

No: 6/88

Ref: EW/G88/03/13

Category: 1c

Aircraft Type and Registration: Hiller 12E, G-BDOI

No & Type of Engines: 1 Lycoming VO-540-B2D

Year of Manufacture: 1962

Date and Time (UTC): 11 March 1988 at 1110 hrs

Location: Kildarroch, Newton Steward, Dumfries

Type of Flight: Private (pleasure)

Persons on Board: Crew - 1 Passengers - None

Injuries: Crew - None Passengers - N/A

Nature of Damage: Tail rotor and stabilizer damaged, transmission shock loaded

Commander's Licence: Commercial Pilot's Licence

Commander's Age: 44 years

Commander's Total Flying Experience: 4200 hours (of which 4000 were on type)

Information Source: Aircraft Accident Report Form submitted by the Pilot and AAIB telephone enquiry

The aircraft was engaged in fertilizer spreading and the operation required an exchange of hoppers at the end of each flight. The exchange procedure was performed with the helicopter airborne, and involved lowering the empty hopper to the ground and disengaging the lift hook whilst a ground crewman disconnected the hopper "quick-release" hydraulic couplings. The helicopter was then moved forwards over a full hopper and whilst the crewman attached the hydraulic pipes, the pilot manoeuvred to engage the lifting hook, using mirrors to position the hook. The ground crewman would signal to the pilot when all connections had been made.

On this occasion the pilot believed that he had been given the signal and started to climb away without the lifting hook engaged. The quick release hydraulic couplings are supposed to release automatically when loaded in tension, but one failed to disengage. The hopper was lifted on one of the pipes which was attached to the helicopter in a position which put its centre of gravity well outside the aft limit. The helicopter adopted a very nose high attitude which the pilot was unable to correct by lowering the collective pitch, as he was close to the ground. It then turned through 270°, after which the helicopter had assumed a position from which the pilot could make a downwind run-on landing. The hopper, still attached by the hydraulic pipe, dragged behind the helicopter, damaging the tail rotor and stabiliser.