

**ACCIDENT**

<b>Aircraft Type and Registration:</b>	Vans RV-6A, G-CCVS	
<b>No &amp; Type of Engines:</b>	1 Superior XP-IO-360-B1A2 piston engine	
<b>Year of Manufacture:</b>	2010 (Serial no: PFA 181A-13413)	
<b>Date &amp; Time (UTC):</b>	15 August 2017 at 1530 hrs	
<b>Location:</b>	Old Sarum Airfield, Wiltshire	
<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>	Extensive	
<b>Commander's Licence:</b>	Private Pilot's Licence	
<b>Commander's Age:</b>	46 years	
<b>Commander's Flying Experience:</b>	496 hours (of which 65 were on type) Last 90 days - 19 hours Last 28 days - 3 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot	

**Synopsis**

The aircraft's nose landing gear struck the ground and was damaged when the pilot initiated a go-around, after experiencing turbulence on final approach. During the subsequent landing the nose landing gear collapsed and the aircraft inverted.

**History of the flight**

The pilot was circuiting to the grass Runway 24 at Old Sarum, in good visibility but with a 40° crosswind from the right of 10-15 kt. On the fourth circuit and during the last 200 ft of the approach, he experienced turbulence which culminated in a sudden downdraught when crossing the threshold at 10-15 ft. He responded by applying full power and pitching up but the aircraft made a hard touchdown in a level attitude before climbing away. There was no indication that the aircraft had been damaged but, for the subsequent landing, the pilot decided to hold the nosewheel off the ground for as long as possible, in case it had been weakened. Despite the pilot's efforts, after the nose landing gear touched down, it collapsed rearwards and when the propeller hit the ground the aircraft flipped inverted and then came to a stop. The pilot managed to shut-off the fuel and electrics and bystanders raised the tail of the aircraft, which allowed him to open the canopy and escape (Figure 1).



**Figure 1**

G-CCVS after the accident

### **Pilot's assessment**

The pilot assessed that he should have increased his airspeed on the fourth approach to allow for the gusty crosswind, and that his speed had reduced by the time he crossed the threshold, leaving little energy in reserve to help cope with the unexpected downdraught. Consequently the aircraft struck the ground hard and a subsequent study of an observer's video footage later showed that this deformed the nose landing gear leg. The pilot judged that he should have initiated a go-around earlier in his fourth approach, once he appreciated the intensity of the turbulence.

### **AAIB comment**

The AAIB has reported on several previous accidents in which the nose landing gear leg of a Vans RV series aircraft has bent back or collapsed. AAIB Bulletin 3/2017 contains a report concerning G-RPRV, an RV-9A that flipped upside down, and a list of other recorded instances in the UK during which the nose landing gear leg bent back. The report also mentions an 'Anti Splat' kit (Figure 2) which is intended to restrain the nose landing gear leg from tucking under.



**Figure 2**

An 'Anti-Splat' kit was fitted to the nose landing gear