Australian Government
Australian Transport Safety Bureau

Collision with terrain involving Robinson R22

200 km south-west of Winton, Queensland, on 17 June 2022

ATSB Transport Safety Report
Aviation Occurrence Brief
AB-2022-003
FINAL – 15 December 2020

AB-2022-003

Occurrence Briefs are concise reports that detail the facts surrounding a transport safety occurrence, as received in the initial notification and any follow-up enquiries. They provide an opportunity to share safety messages in the absence of an investigation.

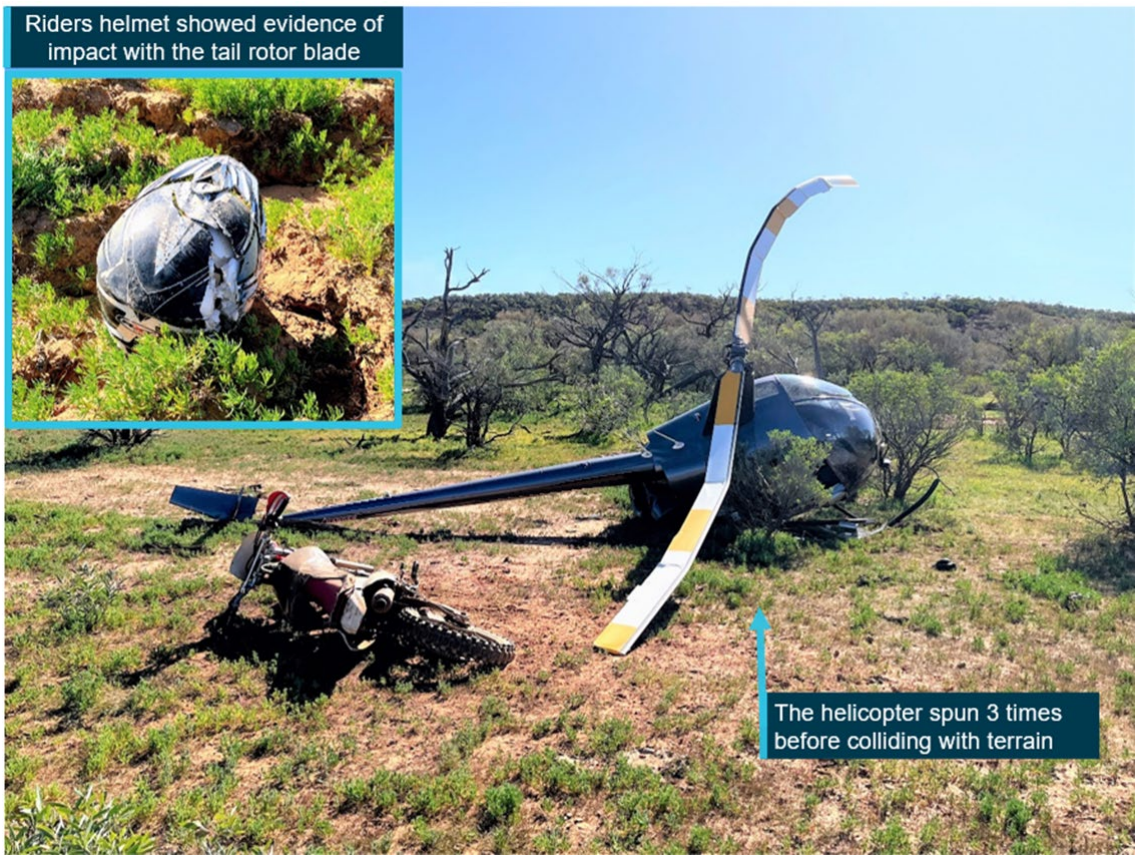
What happened

On 17 June 2022, at about 1030 local time, a Robinson Helicopter Company R22 was being used in agricultural mustering operations on a private property south-west of Winton, Queensland.

The helicopter was being used to move cattle out of a river and towards the larger herd with assistance from station staff on motorbikes. As the cattle moved out of the trees and across a clearing, the pilot of the helicopter remained in the hover above the trees and noticed that a second motorbike had joined the first. Both bikes were observed to be stationary along the tree line. It was reported that the pilot of a second helicopter involved in the muster instructed the rider of one of the bikes to follow these cattle back to the herd.

