



MINISTRY OF DEFENCE

Military Aircraft Accident Summary

AIRCRAFT ACCIDENT INVOLVING ROYAL AIR FORCE

TORNADO GR1A ZG708

Date: 1 September 1994
Parent Station: RAF Marham
Place of Accident: Glen Ogle, Scotland
Crew: 2 (pilot and navigator)
Casualties: 2 killed

CIRCUMSTANCES

1. On 1 September 1994, the crew of Tornado GR1A ZG708 were tasked to conduct a routine low-level training sortie over Scotland. They planned and briefed for a singleton reconnaissance mission against three targets and following an uneventful medium-level transit, the crew commenced the low-level section as planned. The three reconnaissance targets were completed and the aircraft entered the mouth of the valley leading to Glen Ogle. The weather at the time was excellent.

2. At 1204, some eight seconds prior to impact, the aircraft was flying at 428 knots and approximately 500 feet above ground. The aircraft commenced a turn to the right, using 70-80° angle of bank, in order to follow the line of the valley. At three seconds to impact, full right aileron was applied, almost coincident with a significant rearwards stick input and with the selection of reheat on both engines. The aircraft completed a further 180° of roll, through the inverted position, before striking the ground, left wingtip first, at a point three miles south of Killin. Neither crew member made an attempt to eject, and both were killed on impact.

DETERMINATION OF THE CAUSE

3. Although the Board was able to interpret information from the Accident Data Recorder (ADR) and the Cockpit Voice Recorder (CVR), it was not possible to determine positively the cause of the accident since there were a number of factors which could not be discounted completely. These comprised the possibility of a control restriction, medical incapacitation and avoidance of a sudden potential hazard. It was concluded that the latter was the most plausible. There was no evidence to suggest that another aircraft was involved, but the Board could not discount the possibility that a bird crossed the aircraft's flightpath causing the pilot to take sudden evasive action. Although the action taken by the pilot was inappropriate, it is conceivable that this was a result of a startled reaction to a potential hazard. This situation could have been exacerbated if the pilot had been distracted by an in-cockpit task. Whilst it was not possible to determine exactly why the pilot made the final control column movements, there was little doubt that these actions led directly to the loss of the aircraft.

SUBSEQUENT ACTIONS

4. Although the ADR provided reliable details of flight control inputs and control surface responses, it was observed that this information could be presented in a more logical manner to assist the Board. This will be taken into account when the specifications for the Tornado's replacement ADR, which has been funded from FY 97/98, are considered.

CLAIMS

5. Claims totalling £2,483.37 have been settled to date in respect of this accident.