

Accident

Aircraft Type and Registration:	Skyranger Swift 912S(1), G-MLZZ	
No & Type of Engines:	1 Rotax 912ULS piston engine	
Year of Manufacture:	2007 (Serial no: BMAA/HB/557)	
Date & Time (UTC):	24 April 2026 at 1740 hrs	
Location:	Balado Airfield, Kinross	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - 1
Injuries:	Crew - 1 (Minor)	Passengers - None
Nature of Damage:	Aircraft destroyed by fire	
Commander's Licence:	National Private Pilot's Licence	
Commander's Age:	70 years	
Commander's Flying Experience:	429 hours (of which 34 were on type) Last 90 days - 8 hours Last 28 days - 4 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

During a flight, the pilot was alerted to the presence of high levels of carbon monoxide by his active detector. Having taken action to increase the ventilation, he landed at the nearest airfield. During the approach the engine began to fluctuate in power and stopped just after landing. After attempting to restart the engine, the pilot noticed smoke and then flames from under the cowls. The aircraft was consumed by fire. The cause of the carbon monoxide and the fire was not established.

History of the flight

The pilot was flying from Laurencekirk Airfield, Aberdeenshire to Strathaven Airfield, South Lanarkshire. On takeoff the pilot heard what he described as an unusual engine noise, but he elected to continue the flight as it was not associated with a noticeable loss of power or abnormal indications.

When the aircraft was to the south-west of Dundee around 40 minutes into the flight, the pilot was alerted to the presence of carbon monoxide by his active detector. He noted that there was still no change in engine performance and no visual sign, taste or smell of anything amiss in the cabin. The detector, which had a digital display in parts per million (ppm), was now reading 465 ppm so the pilot decided to land at the nearest airfield, Balado. He opened both windows and flew sideslipped to improve the ventilation and the reading reduced to 190 ppm as a result.

On approach to Balado the engine power began to fluctuate, and this resulted in what the pilot described as a “hard landing”. The engine finally stopped whilst he was vacating the runway onto the taxiway. He made several attempts to restart the engine but whilst it would turn over, it would not catch and run. He observed that there was smoke beginning to appear from under the cowls and, when he vacated the aircraft to look, he could see flames. Although the pilot and another person at the airfield gathered some extinguishers, they felt it was too dangerous to approach the aircraft as the flames had by then taken hold. By the time the local fire service arrived to extinguish the remaining fire, the aircraft had been destroyed.

Carbon monoxide

Carbon monoxide is a colourless, odourless and tasteless gas produced by the incomplete combustion of carbon-based fuels. When inhaled, it enters the bloodstream and binds with haemoglobin in red blood cells to form carboxyhaemoglobin. This reduces the blood's ability to carry oxygen. Early symptoms of exposure can include headache, dizziness, drowsiness, nausea, fatigue, and confusion. More severe exposure may result in visual disturbance, shortness of breath, abdominal pain, and loss of consciousness. The normal background level of carbon monoxide would be between 0 – 9 ppm.

In light aircraft, a common source of carbon monoxide exposure is exhaust gas leakage into cabin heating systems that use air passed over the engine's exhaust manifold. Cracks, corrosion, or failed seals in the exhaust system can allow fumes to enter the cabin, creating a significant safety risk to occupants. The CAA have produced a Safety Sense Leaflet¹ on carbon monoxide which contains extensive details and advice for pilots.

Active carbon monoxide detector

The pilot always carried an active carbon monoxide detector with him when he flew. He had previously experienced a carbon monoxide leak in another aircraft and had found the active detector a vital tool in recognising the leak before he was affected. He noted that in this case the alarm was clearly audible, even through his headset. Although the detector had a digital readout in ppm, the pilot was unsure of what levels should be considered dangerous and at what point he would need to react.

The Safety Sense Leaflet suggests that 50 ppm, which is the threshold at which many active detectors start alerting, to be an *‘appropriate threshold that minimises excessive low-level alerting whilst also giving the pilot time to respond to a CO event.’*

Actions to take for carbon monoxide

The Safety Sense Leaflet suggests that the pilot take action straight away in the event of the alert sounding in the air or on the ground and that these actions should include turning off the heat supply and maximizing fresh air into the aircraft. If the aircraft is airborne then the leaflet suggests landing as soon as possible rather than waiting for the situation to get

Footnote

¹ <https://www.caa.co.uk/media/xs5axnpi/safety-sense-leaflet-34.pdf> [accessed May 2026].

worse. If pilots are experiencing symptoms of carbon monoxide poisoning or if the readings are persistently high, then an off-airfield landing should be considered.

The pilot of G-MLZZ commented that opening both windows and sideslipping the aircraft to increase the ventilation had a significant effect on the level of carbon monoxide indicated on the alarm. The aircraft's pitch attitude and airspeed also affected the level of carbon monoxide in the cabin.

Other information

The cause of the carbon monoxide and the fire in the engine after landing was not determined.

Analysis

During a flight from Laurencekirk to Strathaven the pilot was alerted to the presence of a very high concentration of carbon monoxide by his active detector. He took immediate action to divert to the nearest airfield and increase the ventilation in the cabin. The engine began to fluctuate on approach to Balado, and the variation in power lead the aircraft to land heavily. The engine stopped completely shortly after landing. After making a number of attempts to restart the engine, the pilot noticed smoke appearing from under the cowls. By the time he had vacated the aircraft, flames were visible and shortly afterwards the aircraft was lost to the fire.

The pilot's active carbon monoxide detector was reading 465 ppm at its maximum although the pilot's actions, to open the windows and sideslip the aircraft, increased the ventilation which reduced this significantly. The CAA in their Safety Sense Leaflet suggested that a pilot should take action as soon as the alert sounds, which for most alarms is around 50 ppm. This action should include landing as soon as possible.

The pilot reported that during the flight the engine was operating normally and there were no abnormal indications or sounds. He also commented that there was no smell, taste or visual signs of anything amiss in the aircraft. Without the carbon monoxide detector, it is unlikely that he would have been aware of any abnormality before the engine power began to fluctuate. By this time, with the very high level of carbon monoxide, it is possible that he may well have been affected and this may have then compromised his ability to fly the aircraft and manage the emergency.

Conclusion

During a flight from Laurencekirk to Strathaven, the pilot was alerted to high levels of carbon monoxide by his active detector. Having taken action to increase the ventilation in the aircraft, the pilot diverted to the nearest airfield. During the approach the engine power began to fluctuate, and it finally stopped just after landing. The engine began to emit smoke and flames, and eventually the aircraft was consumed by fire. The cause of the carbon monoxide and the fire was not established.

The pilot became aware of the high levels of carbon monoxide through his active detector as there was no smell, taste or visual sign of any issues and the engine was at that time performing normally. Had he not been alerted, it is possible that his exposure to high levels of the gas may have meant he was not able to deal with the subsequent emergency.