

vector

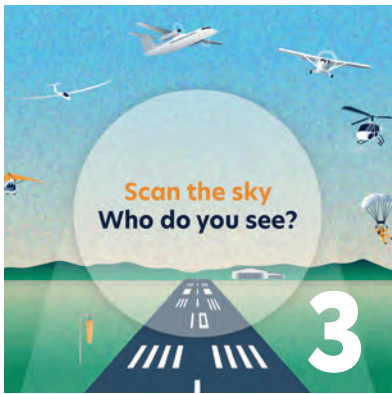
NIGHT FLYING

BEAUTIFUL BUT
HAZARDOUS

Flying now
feels safer

Safety isn't
static

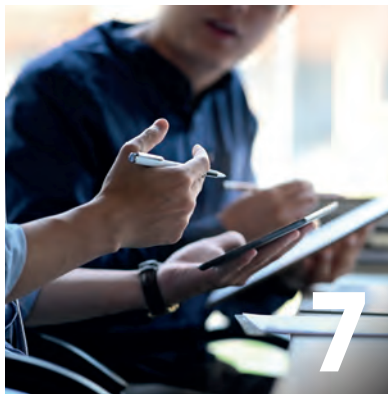
Don't make
life-threatening
situations worse



// FLYING NOW FEELS SAFER AT UNATTENDED AERODROMES

Cover: VFR night flying can be a beautiful experience, but it comes with huge risk. See our story on page 16.

Photo: iStock.com/AscentXmedia



// SAFETY ISN'T STATIC... AND NEITHER IS YOUR SMS



// DON'T MAKE LIFE-THREATENING SITUATIONS WORSE

In this issue...



// NIGHT FLYING. BEAUTIFUL BUT HAZARDOUS

Flying now feels safer at unattended aerodromes..... **3**

Safety isn't static... and neither is your SMS **7**

The big improve **10**

Evading the wires..... **13**

Mid-flight change of plans made a routine job high-risk... **15**

Night flying. Beautiful but hazardous **16**

Don't make life-threatening situations worse **19**

Near collision at Rangiora..... **21**

Free CAA educational resources for safer aviation **22**

Letter to *Vector* **24**

Vector notices **25**

Occurrences dashboard **25**

Aviation Safety Advisors..... **25**

Lithium batteries campaign poster for operators..... **25**

Accident briefs **26**

GA defects **27**

Lithium batteries poster **28**



PUBLISHED BY THE Safety and Security Education team of the Civil Aviation Authority of New Zealand, PO Box 3555, Wellington 6140.

Tel: +64 4 560 9400
Email: education@caa.govt.nz

Published quarterly at the beginning of each season.

Design Gusto.

PUBLICATION CONTENT Unless expressly stated as CAA policy, the views expressed in *Vector* do not necessarily reflect the policy of the Civil Aviation Authority. Articles are intended for safety education and to stimulate discussion, and nothing in *Vector* is to be taken as overriding any

New Zealand civil aviation legislation, or any statements issued by the Director of Civil Aviation, or the Civil Aviation Authority of New Zealand.

LETTERS TO VECTOR

Reader comments and contributions on aviation safety are welcome. Let us know your thoughts by emailing education@caa.govt.nz. We'll try to publish a selection in each edition, although they may be edited or shortened.

We'll only publish ideas and observations contributing towards safer aviation.

FREE DISTRIBUTION

Vector is distributed to all New Zealand flight crew, air traffic controllers, aircraft maintenance engineers, aircraft owners, most organisations holding an aviation document, and others interested in promoting safer aviation. For flight crew and air traffic controllers, an aviation medical certificate must be held, and a New Zealand address given, to receive *Vector*. Holders of pilot or parachutist certificates issued by Part 149 certified organisations can also apply to receive a free *Vector*.

Vector also appears on the CAA's website – subscribe to our email notification service to receive an email when it is published, aviation.govt.nz/subscribe.

CHANGE OF ADDRESS Readers receiving *Vector* free of charge should notify education@caa.govt.nz of any change of address, quoting your CAA participant number.

Paying subscribers should notify Vertia.

PAID SUBSCRIPTIONS *Vector* is available on subscription only from Vertia, vertia.co.nz, email: info@vertia.co.nz, or freephone 0800 GET RULES (0800 438 785).

COPYRIGHT Reproduction in whole or in part of any item in *Vector*, other than material shown to be from other sources or named authors, is freely permitted, providing that it is intended solely for the purpose of promoting safer aviation, and providing that acknowledgment is given to *Vector*.



ISSN 1173-9614

FLYING NOW FEELS **SAFER** AT UNATTENDED AERODROMES

Flight instructors aren't easily impressed,
but they say pilots are behaving better in
the circuit.

// North Shore aerodrome, 2018.

Photo courtesy of North Shore Aero Club.





Graphics source: WTSA campaign/Gusto Design.

The improvements in circuit flying that instructors are seeing follow the completion of the CAA’s national safety campaign, *Work Together, Stay Apart* (WTSA). This aimed to reduce mid-air collisions and improve safety at New Zealand’s 161 unattended aerodromes.

When Mike Russell became Chief Flying Instructor of the Hawkes Bay and East Coast Aero Club in 2023, he was concerned that some pilots’ joining practice didn’t look right.

“That observation became the starting point for aligning our practices with the WTSA campaign,” he says.

“Many pilots – especially older ones – were using inappropriate joining procedures. And students flying in the vicinity of Bridge Pa aerodrome, who have English as a second language, were making unclear radio calls.”

Mike says the WTSA presentations by the CAA to the local aviation community – *Plane Talking*, *Circuit Certainty*, and the standard overhead join – made a big difference.

