ACCIDENT

Aircraft Type and Registration:	Piper PA-28-140 Cherokee, G-ZEBY
No & Type of Engines:	1 Lycoming O-320-E2A piston engine
Year of Manufacture:	1973
Date & Time (UTC):	20 November 2006 at 1446 hrs
Location:	Humberside Airport
Type of Flight:	Training
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Nose landing gear leg, propeller and engine damaged
Commander's Licence:	Student pilot
Commander's Age:	42 years
Commander's Flying Experience:	40 hours (of which 40 were on type) Last 90 days - 25 hours Last 28 days - 14 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

Synopsis

On landing, the nosewheel of the aircraft made firm contact with the runway and separated from the nose gear leg.

History of the flight

The student pilot was flying from Nottingham to Humberside on a cross-country navigation exercise which formed part of his training towards the grant of a Private Pilot's Licence. He made what he considered to be a normal and uneventful approach to Runway 21 at Humberside and he reported that on landing, the aircraft touched down main wheels first. When the nosewheel touched down, the aircraft pitched up sharply. The student pilot attempted to hold the nose level but the aircraft pitched down until the nosewheel struck the ground, causing the nose to bounce up again. As it did so, the pilot could see the nosewheel rolling alongside the aeroplane. When the aircraft pitched down once more, the nose landing gear leg scraped along the runway surface. The aircraft yawed to the right but stopped on the runway.

A member of the Aerodrome Fire and Rescue Service who witnessed the landing commented that the aircraft appeared to bounce three or four times.

Engineering inspection

The maintenance organisation responsible for repairing the aircraft found that the nosewheel oleo was bent and the fork to which the nosewheel was normally attached

had sheared off. The engine and propeller were also damaged. There was no evidence of any pre-existing mechanical defect that might have contributed to the accident and the engineer who carried out the inspection commented that the damage was consistent with the nosewheel having made firm contact with the runway.

Discussion

The nose landing gear of most aircraft is intended to provide stability and control on the ground but not to support the loads encountered on first contact with the runway during landing. The pilot's decision to attempt to hold the nosewheel off the runway as the aircraft bounced was correct, but he may have misjudged the appropriate attitude. The pilot remarked that he may have lowered the nose whilst attempting to hold it level. Inexperienced pilots may find the transition from a nose-down approach attitude to the required nose-up landing attitude difficult to assess but can learn to do so with practice and the assistance of a qualified flying instructor.