



MINISTRY OF DEFENCE
MILITARY AIRCRAFT ACCIDENT SUMMARY

**AIRCRAFT ACCIDENT TO
ROYAL AIR FORCE HERCULES**

AIRCRAFT:	RAF Hercules XV179
DATE:	30 January 2005
LOCATION:	Iraq
PARENT UNIT:	47 Sqn RAF Lyneham
CREW:	Nine plus one passenger
INJURIES:	Ten fatalities

Issued by: Policy Secretariat, Headquarters Strike Command, RAF High Wycombe, Bucks HP14 4UE

November 2005

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SYNOPSIS

1. On 30 January 2005 the RAF Hercules C130K took off from Baghdad at 1324Z¹ en route to Balad. The aircraft was on a routine passenger and freight move when, at 1330Z, a radio message was received from the crew stating that the aircraft was on fire. At 1355Z the Hercules was confirmed as missing and at 1415Z the crash site was found by a formation of US helicopters. The convened Board of Inquiry concluded that the aircraft crashed because it became uncontrollable after hostile ground-to-air fire caused the explosive separation of the outboard right-hand wing. The wreckage was found in two separate locations. The crash was not survivable.

¹ All times are in Zulu (Z) (Greenwich Mean Time), which equated to local Iraqi time minus 3 hours.

BACKGROUND

2. The Hercules was on a routine operational flight providing support to Coalition forces at the time of the crash. The crew were all on duty and were properly trained, qualified and authorised. The co-pilot was on his first operational deployment, but the rest of the crew were very experienced, with 19 detachments to Iraq amongst them. All crew members had been given a thorough pre-deployment brief which covered intelligence, tactics and administration. They were also well rested and medically fit before undertaking the day's tasking. The aircraft was serviceable prior to the incident and had no history of significant defects.

CIRCUMSTANCES

3. The Hercules took off from Baghdad at 1324Z and headed North, at low level, en route to Balad. The crew utilised low level flying as a tactic because they were on a short leg and staying low mitigated the risk of climbing and descending through hostile ground-to-air threat. The flight was carrying the crew's Land Rover, spare tyres for the aircraft, general freight and a standard NATO pallet of flares and ammunition. One passenger was also on board. The official weather forecast at the time of the crash gave visibility of 6000m in haze and the cloud as "few" at 200ft and 15,000ft. The temperature was around 18°C. The crew of two US Apache helicopters reported that there was broken cloud at 8000ft with unrestricted visibility below. The aircraft was operating over flat agricultural land when, at 1330Z, a distress message was received from the crew stating that the aircraft was on fire. The crash scene was located by a US Apache crew at 1415Z. The crash was not survivable.

RESCUE/SALVAGE OPERATION

4. A cordon was established around the crash scene by the US military for as long as it was considered safe to do so. The crash occurred in a hostile area and to maintain the cordon for any longer would have

increased the threat to coalition forces. Human remains and personal effects were recovered as a priority and then all classified material was secured. The wreckage was then examined for evidence. A return to the crash site was planned in order to recover certain pieces of wreckage that could not be collected at the time; however, as soon as the cordon was lifted all remaining aircraft structure was looted from the site and never recovered.

AIRCRAFT DAMAGE

5. The aircraft suffered Category 5 damage (destroyed in the crash).

INVESTIGATION

6. A Board of Inquiry (BOI) was convened to investigate the crash with an experienced C130K Wing Commander nominated as its President. Due to the location of the crash sites in a hostile area, the Board members were not supported in theatre by the specialist agencies such as the Air Accident Investigation Branch (AAIB), Aircraft Recovery and Transportation Flight or the BOI advisor. Due to the lack of witnesses close to the crash site, the absence of an accident data recorder and the lack of recovered physical evidence, a specific investigation policy was adopted. This was to examine all possible causes, eliminate all those not supported by evidence and subject the remaining causes to thorough analysis until the most likely cause was identified. The AAIB was also given the available evidence to allow independent scrutiny and analysis of the evidence. Defence Science and Technology Laboratory (DSTL) provided specialist advice. The Board and the AAIB reached the conclusion that the Hercules crashed because it became uncontrollable after hostile ground-to-air fire caused the explosive separation of the outboard right wing. During the investigation, it was recognised that flying at low level, in daylight, made the aircraft vulnerable to some types of ground-to-air fire. It was also recognised that the lack of a fuel tank inerting system in the wing fuel tanks left the aircraft vulnerable to an explosive fuel/air mixture developing in the tanks. Furthermore, it

was found that the flow of intelligence information regarding ground-to-air fire was not as robust as it might be.

SAFETY RECOMMENDATIONS

7. As a result of its investigation, the BOI made 3 key recommendations: C130 tactics should be reviewed, consideration should be given to the fitting of a fuel tank inerting system in the C130, the in-theatre ground-to-air intelligence process should be improved. This latter recommendation comprised a number of elements.

8. As these findings emerged, the Commander- in-Chief of Strike Command immediately directed action to be taken. Consequently, C130 tactics have been reviewed; whilst low level flying has not been withdrawn as a valid tactic, the balance of risk is more sharply defined and aircraft no longer transit at low level in daylight unless operationally essential. The fitting of a fuel tank inerting system is being investigated as a matter of urgency. Furthermore, a thorough review was undertaken of the ground-to-air fire reporting and dissemination system; this has resulted in the UK element of the Air Component Headquarters adapting its procedures and processes in line with the Board's recommendations.

9. Secondary recommendations resulting from observations made by the Board involve: security of passenger manifests, Accident Data Recorders, ground-to-air fire detection systems, DNA samples, liaison with US survivability organisations and relationships between BOIs and the Military Police.