

AAIB Bulletin No: 7/94 **Ref:** EW/G94/03/15 **Category:** 1.3

Aircraft Type and Registration: Piper PA-25-260/235 Pawnee, G-BFRX

No & Type of Engines: 1 Lycoming O-540-B2C5 piston engine

Year of Manufacture: 1974

Date & Time (UTC): 27 March 1994 at 1352 hrs

Location: Sutton Bank, Thirsk, Yorkshire

Type of Flight: Glider towing

Persons on Board: Crew - 1 Passengers - None

Injuries: Crew - 1 Serious Passengers - N/A

Nature of Damage: Aircraft beyond economic repair

Commander's Licence: Private Pilot's Licence

Commander's Age: 52 years

Commander's Flying Experience: 460 hours (of which 128 were on type)
Last 90 days - 2 hours
Last 28 days - 2 hours

Information Source: Aircraft Accident Report Form submitted by the pilot

The gliding site at Sutton Bank is a grass field at the top of a steep escarpment; its elevation is 920 feet above mean sea level. The site is surrounded by woodland and there are steep hillsides adjoining the west and south sides of the site. The longest take-off run is orientated approximately north-south and the northern part of this run is relatively narrow compared to the remainder of the site. At the time of the accident the weather was fine although the wind was from 120° at 15 to 20 kt with gusts to 25 kt or more.

The pilot reported that having completed several aerotows, he returned to land on the southerly strip. He intended to touch down close to the glider launching point near the narrowest part on the northern side of the site. A glider which had landed on the left side of the landing run obstructed the left-hand side of the strip and so the pilot decided to land on the right-hand side close to the edge of the escarpment. During the landing flare, with the wind blowing from his 10 o'clock relative to the landing direction, the pilot appreciated that the aircraft was drifting towards the edge of the site which had been ploughed and would have touched down too close to the edge. In the flare he decided to

go-around, applied full throttle and commenced a climb. As he did so, the aircraft began a violent, undemanded roll to the right which the pilot was unable to overcome by the use of aileron and rudder. The aircraft rolled inverted and entered a steep dive before crashing in a vertical attitude on the side of the hill some 250 feet below the site.

Because the Pawnee was designed as a crop-sprayer, the single-seat cockpit was specially strengthened and fitted with a steel tube over-turn structure, heavy duty restraint harness and a window/door on both sides. Although during the crash the aircraft's wings were torn off and the fuselage was distorted, the cockpit structure, the pilot's seat and the restraint harness were essentially undamaged. The pilot remained conscious but he sustained multiple fractures to his legs, a dislocated shoulder and minor facial lacerations. There was no fire and he was attended by the emergency services, members of the gliding club and two medical practitioners who had been walking nearby.

The pilot attributed the cause of the accident to strong 'curlover' and crosswind. Near his intended point of touchdown the landing strip was in the lee of the clubhouse and caravan park but further into the strip, near the point at which control was lost, there was less shelter from the wind. Eyewitnesses reported that the aircraft was flying slightly right wing low during the flare which the pilot stated would have been consistent with the aircraft's tendency to empty the left wing fuel tank before the right wing tank making the aircraft right wing heavy.

The formation of eddies on the lee side of a cliff top is a known meteorological phenomenon. The eddies usually form when a strong wind blows from a direction within about 30° of the line of the cliff top.