MINISTRY OF DEFENCE

MILITARY AIRCRAFT ACCIDENT SUMMARY

AIRCRAFT ACCIDENT TO ROYAL AIR FORCE TORNADO F3 ZE732

DATE:	15 June 1998
PARENT UNIT:	No 29 Squadron, RAF Coningsby
LOCATION OF ACCIDENT:	North Sea, 30 Miles NE Flamborough Head
CREW:	Two
CASUALTIES:	Two fatal

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SYNOPSIS

1. During the second practice intercept of a 2v1 intercept sortie, Tornado F3 ZE732 commenced a descent from 14,000 feet to low level to intercept the Hawk aircraft acting as a target for the sortie at 2,000 feet. To descend, ZE732 established a 15° nose down attitude, passing through layers of cloud between 10,000 to 7,000 feet and again at 2,000 feet to almost sea level. At 225 feet, the Low Altitude Warning sounded and the pilot attempted to effect recovery. The aircraft crashed into the sea killing both crew members.

2. The Inquiry concluded that the cause of the accident was the steep, nose down attitude of the aircraft which left insufficient height from which to effect a recovery.

BACKGROUND

3. ZE732's navigator had returned from a ground appointment and was working up to achieve operational status on the squadron. The pilot was a flight commander with considerable experience and was ideally suited to his role during the sortie. Before the final descent, the crew had shown inter-cockpit co-operation of the highest standard and the sortie had already included a descent profile almost identical to the fatal descent in order to check the weather conditions at low level. During this first descent, all height checks had been completed as would be expected of an

experienced crew. As a result of this weather check, the pilot of ZE732 briefed that the minimum height for the exercise was to be 2,000 feet.

CIRCUMSTANCES

4. Having completed one intercept above the cloud tops, which were at 14,000 feet, the Hawk repositioned at 2,000 feet, 40 miles from ZE732. The last intercept involved the two Tornados working as a co-ordinated pair, attacking the Hawk as it flew from east to west. The crew of ZE732 took control of the Tornado formation and began the intercept profile but became pre-occupied with the intercept to the detriment of monitoring their height. The two possible height checks were performed by the navigator but not acknowledged by the pilot and the aircraft passed below the briefed minimum altitude of 2,000 feet without comment from either crew member. It was not until the Low Altitude Warning sounded at 225 feet that the pilot attempted to reduce the rate of descent. By which time it was too late for the crew to recover the aircraft.

SALVAGE OPERATION

5. The aircraft was severely broken up by the impact with the sea, causing the wreckage to be spread over a large area of the sea bed. The Sonar Location device attached to the Accident Data recorder (ADR) functioned correctly and helped the salvage contractor to find the aircraft. The ADR was recovered during the initial site survey and provided enough information for the Board to establish the cause of the accident without needing to salvage the aircraft.

AIRCRAFT DAMAGE

6. The aircraft was totally destroyed by the impact.

INVESTIGATION

7. The ADR provided evidence that the aircraft was fully serviceable at the time of impact and analysis of the voice and flight control channels indicated that neither crew member was aware of the height profile of the aircraft from around 4,000 feet until 225 feet. The Board concluded that procedures for setting the Low Altitude Warning, along with pilot distraction and crew co-operation were contributory factors in causing the accident.

8. The Board recommended changes to Headquarters 11/18 Group Air Staff Orders concerning height checks during descents and the setting of the Low Altitude Warning. These changes aim to ensure positive confirmation of key descent heights and that the Low Altitude Warning is set to a height appropriate to the profile being flown. The Board also recommended that the Tornado F3 should be equipped with a Ground Proximity Warning System at the earliest opportunity.