



Australian Government

Australian Transport Safety Bureau

Collision with terrain involving Robinson R22 Beta, VH-8BW

29 km north of Southport Aerodrome, Queensland, on 26 February 2025

ATSB Transport Safety Report

Aviation Occurrence Investigation (Short)

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Acknowledgement of Country and Traditional Owners

The Australian Transport Safety Bureau acknowledges the traditional owners of country throughout Australia, and their continuing connection to land, sea and community. We pay our respects to them and their cultures, and to elders both past and present.

Investigation summary

What happened

On 26 February 2025, a Robinson Helicopter Company R22, with an instructor and a student on board, departed Archerfield Airport, Queensland, to conduct advanced emergency training at Pannikin Island in Moreton Bay, Queensland.

After practising emergency procedures and low-level flying, the student pilot performed several low-level torque turns, a manoeuvre not originally included in the lesson plan. During the final turn, the helicopter entered a low nose attitude and descended rapidly. The instructor attempted to recover, but due to the low height, was unsuccessful. The helicopter impacted the ground and skidded for some distance before rolling and coming to rest on its left side. The instructor sustained serious injuries and the student sustained minor injuries. The helicopter was destroyed.

What the ATSB found

Low-level torque turns that were not part of the lesson plan, nor a requirement for commercial licence training, were conducted by a student pilot without a formal pre-flight briefing or guidelines. As the manoeuvre fell outside of the syllabus the ad hoc nature of its inclusion and conduct at the end of the lesson relied on an inflight briefing by the instructor to prepare the student for the exercise. Beginning the low-level torque turn exercise at 50 ft AGL rather than starting higher and working down as the student's capability improved increased operational risk. Due to the low-level conduct of the exercise, this reduced the available safety margin and placed reliance on the instructor as the only risk control to recover from any unexpected mishandling of the sequence.

Although the instructor immediately identified that the helicopter was descending rapidly, and took the controls, their actions were unable to recover the helicopter before colliding with terrain. Environmental conditions may have further reduced the safety margin and complicated the low-level recovery.

The operator had no formal process for monitoring the return of training flights. This would likely delay any search and rescue response and reduce post-impact survivability of the helicopter occupants in the event of life-threatening injuries.

What has been done as a result

The operator reported that SARTIME procedures for the flying school have been revised.

Safety message

Ensuring and maintaining sufficient height for recovery is vital in a training environment when a student has limited experience to manage unexpected aircraft or helicopter behaviour.

All aspects of the lesson should be clearly briefed before flight including planned sequence, risks and hazards to ensure an understanding between instructor and student.

Instructors must rely on conservative in-flight decision-making to manage risk during flight training operations and to anticipate and be ready to intervene quickly, especially during low-level, or elevated risk manoeuvres.

The investigation

The ATSB scopes its investigations based on many factors, including the level of safety benefit likely to be obtained from an investigation and the associated resources required. For this occurrence, the ATSB conducted a limited-scope investigation in order to produce a short investigation report, and allow for greater industry awareness of findings that affect safety and potential learning opportunities.

The occurrence

On 26 February 2025, an instructor and a pilot under instruction (student) were conducting an advanced emergency training exercise in a Robinson Helicopter Company R22 (R22), registered VH-8BW, operated by Utility Helicopters, leased from Heliflite. The training commenced from the operator's company base at Archerfield Airport, Queensland.

At about 0700, the student conducted a daily inspection of the helicopter under the supervision of the instructor. The intended training flight formed part of the requirements for a commercial helicopter pilot licence and the lesson plan intended to cover advanced emergency procedures.

At about 0730 the helicopter, with the student flying, departed Archerfield Airport to the south-east for a designated training area located in Moreton Bay. After reaching the uninhabited Pannikin Island training area, the emergency training commenced with autorotation¹ and tail rotor failure practise. After about 45 minutes, the student then commenced low-level flying practise, completing several clockwise laps around the island. These were completed between 50–100 ft above ground level (AGL) and at a speed of between 60–70 kt.

Toward the end of the lesson, the instructor recalled that the student requested to practise some agricultural flying operations, which included torque turns.² These manoeuvres were not on the lesson plan for the flight, or part of the commercial flight training syllabus, and there had been no plan to conduct them until this point. The instructor demonstrated the manoeuvre before the student took control and successfully completed 4 torque turns. The instructor reported these were conducted at a height of about 50 ft AGL.

The instructor stated that the low-level turns were conducted across the island roughly in an east–west direction. The exercise was conducted across the prevailing wind direction to avoid a downwind component on each low-level manoeuvre. Torque turns were performed on the eastern side of the island and procedural turns on the western side, with about 4 turns completed at each location. These were executed at a height of about 50 ft AGL.

