



Australian Government

Australian Transport Safety Bureau

In-flight fire involving Eurocopter AS-350BA, VH-HEB

51km W Ceduna, South Australia - 19 June 2012

ATSB Transport Safety Report
Aviation Occurrence Investigation
AO-2012-084
Final

Report No. AO-2012-084

Publication date 20 December 2012

Released in accordance with section 25 of the *Transport Safety Investigation Act 2003*

Publishing information

Published by: Australian Transport Safety Bureau
Postal address: PO Box 967, Civic Square ACT 2608
Office: 62 Northbourne Avenue Canberra, Australian Capital Territory 2601
Telephone: 1800 020 616, from overseas +61 2 6257 4150
Accident and incident notification: 1800 011 034 (24 hours)
Facsimile: 02 6247 3117, from overseas +61 2 6247 3117
Email: atsbinfo@atsb.gov.au
Internet: www.atsb.gov.au

© Commonwealth of Australia 2012



Ownership of intellectual property rights in this publication

Unless otherwise noted, copyright (and any other intellectual property rights, if any) in this publication is owned by the Commonwealth of Australia.

Creative Commons licence

With the exception of the Coat of Arms, ATSB logo, and photos and graphics in which a third party holds copyright, this publication is licensed under a Creative Commons Attribution 3.0 Australia licence.

Creative Commons Attribution 3.0 Australia Licence is a standard form license agreement that allows you to copy, distribute, transmit and adapt this publication provided that you attribute the work.

The ATSB's preference is that you attribute this publication (and any material sourced from it) using the following wording: *Source:* Australian Transport Safety Bureau

Copyright in material obtained from other agencies, private individuals or organisations, belongs to those agencies, individuals or organisations. Where you want to use their material you will need to contact them directly.

In-flight fire involving Eurocopter AS-350BA, VH-HEB

AO-2012-084

What happened

On 19 June 2012, at about 1645 Central Standard Time¹, a Eurocopter AS-350BA helicopter, registered VH-HEB (HEB), was en-route from Ceduna to Border Village, South Australia when abnormal fumes were detected in the cockpit.

Prior to the flight, the helicopter was refuelled at Ceduna Airport. The helicopter was equipped with a standard AS-350BA fuel tank and an additional fuel drum was secured in the cabin. During the refuelling process, an amount of fuel was spilt on the outside of the helicopter and in the cabin.

The fuel was subsequently cleaned up and the pilot conducted several checks in the cabin and on the belly panel², to ensure the fuel spill had been satisfactorily cleaned up. The helicopter then departed.

About 15 minutes into the flight, the pilot and passenger recalled smelling abnormal fumes in the cockpit. Following a brief discussion with the passenger, the pilot elected to conduct an emergency landing about 51 km west of Ceduna. Once the helicopter was on the ground, the passenger exited and noticed smoke and fire emanating from the aft cargo compartment. The fire spread to the cabin area where the fuel drum was secured. The pilot and passenger left the vicinity of the helicopter and the helicopter was destroyed as a result of the fire (Figure 1). The cause of the fire could not be determined.

Survivability

The aircraft had an Emergency Locator Transmitter (ELT)³ device fitted to the airframe, capable of transmitting the helicopter's position to search and rescue (SAR) agencies during an emergency. The ELT did not activate and was destroyed in the fire. The aircraft was also equipped with a fire extinguisher and a basic first kit. Neither the pilot nor passenger was carrying a satellite phone or personal emergency position-indicating radio beacon (EPIRB). The occupants of the aircraft did not have time to collect equipment, water or rations from the aircraft before the fire spread to the cabin area.

Related Accidents

The Japan Transport Safety Board investigated an accident involving an AS350 B3 helicopter that experienced an in-flight fire originating from the aft cargo compartment. The European Aviation Safety Agency issued Airworthiness Directive (AD) 2011-0244-E⁴ in relation to the accident. The AD applied only to helicopters fitted with a Grimes-Honeywell power supply unit and was not applicable to HEB.

Accident site



Source: South Australia Police

¹ Central Standard Time (CST) was Coordinated Universal Time (UTC) + 9.5 hours.

² A fiberglass panel on the underside of the helicopter; located underneath the cabin area.

³ Crash-activated radio beacon that transmits an emergency signal that may include the position of a crashed aircraft. Also able to be manually activated.

⁴ www.casa.gov.au/ADFiles/rotor/as355/2011-0244-E.pdf

Figure 1: Accident site



Source: South Australia Police

ATSB comment

The ignition source of the fire was not established; however the spillage during the refuelling process may have provided an initial fuel source for the fire.

Safety action

Whether or not the ATSB identifies safety issues in the course of an investigation, relevant organisations may proactively initiate safety action in order to reduce their safety risk. The ATSB has been advised of the following proactive safety action in response to this occurrence.

Aircraft Operator

As a result of this occurrence, the aircraft operator has advised the ATSB that they are taking the following safety actions,

- For all future remote area operations additional equipment will be carried; including satellite phones and personal EPIRBs.
- The operations manual has been amended to include specific procedures for the carriage of large containers of fuel.

Safety message

This incident highlights the importance of:

- carrying appropriate equipment while conducting remote area operations
- carrying personal EPIRBs on person
- taking appropriate care when refuelling aircraft
- making decisions to reduce the level of risk to the safety of the aircraft and its occupants in emergency or abnormal situations. In this case, the pilot elected early to conduct a precautionary landing and investigate the source of the fumes.

Additionally, the Civil Aviation Safety Authority (CASA) provides information in relation to the carriage of dangerous goods onboard aircraft on their website:

www.casa.gov.au/dg/

Aircraft details

Manufacturer and model:	Eurocopter AS-350BA	
Registration:	VH-HEB	
Type of operation:	Private	
Location:	51 km W Ceduna, South Australia	
Occurrence type:	In-flight fire	
Persons on board:	Crew – 1	Passengers – 1
Injuries:	Crew – Nil	Passengers – Nil
Damage:	Destroyed	

About the ATSB

The Australian Transport Safety Bureau (ATSB) is an independent Commonwealth Government statutory agency. The Bureau is governed by a Commission and is entirely separate from transport regulators, policy makers and service providers. The ATSB's function is to improve safety and public confidence in the aviation, marine and rail modes of transport through excellence in: independent investigation of transport accidents and other safety occurrences; safety data recording, analysis and research; and fostering safety awareness, knowledge and action.

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.

The ATSB performs its functions in accordance with the provisions of the *Transport Safety Investigation Act 2003* and Regulations and, where applicable, relevant international agreements.

The object of a safety investigation is to identify and reduce safety-related risk. ATSB investigations determine and communicate the safety factors related to the transport safety matter being investigated.

It is not a function of the ATSB to apportion blame or determine liability. At the same time, an investigation report must include factual material of sufficient weight to support the analysis and findings. 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.

About this report

Decisions regarding whether to conduct an investigation, and the scope of an investigation, are based on many factors, including the level of safety benefit likely to be obtained from an investigation. For this occurrence, a limited-scope, fact-gathering investigation was conducted in order to produce a short summary report, and allow for greater industry awareness of potential safety issues and possible safety actions.