Australian Government

Australian Transport Safety Bureau

ATSB TRANSPORT SAFETY INVESTIGATION REPORT

Aviation Occurrence Report – 200600039

Final

Loss of control – Browns Island, Port Hedland, WA
4 January 2006
VH-KVN
Eurocopter France AS 350D

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Abstract

On 4 January 2006 at approximately 1753 Western Standard Time , the pilot of a Eurocopter France AS 350D helicopter, registered VH-KVN, experienced a control problem and the helicopter impacted the ground in a right roll attitude. All occupants escaped with minor injuries. The helicopter was chartered to undertake the establishment and the subsequent recovery of electronic survey markers through the Pilbara area of Western Australia.

The Australian Transport Safety Bureau (ATSB) did not attend the accident site. Shortly after the accident, the ATSB was approached by the French Bureau Enquetes – Accident (BEA) for assistance in examining the helicopter control system. The ATSB provided the BEA with information regarding access to the helicopter, its availability for detailed examination and photographs from the accident site obtained from the insurance company and the operator's report.

Following a BEA request, the ATSB arranged for the hydraulic oil to be drained and retained for further analysis and facilitated the removal of the helicopter's hydraulic pump. The removal of the pump revealed that the splines on the hydraulic pump and the belt coupling were worn to the point that the pump would not have been operating.

The BEA authorized the helicopter manufacturer to examine the helicopter on 20 and 21 March 2006 on their behalf. At the time of issue of this report the BEA had no additional information in relation to the examination.

THE AUSTRALIAN TRANSPORT SAFETY BUREAU

The Australian Transport Safety Bureau (ATSB) is an operationally independent multi-modal Bureau within the Australian Government Department of Transport and Regional Services. ATSB investigations are independent of regulatory, operator or other external bodies.

The ATSB is responsible for investigating accidents and other transport safety matters involving civil aviation, marine and rail operations in Australia that fall within Commonwealth jurisdiction, as well as participating in overseas investigations involving Australian registered aircraft and ships. A primary concern is the safety of commercial transport, with particular regard to fare-paying passenger operations. Accordingly, the ATSB also conducts investigations and studies of the transport system to identify underlying factors and trends that have the potential to adversely affect safety.

The ATSB performs its functions in accordance with the provisions of the *Transport Safety Investigation Act 2003* and, where applicable, relevant international agreements. The object of a safety investigation is to determine the circumstances in order to prevent other similar events. The results of these determinations form the basis for safety action, including recommendations where necessary. As with equivalent overseas organisations, the ATSB has no power to implement its recommendations.

It is not the object of an investigation to determine blame or liability. However, it should be recognised that an investigation report must include factual material of sufficient weight to support the analysis and findings. That material will at times contain information reflecting on the performance of individuals and organisations, and how their actions may have contributed to the outcomes of the matter under investigation. At all times the ATSB endeavours to balance the use of material that could imply adverse comment with the need to properly explain what happened, and why, in a fair and unbiased manner.

Central to the ATSB's investigation of transport safety matters is the early identification of safety issues in the transport environment. While the Bureau issues recommendations to regulatory authorities, industry, or other agencies in order to address safety issues, its preference is for organisations to make safety enhancements during the course of an investigation. The Bureau prefers to report positive safety action in its final reports rather than making formal recommendations. Recommendations may be issued in conjunction with ATSB reports or independently. A safety issue may lead to a number of similar recommendations, each issued to a different agency.

The ATSB does not have the resources to carry out a full cost-benefit analysis of each safety recommendation. The cost of a recommendation must be balanced against its benefits to safety, and transport safety involves the whole community. Such analysis is a matter for the body to which the recommendation is addressed (for example, the relevant regulatory authority in aviation, marine or rail in consultation with the industry).

FACTUAL INFORMATION

The report presented below was prepared principally from information supplied to the Bureau.

On 4 January 2006 at approximately 1753 Western Standard Time[1], the pilot of a Eurocopter France AS 350D helicopter, registered VH-KVN, experienced a control problem and the helicopter impacted the ground in a right roll attitude. All occupants escaped with minor injuries. The helicopter was chartered to undertake the establishment and the subsequent recovery of electronic survey markers through the Pilbara area of Western Australia.

It was reported that during an approach to Browns Island, a warning horn activated, and that the pilot carried out a normal landing. The horn provided an audible warning of a number of system parameters including rotor speed and hydraulic pressure. On landing, the pilot noted that the 'Hydraulic Caption Warning' segment on the central warning panel was also illuminated. After a visual inspection of the hydraulic pump and its drive belt, a functional check of the hydraulic system and discussion with the senior base engineer in Karratha, the pilot elected to continue to Port Hedland, 3 NM to the east.

It was reported that soon after commencement of forward flight, the aircraft yawed to the left and completed about two and a half to three and a half rotations to the right. The pilot reported that he disengaged the collective mounted hydraulic switch, but the helicopter kept rotating to the right and impacted the ground.

The Australian Transport Safety Bureau (ATSB) did not attend the accident site. Shortly after the accident, the French Bureau Enquetes – Accident (BEA) approached the ATSB for assistance in examining the helicopter control system. The ATSB provided the BEA with information regarding access to the helicopter and its availability for detailed examination. The BEA was also provided with photographs from the accident site obtained from the insurance company and the operator's report.

Following a BEA request, the ATSB arranged for the hydraulic oil to be drained and retained for further analysis and facilitated the removal of the hydraulic pump. The removal of the pump revealed that the splines on the hydraulic pump and the belt coupling were worn to the point that the pump would not have been operating. The BEA was provided with photographs of the worn splines, pump manufacturing data and its service history.

The helicopter operator agreed to a BEA request for a detailed examination and moved the helicopter to Melbourne. The BEA informed the ATSB that it had authorized the helicopter manufacturer to carry out the examination on their behalf. The helicopter was examined on 20 and 21 March 2006 and the manufacturer was provided with the retained hydraulic oil sample. The ATSB did not attend the examination. At the time of issue of this report the BEA had no additional information in relation to the examination.

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1 The 24 hour clock is used in this report to describe the local time of day, Western Standard Time (WST), as particular events occurred. Western Standard Time was Coordinated Universal Time (UTC) + 8 hours.