# Sikorsky S76A (Modified), G-BMAL

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| **AAIB Bulletin No: 4/2003** | **Ref: EW/G2002/10/16** | **Category: 2.2** |
| **INCIDENT** | | |
| **Aircraft Type and Registration:** | Sikorsky S76A (Modified), G-BMAL | |
| **No & Type of Engines:** | 2 Turbomeca Arriel 1S turboshaft engines | |
| **Year of Manufacture:** | 1980 | |
| **Date & Time (UTC):** | 22 October 2002 at 1730 hrs | |
| **Location:** | Leman 27 Charlie | |
| **Type of Flight:** | Public Transport (Passenger) | |
| **Persons on Board:** | Crew - 2 | Passengers - None |
| **Injuries:** | Crew - None | Passengers - N/A |
| **Nature of Damage:** | ADELT unit damaged | |
| **Commander's Licence:** | Airline Transport Pilots Licence (Helicopters) | |
| **Commander's Age:** | 45 years | |
| **Commander's Flying Experience:** | 9,962 hours (of which 7,346 were on type) | |
| | Last 90 days - 73 hours | |
| | Last 28 days - 35 hours | |
| **Information Source:** | Aircraft Accident Report Form submitted by the pilot and Company Incident Investigation Report | |

The helicopter was making a short positioning flight between rigs in the southern North Sea. It was almost dark and intermittent rain showers were affecting the area. The pilots forward windscreen was clear but the chin windows were partly misted. The wind direction, reported as 190°/24 kt, necessitated that the approach be flown by the co-pilot from his normal position in the left pilots seat.

The co-pilot flew the approach aiming for the centre of the marked circle on the helideck, in accordance with Company Standard Operating Procedures. The captain lost sight of the landing

area in the last 100 feet of the descent, but he was content that the approach was being flown within normal parameters. Touchdown was uneventful but, after landing, the Helideck Landing Officer reported to the crew that the Automatic Deployable Emergency Locator Transmitter (ADELT), fitted to the rear fuselage, was damaged. The captain vacated the aircraft to inspect the ADELT and discovered a fracture to the neck of the ADELT housing. The crew had been unware of any contact with the rig during the approach, but it later transpired that several witnesses had seen the ADELT strike the edge of the helideck during the landing. This information was not relayed to the crew. The captain and co-pilot discussed the situation and decided to fly back empty to their base at North Denes to permit an inspection of the damage by engineering personnel.

The Company conducted a very thorough investigation into this incident and concluded that the ADELT struck the deck-edge safety netting, and then the seaward side of the cable tray, during the landing. Subsequent inspection of the deck found evidence of a dent to the cable tray, which surrounds the deck and protrudes about 5 inches above the helideck surface. The investigation found that the helicopter had crossed the helideck below the safe profile either because it had been flown on a too shallow approach with a small flare, or flown on a normal sight picture approach with too hard a flare. A contributory factor may have been the helicopters centre of gravity which was 80% towards the aft limit and would have required a higher than normal nose attitude in the flare.

The investigation has recommended that in future the non-handling pilot should bring attitudes of 10° nose-up or more to the attention of the handling pilot when the helicopter is within 30 feet of the surface. Further recommendations include a review of the aiming point for the approach (other aircraft in the operators fleet aim at the far side of the landing circle) and an investigation into possible solutions to the chin window misting problem. Finally, the investigation recommended that consideration be given to the fitting of an approved modification which repositions the ADELT from its present position under the tail to the right side of the fuselage, aft of the baggage bay.