



## MINISTRY OF DEFENCE

### MILITARY AIRCRAFT ACCIDENT SUMMARY

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#### AIRCRAFT ACCIDENT TO ROYAL AIR FORCE TORNADO GR1 XD 808

DATE:	10 MAY 1988
PARENT AIRFIELD:	RAF BRUGGEN, WEST GERMANY
LOCATION OF ACCIDENT:	20 MILES NORTH OF OSNABRUCH
CREW:	TWO
CASUALTIES:	TWO FATAL

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#### CIRCUMSTANCES:

1. On 10 May 1988, Tornado ZD 808 took off from RAF Bruggen to act as a simulated threat (bounce) for a 3-aircraft formation of Tornados carrying out low level evasion training over the North German Plain. The weather, which was poor at base, cleared as the aircraft travelled to the selected operating area.
2. On sighting the formation, the bounce carried out a simulated attack against the No 2, ending with a simulated missile launch. He then split away from the formation to re-position for a further attack at one of the pre-planned turning points. The visibility had now improved to 15 km with a clear horizon and no cloud. The formation duly arrived at their turning point and turned right to the east. The bounce detected the rear pair flying line abreast and decided to carry out another attack on the No 2, the southernmost of the two aircraft. This engagement, more prolonged than the first, involved two simulated missile attacks, each of which provoked an appropriate defensive manoeuvre from the threatened aircraft.
3. After the second defensive manoeuvre, the bounce appeared to position for a simulated gun attack. The No 2 reacted by turning slightly left, towards the bounce who then disengaged. The bounce turned right initially and passed about 600 ft over the No 2. He was then seen to overbank to the left, drop the nose and put the wings forward to 25°, passing behind the No 2 in a steep, diving, left-hand turn. Although

the bank and pitch angles were seen to reduce steadily during this descending turn, some 10 seconds after the disengagement, the aircraft struck the ground. The aircraft exploded in a fireball and broke up. Both crew members died in the crash.

**CAUSE:**

4. The wealth of information available from the Accident Data Recorder (ADR), together with analysis of the wreckage, established that the aircraft was fully serviceable at the moment of impact. The weather was good and the ADR voice track gave no indication of bird-strike or crew incapacitation. Scrutiny of the ADR data revealed that, from a position of 29° nose low/1800 ft at 8 seconds before impact, the pilot recovered to wings level/13° pitch-down/1000 ft/3g three seconds later. The g was then relaxed and left stick applied as the pilot possibly searched for his target. Two seconds before impact the aircraft passed 500 ft and almost immediately the navigator called a height warning as the aircraft was rolling left through 35° angle of bank. The pilot responded with back stick and right roll and the aircraft was recovering as it impacted the ground. No evidence was found to indicate why the crew simultaneously failed to recognise their predicament.