

ACCIDENT

Aircraft Type and Registration:	Zenair CH 601HDS Zodiac, G-CEZV	
No & Type of Engines:	1 Rotax 912 ULS piston engine	
Year of Manufacture:	2008 (Serial no: PFA 162-13748)	
Date & Time (UTC):	29 May 2012 at 1210 hrs	
Location:	Swansea Airport	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Destroyed	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	51 years	
Commander's Flying Experience:	590 hours (of which 13 were on type) Last 90 days - 17 hours Last 28 days - 13 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

The aircraft's cockpit canopy became unlatched during climb-out after takeoff. The resulting high drag of the partially-open canopy meant the pilot had to perform a forced landing on a disused runway. The landing was heavy and a fire developed in the engine compartment which destroyed the aircraft.

History of the flight

The pilot intended to fly from Swansea Airport to Haverfordwest in his Zenair CH601HDS, which is a two-seat low-wing aircraft with a single-piece bubble-style canopy hinged at the front. Having started the engine, he taxied to holding point Bravo for Runway 28 where he completed the pre-flight checks which included pushing the hooks which lock the canopy into place to ensure they were engaged.

The takeoff was normal, with the aircraft climbing at more than 1,000 feet per minute. It was a hot day, so the pilot had opened the small sliding windows in the canopy for ventilation and noticed that there was moderate, but not extreme, turbulence. However, at about 1,200 ft, he encountered a "bump of turbulence" which the pilot likened to driving over "a speed hump too fast". He heard a click and felt a draught in the cockpit which had not been there before. He immediately noticed that the canopy was displaced on the passenger's side and that the hook on that side had popped out.

As he was still only a few miles from Swansea, he decided to return and fly a gentle circuit to land and investigate. As a precaution, he put his left arm through

the sliding window on his side in order to hold the canopy down in case the other hook on this side also unlatched, which it did shortly afterwards. Despite still having his arm hooked around the canopy, he could not prevent it opening about 12-14 inches, although he believes he was preventing it opening further. He states that he was surprised at the effect of the unlatched canopy on the aircraft's performance and handling; even with full power applied, he was having to descend and also having to exert considerable back-pressure on the control column to prevent the nose from pitching down.

With traffic in the circuit and insufficient height, the pilot decided to land on the disused Runway 33 just outside the airfield perimeter. As he turned onto finals, the sink rate increased substantially and the aircraft landed heavily some three metres short of the runway,

striking a gorse bush as it did so. At first appearance, it did not seem that the aircraft was badly damaged, so the pilot started to collect his belongings, including the portable GPS, but within a few seconds the front of the aircraft caught fire and he had to evacuate the aircraft. The aircraft was subsequently destroyed by the fire, despite attendance by the fire service.

In his assessment of the cause of the accident, the pilot says he believes that the sudden encounter with turbulence caused the canopy to unlock and reiterates that he was surprised at the degradation in performance caused by the partially-open canopy. The unanticipated high drag of a partially-open canopy was also a major factor in the forced-landing and overturning of Aero AT-3 R100, G-SRUM, the accident to which is also described in this issue of the AAIB Bulletin (see page 104).