BULLETIN ADDENDUM

Aircraft Type and Registration:	Short SC7 Skyvan 3, G-BEOL
Date & Time (UTC):	3 May 2013 at 1320 hrs
Location:	Weston-on-the-Green, Oxfordshire
Information Source:	Manufacturer's technical investigation report

AAIB Bulletin No 11/2013, page 14 refers

The manufacturer has completed the forensic investigation on the nose landing gear (NLG) components that detached on landing due to a fracture of the sliding tube of the oleo. The sliding tube is hollow and has an internal screw thread at its lower end to attach the nose wheel fork assembly. The fracture was near the top of the thread around its undercut[1]. The most likely mechanism leading to failure was the propagation of a fatigue crack from a machining feature in the thread undercut surface. The feature may have resulted from the dimension and tolerance of the undercut diameter on the manufacturing drawing; this meant that there was potential for the thread cutting tool to leave a mark on its surface. However, there were also cracks in some of the thread roots and a fatigue crack initiating from these features cannot be discounted.

Safety action

The manufacturer has issued a Service Bulletin (SB) 32-17M that defines a one-off visual and NDT inspection for all Short Skyvan NLG sliding tubes installed on aircraft and held as spares. These inspections are mandated by an EASA Airworthiness Directive 2014-0246 effective from 26 November 2014.

At this stage no further corrective actions resulting from this investigation are proposed. However, the manufacturer will monitor the responses to SB 32-17M and if necessary take action to maintain the continued airworthiness of the fleet.

Footnote

[1] An undercut is a recessed surface, also known as a neck, to provide clearance for the thread cutting tool on a shaft or tube. Undercut surfaces should be of a smooth finish and ideally radiused to reduce the risk of stress raising features. In this case the undercut is required because the bore decreases in diameter where the thread finishes.