

Zlin Z.37 A-2 Bumble Bee, G-KDLN

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| AAIB Bulletin No: 9/2004 | Ref: EW/G2004/05/06 | Category: 1.3 |
| Aircraft Type and Registration: | Zlin Z.37 A-2 Bumble Bee, G-KDLN | |
| No & Type of Engines: | 1 Walter M 462-RF piston engine | |
| Year of Manufacture: | 1984 | |
| Date & Time (UTC): | 15 May 2004 at 0930 hrs | |
| Location: | Private grass strip on Exmoor, Devon | |
| Type of Flight: | Private | |
| Persons on Board: | Crew - 1 | Passengers - None |
| Injuries: | Crew - None | Passengers - N/A |
| Nature of Damage: | Elevator horn / mass balance removed by wire fence prior to flight | |
| Commander's Licence: | Private Pilot's Licence | |
| Commander's Age: | 53 years | |
| Commander's Flying Experience: | 465 hours (of which 380 were on type) | |
| | Last 90 days - 17 hours | |
| | Last 28 days - 14 hours | |
| Information Source: | Aircraft Accident Report Form submitted by the pilot | |

Synopsis

At the end of the second flight of the day the pilot noticed that the mass balance horn, normally attached to the left elevator, was missing. The aircraft however, had not exhibited any unusual flying characteristics of concern to the pilot until this discovery.

Aircraft description

The Zlin Z.37 is a large single engine tail wheel type aircraft, originally designed for crop spraying. Attached to the fixed tailplane is a fabric covered elevator that can be held with full up deflection by a mechanical control lock operated from the cockpit. There is a mass balance horn at each tip of the elevator, protruding ahead of the hinge line.

Figure 1 Zlin Z.37 A-2 Bumble Bee



History of the flight

The pilot planned to fly G-KDLN from a private airstrip on Exmoor to Popham, Hampshire, to collect a passenger before flying onwards to Henstridge. After a pre-flight inspection, the aircraft was manoeuvred by hand from its parking position towards a clear area near the airfield boundary, in preparation for starting. During this operation the pilot found it difficult to keep hold of the aircraft, which rolled gently backwards onto a wire fence. The pilot was in the habit of leaving the control lock engaged until shortly before takeoff. As a result the aircraft came to rest with the underside of its elevator in contact with one of the thin wooden fence posts, which was deflected slightly backwards against tension in the wires. The pilot chocked the aircraft to prevent it rolling further and walked around the right hand side to inspect the tailplane which, when viewed from that side, appeared to be undamaged.

After starting the engine the pilot taxied forward a short distance. It required considerable power to move off but this did not surprise him in view of the upward sloping ground and long grass. With the engine running, he got out of the aircraft and again walked along the right hand side in order to inspect the elevator where it had been touching the fence. He noticed a small dent on its underside but did not consider this significant. As there were no obvious signs of further damage he decided to proceed with the proposed flight.

The takeoff was normal but during the flight to Popham the pilot noticed that the aircraft adopted a slight sideslip in steady level flight. He owns two examples of this aircraft type and was less familiar with G-KDLN. He therefore put this phenomenon down to his relative unfamiliarity with this model. On arrival at Popham the pilot shut down the engine to enable his passenger to board. He did not carry out a visual inspection of the aircraft before departing for Henstridge. After refuelling at Henstridge the pilot noticed that the left elevator balance horn was missing and decided not to fly the aircraft any further.

He later returned to the private airstrip by road to collect the balance horn, which was found beside the wire fence. One of the fence wires had been pulled some four metres away from the fence, detaching its retaining staples from seven of the fence posts.

Pilot's assessment of the cause

Although the aircraft was in contact with the fence during his initial inspection, the pilot did not think it had fouled any wires. He believed that, as the aircraft taxied forward, tension in the wires of the

fence caused the fence post to spring upright, trapping a wire in the gap between the tip of the fixed tailplane and the front of the elevator balance horn. The balance horn was then torn off as the aircraft taxied away. During the subsequent inspection, he was preoccupied by damage in the area of contact with the fence post and had not examined the possibility of damage elsewhere. He conceded that by walking around the right hand side of the aircraft only, he did not give himself adequate opportunity to fully check the aircraft. He also believed that a thorough visual inspection of the aircraft at Popham would have revealed the damage before a further flight was attempted.