No: 6/83 Ref: EW/C826/01

Aircraft:	Sturgeonair/Jurca MJ7 Replica P51D (Mustang) G-BEFU (Light single-engined fixed wing aircraft)
Year of manufacture:	1976
Date and time (GMT):	15 May 1983 at 1205 hrs
Location:	Barton Aerodrome, Greater Manchester
Type of flight:	Private (air display)
Persons of board:	Crew - 1 Passengers - Nil
Injuries:	Crew - 1 (fatal) Passengers - N/A
Nature of damage:	Aircraft destroyed
Commander's Licence:	Private Pilot's Licence
Commander's Age:	45 years
Commander's total flying experience:	1168 hours (of which 8 hours were on type)

The aircraft took off from Manchester International Airport at 1138 hrs to participate in the Manchester Air Show at Barton Aerodrome. After being held for several minutes just to the east of Barton, the aircraft was called in to give its display at 1155 hrs. The pilot flew a prepared display sequence which included fast runs, steeply banked turns, a loop and a slow fly past. His briefing notes show that his intention was to end his display with a roll, although the type of roll he intended to perform was not indicated. The display line was along the northern edge of runway 24, 107m (350 ft) north-west of the crowd barriers. On its final run, the aircraft flew along this display line from the north-east at a height estimated by eye witnesses to be 250 and 300 feet and a speed thought by some experienced observers to be rather slow for a low-level rolling manoeuvre.

The subsequent behaviour of the aircraft was recorded on video film. The film shows that at a point close to the centre of the aerodrome, the aircraft was pitched 20° nose up and rolled to the left. After rolling through 90°, with the wings in the vertical plane, the fuselage was parallel with the ground and the roll had reduced. After 180°, with the aircraft inverted, the nose was pitched down approximately 10° and was held momentarily at this pitch attitude. At this point, eye witnesses reported a reduction of engine noise as if engine rpm had fallen. As the aircraft continued to roll slowly to the left from the inverted position, the nose dropped sharply, engine noise increased and the aircraft began to roll to the right towards the crowd. This right roll continued as the nose passed through the vertical until, at a pitch attitude of approximately 70°, the direction of roll again reversed and the aircraft began to roll to the left away from the crowd. The aircraft hit the ground with wings level in a 45° dive. The time interval between level inverted flight and impact was 3½ seconds.

It cannot be determined with certainty whether the pull through and subsequent right and left rolling movements were pilot induced or were the result of an inverted stall. The reduction of angle of the final dive, however, could have been achieved only by pilot back pressure on the control column. The engine of the aircraft was not fitted with oil and fuel systems designed or cleared for sustained inverted flight and the permit to fly issued for the aircraft prohibited aerobatic manoeuvres.

Subsequent examination of the aircraft and engine showed no indication of mechanical or structural failure or malfunction, nor was there any evidence that any medical factor contributed to the accident.