“By September 2024, with the *Circuit Certainty* focus, I saw real progress. Pilots began openly discussing their aircraft quirks and approaches, improving situational awareness. I even witnessed a ‘lightbulb moment’ for one pilot who finally understood the standardised procedure.

“The campaign gave me tools to address the issues we were seeing. It enabled outreach through free instructional sessions on circuit joining, including chalk-drawn diagrams on the ground, which people seemed to relate to.

“Despite these efforts, however, some pilots remained unaware of the reset and standardisation even a year later – highlighting the need for ongoing engagement.”

Mike highlights the importance of biennial flight reviews as a touchpoint with pilots to reinforce the importance of being aware of correct procedures.

“At uncontrolled aerodromes with high traffic, the mix of experienced pilots and students with English as a second language makes this critical.

“I have to say, though, that recently I watched 10 aircraft join overhead – perfectly. This is a scenario unimaginable two years ago. Radio call standards have improved too, thanks to conversations sparked by the campaign and collaboration with the neighbouring flight school.

“I’m grateful to the CAA presenters who took the time to present to us and travel all over the country doing the same thing. As a CFI of a club with 270 members, it’s easy to feel isolated, but the campaign – and CAA’s backing – brought shared experience and solutions.”

At Hokitika Airport on the West Coast, they’ve seen something remarkable because of the WTSA campaign. Chief Executive Melanie Anderson says pilots are talking more, listening better, and flying with greater respect for each other. “It’s safer now,” she says. “You can feel it in the circuit”.

She says since the campaign began, the tone of communication on the airwaves has changed – and noticeably for the better.

“Overall, there’s been a marked positive difference. We hear pilots – itinerant and local – communicating more clearly, using plain language, and showing greater collaboration when entering, leaving, or operating in shared airspace.”

Where radio exchanges once sounded a bit clipped and mechanical, they now feel friendlier and more human.

“Pilots are engaging with each other as people, not just as planes.”

That change in communication style has also influenced how pilots behave in the circuit. “People seem more cooperative, more willing to give way, rather than insisting on their own path,” Melanie says.

“From my observation, flying in the circuit seems more fluid now, with pilots flowing in and out of the airspace instead of hustling or forcing their way. There’s more politeness and mutual respect, which makes everything smoother.”

The result? Safer skies. “There have been no reported issues here, which shows operations are running more safely for everyone.”

Still, not all pilots have embraced all of the standard procedures.

“Some are resistant and prefer their old habits,” Melanie acknowledged. “But if we could lift adoption of the proper procedures from around 80 percent to 90 percent, it would significantly improve safety, as well as the overall flying experience.”

With the campaign now complete, local organisations are keeping the momentum alive.

“We use positive reinforcement in group meetings to highlight good communication and remind people of best practices,” Melanie says.

“If there’s a slip, it’s addressed individually, often via the Hokitika Aero Club. We work closely with the club to ensure consistent messaging and shared safety goals.”

Even those who aren’t in the cockpit have a role to play. “We support the flying community by reinforcing good behaviours and coordinating with the aero club,” says Melanie.

“Safety improvements depend on cooperation between multiple organisations, not just pilots.”

Looking ahead, Melanie says the message is clear – programmes like WTSA have lasting value.

“Campaigns like this are very beneficial and should continue. Even smaller, ongoing initiatives – regular reminders, positive reinforcement – will help sustain these good habits across the aviation community.”

Celine Bennison, Chief Flight Instructor and Operations Manager at South Canterbury Aero Club at the time of the campaign, says they’ve seen a noticeable reduction in non-standard activity since the campaign began.

“Licensed pilots set a good example, which really sinks in for students and makes flying safer for everyone.

“The campaign has shifted pilots’ willingness to improve. Even those flying for decades are now more receptive to making changes, and the campaign materials have given us the tools to have open conversations about procedures and safety practices.

“Students and club members are asking, ‘What’s next?’ The campaign has sparked an appetite to keep learning and improving, which helps strengthen safety for everyone.

“There will always be some pilots who resist, but engagement and open discussion are helping to change that culture and reduce stigma around authority.”

Research backs up the claims

A research report from Massey University’s School of Aviation supports the perceptions of improved safety at unattended aerodromes.

The survey, conducted after WTSA finished in mid-2025, captured feedback from 634 participants. Most were male pilots of fixed-wing aircraft, with an average flying experience of 24 years.

Seventy-six percent of respondents perceived unattended aerodromes as safer since the WTSA campaign started, and 78 percent said their behaviours at these aerodromes will now be safer. »



// I now feel safer rejoining the airfield vicinity. Radio calls are sharper and more precise. //

Survey respondent

» Around 28 percent of respondents noticed mostly positive behavioural change in users of unattended aerodromes since the campaign started, including:

- more overhead joins
- adhering to standard procedures
- better radio calls
- better circuit etiquette, and
- greater attention to lookout.

The lead researcher, Professor Andrew Gilbey, says he views this as positive and significant. He says in aviation, where safety is constantly being improved, even relatively modest changes are likely to be significant.

He emphasises that a clear majority of respondents believe unattended aerodromes have become safer since the campaign.

He also noted that 85 percent of respondents reported they had engaged to some degree with the campaign, which he believes, “...reflects highly on the culture of New Zealand pilots”.

And 77 percent said the campaign had increased their knowledge of flying around unattended aerodromes.