As the lesson neared completion, they elected to do one more torque turn before returning to base. The instructor recalled noticing the wind had increased a little and had

¹ Autorotation is a condition of descending flight where the main rotor of a helicopter is driven only by aerodynamic forces with no power from the engine due to engine failure or deliberate disengagement.

² A torque turn is an advanced manoeuvre involving rapid yaw using engine torque to change direction.

started gusting but stated that these were not considered abnormal conditions and that both he and the student had flown in these conditions before.

The instructor described that at the top of the last torque turn, they were at a height of 100–150 ft AGL when they began to descend to build airspeed and return to level flight. During the recovery, the instructor noticed that the nose of the helicopter was pointing slightly down toward the ground at a height of about 20 ft. The instructor recalled that they were about to correct the student when a sudden gust of wind increased the rate of descent. Aware of the ground proximity, the instructor immediately took over the controls and recalled moving the cyclic³ aft to arrest the rate of descent. The instructor reported the helicopter shuddering, shaking, and experiencing a jolt in the collective but was unable to prevent the helicopter impacting the ground.

Both occupants recalled that everything happened quickly prior to ground contact and that the estimated speed at impact was about 60–70 kt. The instructor recalled that the helicopter impacted hard in a flared nose high attitude and that the stinger⁴ contacted the ground first. The helicopter slid along the ground on its skids for about 40–50 m between mangrove bushes before the left skid dug into the muddy ground and dynamically rolled over.⁵ The helicopter came to a stop on its left side after numerous rotations and was destroyed (Figure 1). The instructor recalled that the student remained in the helicopter momentarily after impact and then managed to exit and appeared to have had less injuries than themselves so was able to follow instructions to shut down the machine.

³ Cyclic: a helicopter control used to tilt the rotor disc allowing the aircraft to move in a particular direction.

⁴ A stinger, otherwise known as the tail skid, is a protrusion at the rear of a helicopter that is intended to protect the tail boom when landing.

⁵ Dynamic rollover: a helicopter is susceptible to a lateral rolling tendency. It begins when the helicopter starts to pivot laterally around its skid or wheel while in contact with the ground. Once the critical angle, typically around 5–8° is exceeded, the helicopter rolls over, often too quickly for any corrective pilot action.

Figure 1: Accident site



Source: Student

The student turned off the battery master and assisted the instructor to exit the helicopter. The instructor was unsure if any staff would be in the office and recalled asking the student to use their mobile phone to call for help. They stated that calling the office would not be as effective as calling their partner, as they were aware that several of the staff were away on business. The company was contacted and another helicopter from the base at Archerfield Airport was then dispatched to collect both occupants. About 25 minutes later they were rescued by a colleague who arrived in another helicopter.

Emergency services were contacted, and an ambulance met the retrieval helicopter on arrival back at Archerfield Airport. Post-accident medical assessment determined that the instructor had sustained serious injuries and the student only minor injuries, both were taken to hospital for treatment.

Context

Aircraft information

The Robinson R22 is a 2-seat, 2-bladed, single-engine, light utility helicopter manufactured by Robinson Helicopter Company in the United States. It has a maximum all up weight of 622 kg. The R22 is powered by a Lycoming O-360 4-cylinder piston engine that is derated to 131 horsepower for take-off and 124 horsepower for cruise at 2,652 RPM. The R22 is mostly used for private operations, rotary wing flight training and agricultural operations.

The instructor reported that there were no mechanical issues identified with the helicopter during the daily inspection and pre-flight that would have precluded normal operation.

Flight controls

The helicopter was fitted with conventional light helicopter flight controls, such as dual cyclic controls for each seat, and a centre-mounted collective.⁶ The engine throttle is connected to collective inputs through a mechanical linkage; when the collective is raised, the throttle is opened and when lowered, the throttle is closed.

Pilot information

Instructor

The instructor held a commercial pilot licence (CPL-H) helicopter and had been an instructor with the operator for 3 years and 3 months. They began as a grade 3 instructor and progressed to a grade 1 instructor during their employment, logging about 2,800 flying hours. The instructor's last proficiency check was 29 November 2024. The instructor obtained a low-level rating in 2021 and their low-level flight review for the R22 was valid until 13 November 2025. The instructor held a current Class 1 medical certificate.

Student pilot

The student pilot had been conducting training with the operator for about 3.5 years. Initially training for a private pilot licence (PPL-H) helicopter, they had not finalised the required ground theory or conducted a flight test. Although they did not hold a PPL-H, they continued training to obtain the required flight hours for a CPL-H.

