

Aircraft type and registration: Cessna 310 G-BGRJ

No & Type of engines: Two Continental TS10-520-B piston engines

Year of Manufacture: 1979

Date and time (UTC): 7 April 1987 at 0852 hrs

Location: Near Tatsfield, Kent

Type of flight: Private (business)

Persons on board: Crew — 1 Passengers — 1

Injuries: Crew — 1 (fatal) Passengers — 1 (fatal)

Nature of damage: Aircraft destroyed

Commander's Licence: Private Pilot's Licence with Instrument Rating

Commander's Age: 58 years

Commander's Total Flying Experience: 1768 hours (of which about 350 were on type)

Information Source: AIB Field Investigation

G-BGRJ took off from Blackpool Airport at 0726 hrs to fly, via airways, to Biggin Hill Airport in Kent. At 0836 hrs, the aircraft left controlled airspace, abeam Brookmans Park, heading 180° at 2400 feet. At 0843 hrs the pilot was told, by the Heathrow Radar controller, that he had 10 nautical miles (nm) to run to Biggin Hill and that he was to call Biggin Hill approach.

The initial call was made at 0844 hrs, with 8nm to run, and the weather was passed as wind 110°/15 knots, visibility 2000 metres in rain, 7 oktas of cloud base 400 feet and the temperature plus 8°C. The QNH was given as 1002 millibars (mb) and the QFE, on request from the pilot, as 983 mb. When the aircraft was at 6 nm the approach controller instructed the pilot to "report established final for a straight-in approach runway 21". At 0849 hrs G-BGRJ asked for a magnetic track to steer but was informed that Biggin Hill had no direction finding equipment. At 0850 hrs the pilot reported that he was inbound with 1.2 nm to run. When asked whether he was established on the 028° radial, he replied "affirmative". Clearance was then given for "descent and procedure" with the instruction to report "visual with the lights in sight".

Shortly before passing over the "BIG" VHF omni range (VOR) beacon, the descent was commenced. From the overhead the aircraft was flown away from the beacon on, approximately, the 208° radial, continuing to descend until, 2 nm from the VOR, it was flown level at about 860 feet above mean sea level (amsl). This is the minimum descent altitude published for the VOR Distance Measuring Equipment (DME) approach to runway 21. At about 0852 hrs the aircraft struck the top part of a tree which is about 840 feet amsl. It subsequently struck the ground about half a mile from the tree between a radio mast and the service road to the British Gas above ground installation at Tatsfield.

Examination of the wreckage on-site showed that the aircraft impacted the ground with a very

low forward speed (well below stalling speed), with an approximate 22° pitch down and a left wing low attitude. The landing gear was down and locked and the wing flaps were in the approach position. Evidence from the port propeller blades indicated that the engine was not producing power and that the blades were positioned approximately at ground fine upon impact with the ground. The starboard propeller blades showed good evidence that the starboard engine was producing power when the ground impact occurred. The nose and the port wing had clear evidence of having suffered severe damage prior to the impact with the ground. There was evidence of a reasonable quantity of fuel being present aboard the aircraft at the time of impact with the ground. The pilot's and the co-pilot's altimeters were set to the correct QFE and QNH respectively.

Subsequent examination of the main aircraft wreckage, and that found in the vicinity of the impact with the tree revealed that the nose and port wing took the main part of the collision with the tree which ruptured the port main fuel tank, crushed the port main engine fuel feed pipe, blocked off the port engine air intake and severely disrupted the outer port wing. The branches from the tree had been shredded into small pieces by a propeller which indicated that the port engine was producing power when the impact with the tree occurred. No technical defect with the aircraft was found.

A post accident flight inspection of the 'BIG' VOR DME was carried out by the Civil Aviation Authority Flying Unit, and its performance was found to be satisfactory. The associated aircraft navigation equipment was tested by an approved overhaul agency and was found to function satisfactorily.