Perception of invulnerability

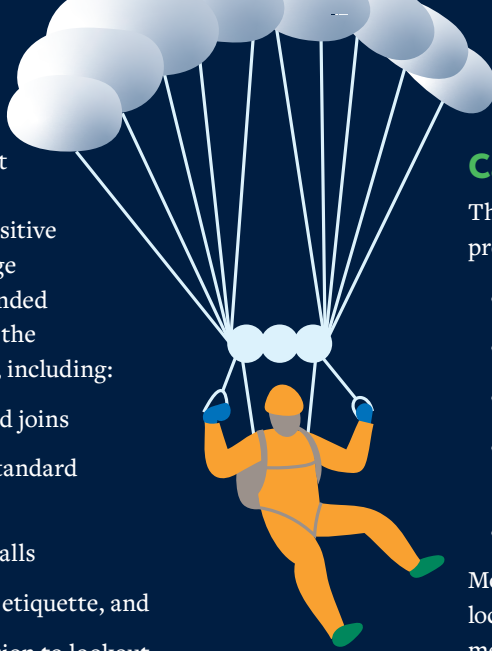
The report says most pilots still think they’re less at risk than others when doing non-standard manoeuvres. This ‘it won’t happen to me’ mindset shows a perception of invulnerability.

Pilots correctly identified unattended aerodromes as riskier than controlled ones. But, interestingly, they tended to overestimate the risk of mid-air collisions – although, not to them.

“This perception of invulnerability was especially evident among experienced pilots – those with greater hours tended to rate themselves as less at risk,” says Andrew Gilbey.

More than half of respondents rated their airmanship as above average – an overestimation, Andrew says, since only about half of any group can be above average.

“Therefore, at least some of those who believed they were personally unlikely to perform risky manoeuvres that breach procedures at unattended aerodromes may be overestimating their ability.”



Campaign engagement

The campaign aimed to reduce mid-air collisions and promote best practice at unattended aerodromes by:

- improving predictability
- creating a shared understanding of standard procedures
- strengthening airmanship
- encouraging collaboration among pilots and operators, and
- avoiding the hazard of conflict.

More than 3500 people participated in 84 seminars across 31 locations nationwide, with additional engagement via social media, workshops, and print materials, including *Vector*.

What’s next?

The CAA’s Charlotte Brogan, WTSA campaign lead, says ongoing education and reinforcement is essential if the effects of the campaign are to be maintained over time.

“The CAA will continue to share messages regarding safe flying near unattended aerodromes.

“Reports to the CAA reflect an overall downward trend in airborne conflict events at unattended aerodromes, although there was a spike during the September-December period in 2024 in reported events. But this may be due to increased reporting through a heightened awareness of the significance of these types of events, in addition to the busy summer period,” Charlotte says.

CAA Aviation Safety Advisor and Flight Examiner Carlton Campbell was deeply involved with the WTSA campaign. “The videos and other educational materials are still available on the CAA website for anyone who missed them during the campaign or wants to refresh their memory. That would contribute to consistent, compliant, standardised, predictable activity around the airfield and make it safer.

“The onus now, as it has always been, is on the general aviation community to pick up and run with the principles raised in WTSA to keep the ethos of the campaign alive.

“We all need to keep working towards safety at unattended aerodromes to reduce the likelihood of a mid-air event occurring in the future.” ➤

// MORE INFORMATION

Scan this QR code to visit the WTSA campaign page, and to read the evaluation report, or go to aviation.govt.nz/wtsa





SAFETY ISN'T STATIC... AND NEITHER IS YOUR SMS



A safety management system needs to evolve, adapt, and prove its value every day.

The CAA has developed and released an SMS 'maturity assessment tool' – to help operators understand how well their system is now performing, and where it can improve.

It's been trialled across the general aviation community in recent months, with the CAA holding safety manager network days to bring people together and share their experiences.

Three of them talked to *Vector*. »



» **But first, what is the maturity tool?**

Instead of focusing on the setting up of an SMS, this tool looks at day-to-day effectiveness, highlighting what good performance looks like at different stages of maturity.

Built on international best practice and feedback from operators, it's designed as a practical guide, not a checklist or scoring system.

You don't submit the results to the CAA. You use the tool to identify strengths, spot gaps, and plan improvements.

A key feature of SMS implementation is the PSOE model, which describes four stages:

1 Present – the SMS is documented and visible

2 Suitable – it matches the organisation's size and complexity

3 Operating – it's used in daily practice

4 Effective – it's having a positive safety impact.

While the assessment focuses on the 'operating' and 'effective' stages, operators may wish to revisit the 'present' and 'suitable' features whenever their structure, scale, or systems change.

The tool is structured around the same four SMS components used internationally – policy and objectives, risk management, assurance, and promotion – and breaks them down into 13 practical elements.

Each element includes:

- a short reminder of the minimum certification requirements
- 'what to look for' prompts to guide staff discussions and observations
- tables showing what good 'operating' and 'effective' performance looks like.

The focus is on two things: what you produce – such as audits, investigations, or training records; and whether those activities are making safety better.

"Importantly, this is not a pass or fail exercise," says Penny Stevenson, the CAA's Principal Advisor of SMS. "It's a way to understand where your SMS currently sits, highlight what's working well, and identify what needs further development.

"CAA inspectors will use a similar tool when they're assessing your SMS. This ensures operators know what the CAA will be looking for, from a performance perspective.

"Maturing an SMS takes time – often years of steady learning, refinement, and industry experience," says Penny.

A tool to stay safe during change

John Winter, the Safety Manager at Sounds Air, says the SMS maturity tool is helping him through substantial change at the airline.

