Forecast/Actual:</b>	None / None
<b>Wind Direction:</b>	240°	<b>Turbulence Severity Forecast/Actual:</b>	N/A / N/A
<b>Altimeter Setting:</b>	30.02 inches Hg	<b>Temperature/Dew Point:</b>	34°C / 18°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Dawson, GA (16J)	<b>Type of Flight Plan Filed:</b>	VFR
<b>Destination:</b>	Wetumpka, AL (08A)	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	16:49 UTC	<b>Type of Airspace:</b>	Class G

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	N/A	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>		<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 None	<b>Latitude, Longitude:</b>	32.5437,-86.2119

## Administrative Information

Investigator In Charge (IIC):	Read, Leah
Additional Participating Persons:	Randy Duley; FAA/FSDO; Birmingham, AL
Original Publish Date:	June 26, 2024
Last Revision Date:	
Investigation Class:	<a href="#">Class 3</a>
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	<a href="https://data.nts.gov/Docket?ProjectID=192798">https://data.nts.gov/Docket?ProjectID=192798</a>

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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](#).