Nearing completion of the commercial flight training, the student scheduled their lessons to coincide with their work commitments and they were not regular, but rather when time permitted. Their last lesson before the accident was conducted on 29 January 2025, about 4 weeks prior. They had previously completed advanced emergency training and the intention was to use the lesson as a refresher for CPL-H competency elements. The student reported they wanted to consolidate their low-level flying skills with a goal of working in the agricultural sector.

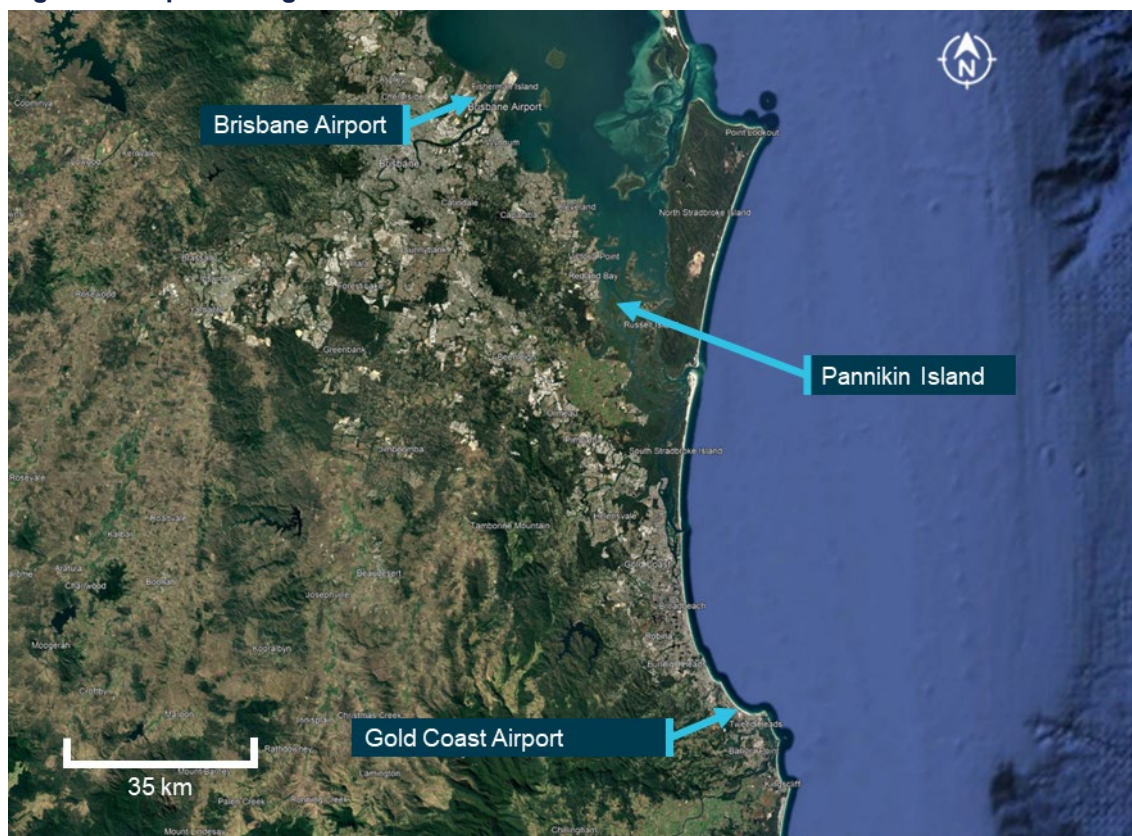
At the time of the accident the student had accrued 89 hours of pilot training with the operator. The student reported that about two thirds of all the lessons had been taken with the instructor involved in the accident and the remainder with head of operations (HOO) and one other instructor.

Meteorological information

Minute-by-minute wind data from the Bureau of Meteorology around the time of the accident indicated generally moderate winds with some directional variability.

Brisbane Airport observations recorded winds at 126°–143° with wind speeds of 9–13 kt, gusting to 18 kt. Similarly, Gold Coast Airport recorded winds at 150°–208° with wind speeds of 9–14 kt, gusting to 18 kt. The accident site which was located between these two reporting stations (Figure 2) was likely subject to similar wind conditions.

⁶ Collective: a primary helicopter flight control that simultaneously affects the pitch of all blades of a lifting rotor. Collective input is the main control for vertical velocity.

Figure 2: Map showing location of weather stations and Pannikin Island

Source: Google Earth, annotated by the ATSB

The instructor stated that they checked the weather conditions before departing, and that the wind direction indicated a south-easterly wind at about 15 kt. On arrival at Pannikin Island, they recalled that the surface wind was observed to be more southerly in direction and felt slightly stronger than 15 kt.