"Sounds Air has been through a year of transformation – closing four bases, reducing staff, and retiring its Pilatus PC-12 fleet. Today we operate a leaner network of four Cessna Caravans focused on Cook Strait routes. That shift means a sharper focus and a renewed commitment to safety.

"Our SMS is well established and underpinned by a strong just culture," John says. "Staff are confident to report incidents – even those involving themselves – which tells us the system is working. Reporting trends confirm high engagement, and the company has moved beyond compliance to proactive risk management.

"The SMS maturity tool represents the next step. Things change constantly – downsizing, avionics upgrades, staff turnover – so the tool helps us keep pace by breaking SMS into 13 components and showing what 'operating' and 'effective' looks like."

The next big challenge for Sounds Air is a fleet-wide avionics upgrade. "Each aircraft will have its systems stripped out, and new ones installed and tested," says John. "They'll be out of service for up to six weeks, and the process will likely require CAA oversight."

The airline also plans to introduce a fifth aircraft in 2026, adding complexity to scheduling and compliance.

"Every substantial change triggers a formal change management process," John explains. "We identify all risks – technical, operational, financial – and put controls in place. The maturity tool dovetails with this approach by setting clear indicators for what excellence looks like. Safety is our primary duty."

Collaboration and open systems

John believes the tool is suitable for every operator, large or small. "It shows what entry-level looks like and what operating and effective looks like. That's valuable for everyone."

Photo courtesy of Ahaura Helicopters.



He's helping build regional networks of safety managers to share knowledge and support smaller operators. "The more we share, the stronger the industry becomes."

Sounds Air's SMS is open by design. "We invite reports from airports, Airways, other operators – even passengers. That 360-degree view helps us spot gaps and prevent accidents."

John plans to treat the tool as a living document, accessible to senior management throughout the year. "They can add observations, and I'll supplement that with audits and interviews. At year's end, we'll have a record of real progress, rather than a last-minute review."

From checklist to game-changer

West Coast-based Ahaura Helicopters is a small New Zealand operator providing aerial services – including agriculture, hunting, and fishing – that requires strong safety practices and proactive risk management.

Safety Manager Debbie Lawn says when she first trialled the maturity tool it felt overwhelming.

"But once I started working through it, I realised how practical it was. I focused on a couple of areas, including emergency response planning.

"What really stood out was the 'what to look for' section. It helped me approach the questions as if someone in our industry was asking them, which made the process feel less like ticking boxes and more like real reflection.

"It prompted me to revisit our original SMS evaluation from five years ago, ensuring our documentation still fitted our size and risk profile. That review was invaluable ahead of our recent re-certification audit.

"The tool inspired one of our best drills yet – a mock emergency locator transmitter activation, with the Rescue Coordination Centre and the Department of Conservation.

"We set up a simulated Part 135 flight, complete with documentation, and a live call on speaker for the whole team. It turned into one of the best drills we've ever had. The live exercise revealed unexpected questions and gave us invaluable feedback – something we'd never have done without the maturity tool.

"It's now part of my toolbox for continuous improvement and audit prep. I appreciate that the regulator provided the tool – it's a great way to help us mature our SMS."

Climbing the safety 'ladder'

"Safety isn't a certificate on the wall – it's a living system," says Steve Holtum, Operations and Safety Manager at Marlborough Airport.

"Audits will tell you where you are today, but they won't move the dial. The maturity tool? That's about planning how to climb the ladder. If your SMS is operating, you're on the bottom rung. But getting to the next rung takes effort, resources, and planning. This tool helps us do that."

Breaking down silos

One of Steve's priorities for 2026 is improving integration across the airport precinct. "We want safety to run through everything we do."

"We all get a bit siloed – airports, airlines, contractors. But safety and security overlap everywhere, so we need to make sure our SMS talks to, say, the airlines' SMS. And a concrete example of our 'why' would be our joint responsibilities for the movement of cargo." »

» Ongoing learning

Training can be another blind spot, Steve says. “We train people, tick the box, and move on. But do we check six months later if they remember the training? Is it effective? Are they applying it? That’s the loop we need to close.

“The maturity tool helps facilitate those conversations. It holds up a mirror. It asks, ‘Are you really following up?’ and ‘Are you integrated?’

“But you’ve got to go in with the right mindset. If you tick boxes, you’ll stay on the bottom rung.”

His advice? Start small. Pick a few areas that matter most and build momentum. “The maturity tool is like a spanner,” Steve says. “It helps us to build the machine. In 10 years, if we do this right, we’ll look back and see how far we’ve come.”

Consider joining a regional safety network

The CAA’s Penny Stevenson says the safety manager networks forming across the country are an important way for safety managers to share ideas, provide mutual support, and stay connected in a sometimes isolated role.

Groups vary in size and formality, from small gatherings in homes to meetings at aero clubs, but usually involve around 10 participants. The CAA supports these networks rather than leading them.

“The approach builds connections, gives guidance to new managers, and helps make sure safety practices are effective,” Penny says.

“The networks provide both a platform for collaboration and a practical way to embed SMS maturity across the sector.” ➤

// MORE INFORMATION

Scan this QR code to read more about the Safety Management Systems Maturity Assessment Tool or go to aviation.govt.nz/sms.



