ACCIDENT

Aircraft Type and Registration:	Jabiru SP-470, G-SIMP
No & Type of Engines:	1 Jabiru Aircraft Pty 2200A piston engine
Year of Manufacture:	2002
Date & Time (UTC):	3 June 2006 at 1540 hrs
Location:	Wellcross Farm, near Horsham, West Sussex
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Substantial damage to wing and cockpit
Commander's Licence:	Private Pilot's Licence
Commander's Age:	68 years
Commander's Flying Experience:	679 hours (of which 171 were on type) Last 90 days - 9 hours Last 28 days - 4 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

Synopsis

During the landing run, the pilot lost directional control and the aircraft struck a tree, sustaining considerable damage.

Background

The pilot reported that he had operated from a grass strip at Wellcross Farm for nine years, initially using a Piper J3 Cub and, for the last three years, using the Jabiru. Flights had taken place in a wide variety of weather and surface conditions. A tree alongside the strip served as a mounting for a windsock.

The accident flight

On the day of the accident, the pilot returned to the field following a flight to Popham and Sandown. He flew overhead the strip at 800 ft to view the windsock. This indicated a slight preference for Runway 04 although the wind was some 80° off the runway direction. The pilot subsequently estimated the wind velocity to be of the order of 5 kt.

He noted before landing that the cross-wind and lack of component parallel to the runway would result in a higher than normal ground speed on touch-down. He was aware that the strip surface was quite uneven, particularly at the 04 end with several transverse ridges which cause some aircraft to become briefly airborne again after initial touch-down. He considered that this was more likely to happen if the aircraft was flown solo and the landing was fast. He was also anxious that the comparatively fragile

landing gear of the Jabiru, particularly the nose gear, did not suffer unduly during landing on this strip. It was therefore his normal practice to hold the nosewheel off on rough surfaces until the speed had decayed, applying intermittent brake pressure between bumps to slow to taxi speed.

On this occasion the pilot used his normal approach airspeed of 60 kt with full flap, thereafter using his normal braking technique. He recalled applying some power after one bump to cushion the touch-down. As he reached the tree, by which point the aircraft had usually decelerated to taxi speed, the aircraft speed was higher than usual but sufficient distance remained to stop before the end of the runway. At this point, however, the aircraft suddenly yawed to the left and hit a tree with the port wing.

The pilot considered that the benign conditions of the day may have rendered him complacent so he was caught out by the sudden swing of the aircraft. He observed that the aircraft type is normally easy to land on smooth runways but more challenging on undulating surfaces.

Discussion

Sudden loss of directional control on the ground is unusual in tricycle landing gear aircraft. It has been known to occur, however, when significant pressure is applied to the nosewheel during the roll-out with sufficient airspeed remaining to generate some wing lift. This results in much of the loading being removed from the main gear, yet sufficiently low airspeed to limit the stabilising effect of the tailfin and control available from the rudder. This phenomenon is known as wheel-barrowing. With an undulating surface it is possible that sufficient pressure was briefly on the nosewheel whilst wing lift remained and therefore contributed to this phenomenon.