

Zlin Z.526 Trener Master, G-BPNO

AAIB Bulletin No: 10/98 **Ref:** EW/G98/05/42 **Category:** 1.3

Aircraft Type and Registration: Zlin Z.526 Trener Master, G-BPNO

No & Type of Engines: 1 Walter Minor 6-3 piston engine

Year of Manufacture: 1968

Date & Time (UTC): 26 May 1998 at approximately 1515 hrs

Location: RAF Wyton, Cambridgeshire

Type of Flight: Private

Persons on Board: Crew - 1 - Passengers - 1

Injuries: Crew - None - Passengers - None

Nature of Damage: Minor damage to underside of aircraft, fuel tank punctured, both blades on propeller

Commander's Licence: Private Pilot's Licence

Commander's Age: 54 years

Commander's Flying Experience: 8,500 hours (of which 130 were on type)
Last 90 days - 110 hours
Last 28 days - 38 hours

Information Source: Aircraft Accident Report Form submitted by the pilot

At about 35 kt on the take-off run the landing gear collapsed and the aircraft sank rapidly to the ground and came to rest on its belly. The propeller and the underside of the aircraft were damaged, and the fuel tank was punctured, spilling a small amount of fuel onto the runway, but there was no fire.

The landing gear legs are operated by a transverse torque tube which lowers the gear and finally places the trailing, folding operating struts into a geometric lock. The torque tube is rotated to raise or lower the gear by means of an electrically actuated rack, lying fore-and-aft on the aircraft centreline, which rotates a pinion attached to the torque tube. When the geometric lock is made, the drag force from the landing gear is not transmitted to the rack assembly but through the operating strut and reacted as a shear load at the end of the operating torque tube.

After the accident the rack was found to have failed in bending, indicating that at the time the gear collapsed, the geometric lock was not made, although the gear had been correctly locked down on the previous landing.

The **GEAR UP** selection requires electrical continuity through a weight on wheels switch; the aircraft becomes sufficiently light on the wheels for this to occur at about 35 kt. The electrical power to the gear selector switch is routed through a combined circuit breaker/manually operated landing gear master switch, and the co-owner of the aircraft said that he would consider a change to the operating procedure of the aircraft to leave the master switch off until airborne.