

Cessna 172M Skyhawk, G-DRBG

AAIB Bulletin No: 9/2003	Ref: EW/G2003/07/02	Category: 1.3
Aircraft Type and Registration:	Cessna 172M Skyhawk, G-DRBG	
No & Type of Engines:	1 Lycoming O-320-E2D piston engine	
Year of Manufacture:	1975	
Date & Time (UTC):	6 July 2003 at 1450 hrs	
Location:	RAF Henlow (Civilian Flying Club), Bedfordshire	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - 1 (Minor)	Passengers - N/A
Nature of Damage:	Nose leg failed, propeller bent and engine shock-loaded. Buckling of engine firewall, cockpit floor and lower fuselage skin	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	43 years	
Commander's Flying Experience:	71 hours (all on type)	
	Last 90 days - 7 hours	
	Last 28 days - 2 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and further AAIB enquiries of witnesses	

History of the flight

The pilot was returning to Henlow in order to refuel and was performing a 'straight-in' approach to Runway 27R, a grass surface of 762 metres by 23 metres, in light wind conditions. The approach seemed high so the pilot applied 30° flap and it appeared to him that the approach was returning to the angle he was used to. He closed the throttle and recalled his final speed check over the threshold as being 70 mph, compared to his normal 65 to 70 mph. His recollection was that the first touchdown resulted in a bounce and that he pulled back on the control column to allow the aircraft to settle through a further bounce. He then heard the sound of the nose leg fracturing as the nose wheel touched the ground. The nose fell to the ground and the aircraft came rapidly to a halt. The pilot was able to leave the aircraft safely, having incurred only superficial injury.

Eye witnesses

A number of experienced pilots observed the accident and one, an instructor who had observed the landing from close to the runway, provided a written statement. He commented that the first stage of the approach had appeared normal but, during the final stage, it became clear that the aircraft was higher and faster than other light aircraft observed that day. In the final 30 to 40 feet height reduction he observed the aircraft's nose lowered further, the rate of descent appeared to become excessive and the aircraft bounced heavily on its main landing gear. The aircraft then began a 'porpoise' oscillation between the nose and main landing gears, the nose leg snapped and the aircraft came to a halt.

Conclusions

The pilot spent some time afterwards discussing the accident with the club instructor who had taught him to fly the Cessna 172. Their conclusion was that, even at 300 feet, the approach was high and fast and, with the throttle closed, the pilot was unable to maintain his desired aiming point. At the threshold the aircraft was still high but the airspeed had stabilised at 70 mph. The pilot then slightly lowered the nose to lose height, resulting in an increase in airspeed. During the subsequent bounce he did not maintain back pressure on the control column. This resulted in the induced oscillation and the failure of the nose leg when it came into heavy contact with the ground whilst the aircraft was in a nose-low attitude.

In retrospect, the pilot considers that he should have abandoned the approach at a safe height and executed a go-around. He considers that he had not made that decision because he had not appreciated what was going wrong with the approach. As a result he requested further training to cover this area. He contacted the AAIB after this training and commented that, in his initial training, he had not fully appreciated the difference that a lack of headwind can make to an approach and the ability to make a safe landing after having excess height near the threshold of a short runway.