

MILITARY AIRCRAFT ACCIDENT SUMMARY
AIRCRAFT ACCIDENT TO ROYAL AIR FORCE
TORNADO ZA545 AND TORNADO ZA464

Date:	14 August 1990
Parent Airfield:	RAF Honington RAF Laarbruch
Place of Accident:	10nm North East of Spurn Head
Crew:	2 x Two
Casualties:	2 Fatal 1 Fatal and 1 Major

CIRCUMSTANCES

1. On 14 August 1990, 2 Tornado GR1 aircraft collided while low-flying 10 nm north-east of Spurn Head. Although visibility was in excess of 10 km and no cloud below 5000 ft, the weather in the area was hazy. The accident involved a singleton aircraft from RAF Honington and one of a pair of aircraft from RAF Laarbruch. The crew of the singleton aircraft were killed and, although the other crew ejected, only the pilot survived.

2. The crew of the Honington aircraft took-off for a routine training sortie. They flew to Wainfleet air weapons range, completed their weapons practice and departed over the sea via the north east boundary of the Wash Weapons Area. The aircraft was flying towards Flamborough Head on a heading of approximately 340 degrees and flying at around 250-300ft when it collided with the other Tornado.

3. The 2 Laarbruch aircraft had successfully completed a range detail at Cowden air weapons range and departed at about 1000ft

above sea level, on a heading of 130 degrees in line abreast formation. En-route, the formation descended for 250ft but levelled at 320ft for a systems check where the crew noticed a fault in some ancillary equipment which was recycled. Some 20 seconds later the navigator called on the intercom for the pilot to 'break'. The pilot responded immediately, but 2 seconds later, the aircraft collided with the Honington aircraft. Both aircraft were destroyed.

CAUSE

4. Pilots flying at low level must rely on the "see and be seen" principle to avoid other aircraft. In this particular case the weather was hazy, making it difficult to see the aircraft against their backgrounds. Also, the head-on steady relative flight paths meant that there was no apparent movement to attract the pilots' attention. The human eye has difficulty in detecting apparently stationary objects that are closing rapidly on each other. Thus the Board of Inquiry concluded that the sole cause of this tragic accident was that the Tornado crews did not see the confliction in time to take the necessary avoiding action.

SUBSEQUENT ACTIONS

5. The MOD carried out an urgent review of traffic flow patterns in the area of the accident and has already introduced procedural changes to reduce further the risk of confliction. A number of other measures are also being taken to increase the conspicuity of aircraft and improve visual acquisition by aircrew. A trial is being conducted to assess objectively the effectiveness of forward facing headlights and different colour schemes on aircraft conspicuity. Technologies which provide electronic collision warning systems are also being investigated.