

ACCIDENT

Aircraft Type and Registration:	Van's RV-6A, G-EDRV	
No & type of Engines:	1 Lycoming O-360-A4A piston engine	
Year of Manufacture:	2004	
Date & Time (UTC):	29 October 2006 at 1234 hrs	
Location:	Northampton (Sywell) Aerodrome	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - 1
Injuries:	Crew - None	Passengers - None
Nature of Damage:	Damage to nose landing gear, propeller and wing tip	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	48 years	
Commander's Flying Experience:	377 hours (of which 95 were on type) Last 90 days - 5 hours Last 28 days - 1 hour	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

Following a normal landing, the aircraft hit a bump on the runway surface and bounced. On the second touchdown, the nosewheel dug into the soft ground, the nose landing gear collapsed and the aircraft pitched forward to a near-vertical attitude, before falling back on to its main wheels.

History of the flight

Following an uneventful flight from North Weald, the aircraft landed on Runway 03 at Sywell. The weather was reported as CAVOK with the wind variable at 5 kt. The pilot subsequently described the touchdown, which was at 55 kt IAS, as "perfect". However the aircraft then hit a bump on the runway surface, causing it to bounce into the air again. On settling back onto the runway,

the speed had decreased to approximately 25 kt when the nosewheel dug into the soft ground and the nose leg collapsed. This caused the aircraft to tip onto its nose, attaining a near-vertical attitude before falling back onto its main wheels. The pilot assessed the cause of the accident as a combination of the soft ground and the small nose wheel fitted to this aircraft type

Safety action

The Popular Flying Association (PFA) publish Type Acceptance Data Sheets (TADS) for homebuilt aircraft on their website, and advice on nosewheel problems concerning RV-6A aircraft was added in a November 2006 amendment; the salient points are reproduced below.

'With the RV-6A model, to avoid problems with the nose wheel jamming in the spat it is important to trim the nose wheel spat to ensure generous clearance between the tyre and the wheel aperture in the spat (circa half an inch), and to maintain the correct nose wheel tyre pressure. It is also important to maintain suitable preload on the nose wheel axle bearings, torquing up the axle nut gently as required in the absence of a conventional spacer between the bearings. Note that the wheel spats may be used as part of the locking system for the axle nuts, so if the aircraft is operated with spats removed, alternative means of locking the axle nuts is required. Later type nose wheel forks provided by Vans seek to improve this issue by raising the ground clearance of the nose leg.'

Problems have been experienced with the RV-6A nose leg, especially when operating off grass, with instances of the nose wheel bending back and the strut digging into the ground, causing a rapid stop and further damage.It is also important to maintain suitable preload on the nose wheel axle bearings, torquing up the axle nut gently as required in the absence of a conventional spacer between the bearings. It is also important to land the aircraft on the main wheels first and hold the nose wheel off the ground during the initial part of the landing roll, rather than landing on all three wheels together which encourages wheel-barrowing and overloading the nose wheel.'