Downdraught

Downdraught is a vertical atmospheric condition where a current of air sinks rapidly, leading to sudden changes in conditions at ground level and can produce strong surface winds. Downdraughts can pose a significant threat to rotary aircraft, particularly while maneuvering at low level. The most common causes of downdraught experienced by helicopter pilots are due to irregular terrain when combined with strong surface winds, mechanical turbulence,⁷ temperature inversions or thermal convection movements.

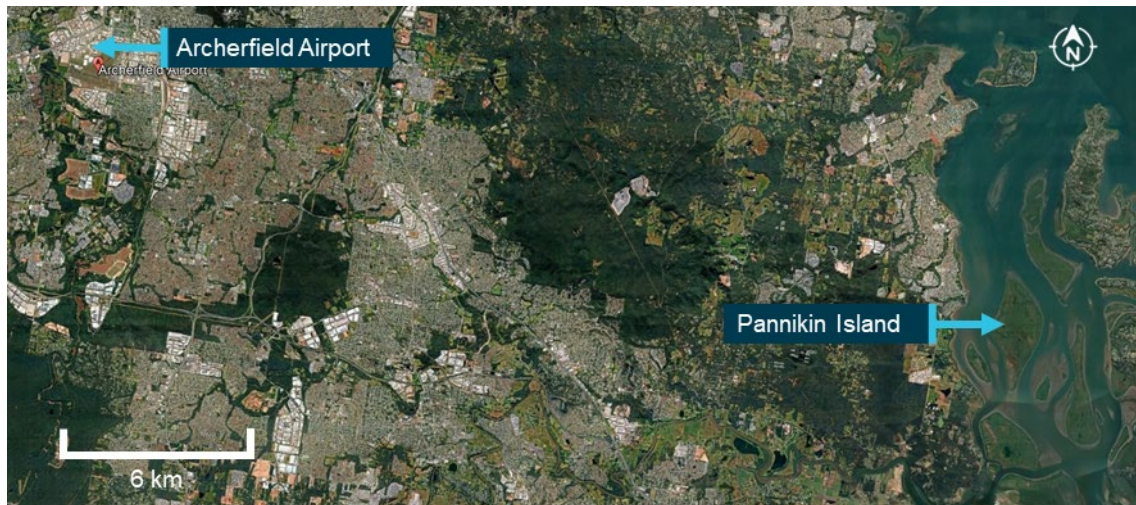
Accident site and wreckage

The operator conducted training over Pannikin Island, a designated training area to the south-east of Archerfield Airport. The island is one of several uninhabited islands located in southern Moreton Bay, about 56 km south-east of Brisbane (Figure 3).

The instructor recalled that the Pannikin Island training area extended from sea level to 3,500 ft. The vegetation on the island is mainly mangrove shrubland, with no buildings or power lines in the vicinity, and for this reason was used for low-level training.

⁷ Mechanical turbulence occurs when wind flows over obstacles like mountains or buildings, disrupting smooth airflow and creating bumpy flight experiences.

Figure 3: Google Earth image of location of Pannikin Island, Queensland



Source: Google Earth, annotated by the ATSB

The initial ground contact of the helicopter indicated a high-speed, upright skid contact before further loss of directional control and impact (Figure 4). The student and instructor reported that the speed on touchdown of the helicopter was about 70 kt and was consistent with the skid mark length.

Figure 4: Photograph of impact site



Source: Student

After further impacting mangrove trees, the tail rotor assembly, including tail rotor, gearbox vertical and horizontal stabiliser, separated from the cabin and was reported as being located about 15 m north of the wreckage (Figure 5) and was largely intact.

Figure 5: Photograph of main and tail rotor wreckage at accident site



Source: Student

Post-accident aircraft examination

The operator's chief engineer carried out an inspection of the helicopter at the accident site before the wreckage was removed. The engineer reported that their examination found no evidence of mechanical issues that could have led to the accident.

Recorded data

There was no onboard data recording on the helicopter to determine the flight control inputs and their effect on the helicopter during the accident.

Recorded radar data was available of the helicopter in the training area, however due to the low-level nature of the operation, this was intermittent.

Helicopter exercises and operator's procedures

Helicopter pilots are taught a range of manoeuvres as part of their training and licensing requirements. These are typically categorised as either normal, advanced or emergency procedures and are detailed by the Civil Aviation Safety Authority (CASA) for different licence levels and ratings.

