



MINISTRY OF DEFENCE

Military Aircraft Accident Summaries

33/90
17 December 1990

AIRCRAFT ACCIDENT TO ROYAL AIR FORCE CHINOOK HC1 ZA717

Date: 25 July 1989
Parent Airfield: Royal Air Force Mount Pleasant
Place of Accident: Mount Pleasant Airfield
Crew: One pilot, one co-pilot, one crewman and two groundcrew
Casualties: Two slight injuries

CIRCUMSTANCES

1. On 25 July 1989, Chinook HC1 ZA 717 was prepared for an air test on the airfield at RAF Mount Pleasant following scheduled maintenance during which the aft transmission assembly had been changed. The air test was to comprise a series of ground runs followed by a flight test which was to include a hover check. In addition to the three aircraft crew members, two groundcrew technicians were detailed to assist with the flight. Their duties were to measure vibration levels and record technical data.
2. The ground runs were completed without incident. The pilot then took off and hover-taxied the aircraft a distance of about 250 metres to a clear area to perform the initial part of the flight phase.
3. The Chinook HC1 is fitted with a number of systems to warn the crew of an incipient failure of critical components in the transmission system. Shortly after the pilot established the aircraft in the hover, the co-pilot saw one of these warning systems - the transmission low oil pressure caption - illuminate

and he noted that the aft transmission oil pressure was well below normal. He warned the pilot, who initiated a descent for an immediate landing. However, before the aircraft could be landed, the co-pilot noticed a second warning on the Caution and Advisory Panel and one of the technicians heard a high pitched screech followed by a loud bang from the rear of the aircraft. The aft rotor blades then began to slow down and collide with the front blades and debris was seen to fall from the rear of the aircraft. Shortly afterwards, the aircraft hit the ground and rolled onto its Port side. At some stage during the impact sequence, the aft transmission and most of the aft pylon became detached from the aircraft.

4. All occupants were able to evacuate the aircraft safely. The pilots were uninjured, whilst the occupants of the cabin received injuries which were only slight.

CAUSE

5. The accident was caused by the incorrect fitment of the aft transmission input thrust bearing. The transmission then failed the first time it was subjected to normal loads in flight, resulting in the desynchronisation of the rotor systems and subsequent collision between the aft and front rotor blades.

SUBSEQUENT ACTIONS

6. The aircraft was beyond economical repair. Procedures have now been introduced to prevent the incorrect fitment of transmission input thrust bearings.