THE BIG IMPROVE

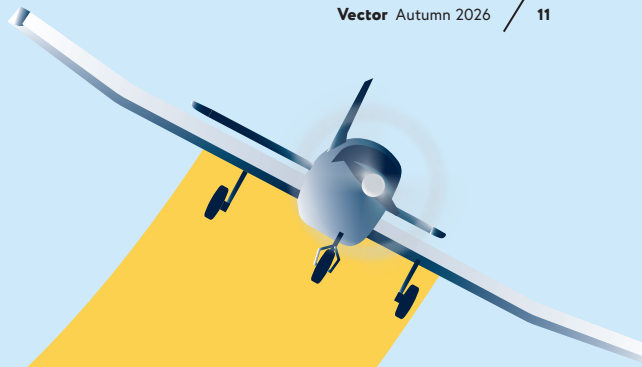
Inside agricultural aviation’s safety rebuild

From fatal skies to safer operations

Between 2001 and 2011, New Zealand’s agricultural aviation sector saw one fatality roughly every 225 days, mostly in fixed-wing aircraft. Helicopter operations accounted for fewer fatalities, but the overall numbers highlighted the risks inherent in the industry.

Yet the years 2014-2024 show a markedly different picture: three fatalities occurred in fixed-wing operations, and another four in helicopters. Fixed-wing accident rates dropped sharply, while helicopters maintained a relatively low rate.

Tony Michelle, the Executive Officer of the New Zealand Agricultural Aviation Association (NZAAA), says it’s clear the reduction is not simply a result of fewer aircraft. He says while the number of fixed-wing aircraft has decreased, fertiliser application has remained steady, meaning pilots have the same workload. He says the real improvements stem from multiple factors.



Agricultural aviation in New Zealand is a high-risk industry but recent decades have seen a marked improvement in safety.

The forces shaping safer skies

Tony says the improvement in accident statistics are partly down to clearer regulations in Part 137 *Agricultural Aircraft Operations*, and education campaigns by the NZAAA.

He explains that work undertaken in 2011 to review and refine Part 137 helped raise awareness of operational risks, and focused on “tightening up what good operators were doing anyway”, particularly around day-to-day flying practices and managing aircraft safely.

That review process aligned closely with the work the NZAAA was doing at the time. “The programmes and guidance helped people understand how to apply the rules in the real world,” Tony says.

Together, the rules and the association’s programmes supported the sector’s shift in mindset.

“It’s become part of the culture now – people think about managing safety every day.”

Tony believes programmes led by the NZAAA were central to the sector’s cultural shift toward safety. By providing clear messaging, practical guidance on everyday procedures, and tools to manage operational risks, the association helped pilots and operators place safety ahead of productivity.

This wasn’t simply about following rules – these programmes fostered a change in mindset, with crews actively discussing risks, supporting each other in safe practices, and embedding safety into daily routines.

Over time, Tony says, these behaviours have become a core part of operations, showing that the association’s initiatives directly influenced a culture that prioritised safety over productivity in agricultural aviation.

Tony adds that a generational change – with younger pilots entering the industry with more risk-awareness – and the introduction of new technologies also helped reduce operational hazards.

Pete Gordon, former CAA Aviation Safety Advisor – and now Director of Aero Audit NZ – agrees that the ag industry is now better educated. Risk-aware entrants, whether owners or employees, are “looking at what they do with a better lens for what is going to cost time, money, and injury to staff”.

He says the CAA’s requirement for a safety management system (SMS) for most aviation organisations, introduced in 2016, has “forced operators and pilots to think more critically about what they’re doing”. »

» Ongoing safety challenges

Despite improvements, challenges remain. Temporary clusters of accidents, such as a spate of 10 incidents over 10 weeks in 2024, demonstrate that risk is never fully eliminated.

“That spike was likely linked to a period of low activity, when pilots were possibly less current, and operators were under financial pressure,” Tony says.

While safety management systems are now widely adopted, Tony says, not all companies use them effectively. Some treat them as a compliance ‘checkbox’ rather than a tool to actively manage risk.

He adds that sharing safety information across the industry is still limited, although peer network groups are helping improve communication.

Managing itinerant and contract pilots

Contract and itinerant pilots form a significant part of the ag flying workforce, especially when operators experience seasonal spikes in demand. Tony says these pilots may bring habits or behaviours from other employers that don’t align with a company’s safety culture.

He says it’s crucial to have robust induction and monitoring.

“If new pilots challenge existing standards and operators do nothing, other staff may become uncertain about expectations, undermining the overall safety culture.

“Identifying both positive and negative contributions from incoming pilots helps companies manage this dynamic effectively.”

Balancing safety and business pressures

Tony acknowledges that operators constantly balance safety with business realities.

“Accidents are costly – not just financially, but also in morale and operational disruption. Even with insurance, recovery can take years.

“The industry also naturally rationalises itself. Unprofitable operators exit the market, while new entrants compete for existing clients.

“Those who provide better service survive, while those who merely undercut prices often fail. Short-term downturns, while challenging, help stabilise the sector by removing excess capacity.”

The role of clients and product quality

Clients have become more safety-aware, Tony says, respecting pilot decisions and reducing pressure to operate unsafely. Pilots have become more confident in refusing to work when conditions are unsafe.

Improvements in fertiliser and other products have also reduced risks, including by being better formulated to resist going lumpy, which made the product less ‘flowable’ in the past.


Looking ahead

The industry has made remarkable strides, Tony says, but progress “cannot be taken for granted”.

Continuous vigilance, effective SMS implementation, proper induction of itinerant pilots, and open safety communication remain essential.

Pete Gordon says aviation safety is not unique. Safety lessons are forgotten in a surprisingly short space of time across other industries too.

“Having an industry ‘minder’ to continue to remind participants of the issues out there helps keep a focus on the problems that can hurt people both physically and financially.

“And while the skies are safer than they once were, agricultural aviation remains a high-stakes environment where human factors – especially awareness, culture, and judgement – remain critical.” 



EVADING THE WIRES

Don't rely only on the farmer's word for where the wires are. And once flying, use that light bar.

