ACCIDENT

Aircraft Type and Registration:	Pioneer 300, G-TREX
No & Type of Engines:	1 Rotax 912 ULS piston engine
Year of Manufacture:	2006
Date & Time (UTC):	7 March 2007 at 1225 hrs
Location:	Bembridge Airfield, Isle of Wight
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - 1
Injuries:	Crew - None Passengers - None
Nature of Damage:	Damage to propeller, lower cowling, radiator and nose gear retraction mechanism
Commander's Licence:	Private Pilot's Licence
Commander's Age:	72 years
Commander's Flying Experience:	20,777 hours (of which 110 were on type) Last 90 days - 14 hours Last 28 days - 8 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot and further enquiries by the AAIB

Synopsis

The nose gear leg collapsed on landing because it was not fully extended. A wiring loom had jammed the nose gear extension screwjack, preventing full extension.

History of the flight

The Pioneer 300 is a homebuilt two-seat aircraft operated under a Permit to Fly. It has a low wing, retractable tricycle landing gear and conventional flying controls. The pilot was undertaking a cross-country flight from Gloucestershire Airport to Bembridge airfield. During the downwind leg for a landing on Runway 30, the pilot extended the landing gear. The green light, to indicate that the landing gear was down and locked, did not illuminate, but a visual inspection through the clear panel in the nose gear bay revealed that the nose gear appeared to be fully extended. The pilot pulled the circuit breaker for the electric gear extension and then applied the manual handle for gear extension, but no further movement could be obtained. He raised the gear partially, using the manual handle and then re-extended it, resulting in the nose gear returning to its original position. He therefore assumed that the gear was extended and that there was an indication problem.

The pilot carried out a normal approach and landing but, when the nose of the aircraft was lowered, the nose

gear collapsed and the propeller struck the ground. The aircraft slid to a stop with its lower cowling resting on the ground. The pilot shut down the aircraft and then he and his passenger exited the aircraft in the normal manner.

Aircraft examination

The pilot examined the aircraft and discovered that a wiring loom had jammed the nose gear screwjack. This prevented the nose gear from fully extending and prevented the over-centre downlock from engaging. On landing, the nose gear load was applied directly to the screwjack, causing it to shear and allow the nose gear to collapse. The pilot reported that the rudder trim indicator and switch wires had some slack in them and he suspected that one of these wires came loose from the wiring loom which runs through the console tunnel. He believes that one of these wires was dragged into the unprotected nose gear screwjack when he lowered the gear, and that the screwjack then dragged in 10 more wires until it jammed.

The pilot stated that, pending PFA approval, he intends to fit a cover over the screwjack to prevent a repeat occurrence. The PFA commented to the AAIB that an alternative solution might be to ensure that the wires in the vicinity are safely secured.