

AAIB Bulletin No: 8/93

Ref: EW/G93/06/10

Category: 1b

Aircraft Type and Registration: Cessna 340A, G-JMDD

No & Type of Engines: 2 Continental TSIO-520-N piston engines

Year of Manufacture: 1977

Date & Time (UTC): 12 June 1993 at 1040 hrs

Location: Marshfield Airstrip near Colerne, Avon

Type of Flight: Private

Persons on Board: Crew - 1 Passengers - 2

Injuries: Crew - None Passengers - None

Nature of Damage: Landing gear and propellers damaged plus small holes in each wing

Commander's Licence: Private Pilot's Licence with IMC and Night Ratings

Commander's Age: 45 years

Commander's Flying Experience: 1,194 hours (of which 570 were on type)
Last 90 days - 12 hours
Last 28 days - 7 hours

Information Source: Aircraft Accident Report Form submitted by the pilot and photographs taken by the Avon Police helicopter crew

On his second visit to Marshfield Airstrip, the pilot noted that the surface wind was blowing from 300°, across the 880 yard long grass strip which is orientated 08/26. He recalled that the strip had a significant slope which he thought was uphill on Runway 08 and he decided to land in that direction to take advantage of the deceleration gained by landing uphill. The pilot made two approaches to the strip followed by go-arounds during which he assessed the strength of the crosswind which was stronger than forecast.

On the third approach the aircraft cleared trees close to the runway threshold and touched down between one third and one half of the way along the strip. The pilot stated that touchdown in this area was a deliberate decision on his part which was justified by the aircraft's ability to stop quickly on an uphill grass surface. Unfortunately, he had in fact landed in the downhill, downwind direction and was unable to stop the aircraft on the wet grass before the end of the strip. The aircraft passed through a low, dry stone wall at the end of the grass at a speed of about 15 kt and came to rest some 10 metres

beyond it after all three landing gears had collapsed rearwards. No one was hurt and there was no fire; all the occupants were able to leave the aircraft through the normal exit door.

The landing distance for the Cessna 340 at maximum permitted landing weight (MLW) in ISA zero wind conditions is published as 564 metres from a 50 foot screen height with a ground roll of 232 metres. The surface wind of 300°/15 kt would have resulted in a 10 kt crosswind and an 11 kt tailwind when landing on a track of 080°. When the published ground roll distance is factored in accordance with guidelines published by the CAA in their leaflet 'GENERAL AVIATION SAFETY SENSE No 7 - AEROPLANE PERFORMANCE' to take account of wet grass sloping down at 2% and the tailwind, the expected landing roll increases to 423 metres (462 yards). Although the aircraft was well below MLW when it landed, by touching down near the mid point of the strip the pilot gave himself insufficient distance in which to stop. Had he used Runway 26, in the belief that this was the downhill direction, the required landing roll at MLW would have been about 300 metres (328 yards) and the aircraft could have stopped safely from a mid-point touchdown.