In addition to the standard syllabus for advanced emergencies (e.g. autorotation, tail rotor failure), advanced procedures that are not required for the CPL-H may be introduced by flight instructors to extend a student's capability and confidence. The approved Civil Aviation Safety Regulation (CASR) Part 141 operator exposition did not include torque turns as a requirement to obtain a CPL-H.

Pre-flight briefing

Briefings prior to a flying lesson are an essential part of flight preparation and represent an opportunity to gather, mentally prepare and organise the structure of the upcoming training flight. It is also an opportunity to assess the potential risks and hazards that might arise during normal and emergency operations. Discussion on the procedures to be used in the case of unexpected events disrupting the planned flight operations are also covered, and this prepares and sets student expectations for the lesson.

While pre-flight briefings were normally conducted before each lesson covering the intended lesson sequences, on this occasion the instructor considered a detailed briefing was unnecessary due to the student's previous experience. Before departure, the instructor and student recalled a brief discussion focused primarily on the weather, but this did not include a formal briefing covering the planned exercises and potential risks.

The intent of the lesson was to consolidate the student's prior training and both pilots recalled that the session was to refresh and consolidate advanced emergency procedures.

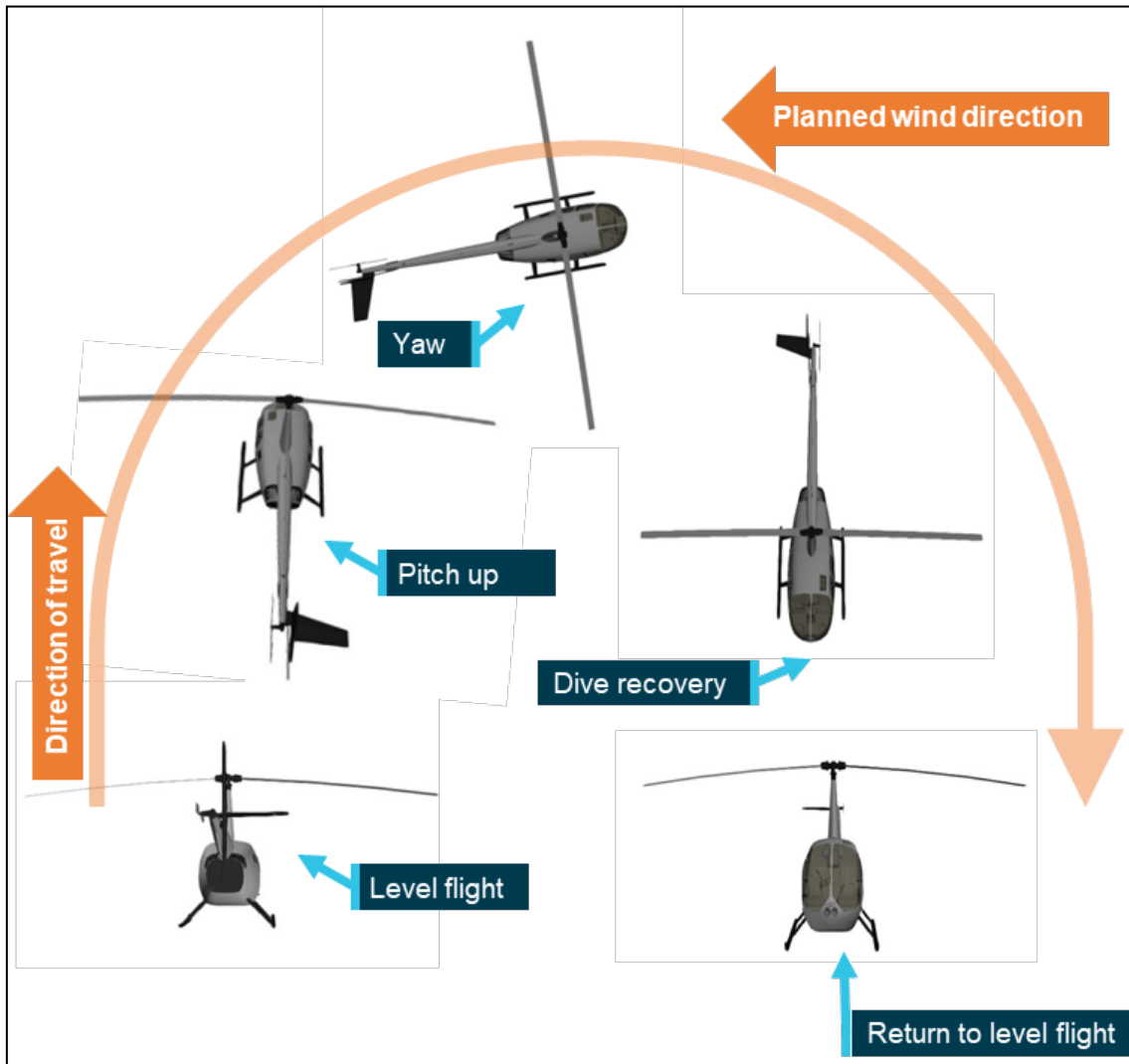
Low-level operations

A low-level operation is defined by regulation 61.010 of CASR as flight at a height lower than 500 ft AGL, other than when taking off or landing, and is not permitted unless the circumstances outlined in sub regulation 91.267(3) of CASR apply to the flight and the pilot is authorised under Part 61 to conduct the operation. Low-level operations can introduce increased risk for all pilots as the proximity to terrain and reduced margin for recovery intensify the consequences of any deviation from the expected performance. There is also an increased susceptibility to adverse environmental conditions for students with less experience.

Torque turns

A torque turn is an advanced manoeuvre to quickly complete a 180° change in direction of flight (Figure 6). The manoeuvre begins with a pitch upwards to reduce forward airspeed followed by an application of power to increase altitude. As airspeed decreases, aerodynamic stability is reduced and the increased torque induces yaw.⁸ This yaw is used to initiate the turn which continues until the helicopter is facing the opposite direction. Once the turn is complete, the pilot regains airspeed, eases out of the dive and resumes level flight in the new direction.

⁸ The motion of an aircraft about its vertical or normal axis.

Figure 6: Helicopter torque turn flight sequence

Source: ATSB

The student reported that their request to conduct the torque turn training was driven by their desire to seek employment in the agricultural domain (aerial application and dispensing operations) after obtaining their commercial licence. They recalled completing several turns successfully before the accident turn.

However, in response to the draft report, CASA stated that torque turns are not common and are actually avoided in rotorcraft aerial application and dispensing operations, in favour of accurately flown and coordinated *procedure turns* (see below).

