Australian Government
Australian Transport Safety Bureau

Loss of control involving Robinson R22, VH-HTD

Princess Charlotte Bay, Queensland, 9 December 2012

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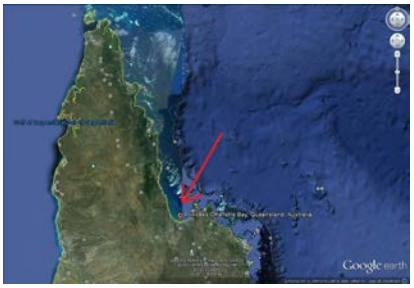
Loss of control involving Robinson R22, VH-HTD

What happened

On 9 December 2012 at about 1700 Eastern Standard Time[1], a Robinson R22 helicopter, registered VH-HTD, departed a fishing camp situated on the mouth of the Normandy River, Queensland, on a private flight. The pilot was the only person on board.

The pilot was tracking north-west along the coastline at about 600 ft above ground level (AGL) when he sighted an object in the water, about 100 m from the coast. The pilot turned the helicopter towards the object and descended to have a closer look.

Princess Charlotte Bay



Source: Google Earth

As the pilot approached the object, he initiated a flare[2] to reduce the airspeed and rate of descent. During the flare, the tail rotor contacted the water and the helicopter began to rotate to the right about the yaw axis. The pilot attempted to manoeuvre closer to the shoreline, however the helicopter began to rotate faster and the pilot was unable to regain control. The pilot closed the throttle and the helicopter settled into the water and rolled over to the right. The pilot exited through the passenger door without injury and swam to shore.

The pilot then walked towards the mouth of the Normandy River, to the fishing camp that he had departed from. After reaching the fishing camp, the pilot and two fishermen walked about 6 km across a clay pan in search of water and towards a base camp from which they had been conducting mustering operations earlier that day.

The Australian Maritime Safety Authority (AMSA) was alerted to the accident by the aircraft's Emergency Locater Transmitter (ELT), which had activated during the accident sequence. A rescue helicopter was dispatched from Cairns and the pilot and two fishermen were located, at about 0600 the following day, 1.8 km from the accident site.

Figure 1: VH-HTD

Source: Australian Maritime Safety Authority

[1] Eastern Standard Time (EST) was Coordinated Universal Time (UTC) + 10 hours

[2] Final nose up pitch, to reduce rate of descent and airspeed prior to touchdown.

Weather

The pilot reported that wind was about 20 knots, with a high smoke haze in the area and flat light[3] conditions.

Safety message

Robinson Helicopter Company issued Safety Notice SN-19 in regard to the hazards of low level flight over water; particularly the lack of depth perception. Even choppy water with its constantly varying surface may interfere with normal depth perception and cause a pilot to misjudge their height above water.

For further information on the hazards of low level flight over water please see:

- Robinson Safety Notice – SN-19: *Flying Low Over Water is Very Hazadous* www.robinsonheli.com/srvclib/rchsn19.pdf

For further information on flying in flat light conditions please see;

- FAA – *Flying in flat light and white out conditions* *www.faasafety.gov/gslac/ALC/libview_normal.aspx?id=6844*

General details

Manufacturer and model:	Robinson R22 Beta II	
Registration:	VH-HTD	
Type of operation:	Private	
Occurrence category:	Accident	
Primary occurrence type:	Loss of Control	
Location:	Princess Charlotte Bay, Queensland	
	Latitude: 14°26'36	Longitude:144°06'.03
Persons on board:	Crew – 1	Passengers – 0
Injuries:	Crew – 0	Passengers – 0
Damage:	Destroyed	

[3] Flat light is an optical illusion, also known as "sector or partial white out." It is not as severe as "white out" but the condition causes pilots to lose their depth-of-field and contrast in vision. Flat light conditions are usually accompanied by overcast skies inhibiting any good visual clues. Such conditions can occur anywhere in the world, primarily in snow covered areas but can occur in dust, sand, mud flats, or on glassy water. Flat light can completely obscure features of the terrain, creating an inability to distinguish distances and closure rates. As a result of this reflected light, it can give pilots the illusion of ascending or descending when actually flying level.

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.