No: 6/83 Ref: EW/C818/01

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| Aircraft: | Cessna 337C Skymaster G-BCBZ (Light twin engined fixed wing aircraft) | |
| Year of manufacture: | 1973 or earlier | |
| Date and time (GMT): | 28 March 1983 at 1511 hrs | |
| Location: | RNAS Culdrose, Cornwall | |
| Type of flight: | Public transport | |
| Persons on board: | Crew - 1 | Passengers - 5 plus 1 infant |
| Injuries: | Crew - Nil | Passengers - Nil |
| Nature of damage: | Luggage pannier crushed, abrasion to lower tips of mainwheel doors and minor scuffing of tips of rear propeller | |
| Commander's Licence: | Commercial Pilot's Licence | |
| Commander's Age: | 29 years | |
| Commander's total flying experience: | 1150 hours (of which 50 hours were on type) | |

The aircraft was flying from Dublin to Lands End/St Just. On arrival at St Just the pilot was unable to lower his undercarriage by normal or emergency means. The nearby Royal Naval Air Station at Culdrose offered the pilot emergency landing facilities, with a foam strip laid on runway 01. The surface wind at the time was 010°/09 kts. The pilot diverted to Culdrose and held overhead for 20 minutes to burn off surplus fuel. He then feathered the front propeller and flew a practice approach to the foam strip, restarting the engine for his overshoot. In the downwind position he again feathered the propeller, aligning it horizontally before flying a successful approach and landing. He touched down at the beginning of the foam strip and came to rest after sliding approximately 300 metres. The aircraft was fitted with a ventral glass fibre luggage pannier which was filled with suitcases. Touchdown was sufficiently gentle that this pannier did not collapse until a late stage in the landing run when the sides buckled and the weight of the aircraft was taken on the suitcases. Apart from the crushed luggage pannier, damage to the aircraft was negligible.

The undercarriage failure was caused by total loss of hydraulic fluid through a ruptured flexible pipe carrying hydraulic pressure to the actuator assembly for the mainwheel doors. This pipe, fitted in the port main wheel well is 18 cm long and, when installed, bends through 180°. The rupture had occurred at the point of minimum radius on the bend. The pipe was constructed from an inner rubber tube of 2 mm wall thickness reinforced by braided steel wire and covered externally with braided cotton. The steel reinforcing wire was found to be heavily corroded and the inner rubber tube had extruded into the steel braid causing local reductions in the thickness of the wall to as little as half its original dimension. Some internal cracking of the rubber tube was also evident due, possibly, to long term degradation by hydraulic fluid.

The age of the pipe is not known and it is possible that it had been installed when the aircraft was manufactured. The item has no specified life but is subject to checks every 100 hrs. The external appearance of the pipe gave no indication of the inner deterioration and it is unlikely that visual inspection on the installed pipe would have given warning of its impending failure. The CAA have been informed.