

No: 11/90

Ref: EW/G90/07/38

Category: 1c

Aircraft Type and Registration: Piper PA-38-112, N23185

No & Type of Engines: 1 Lycoming O-235 piston engine

Year of Manufacture: 1981

Date and Time (UTC): 24 July 1990 at 0640 hrs

Location: Coal Aston Airstrip, near Chesterfield, Derbyshire

Type of Flight: Private (training)

Persons on Board: Crew - 2 Passengers - None

Injuries: Crew - None Passengers - N/A

Nature of Damage: Aircraft damaged beyond economical repair

Commander's Licence: United Kingdom Private Pilot's Licence and FAA Pilot's Licence

Commander's Age: 31 years

Commander's Total Flying Experience: 1415 hours (of which 550 were on type)

Information Source: Aircraft Accident Report Form and further AAIB inquiries

The American registered aircraft was being operated by the United States Air Force Europe flying club based at RAF Lakenheath and was being operated to United States Air Force Regulations (AFR). On the morning of the accident flight, N23185 was flown by an instructor and his student from RAF Lakenheath to Coal Aston in Derbyshire. The instructor had visited Coal Aston on previous occasions but did not obtain prior permission for this flight as required by the airfield owners entry in Pooley's Flight Guide. The flight to Coal Aston was uneventful.

After landing the aircraft was shut down and prepared for the return flight to RAF Lakenheath. This preparation included a thorough check of the aircraft but did not include a calculation of take-off performance as required by AFRs. Had this been done it would have indicated a take-off distance required of 2065 feet; Coal Aston has a declared runway length of 2379 feet. AFRs also quote an overriding minimum runway length of 2000 feet for take-off. The instructor briefed his student for a rough field take-off using one notch of flap and a rotation at 55 knots. It was decided to use Runway 29 which has a down slope of 1.6% but was also subject to a slight tail wind component. The aircraft was lined-up for take-off on runway 29 at a point 500 feet in from the threshold. This point is the displaced landing threshold, which is marked by cones, which the instructor mistook for the beginning of the take-off run available. From this point the calculated take-off distance to 50 feet was 1947 feet

which was 68 feet longer than the runway now available and also 121 feet less than the 2000 feet required by AFRs.

The Federal Aviation Authority (FAA) training manual, to which the instructor should have been operating, recommends that rough-field take-offs be commenced from a rolling start. However the aircraft was stopped at the displaced threshold to perform a power check following prolonged taxiing at low power. Having completed the power check, the student commenced the take-off and rotated at the pre-briefed speed of 55 kts. On getting airborne, he maintained an excessively high nose attitude and the aircraft settled back onto the runway. This happened twice more before the instructor took control and lowered the nose of the aircraft to accelerate to a safe flying speed. By this time however, there was insufficient distance remaining for the aircraft to clear the boundary hedge which it hit further reducing the airspeed. The aircraft continued airborne for a short distance before contacting the ground again and hitting a hedge and a concrete mixer which caused substantial damage. Neither occupant was injured and they evacuated the aircraft without difficulty. There was no fire.

This accident has also been investigated by the United States Air Force and a report submitted to the appropriate authority.