No official height for conducting torque turns in training is provided by CASA, however general guidance provided for starting more advanced or complex manoeuvres is to begin at higher altitudes and reduce once competence is gained.

Procedure turns

A procedure turn is a standard course reversal manoeuvre used to change the helicopter's direction. ICAO defines the manoeuvre as a turn made away from a designated track followed by a turn in the opposite direction to permit the aircraft to intercept and proceed along the reciprocal of the designated track. Procedure turns may be designated as being made either in level flight or while descending, according to the

circumstances of each individual approach procedure. To commence the turn the aircraft would turn off track, maintain airspeed, conduct the turn and turn onto the reverse of the original course. They are sometimes referred to as 'P turns' as the flight track looks like a 'P' from above.

The Part 61 Manual of Standards competency standards for unit AA2 – *Helicopter aerial application operation*, specifically requires procedure turns in element AA2.6 – *Manipulate helicopter at low level*:

- (a) manoeuvres helicopter at all speeds below 500 ft AGL, up to and not beyond the limits of the flight-maneuvring envelope, without exceeding the operating limitations of the helicopter;
- (b) conducts coordinated, smooth procedure (P) turns with varying power settings.

Operator low-level training

In line with the CASA requirements, the operator's exposition stated that procedure turns were required for advanced low-level training and detailed amongst other manoeuvres that the height range for the conduct of these was between 200 ft and 5 ft AGL. However, no specific minimum height was declared for procedure turns.

There was no reference for torque turns in the operator's exposition.

Search and rescue

Search and rescue time (SARTIME) is the time nominated by a pilot for the initiation of search and rescue action. Any person deemed to be a responsible person can hold SARTIME for a pilot's safe arrival.

There was no regulatory requirement for the operator's local training flights under CASR Part 91 for a SARTIME, however the absence of a formal flight following process during flight training may have implications for the operator's duty of care during the operation.

The operator's head of operations (HOO) reported that a range of tracking systems were used across the operator's fleet, including satellite trackers and transponders. These devices allowed staff to monitor the location of helicopters during flight and, if a helicopter did not return within an expected time, its position could be quickly determined. A television screen located in the operator's office displayed tracking data, however, no personnel were specifically assigned to monitor return times or to observe the radar feed.

Many of the flight training lessons were conducted from the operator's base at Archerfield Airport, where staff could maintain direct visual oversight of helicopter movements. However, as the accident flight was early in the morning, there was only one other instructor conducting flight training and the office staff were not yet on duty.

Some helicopters in the fleet were fitted with electronic locator transmitters and others with personal locator beacons. Under CASR regulations these are mandated for flights greater than 50 NM from the departure aerodrome. The accident helicopter was fitted with a manually-activated personal locator beacon, however the instructor reported that they were dazed immediately after the accident and did not prioritise the activation.

