

Socata TB10, G-OFLG, 6 May 2001 at 1517 hrs

AAIB Bulletin No: 8/2001 **Ref:** EW/G2001/05/05 **Category:** 1.3

Aircraft Type and Registration: Socata TB10, G-OFLG

No & Type of Engines: 1 Lycoming O-360-A1AD piston engine

Year of Manufacture: 1979

Date & Time (UTC): 6 May 2001 at 1517 hrs

Location: Lands End Airfield

Type of Flight: Private

Persons on Board: Crew - 1 - Passengers - 2

Injuries: Crew - None - Passengers - None

Nature of Damage: Extensive damage to both wings. Nose and left main landing gear detached. Propeller bent and engine shock loaded. Split in windscreen

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

Commander's Age: 55 years

Commander's Flying Experience: 639 hours (of which 270 were on type)

Last 90 days - 18 hours

Last 28 days - 5 hours

Information Source: Aircraft Accident Report Form submitted by the pilot

The pilot had planned to fly from Farnborough to Old Sarum in order to collect two passengers whom he then intended to fly to the airfield at Lands End. The flight to Old Sarum was uneventful. Whilst on the ground at Old Sarum the pilot updated himself on the weather at Lands End and Exeter, both by use of the appropriate meteorological forms and via the telephone. The meteorological conditions at Lands End were reported as: surface wind 070°/10 kt, visibility 25 km with no significant cloud. Runway 07 was the declared runway in use.

The aircraft departed Old Sarum at 1345 hrs and flew to Lands End, cruising at 3,000 feet. When the pilot first made contact with Lands End, at approximately 1510 hrs, he was informed that the surface wind was now 030°/ 20 kt, gusting to 25 kt. The pilot decided to land on Runway 03 with its attendant headwind rather than use Runway 07 with a gusting crosswind component. Runway 03 had a dry grass surface with a published available landing distance of 544 metres and was 18 metres wide. The runway threshold was displaced by 30 metres in order to allow adequate clearance over a dry stone wall that was partially covered by a hedge.

The pilot joined the circuit at 1,000 feet QFE and flew a left hand visual circuit aiming to touch down on the runway designator numbers. Runway 03 commenced with an incline for the first 10% of its length and it was the pilot's intention to use the slowing effect of this incline, in addition to the strong headwind component, in order to decelerate the aircraft during the landing run. During the final approach with the airspeed stabilised at 75 kt, the aircraft experienced an increased rate of descent as it crossed a valley, as the throttle setting was increased the engine responded immediately and the aircraft was re-established on the approach, albeit on a shallower glidepath than originally intended. Towards the very end of the final approach the rate of descent increased once again. The pilot applied full power with the intention of going around. The left landing gear struck the dry stone wall approximately 15 inches from the top of the wall, the left wheel then hit the runway marker board. By this stage the aircraft had lost flying speed, the left wing dropped and the pilot applied full right aileron, possibly some right rudder, and closed the throttle. The aircraft then slid in a westerly direction and came to rest across the western boundary road of the airfield. There was no fuel spill or fire. The pilot selected the fuel and battery master to 'OFF' and he and his passengers vacated the aircraft.

Weight and balance

The calculated weight of the aircraft on arrival at Lands End was 2,372 lb, this is below the maximum landing weight of 2,407 lb; the CG was at a mid position. The TB-10 flight manual provided the following landing data:

Conditions: Landing weight 2,407 lb

Approach speed 72 kt

Land flap selected

Threshold crossing height 50 feet

Runway elevation 410 feet amsl,

Temperature +8°C,

Calm wind

20% landing distance increase for short dry grass

Calculated landing distance: 1,720 feet

Available landing distance: 1789 feet (544 metres)

Since these distances are based upon the maximum landing weight in calm conditions the pilot believed that the available landing distance would be adequate in the prevailing wind conditions. The pilot reported that he gave some consideration for wind shear given the prevailing conditions and the nature of the terrain but the severity of the wind shear was unexpected.