

**Accident**

<b>Aircraft Type and Registration:</b>	Zenair CH 750, G-WXYZ	
<b>No &amp; Type of Engines:</b>	1 Rotax 912iS piston engine	
<b>Year of Manufacture:</b>	2019 (Serial no: LAA 381-15436)	
<b>Date &amp; Time (UTC):</b>	4 March 2023 at 1420 hrs	
<b>Location:</b>	Kingswinford, Dudley, West Midlands	
<b>Type of Flight:</b>	Private	
<b>Persons on Board:</b>	Crew - 1	Passengers - None
<b>Injuries:</b>	Crew - 1 (Minor)	Passengers - N/A
<b>Nature of Damage:</b>	Substantial damage to aircraft	
<b>Commander's Licence:</b>	Private Pilot's Licence	
<b>Commander's Age:</b>	76 years	
<b>Commander's Flying Experience:</b>	721 hours (of which 5 were on type) Last 90 days - 11 hours Last 28 days - 6 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot and additional enquiries made by the AAIB	

**History of the flight**

The pilot of G-WXYZ had planned to fly from Tatenhill Airfield to Thruxton Airport. However, 30 minutes into the flight, he saw a red warning light illuminate on G-WXYZ's instrument panel. Four red warning lights were fitted to G-WXYZ: two for the engine control unit (ECU), one to indicate overall health of the electrical system and one to indicate a low fuel state. The pilot did not recall which of the four warning lights illuminated, but soon afterwards the engine stopped. He immediately selected a field in which to land and, aware of his aircraft's limited glide performance, positively lowered the aircraft's nose. However, G-WXYZ struck a hedgerow and the aircraft overturned, coming to rest inverted on a road next to the field. The pilot, who was wearing a three-point harness, sustained only minor injuries and, after turning off the fuel and electrical system, was able to exit the aircraft unaided.

Subsequently, the UK Zenair distributor examined the wreckage and established that both fuel pumps worked, and that the ECU powered up with no anomalies. The distributor remarked that, had an ECU fault been experienced in flight, it was unlikely to have caused the engine to stop, as the ECU has two redundant control lanes. Furthermore, electrical power for the ECU is drawn from an engine-driven generator, which also has a backup, and although the battery couldn't be tested, low battery voltage should not have caused the engine to stop.

The distributor considered that the most likely cause for the engine stoppage was fuel starvation, or a blockage in fuel flow. The distributor also noted that G-WXYZ had wing root fuel valves installed and, had these been closed, the fuel header tank for the engine would have been exhausted during the flight and the low fuel light would have illuminated.