

ACCIDENT

Aircraft Type and Registration:	Shorts SC.7 Skyvan, G-BEOL	
No & Type of Engines:	2 Honeywell TPE331-2-201A turboprop engines	
Year of Manufacture:	1977	
Date & Time (UTC):	27 July 2008 at 1555 hrs	
Location:	Runway 21, Oxford Airport, Kidlington	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Right main landing gear collapsed. Damage to right wing strut, lower fuselage and nosewheel strut attachment structure	
Commander's Licence:	Commercial Pilot's Licence	
Commander's Age:	44 years	
Commander's Flying Experience:	3,384 hours (of which 2,239 were on type) Last 90 days - 137 hours Last 28 days - 53 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

The aircraft landed heavily at Weston-on-the-Green and, after confirmation of damage to the right main landing gear, diverted for an emergency landing on grass Runway 21 at Oxford. Examination showed that the right gear shock absorber had separated from the main landing gear and the retaining nut showed no evidence of having been correctly wirelocked at maintenance, probably some years previously.

History of the flight

The pilot reports that he was making an approach to Weston-on-the-Green after a flight from Manston. The aircraft developed a rapid rate of sink in the final stages

and this resulted in a heavy landing. The aircraft then veered abruptly to the right and the pilot executed a 'go-around'. Believing that the aircraft may have been damaged in the heavy landing, the pilot performed a 'flyby' inspection at Weston and it was confirmed that the aircraft had sustained heavy damage to the right main landing gear, which was now folded aft.

The pilot then diverted to Oxford Airport, where a Full Emergency was declared and the aircraft was held from landing until the emergency crews had deployed into position. The aircraft then landed on Runway 21, which has a 900 metre grass surface, and the pilot was able

to maintain reasonable directional control during the touchdown on the folded right main landing gear. There was no fire and no injury.

Engineering examination

Examination of the right landing gear showed that the shock absorber had become disconnected from the lower trunnion on the landing gear and that the retaining nut was missing.

Examination of the screw threads at the end of the trunnion on which the retaining nut (Figure 1) is fitted showed no evidence of deformation or stripping. There was a large area of impact damage on one side of the threaded part of the trunnion, consistent with what would have occurred during the final landing, but the threads on the undamaged side were in very good condition. There was no locking wire present. The retaining nut was found at the initial impact

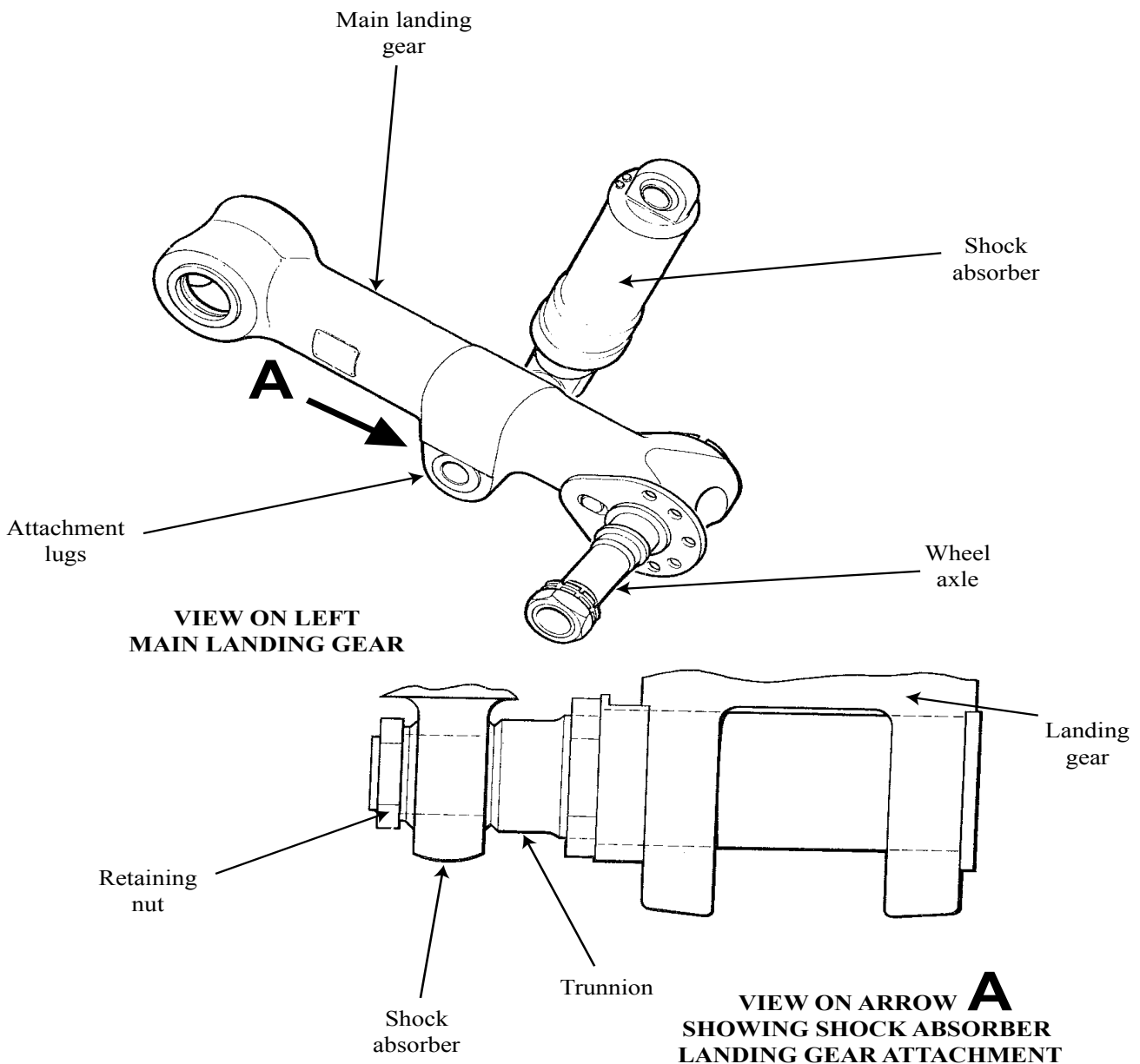


Figure 1
Landing gear shock absorber attachment

point, by the right landing gear, on the grass runway. Examination showed no deformation, damage or stripping of the screw threads and there was no locking wire present. The holes in the retaining nut, through which the locking wire should have passed, were clogged with hardened grease and general debris associated with landing gear areas, and this appeared to have accumulated over a long period of time.

Examination of the lower shock absorber retaining nut on the left landing gear showed that it was secure and correctly wirelocked.

Maintenance requirements

The manufacturer's Aircraft Maintenance Manual and the shock absorber's Overhaul Manual require that, following fitting of the lower shock absorber, the retaining nut should be torqued and wirelocked.

Maintenance history

The aircraft's logbooks and worksheets were examined in detail and the last recorded time that the main landing gear shock absorbers were recorded as being disturbed was in March 2000, when Dowty Rotol Mandatory Service Bulletin 32-14M was carried out. This Service Bulletin required the removal of the main landing gear shock absorbers to check for cracking of the lower shock absorber attachment trunnion. The aircraft had flown 2,414 hours over 4,985 flights since the Service Bulletin had been carried out. It appears likely that the recorded maintenance work, or subsequent undocumented maintenance work, did not include completion of the wirelocking task.