Photo courtesy of Aerowork.



In the space of one week during 2025, two agricultural pilots hit wires during spray runs. Fortunately, both accidents were non-fatal¹.

Neither pilot, however, was using their light bar – a GPS tracking system that gives visual cues to the pilot as to whether they’re flying in a straight line or not.

The light bar sits in the pilot’s field of vision, allowing them to flick their eyes down for a second or two. Eventually, a pilot will learn to use their peripheral vision to observe the light bar, while still primarily looking straight ahead.

Virtually all agricultural aircraft are installed with a light bar, and an agricultural pilot’s rating requires them to demonstrate competency in the technology.

However, as Pete Gordon – former CAA Aviation Safety Advisor and ag pilot – explains, there are some bad habits creeping in around the use of the tool.

“It does have a bit of a learning curve and some pilots are just giving up. They’re going back to using their screen to tell them where they’ve sprayed.

“In doing that, they take their scan from outside the cockpit to instruments. This raises their risk of hitting a wire.”

Pete says relying on a screen in the cockpit is, firstly, not cost-effective, and even more importantly, it’s far from being risk-free.

“The light bar is not there for decoration and it’s absolutely worth becoming proficient in its use,” he says.

“It may have prevented those two recent wire strikes.”

Pilots’ responsibility to identify the hazard

Chief Flying Instructor at North Otago Aero Club – and a farm safety consultant – Sven Thelning says pilots and farmers have overlapping duties regarding identifying hazards on farms.

“The farmer knows their property best, and, in particular, any changes since the last visit.

“This is best communicated to a pilot through a written system such as a hazard map, and also through an induction to point these hazards out.

“If the farmer doesn’t offer a hazard map, nor an induction, pilots should ask for them.”

But Sven says, at the end of the day, the responsibility to identify hazards, including wires, lies with the pilot.

“They’re the one who’s likely to be at the sharp end of the consequences of any impact.”

Pete agrees. “The pilot should be identifying hazards both within the targeted spray area, and also outside it. You’re going to be turning outside the property you’re spraying.

“A pilot should never rely *only* on another person’s word when they’re being briefed about the hazards in an area.

“Instead, you must go up high and fly around yourself.”

Even under time pressures, agricultural pilots need to maintain that discipline, he says.

“Just get on the phone to the farmer, and say, ‘Sorry mate, I’m going to be an hour late.’”

Manawatū pilot Hallett Griffin, now retired, had 42,000 hours in the agricultural cockpit.

He himself encountered a wire in 2001. Hallett now says he’d never just start spraying on a property, even if he’d been there before.

“I’d never simply swoop in and do the first run,” he says.

“First, you need to vigorously interrogate the farmer as to the existence and location of wires – and other obstacles on the farm.

“This is especially the case for spraying operations that take place at two to five metres above the ground – as opposed to fertiliser spreading at, say, some 20 to 30 metres above the ground.”

Pilots must identify obstacles as per their job map, says Hallett.

“Then, when you arrive overhead the area you’re going to spray, ask yourself, ‘Am I focused on this task?’ If the answer is, ‘No, I’m not focused’, then you remain at 500 feet until you’re sure that you are.

“Overseas studies have shown that headland² – perimeter – runs, although accounting for only five percent of the overall job, result in some 70 percent of wire strike accidents³.

“So before starting your headland runs, check for obstacles again, because the runs will now be 90 degrees orientated from the previous main runs.

“And a few moments of faltering concentration or an ill-judged turn could result in catastrophe.” ➔

² For non-ag aviators: The spray paddock is usually treated in long, straight runs leaving untreated areas at the end called headlands. After the main passes are complete, additional runs are made across the short sides of the paddock to apply product to these headlands.

³ The combination of low-level turns, high workload, and often variable wind conditions make the turns in headland runs very risky.

¹ Since 2014, there’ve been 70 reported wire strike incidents and accidents.

MID-FLIGHT CHANGE OF PLANS MADE A ROUTINE JOB **HIGH-RISK**

A sudden adjustment to the job was followed by an unnerving encounter with wires – but cutters prevented a tragedy.

After arriving at the central North Island farm and speaking to the farmer, the helicopter pilot flew over the area for a recce. He'd previously sprayed at this property but not in this particular area. He was made aware of the existence of powerlines in the area during the briefing.

The first run had no issues. The pilot started on the second block, and was doing “nice lines”, when he noticed an area to the left he'd missed.

The pilot made a split-second decision to change plans and do that area, but in doing so, flew into the power lines.

He did see the wires at the last minute, the subsequent operator's report noted, “...and then ‘bang’, the wire strike kit did what it's designed to do and, in fact, cut three wires.”

The wires ended up wrapped around the helicopter's left skid and mirror on the pilot's side. The pilot managed to manoeuvre so the wires untangled, and the pilot and aircraft landed safely.

“Don't change your block plan while flying, You need to be on the ground thinking through any change and the effect that change will have,” says the pilot.


The wire cutters on the helicopter turned what could have been a tragedy into a good news story.

A wire cutting system channels a wire or cable into the cutter to score it as it travels into the cutter assembly, to ‘cut’ the wire before it damages the aircraft.

“I might not be here if it weren't for that kit,” says the pilot. “Wire cutters certainly save lives.”

If you must change your plans

In a 2021 *Vector* article, “It's all on the line”, CAA human factors specialist at the time, Matt Harris, said that plans do change from time to time.

But when they do, he said, “...it's important to give yourself the time to update your knowledge of the conditions and other factors, and understanding of the hazards as they apply to your new plan.” 

