

ACCIDENT

Aircraft Type and Registration:	Aero AT-3 R100, G-SRUM
No & Type of Engines:	1 Rotax 912-S2 piston engine
Year of Manufacture:	2008 (Serial no: AT3-044)
Date & Time (UTC):	23 June 2012 at 1050 hrs
Location:	Near Old Sarum Airfield, Wiltshire
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - 1 (Minor) Passengers - N/A
Nature of Damage:	Landing gear, fuselage, wings, and canopy damaged
Commander's Licence:	Private Pilot's Licence
Commander's Age:	63 years
Commander's Flying Experience:	235 hours (of which 52 were on type) Last 90 days - 4 hours Last 28 days - 1 hour
Information Source:	Aircraft Accident Report Form submitted by the pilot and further inquiries by the AAIB

Synopsis

Whilst on a local flight from Old Sarum, the cockpit canopy became unlatched and partially opened. The pilot could not maintain altitude and carried out a forced landing in a field but the aircraft overturned due to the tall crop.

History of the flight

The Aero AT-3 R100 is a two-seat light aircraft, certified by EASA in the VLA (Very Light Aircraft) category in 2005. It is low-winged and has a tricycle landing gear. Its large, single-piece cockpit canopy is hinged at the front and fastened either side of the cockpit.

G-SRUM had taken off from Old Sarum for a local

flight. The flight was without incident until, in the vicinity of Langford Lakes, some 12 km north-west of Old Sarum and at an altitude of 2,800 feet, the pilot noticed that the right side of the cockpit canopy had become unlatched. He reached for the locking lever on that side and applied downward pressure to lock it. This appeared to be successful although he noticed that the action felt "soggy" and lacked the distinct click which he normally expected to hear.

He continued with the flight but, a few minutes later, he noticed that the right lever had moved towards open again and that the left lever had also moved out of the locked position. He grasped both levers and moved them back towards the locked position as far as he

could. However, when he saw the right lever move again he decided to cut short the flight and return to Old Sarum, recalling that, about six weeks ago, he had been flying this aircraft when one of the canopy latches had become unlocked and the club Chief Flying Instructor, with whom he was flying, had taken the same precaution.

In the descent at about 1,800 feet altitude, the canopy suddenly began to open again and the pilot was unable to pull it shut. As he was within about a mile of his destination, he radioed a MAYDAY call to Old Sarum, saying that he had “lost the cockpit”. He was aware that this was not accurate (the canopy had remained attached) but, given the urgency of his situation and the wind noise which was making communication difficult, he felt he did not have time to give more detailed information. He asked Old Sarum ATC for an immediate landing clearance. He heard their initial acknowledgement but the wind noise meant he could not hear the rest of their reply.

The aircraft was rapidly losing height and turning towards the runway increased the rate of descent – he was now at about 300 feet and he selected an appropriate field straight ahead of him for a forced landing. He just made the field but saw that it contained a tall crop of rape. He heard the wheels brush the top of the crop before he felt the aircraft ‘dig in’ and start to flip over.

He believes he must have lost consciousness for a few moments because he next remembered hanging upside down in his harness. He turned off the fuel and electrics before kicking his way out through the canopy. There was no fire.

Conclusions

The circumstances of the accident to G-SRUM are similar to those of Zenair CH601 HDS G-CEZV, also described in this issue of The AAIB Bulletin (see page 139). In both cases, first one side and then both canopy latches became unlocked in-flight and the canopy partially opened. Both pilots were surprised at the degradation in performance and had to make a forced landings, having been unable to maintain height due to the increase in drag, despite having only one person on board.

So that operators of these and similar aircraft types are made aware of the consequences of canopies becoming unlocked in-flight, the Civil Aviation Authority and the Light Aircraft Association will be publishing articles in their public journals and urging care in both the operation and maintenance of the locking mechanism. These articles will include informing them of the need for a thorough understanding of the locking mechanisms and a double-check that the locks are secure before flight.