
ACCIDENT

Aircraft Type and Registration:	Pierre Robin DR400/180, G-BSLA	
No & Type of Engines:	1 Lycoming O-360-A3A piston engine	
Category:	1.3	
Year of Manufacture:	1990	
Date & Time (UTC):	4 November 2005 at 1700 hrs	
Location:	Rochester Airport, Kent	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Propeller tip damage and engine possibly shock loaded	
Commander's Licence:	Private Pilot's Licence (with night rating)	
Commander's Age:	53 years	
Commander's Flying Experience:	797 hours (of which 350 were on type) Last 90 days - 15 hours Last 28 days - 1 hour	
Information Source:	Aircraft Accident Report Form submitted by the pilot and further enquiries by the AAIB	

History of the flight

The pilot was intending to carry out some circuits after sunset. After carrying out his pre-flight checks he started the engine at 1655 hrs and taxied out to Runway 20R grass (sunset was at 1626 hrs). While approaching the departure end of the runway, the Aerodrome Flight Information Service Officer (AFISO) instructed him to carry out his power checks on the concrete area behind and to the north of the 20R threshold. He was asked to taxi to the left of the traffic cones which marked an area of damaged concrete. The pilot followed the instructions and carried out his power checks on the concrete surface. Then, as he taxied forward to the runway threshold the nose of the aircraft pitched down and the propeller struck

the ground. The pilot heard the strike and saw stones fly up but the aircraft continued rolling forward and the propeller continued turning. He taxied the aircraft away from the threshold and shut down the engine. He saw the damage to the propeller blades and informed the AFISO that he would taxi back to the apron.

Examination of the concrete surface

After the incident the airport staff inspected the concrete area and found a depression with propeller strike marks. They placed three traffic cones over the area to warn pilots to stay clear. The pilot inspected the concrete area five days later and measured the depressed area.

He reported that it was approximately 3 m in diameter and was approximately 9 cm deep over most of its area. The area was cracked and had grass growing along the cracks. The propeller strike marks were at the edge of the depressed area.

Aircraft examination

Both propeller blades had damaged tips that had curled forward. The aircraft had not sustained any other visible damage although the engine may have been shock loaded. The pilot measured the propeller clearance at 17 cm, then he compressed the nose gear oleo which reduced the clearance to 10 cm. The pilot said he had heard of other incidents involving propeller strikes with this type of aircraft. He said that the aircraft type was originally designed for a lower powered engine with a smaller diameter propeller. However, the oleo was also found to be softer than normal and the aircraft owners had been

having problems with the nose gear oleo for some time. At one point the oleo was too hard, which prevented the nose wheel from being steered. The oleo pressure had last been adjusted by the maintenance organisation on 10 October 2005. The cause of the soft oleo had not yet been investigated at the time of writing.

Discussion and conclusions

The propeller strike was caused by the nose gear dropping into the depressed area of concrete. The concrete surface appeared to be poorly maintained and the depression was unmarked at the time of the incident, which occurred after sunset. The soft oleo was probably a contributory factor to the incident and probably allowed the oleo to bottom out, further reducing the already small propeller tip-to-ground clearance. The airport manager was contacted by the AAIB and he said that he planned to have the depressed area of concrete filled.



Figure 1

Depressed area of concrete marked by three cones (post incident)

ACCIDENT

Aircraft Type and Registration:	Pierre Robin HR200/120B, G-BXDT	
No & Type of Engines:	1 Lycoming O-235-L2A piston engine	
Category:	1.3	
Year of Manufacture:	1997	
Date & Time (UTC):	15 November 2005 at 1216 hrs	
Location:	Durham Tees Valley Airfield, Co. Durham	
Type of Flight:	Training	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Damage to nose landing gear and propeller	
Commander's Licence:	Student	
Commander's Age:	44 years	
Commander's Flying Experience:	71 hours (of which 70 were on type) Last 90 days - 9 hours Last 28 days - 2 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

The student pilot was returning to Durham Tees Valley Airfield from Leeds to complete his qualifying solo cross country flight. On approach to Runway 23 he noticed his approach speed was slightly high but decided to continue. The aircraft was observed to touch down initially on the nose landing gear before bouncing back

into the air. The pilot applied a small amount of power; however the aircraft touched down again and continued to bounce several times along the runway before the pilot could regain control. During this process the propeller struck the ground. The pilot taxied the aircraft off the runway and exited the aircraft normally without injury.