



Australian Government

Australian Transport Safety Bureau

Collision with terrain involving a Robinson R22, VH-NCL

at Newman Airport, Western Australia, on 6 November 2015

ATSB Transport Safety Report
Aviation Occurrence Investigation
AO-2015-128
Final – 28 January 2016

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

Publishing information

Published by: Australian Transport Safety Bureau
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Addendum

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Collision with terrain involving a Robinson R22, VH-NCL

What happened

On 6 November 2015, the pilot of a Robinson R22 helicopter, registered VH-NCL, prepared to conduct a private flight with one passenger on board, from Newman Airport in Western Australia.

At about 0830 Western Standard Time (WST), the helicopter lifted off to about 10 ft above ground level, and the pilot commenced hover-taxiing. As the helicopter started to move forwards, it encountered a gust of wind from behind and sank rapidly. The helicopter landed heavily, then bounced and rotated rapidly to the right. During the accident sequence, the main rotor blade severed the tail, and the helicopter sustained substantial damage (Figure 1). The pilot and passenger were not injured.

Figure 1: Accident site showing damage to VH-NCL



Source: Airservices Australia - Aviation Rescue Fire Fighting

Loss of tail rotor effectiveness

Loss of tail rotor effectiveness (LTE) causes a yaw to the right in helicopters with a counter-clockwise rotating main rotor. When operating at airspeeds below 30 kt, a tailwind may result in an uncommanded turn, if the tail rotor is unable to provide adequate thrust to maintain directional control. To reduce the onset of LTE, the United States Federal Aviation Administration (FAA) [Helicopter Flying Handbook](#), advises pilots to:

Avoid tailwinds below an airspeed of 30 knots. If loss of translational lift occurs, it results in an increased power demand and additional anti-torque pressures.

To recover from LTE:

If the rotation cannot be stopped and ground contact is imminent, an autorotation may be the best course of action. Maintain full left pedal until the rotation stops, then adjust to maintain heading.

General details

Occurrence details

Date and time:	6 November 2015 – 0830 WST	
Occurrence category:	Accident	
Primary occurrence type:	Collision with terrain	
Location:	at Newman Airport, Western Australia	
	Latitude: 23° 25.07' S	Longitude: 119° 48.17' E

Helicopter details

Manufacturer and model:	Robinson Helicopter Company R22
Registration:	VH-NCL
Serial number:	4430
Type of operation:	Private

About the ATSB

The Australian Transport Safety Bureau (ATSB) is an independent Commonwealth Government statutory agency. The ATSB 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 operations involving the travelling public.

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.