

AIRCRAFT ACCIDENT REPORT NO 2/94

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REPORT ON THE MID-AIR COLLISION BETWEEN RAF TORNADO, ZG 754 AND BELL 206B JETRANGER III, G-BHYW AT FARLETON KNOTT NEAR KENDAL, CUMBRIA ON 23 JUNE 1993

SUMMARY

The JetRanger helicopter, which was based at Edinburgh, was engaged on an aerial pipeline inspection flight. The Tornado GR1 based at RAF Bruggen, Germany, was one of a pair of Tornados on a routine low level training flight about to proceed northwards over the Lake District. The collision occurred over open ground at a height of 380 feet agl, some 500 metres to the north west of the higher ground of Farleton Fell, south of Kendal. After the collision the helicopter, with its tail rotor and boom severed aft of the horizontal stabiliser, entered a series of spiral turns before descending out of control. The JetRanger pilot and his observer passenger were killed on impact with the ground. The Tornado, although substantially damaged, diverted to the British Aerospace airfield at Warton and landed without further incident. Immediately before the accident the JetRanger had orbited overhead some engineering sub-contractors working close to the pipeline and had just rolled onto a northerly heading when it was struck by the Tornado which was flying at low level on a north westerly heading at a speed of 450 kt.

The report concludes that the collision occurred because neither pilot saw the other aircraft in time to avoid the collision. An incompatibility of operational modes and the unsuitability of the 'see-and-avoid' principle in these circumstances failed to ensure the necessary separation. There were no routine procedures, such as the Civil Aircraft Notification Procedure (CANP), or facilities, such as a Collision Warning System (CWS), to inform either pilot about the presence of the other aircraft prior to the impact.

Five safety recommendations were made to the CAA and Ministry of Defence on 28 September 1993. These concerned the adoption of some minimal vertical separation between military and civil aircraft at low level, a Pipeline Inspection Notification System (PINS), a revised definition of an anti-collision light to ensure optimum use of white strobe lights, and a review of the CANP by the CAA.

A further five recommendations are made in Part 4 of the report. These concern an analysis by MOD of the 'see-and-avoid' principle to determine whether it is satisfactory as the primary means of collision

avoidance, portrayal of flow directions and choke points on most commonly used charts and some published feedback by MOD on the effectiveness of CANP and PINS. A high priority for the development and introduction of an airborne collision warning system and an electronic strobe detector is also recommended. An examination of the existing ATC communications available to civil/military aircraft operating in the open Flight Information Region should determine whether the incompatibility of frequency bands adversely affects flight safety.

CUMBRIA ON 23 JUNE 1993

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