

ACCIDENT

Aircraft Type and Registration:	Vans RV-9A, G-CCGU	
No & Type of Engines:	1 Lycoming O-320-D1A piston engine	
Year of Manufacture:	2003 (Serial no: PFA 320-13798)	
Date & Time (UTC):	2 March 2023 at 1212 hrs	
Location:	Henstridge Airfield, Somerset	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - 1
Injuries:	Crew - 1 (Minor)	Passengers - 1 (Serious)
Nature of Damage:	Damage to both wings, rudder, engine propeller, engine cowling, engine mounting, and firewall. Canopy destroyed	
Commander's Licence:	Light Aircraft Pilot's Licence	
Commander's Age:	81 years	
Commander's Flying Experience:	1,106 hours (of which 791 were on type) Last 90 days - 8 hours Last 28 days - 2 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

Late in the final approach to Henstridge Airfield, which is unlicensed, the aircraft struck a heavy goods vehicle on a road which crossed the undershoot. The aircraft then struck the ground inverted, short of the runway. The pilot sustained only minor injuries, but the passenger was seriously injured.

The aircraft was on a standard 3° approach path when it struck the lorry. The airfield operator subsequently increased the distance by which the threshold is inset from the end of the runway so that aircraft on a standard approach would be higher when crossing the road.

History of the flight

The aircraft, a Vans RV-9A (Figure 1), had taken off at 1200 hrs to conduct a short local flight before a planned departure to Dunkeswell later in the afternoon.

On return from the local flight the pilot positioned to land on Runway 06 at Henstridge. The pilot recalled turning finals at approximately 500 ft agl and felt the approach was normal. He had operated from Henstridge since 2006 and was therefore aware of the road, which crosses the Runway 06 undershoot, but he did not observe any vehicle traffic as he began the approach.



Figure 1
Vans RV-9A

Just before touchdown the pilot saw a heavy goods vehicle (HGV) very close to the right of the aircraft, and the right wingtip struck the rear of the HGV trailer. The vehicle was crossing the undershoot from left to right. The pilot recalled nothing else until he became aware that the aircraft was inverted on the ground with the canopy broken (Figure 2). A roll bar behind the aircraft seats kept the cockpit off the ground protecting the occupants, and the aircraft harnesses successfully restrained both occupants in their seats. A car that had been following the HGV stopped and the occupants assisted the pilot and passenger to escape by breaking away sections of canopy perspex to clear an exit path. Ambulance personnel from the Air Ambulance base at Henstridge were quickly on scene and gave medical assistance, and they were subsequently supported by the local emergency services. There was no fire on the aircraft. Both those on board were taken to hospital by ambulance, and the pilot was released later that evening having sustained only minor injuries. The passenger remained in hospital for three days as he had sustained a broken wrist, which required surgical intervention to correct.



Figure 2
Aircraft inverted on road

Accident site

The accident happened at the unlicensed Henstridge Airfield in Somerset. The aircraft was approaching Runway 06 which is 728 m long and has a threshold displaced by 22 m. The access road leads to an industrial site on the south side of the airfield and sees a significant amount of traffic, including approximately 300 HGV movements per day. The road converges with the runway centreline from the left at an angle of approximately 20°. With the HGV converging from the left at a shallow angle and the low wing configuration of the aircraft the pilot's view of the road was significantly impeded. The accident site was approximately 70 m from the runway threshold. The access road and accident site are shown on the overhead view of the airfield at Figure 3.

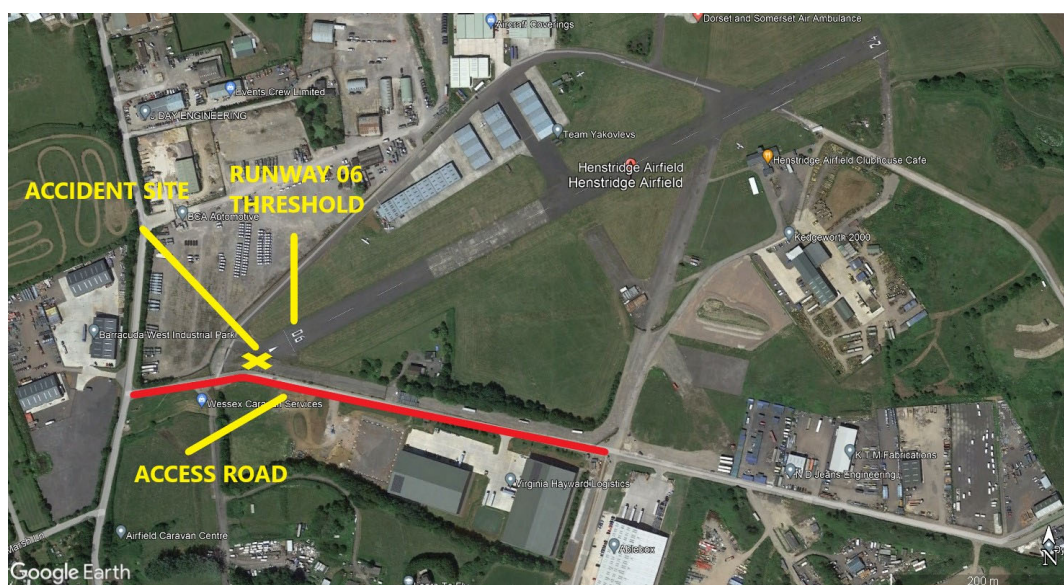


Figure 3
Henstridge Airfield and accident site

Obstruction clearance information

Obstacle clearance requirements for licensed airfields are given in CAP168¹ which states:

'In guidance material in ICAO² annex 14 Volume 1, all roads are considered to be obstacles extending to 4.8 m above the crown of the road.'