The cattle were moving in a northerly direction when they suddenly turned right. The pilot moved to cut them off, positioning the helicopter in front of cattle about 3 ft above the ground. This put the cattle out the left side of the helicopter on the opposite side of the cabin to where the pilot was seated. While manoeuvring in the hover and remaining focussed on the cattle, the pilot reported hearing a loud bang and feeling large vibrations. The helicopter began to spin, and the pilot immediately suspected a tail-rotor failure. After approximately 3 spins, the pilot was able to regain partial control, reduce the rate of rotation and conducted a controlled crash. After exiting the helicopter, the pilot reported seeing a motorbike on its side and a helmet on the ground nearby Figure 1.

Figure 1: Helicopter after collision with terrain



Source: Aircraft owner

The helicopter was destroyed in the crash landing, but the pilot was uninjured. The rider of the motorbike sustained serious injuries and was taken to hospital before being released. Their helmet was found to have been split by the impact with the tail rotor.

Situational awareness

The motorcyclist reported following a single cow back to the herd. As they approached the rest of the cattle, the helicopter came across in front of them and they only saw the helicopter at the last second. The pilot advised their attention was focussed on the cattle to their left, and that they were not aware of the motorbike.

The motorcyclist was in 2-way communication with another helicopter engaged in the muster but did not recall talking with the pilot of the accident helicopter. While the pilot would have been able to hear the radio communication between the motorcyclist and the other helicopters, they had not communicated directly with each other.

Safety action

The property owner advised the ATSB that the following safety action has been taken:

- A ground crew safety briefing was conducted to re-iterate the importance of following the established procedures when assisting with aerial mustering.
- In a situation like this, it was emphasised that the best course of action for the ground crew would be to remain under the trees or away from the helicopters area of operations until the cattle were under control. If in doubt, give way to the helicopter.
- Managers of other properties run by the company were advised of the accident and instructed to hold similar briefings with their staff as soon as possible.
- The operator of the helicopters held a meeting with all mustering pilots to re-iterate the importance of maintaining awareness of people on the ground.

Safety message

The nature of aerial mustering requires frequent changes of direction and height. Different landscapes require different techniques and in the case of moving cattle through wooded areas or out of rivers, very low-level operations are often required. All participants assisting with the muster need to be especially vigilant.

As part of their BARS[1] programme, the Flight Safety Foundation has produced a BAR Standard for animal management to complement traditional animal management techniques using vehicles, horses and motorcycles. It included a set of controls and defences for identified risks and is designed to supplement national regulations pertaining to aviation operations. The animal management BAR Standard recommended that as part of the daily pre-operational brief for ground crew, pilots should conduct the safety brief to ensure the ground crew have an understanding of the required conduct when operating in the vicinity of aircraft and adhering to the expected helicopter safety practices when involved in mustering operations.

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, no investigation has been conducted and the ATSB did not verify the accuracy of the information. A brief description has been written using information supplied in the notification and any follow-up information in order to produce a short summary

[1] BARS – Basic Aviation Risk Standard. The BARS Program is made up of a suite of risk-based aviation industry standards with supporting implementation guidelines. The Standards are developed by the industry and contracting companies and are based around the specific risk these operations face in their day to day aviation activities.

report, and allow for greater industry awareness of potential safety issues and possible safety actions.

General details

Occurrence details

Date and time:	17 June 2022 – 1030 EST	
Occurrence class:	Accident	
Occurrence categories:	Collision with terrain	
Location:	202.3 km south-west from Winton Aerodrome, Queensland	
	Latitude: 23° 38.3' S	Longitude: 141° 40.3' E

Aircraft details

Manufacturer and model:	Robinson Helicopter Company R22 Beta	
Type of operation:	Part 133 Air Transport operations - Rotorcraft	
Activity:	General aviation - Aerial work - Agricultural mustering	
Sector:	Helicopter	
Departure:	Private property	
Destination:	Private property	
Persons on board:	Crew – 1	Passengers – 0
Injuries:	Crew – 0	Ground – 1 serious
Aircraft damage:	Destroyed	