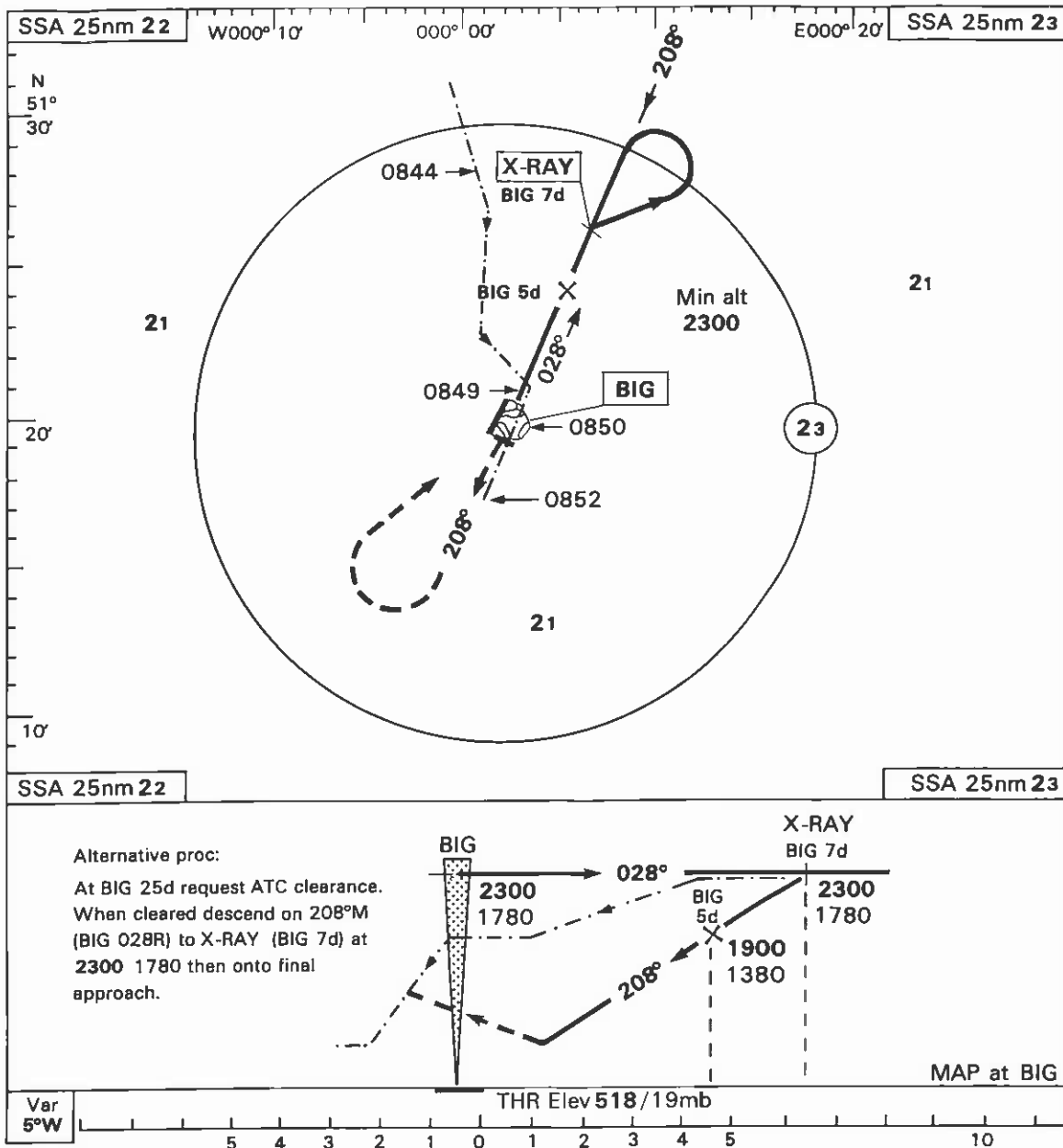


Figure 1 Flight path relative to VOR/DME approach.

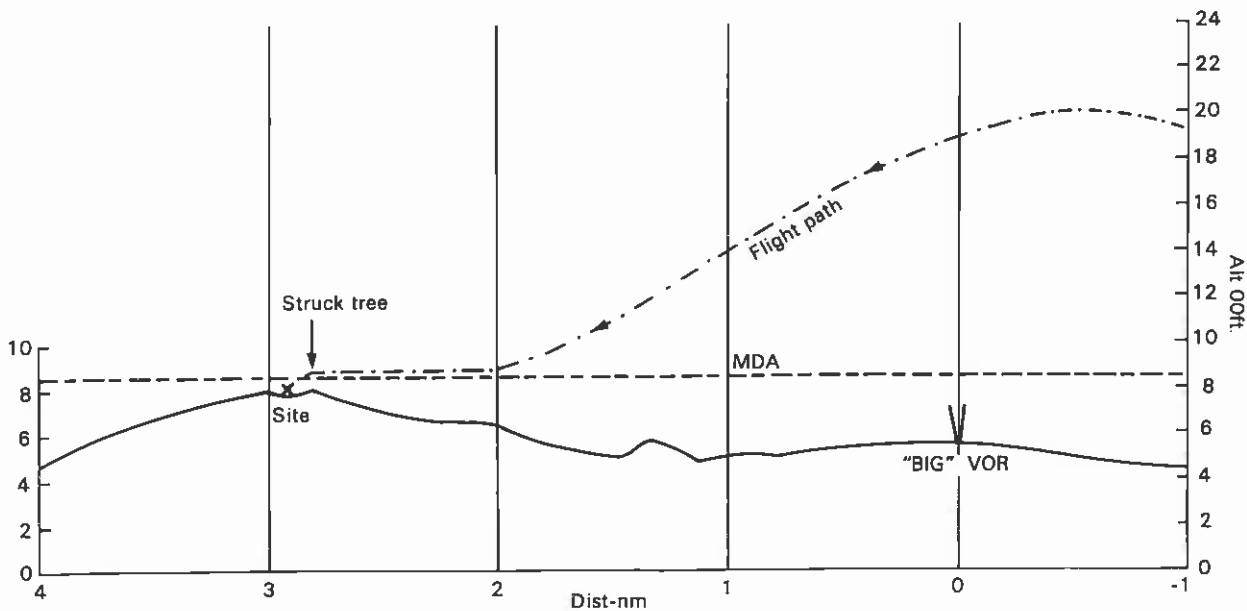


Figure 2 Flight path relative to ground