

# Gardan GY80-150 Horizon, 26 August 1996

**AAIB Bulletin No: 12/1996**

**Ref: EW/G96/08/24 Category: 1.3**

<b>Aircraft Type and Registration:</b>	Gardan GY80-150 Horizon
<b>No &amp; Type of Engines:</b>	1 Lycoming O-320-A3B piston engine
<b>Year of Manufacture:</b>	1964
<b>Date &amp; Time (UTC):</b>	26 August 1996 at 1747 hrs
<b>Location:</b>	Mullaghmore, Co Derry, Northern Ireland
<b>Type of Flight:</b>	Private
<b>Persons on Board:</b>	Crew - 1 - Passengers - 2
<b>Injuries:</b>	Crew - None - Passengers - None
<b>Nature of Damage:</b>	Damage to propeller and wings
<b>Commander's Licence:</b>	Private Pilot's Licence
<b>Commander's Age:</b>	53 years
<b>Commander's Flying Experience:</b>	162 hours (of which 55 were on type) Last 90 days - 24 hours Last 28 days - 14 hours
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot

The pilot stated that all pre-flight checks and engine power checkshad been completed without any abnormality being apparent. Theaircraft was taking off from Runway 36 at Mullaghmore for a VFRflight to Islay. The estimated surface wind was from 360°at 15 kt. The pilot stated that the aircraft's stall warninghorn was set to sound at 56 kt, 7 kt above the actual stall speed,and that it was sounding with the air speed indicator showing56 to 60 kt while the aircraft passed abeam a windsock, whichis located to the side of the runway some 80 to 100 metres beforethe end of the tarmac surface. The aircraft was rotated at thispoint and became airborne briefly before it sank back onto theground and became airborne again. As the aircraft passed overthe grass surface at the end of the runway, the pilot felt theaircraft sink again. He closed the throttle and let the aircraftsettle onto the grass before steering it so that it was perpendicularto a fence situated across the overrun

area. The aircraft struck the fence with the nose passing between two of its posts, before it came to a halt upright. There was no fire. The occupants vacated the aircraft by the normal means.

The pilot considered that the accident had been caused when the aircraft encountered an area of sink or turbulence at the boundary of the tarmac runway surface and the grass, possibly associated with a large area of concrete adjacent to a brickworks situated to the north side of the airfield.

The pilot indicated that the take-off weight was 2,118 lbs and that the maximum allowable take-off weight was 2248 lbs. The aircraft operating manual indicates that the take-off distance required to 50 feet, at maximum permitted take-off weight, from a dry hard surface runway with no wind, was 1,476 feet (449 metres). The pilot indicated that the tarmac surface runway at Mullaghmore was 460 metres long, with an additional distance of 88 metres of long grass to the fence.

The operating manual also indicates that the scheduled stall speed, at the maximum allowable weight with flaps extended, landing gear down and idle power is 48 kt. The aircraft's latest flight test report, in August 1995, indicated that the stall warning occurred at 55 kt in the same condition, and that the observed stall speed was within 1 knot of the scheduled figure. During the test flight, the aircraft achieved a performance climb rate of 500 feet per minute, against a scheduled value of 539 feet per minute, at the recommended climb speed of 70 kt with landing gear and flaps retracted.