

**ACCIDENT**

<b>Aircraft Type and Registration:</b>	Pierre Robin DR400/120A, G-GBVX	
<b>No &amp; type of Engines:</b>	1 Lycoming O-235-L2A piston engine	
<b>Year of Manufacture:</b>	1979	
<b>Date &amp; Time (UTC):</b>	29 July 2006 at 1700 hrs	
<b>Location:</b>	RAF Leuchars, Fyfe	
<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>	Damage to nose landing gear mountings	
<b>Commander's Licence:</b>	National Private Pilot's Licence	
<b>Commander's Age:</b>	25 years	
<b>Commander's Flying Experience:</b>	84 hours (of which 11 were on type) Last 90 days - 17 hours Last 28 days - 4 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot	

**Synopsis**

After several attempts to land in a crosswind on Runway 09 at RAF Leuchars, during which the aircraft bounced several times, the pilot successfully landed on Runway 22. At the time there were conflicting indications from the three windsocks at the airfield, possibly caused by a change in the wind from on-shore to off-shore, or vice versa.

**History of the flight**

The pilot, together with another pilot, had made a number of flights during the course of the day, without incident. After the other pilot had stopped flying for the day, the pilot in question decided to fly one more circuit off Runway 09, before returning the aircraft to the hangar. Upon contacting the tower to announce his position downwind for his final landing, the tower

controller reported an 8 kt cross-wind. In light of this, the pilot checked the three windsocks on the airfield and noted that the windsock at the 09 threshold was pointing west, the one at the 27 threshold was pointing approximately east, and the northern windsock was pointing approximately north-north-west. Anticipating a turbulent approach, the pilot resolved to 'add a few knots' to the approach speed and, after setting up for the descent, reduced the engine speed to 1,500 rpm. He then selected full landing flap at the appropriate speed and set up his initial approach at 80 kt. In response to his call, "Turning finals to land", the tower controller informed him again of an 8 kt cross-wind, but the pilot could not recall whether it was conveyed as a wind speed and direction, or as a cross-wind component.

The pilot continued what he regarded as a normal descent, reducing his speed to 70 kt, once established on the extended centreline. Thereafter, he continued his approach using the crab method, with the nose pointing to the right of the centreline to counter the wind from the right. The approach proceeded without incident, in a more stable and manageable manner than he had anticipated, until at about 25 to 30 ft above the runway. Having cleared some raised arrestor cables at the approach end of the runway, which he regarded as the defacto runway threshold, he gradually closed the throttle and reduced the airspeed, initially to just under 60 kt, and then to just below 55 kt as he flared the aircraft. He reported no problems during the initial stages of the touchdown: the descent rate did not feel excessive, the flare itself was not prolonged, and rudder was used to align the aircraft with the runway just prior to touching down on the main wheels. However, as the nose wheel was being lowered, the right wing lifted slightly, the nose wheel came firmly down onto the runway and the aircraft immediately started to oscillate 'jerkily' in pitch before bouncing into the air again. During the bounce, the pilot lowered the right wing using aileron but the aircraft very quickly touched down again and bounced higher into the air. After applying power during the bounce, he climbed ahead and announced his intention to go-around.

Following a normal downwind leg, the aircraft was again set up for a full flap approach but, on this occasion, the pilot decided that he would try a technique that he had used previously on another aircraft, involving raising the flaps immediately after touch down in order to help the aircraft 'settle' on the runway. After an uneventful decent to a touchdown point slightly further up the runway, the aircraft 'settled' and, as the pilot felt the

main wheels bear the weight of the aircraft, he quickly raised the flaps. After a moment, however, the right wing lifted as before, this time more severely, which was not easily corrected. Again, the nose wheel was forced onto the runway and again the aircraft started to oscillate in pitch, but this time "startlingly quickly"; the pilot did not have time to apply power as the bounces were occurring so rapidly. After the third contact with the runway, the aircraft bounced much higher and rolled more markedly to the left. At the apex of this bounce, which the pilot estimated was around 10 to 15 ft above the runway, the nose dropped and he applied full aft stick, managing almost to level the aircraft as the nose wheel contacted the runway. Again, the aircraft bounced into the air and, again, the pilot applied full power, climbed away and transmitted "going around".

Suspecting a veering and unpredictable wind, the pilot requested Runway 22, which was approved. After a normal powered approach, an uneventful landing was accomplished and the aircraft taxied back to the hangar. A subsequent inspection of the aircraft identified damage to the nose landing gear mountings.

### Conclusions

The pilot believes that, except for his raising of the flaps during his second attempted landing, there had been nothing unusual in his handling of the aircraft, which he had previously landed in cross-wind conditions on several occasions without difficulty. He reports that RAF Leuchars is known to have a period during some evenings, the time of which is variable and hard to predict, when the prevailing wind changes from on-shore to off-shore, or vice-versa. He believes that this condition was probably the explanation for the conflicting windsock indications.