

ACCIDENT

Aircraft Type and Registration:	Cozy, G-BXDO	
No & Type of Engines:	1 Lycoming O-235-C2C piston engine	
Year of Manufacture:	1998 (Serial no: PFA 159-12032)	
Date & Time (UTC):	31 August 2013 at 1733 hrs	
Location:	Perth Airport, Scotland	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Underside of nose fuselage and retractor gear wheel	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	62 years	
Commander's Flying Experience:	374 hours (of which 4 were on type) Last 90 days - 6 hours Last 28 days - 4 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

The aircraft was landing at Perth Airport but the pilot was unable to extend and lock the nose landing gear (NLG) fully. The NLG collapsed on touchdown and some abrasion damage to the nose of the aircraft was incurred. It is believed that damage to the NLG extension/retraction mechanism caused in a previous heavy landing had probably prevented full travel of the leg into the downlock position.

History of the flight

The Cozy is a canard 'pusher' amateur-built design, which features a retractable nose landing gear (NLG) and a fixed main gear. The nose leg is manually wound up or down by the pilot using a handle in the cockpit which rotates a worm and gear mechanism; an overcentre device locks the NLG in the DOWN position when fully extended.

The aircraft was inbound to Perth and, at about 5 miles out, the pilot rotated the mechanism to lower the NLG but, instead of stopping when the gear was fully down, the handle kept rotating and no green light was illuminated to indicate it was locked. He checked the viewing window and the gear appeared to be fully extended; he then throttled back the engine and heard the horn sound to warn that the NLG was not locked down. Despite several attempts, it was not possible to get the gear to move in either direction and the pilot decided to land, anticipating that the NLG might collapse. He initially made his approach to Runway 21

as it was the longest but decided against this because of a crosswind and the fact that, should he encounter serious problems on the runway, he would not be visible from the flying club building. He continued to make radio calls about his position and intentions because, although the airfield was now out-of-hours and the tower unmanned, there was a radio in the clubhouse which someone might be monitoring.

As he touched down on Runway 27, aided by a steady 20 kt headwind, the pilot gently lowered the nose and felt the NLG slowly collapse. At a speed of about 10-15 kt, he steered the aircraft onto the grass where it stopped and he vacated in the normal manner. Damage to the aircraft was limited to minor abrasion damage to the nose but it was noted that a large number of teeth on the gear of the NLG mechanism were stripped. After discussion with others who have seen the components, the pilot believes that damage to one or two teeth may have been caused by an earlier landing which he recalled had been "flat and heavy". This damage would have prevented the NLG extending fully into lock and, as the leg collapsed under the landing loads, the remaining teeth also stripped.