// MORE INFORMATION

Read 'Wire safety' advice at aviation.govt.nz/wire-safety

Night flying Beautiful *but* hazardous



A recent close call highlights the risks of flying VFR in darkness.

In October 2023, two fixed-wing aircraft – a Beech and a Cessna – were attempting a night landing at the same time at Ardmore Airport near Auckland.

The aircraft were flying at different vertical profiles on final. Neither was aware of their proximity to the other.

On final, the Beech flew over the top of the Cessna – missing it, the Cessna pilot said, by just 20 feet.

The Cessna then aborted its approach for a go-around. Both aircraft landed without further incident.

The subsequent Transport Accident Investigation Commission investigation¹ found the pilot and instructor of the Beech remained unaware that they'd flown in close proximity to another aircraft.

TAIC noted that the pilot flying the Beech, and the instructor, had developed “an inaccurate mental model of the circuit, and their situational awareness became compromised”.

¹ taic.org.nz/inquiry/ao-2023-011



The TAIC report also noted that situational awareness “requires an accurate understanding of the current operational environment in order to anticipate a future state”. TAIC also said that it requires scanning the environment to gather information using one’s senses. “If information is not detected or if it is misperceived, situational awareness will be affected.”

Of course, this applies to all flying, but building an accurate mental model of what’s going on during a VFR *night* flight is particularly challenging.

The calm of the night – and its dangers

CAA Inspector Adrian Parker is a former military and police pilot. He knows first-hand, and more than most, the attraction – and dangers – of night flying.

“There are things about night flying, which you just cannot experience flying during the day.

“It can be extremely beautiful and calm.”

But, after many years flying at night over featureless, sparsely populated, flat desert, with just the occasional campfire and stars for light, Adrian is also aware of the great threats inherent in VFR night flying.

“The most dangerous threat is to a pilot’s vision,” he says, “and therefore to their situational awareness.

“In the dark of night when we can’t see details outside the cockpit, we have almost no colour perception, our visual acuity is reduced, and the risk of being tricked by our senses is much greater than flying during the day.

“Our ability to see contrast differences between an image and the background is totally degraded. And anything that diminishes contrast makes it hard to distinguish objects that we use to orientate ourselves in space. When we lose those outside visual cues, there’s also a high risk of spatial disorientation.”

Adrian adds that darkness also creates visual and spatial illusions, often providing misleading information, and the loss of visual references.

“The simplest night illusion is ground light confusion, when a pilot confuses low intensity ground lights with stars.

“This type of confusion has led to controlled flight into terrain, which is actually the most common type of accident at night. It happens when pilots try to fly by visual references and apply VFR standards to night flight.”

While the CAA recommends that VFR pilots regularly refer to their instruments – even when external lighting is providing good visual cues – Adrian believes undertaking specific IFR training is the best advice he can give to pilots to ensure they stay safe.

“When you’re flying with little, or no, moonlight, no visible horizon, and over a dark and remote location, you’re entering IFR conditions – and I believe you really need IFR skills to stay safe. What happens when the moon you’re relying on as your light source suddenly nips behind a cloud? Things can get bad very quickly.

“The best option is to get an instrument rating and keep it current. That way, you’ll be prepared for VFR into inadvertent IMC during any night flight – or during any daytime one.”