Safety analysis

Introduction

An instructor and a student were conducting advanced emergency training in a Robinson Helicopter Company R22 (R22) helicopter, registered VH-8BW, at Pannikin Island in Moreton Bay, Queensland. Near completion of the commercial helicopter pilot lesson, the instructor and student agreed to conduct torque turns, an advanced helicopter handling manoeuvre that was outside of the training syllabus. After conducting several torque turns, the helicopter entered an increased low nose attitude during recovery at low altitude which resulted in a collision with terrain and dynamic rollover.

This analysis will consider decision-making of the instructor and student and the instructor's recovery as factors in the accident.

Decision-making

Instructing is a complex task and flight instructors must balance the benefit to the student's learning and experience with safe margins of operation in a dynamic and sometimes rapidly changing environment.

The decision to conduct torque turns was only discussed between the instructor and the student during the flight.

Instructors consider several factors such as student performance, recent progress and training objectives when making in-flight decisions to alter or vary the training flight plan. While instructors can adapt lessons to suit the student's progress, deviations from planned activities should be underpinned by clear safety considerations, briefings and effective risk management.

Effective instructional decision-making balances educational value with operational risk. The instructor assessed the student to be capable of performing the manoeuvres based on their recent progress and performance during the lesson and having completed many previous training hours together. However, this assessment was done during the training flight, limiting the time available for the instructor to fully consider the benefits and risks (including height to conduct the training – see below).

The benefits of conducting a pre-flight brief of the lesson, especially where training operations are conducted in emergencies is well-established. Such a briefing reaffirms standard operating procedures, promotes predictable behaviour, and sets expectations (Sumwalt and others, 2010).

The torque turns were not part of the syllabus and were not necessary for the lesson. However, if the decision to conduct them had been agreed before flight, this would have allowed for a full ground briefing to establish the torque turn procedures, discuss the conduct of the manoeuvre and ensure a common understanding of how the practise turns would be conducted.

Manoeuvre height

Torque turns were outside of the advanced emergency lesson for the operator's commercial pilot training syllabus and consequently no procedure was identified in the training materials for conducting them during training. The absence of a defined procedure places the reliance on the instructor to become the risk control. In this case there was an increase in risk as the manoeuvre was conducted at a height that reduced the available safety margin and limited the opportunity for recovery when the helicopter

entered an undesired state. By contrast, if the manoeuvre had been initiated at a higher altitude, the increased height would have provided more time for the student and instructor to identify, intervene and recover from the undesired aircraft state. Increased altitude when practising a high-risk manoeuvre with a student would allow time for corrective control inputs from the instructor to avoid collision with terrain.

Beginning the low-level torque turn exercise at 50 ft AGL, rather than starting higher and working down as the student's capability improved, increased operational risk.

Instructor recovery

During the torque turn, the helicopter exited the manoeuvre in a lower than expected nose attitude. Instructor intervention is a critical control in flight training and is often the final opportunity to regain control of the helicopter. Although the instructor took over control as soon as they recognised the rapid descent rate, the low height on exiting the torque turn limited the time available to arrest the descent before ground contact occurred. Environmental conditions may have further reduced the safety margin and complicated the low-level recovery.

Due to the high speed of the helicopter and approaching vegetation, the instructor likely attempted to slow the helicopter using rear cyclic (as would be normal practice when airborne), however, after skid contact with the ground in an upright attitude, this likely resulted in the main rotor disk flexing and making contact with the tail boom. This resulted in the severing of the tail boom by the main rotor blades, loss of torque control and the front left skid digging into soft soil, leading to a dynamic rollover.

SARTIME

The operator had no formal process for monitoring the return of training flights. While many operations were conducted within line-of-sight or in close proximity to the operator's base, this informal system provided limited assurance that an overdue returning training flight outside of the airport vicinity would be identified. In this case, had the crew been more seriously injured or rendered unconscious, the lack of formal SARTIME and flight following would likely have delayed the initiation of search and rescue efforts and substantially reduced survivability.

Findings

ATSB investigation report findings focus on safety factors (that is, events and conditions that increase risk). Safety factors include ‘contributing factors’ and ‘other factors that increased risk’ (that is, factors that did not meet the definition of a contributing factor for this occurrence but were still considered important to include in the report for the purpose of increasing awareness and enhancing safety). In addition ‘other findings’ may be included to provide important information about topics other than safety factors.

These findings should not be read as apportioning blame or liability to any particular organisation or individual.