Obstacles are not permitted to penetrate a surface defined as shown in Figure 4. The surface begins 30 m from the threshold and then has a 1 in 20 slope. The collision at Henstridge occurred approximately 70 m from the threshold therefore anything more than 2 m tall would penetrate the obstacle clearance surface. A 3° representative approach path drawn from the threshold would cross the road 3.7 m above ground.

Footnote

¹ Available: [https://publicapps.caa.co.uk/docs/33/CAP%20168%20Licensing%20of%20Aerodromes%20v12%20c0123%20\(004\).pdf](https://publicapps.caa.co.uk/docs/33/CAP%20168%20Licensing%20of%20Aerodromes%20v12%20c0123%20(004).pdf) [Accessed April 2023].

² International Civil Aviation Organisation.

As Henstridge Airfield is unlicensed there is no requirement for it to comply with CAP168.

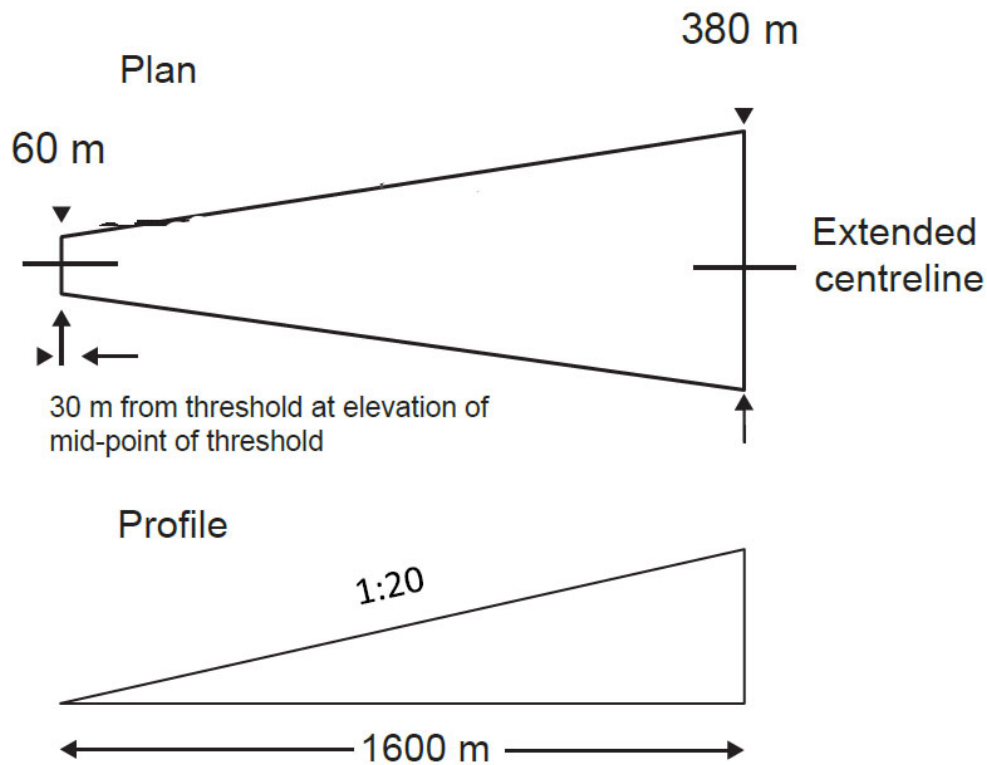


Figure 4
Approach Surface Diagram

Safety Action

The airfield operator decided to displace the threshold of Runway 06 by a further 100 m. The point at which the incident occurred would now be approximately 170 m from the threshold, the obstacle clearance surface would be 7 m above the road, and Runway 06 at Henstridge would fulfil the obstacle clearance requirements of CAP 168. A 3° path drawn from the new threshold would cross the road approximately 9 m agl.

Analysis

The pilot recalled making a normal powered approach to Runway 06 at Henstridge Airfield. The aircraft struck the top of the HGV and was therefore approximately 4 m above ground and commensurate with a 3° approach. The road converged with the runway centreline at a shallow angle and this, combined with the low wing configuration of the aircraft, meant it was unlikely the pilot would have been able to see the HGV during the approach. As the aircraft crossed the road the pilot saw the HGV very close and had no time to take avoiding action. The aircraft struck the HGV and came down inverted on the edge of the road. The roll bar in the aircraft protected the occupants as the aircraft inverted and both were able to exit the aircraft with the assistance of bystanders.

Conclusion

The aircraft struck an HGV in the latter stages of an approach to Runway 06 at Henstridge Airfield and came down inverted on a road short of the runway. Both those on board were able to escape the aircraft. The pilot sustained minor injuries and the passenger suffered a broken wrist.

The Safety Action taken by the airfield operator will make an approach to Runway 06 compliant with the obstacle clearance provisions of CAP168 even though, as an unlicensed airfield, this is not a requirement.