

AAIB Bulletin No: 9/93

Ref: EW/G93/06/30

Category: 1c

Aircraft Type and Registration: Piper PA-28-181 Cherokee Archer II, G-BFDI

No & Type of Engines: 1 Lycoming O-360-A4M piston engine

Year of Manufacture: 1977

Date & Time (UTC): 24 June 1993 at 1350 hrs

Location: Runway 33, Sibson Airport, Cambridgeshire

Type of Flight: Private

Persons on Board: Crew - 1 Passengers - 1

Injuries: Crew - None Passengers - None

Nature of Damage: Substantial to left wing and fuel tank

Commander's Licence: Private Pilot's Licence

Commander's Age: 46 years

Commander's Flying Experience: 80 hours (of which 7 were on type)
Last 90 days - 17 hours
Last 28 days - 9 hours

Information Source: Aircraft Accident Report Form submitted by the pilot and further investigation by the AAIB

The pilot departed Nottingham airport with his passenger, who was also a qualified pilot, for a flight to Sibson which has grass runways. Since all his previous experience had been on paved surfaces, the pilot had recently undertaken some training on a grass runway in anticipation of his visit to Sibson. The weather was fine with a light surface wind from the south west. A Britten-Norman Islander and a Shorts Skyvan engaged in parachute dropping were operating from Runway 33. Club training aircraft were taking-off on 33 and landing on 25 which has a moderate up-slope, a usable length of 613 metres and National Grid power lines which are located 800 metres from the threshold. The pilot of the accident aircraft elected to land on 25. The first approach was seen to be high and culminated in a go-around from about 200 feet above the threshold. The second approach was seen to be made from a direction of about 210° and resulted in a bounce from which a further go-around was initiated. A third approach from a similar direction to that of the second was seen to result in the aircraft landing some 200 metres into the runway before becoming airborne again after a ground run of 150 metres. The aircraft touched down again in the area of the '07' numbers and at this stage, the pilot initiated a go-around narrowly missing some trees just beyond the upwind end of the runway.

Following the third approach to 25, the pilot requested the use of another runway and was given 33. Having observed the approaches on 25, a witness decided to video the approach to 33 and this recording shows that the approach was flown with flap selected but in a very flat attitude. The pilot stated that he landed and then lowered the nosewheel onto the runway after a ground roll of about 40 yards but the video clearly shows that the landing was nosewheel first at a point some 150 metres into the 424 metre runway. A flying instructor who was on the crosswind leg of a right hand circuit stated that the aircraft landed well to the right of the runway and then veered to the left across the runway. Photographs of the wheel tracks of the aircraft taken shortly after the accident indicate that at this time, the aircraft was crossing the runway with a considerable amount of sideslip. The pilot stated that as soon as the nosewheel contacted the ground, the aircraft veered to the left and he later attributed this change of direction to the nosewheel having hit a three inch deep hole in the runway with a metal marker standing three inches proud of the surface. The metal marker referred to by the pilot was used as a blanking plate where the runway edge lighting had been removed for the duration of the summer months. These plates were two inches square and secured into the ground by two metal rods. Inspection of a selection of these covers some days after the accident indicated that they were firmly secured and would not move as a result of a wheel rolling over them. However, the design was such that the application of a sideways force, such as that applied by a skidding wheel, could lift them from the ground. On none of the locations inspected was the depression around the cover greater than one inch.

Despite the application of right rudder, the pilot could not prevent the aircraft from departing the left hand edge of the runway and striking a marker board designating the edge of the manoeuvring area. This board was mounted on non-frangible supports made out of one and a half inch angle iron, one of which penetrated the left wing leading edge causing the rupture of the integral fuel tank. After hitting the marker board, the aircraft came to rest at the end of the runway. There was no fire and both occupants were able to evacuate the aircraft without difficulty.

In a conversation after the accident, the passenger indicated that either the second or third approach to 25 had been flown by him. The pilot stated that it was the second and not the third approach that resulted in a go-around after touching down and he also stated that at no time did he use brake during the final landing.

The aircraft was later examined by an engineer from the aircraft's maintenance organisation and subsequently flown back to Nottingham for repair.