From the evidence available, the following findings are made with respect to the collision with terrain involving Robinson R22 Beta, VH-8BW, 29 km north of Southport Aerodrome, Queensland, on 26 February 2025.

Contributing factors

- While conducting commercial training consolidation for low-level and emergency procedures, the instructor and student agreed to conduct torque turns, which were outside the lesson plan and training syllabus.
- Without a procedure, the instructor conducted the exercise at an inappropriate low height, which increased risk and did not allow for a margin of error.
- During the torque turn exercise the helicopter exited the turn in a lower than expected attitude. The instructor assumed control but was unable to prevent a collision with terrain.

Other findings

- The operator had no formal process for monitoring the return of training flights. This would delay search and rescue response and reduces post-impact survivability of aircraft occupants in the event of life-threatening injuries.

Safety actions

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. All of the directly involved parties are invited to provide submissions to this draft report. As part of that process, each organisation is asked to communicate what safety actions, if any, they have carried out to reduce the risk associated with this type of occurrences in the future. The ATSB has so far been advised of the following proactive safety action in response to this occurrence.

Safety action addressing SARTIME

The operator has implemented a SARTIME procedure using an application for shared messaging between instructors and staff. For each flight, the instructor records the helicopter registration, flight details and estimated time of arrival back at base. Any delays are communicated through the group and landings are confirmed upon arrival at base or the intended destination. The procedure is documented on the pre-flight board.

General details

Occurrence details

Date and time:	26 February 2025 08:40 E. Australia Standard Time	
Occurrence class:	Accident	
Occurrence categories:	Collision with terrain, Other Weather, Loss of control, Flight controls	
Location:	29.4 km 352 degrees from Southport Aerodrome	
	Latitude: 27.6589° S	Longitude: 153.3308° E

Aircraft details

Manufacturer and model:	Robinson Helicopter Co R22 BETA	
Registration:	VH-8BW	
Operator:	Utility Pty Ltd	
Serial number:	4200	
Type of operation:	Part 91 General operating and flight rules-Part 141 - training	
Activity:	General aviation / Recreational-Instructional flying-Instructional flying - dual	
Departure:	Archerfield Airport, Queensland	
Destination:	Archerfield Airport, Queensland	
Actual landing:	Pannikin Island, Queensland	
Persons on board:	Crew – 2	Passengers – 0
Injuries:	Crew –1 (serious) 1 (minor)	Passengers – 0
Aircraft damage:	Destroyed	

Sources and submissions

Sources of information

The sources of information during the investigation included the:

- instructor of the accident flight
- student pilot
- operator CEO and HOO
- Civil Aviation Safety Authority
- Bureau of Meteorology.

References

Sumwalt, R. L. Lemos, K. A., & McKendrick, R. (2019). *The accident investigator's perspective*. In *Crew resource management* (pp. 489-513). Academic Press.

Submissions

Under section 26 of the *Transport Safety Investigation Act 2003*, the ATSB may provide a draft report, on a confidential basis, to any person whom the ATSB considers appropriate. That section allows a person receiving a draft report to make submissions to the ATSB about the draft report.

A draft of this report was provided to the following directly involved parties:

- instructor of the accident flight
- student pilot
- operator CEO and HOO
- Civil Aviation Safety Authority.

Submissions were received from:

- instructor of the accident flight
- operator CEO and HOO
- Civil Aviation Safety Authority.

The submissions were reviewed and, where considered appropriate, the text of the report was amended accordingly.

About the ATSB

The **Australian Transport Safety Bureau** is the national transport safety investigator. Established by the *Transport Safety Investigation Act 2003* (TSI Act), the ATSB is an independent statutory agency of the Australian Government and is governed by a Commission. The ATSB is entirely separate from transport regulators, policy makers and service providers.

The ATSB's function is to improve transport safety in aviation, rail and shipping through:

- the independent investigation of transport accidents and other safety occurrences
- safety data recording, analysis, and research
- influencing safety action.

The ATSB prioritises investigations that have the potential to deliver the greatest public benefit through improvements to transport safety.

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

Purpose of safety investigations

The objective of a safety investigation is to enhance transport safety. This is done through:

- identifying safety issues and facilitating safety action to address those issues
- providing information about occurrences and their associated safety factors to facilitate learning within the transport industry.

It is not a function of the ATSB to apportion blame or provide a means for determining 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.

The ATSB does not investigate for the purpose of taking administrative, regulatory or criminal action.

About ATSB reports

ATSB occurrence investigation reports are organised with regard to international standards or instruments, as applicable, and with ATSB procedures and guidelines.

An explanation of ATSB terminology used in this report is available on the [ATSB website](#).