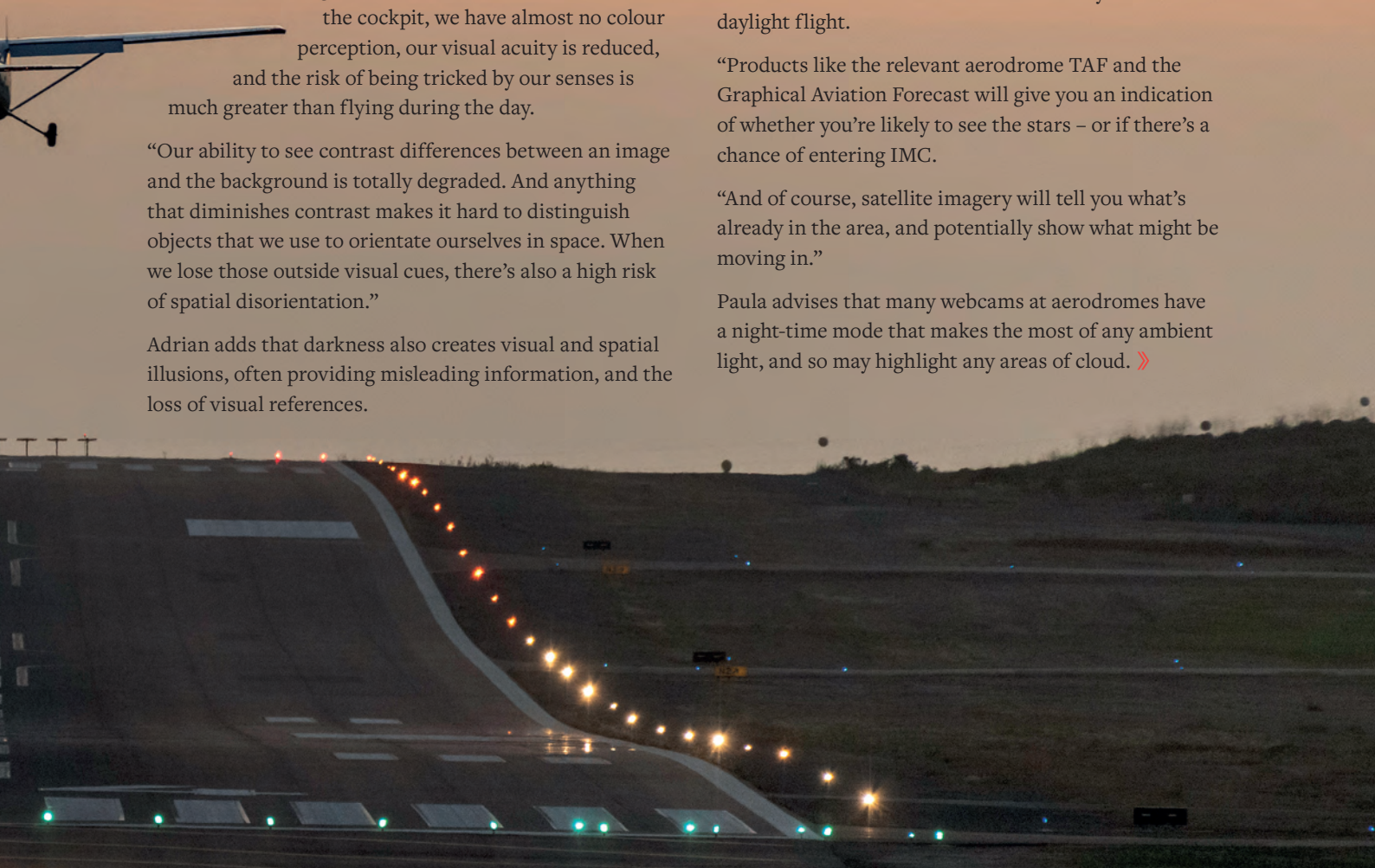
Night MET

“When it comes to planning for a night flight,” says CAA’s Chief Meteorologist Paula Acethorp, “reviewing weather information needs an even more critical eye than for a daylight flight.

“Products like the relevant aerodrome TAF and the Graphical Aviation Forecast will give you an indication of whether you’re likely to see the stars – or if there’s a chance of entering IMC.

“And of course, satellite imagery will tell you what’s already in the area, and potentially show what might be moving in.”

Paula advises that many webcams at aerodromes have a night-time mode that makes the most of any ambient light, and so may highlight any areas of cloud. »



Aerodrome lighting

Aerodromes around the country have begun to replace their old halogen lighting with LEDs.

The brighter lights will make it easier for pilots to locate aerodrome landing strips.

Pilots will have to get used to the brighter lights, says Operations Manager for Hawke's Bay Airport, Deb Suisted.

"The LEDs provide a more focused and intense light. You can actually see our new lights from Wairoa!

"Some pilots did have difficulty finding the airstrip due to the directional component of the lighting. Basically, the lighting was harder to spot from side-on.

"In response, we're installing a beacon and supplementary lighting on the airstrip to help guide them in."

» "Also, when you review the relevant aerodrome weather observations, check how close the dew point temperature is to the air temperature. With clear skies and light winds at night, if the dew point and air temperatures converge, a significant risk of fog or mist forming arises."

Tips for night flying from an expert

When planning for a VFR night flight, experience has taught Adrian Parker to consider:

- am I proficient enough to do this flight? Do I need a dual night flight refresher? How proficient am I at flying on instruments?
- what terrain will I fly over?
- what ground lighting (from towns, water, bush, farmland for instance) can I expect?
- what moonlight can I expect? Will the moonlight be obscured by cloud or high terrain or mountains?
- what is the cloud cover like? Have I checked the PreFlight weather app?
- what are my diversion options?
- where can I land – and which aerodromes have lighting?
- where could I stay the night? Do I need an overnight bag?
- am I complying with the rules and company/club procedures?


A final note – on radio calls, and lighting

The TAIC investigation into the October 2023 close call found that two opportunities for the pilots of the Cessna and the Beech to identify each other in the circuit via radio, were missed.

TAIC recommended that 'see and avoid' should be, "...underpinned by pilots actively listening to all radio calls, processing the details of calls, and then using these to check their mental model of each aircraft's position in the approach sequence.

"Pilots should request a repeat of any transmission that they cannot understand."

Regarding lighting, TAIC found that, while the exterior lighting on the Cessna did meet regulations, the Beech pilots later stated they'd had trouble seeing the aircraft in the circuit.

TAIC said that aircraft can be made more conspicuous by fitting approved LED lights. 

// MORE INFORMATION

Night VFR Good Aviation Practice booklet – at aviation.govt.nz/gap

Go to aviation.govt.nz/fig > night flying.

'A heads-up on night VFR' *Vector* (May/June 2017) at aviation.govt.nz/vector > *Vector* magazine archive.

DON'T MAKE LIFE-THREATENING SITUATIONS WORSE

Aircraft are a huge aid to a rescue when lives are at risk, but it's critical that the safety of every rescuer comes first.

It's obviously counter-productive to put flight and medical crew – and any helper on the ground – at high risk, while carrying out a rescue.

But some pilots lose sight of that, in the heat of carrying out 'the mission'.

In March 2025, Queensland was hit by a tropical cyclone. The small rural town of Avadale, 1000km northwest of Brisbane, was cut off by floodwaters.

On 27 March, Channel Country Helicopters answered the call to assist in rescuing trapped residents from the town.

An R22 pilot from Channel Country spotted a man on a tin shed roof, surrounded by fast-moving water.

Unsure about the stability of the roof, the pilot quickly loaded the passenger and took off.

The passenger was heavier than expected, however, and the R22 was now 46kg overweight. The aircraft lacked sufficient performance to maintain altitude.

The pilot was forced to ditch the helicopter into a fortunately relatively calm area of floodwater, preventing it from completely tipping over. >



» Both occupants were able to scramble out of the Robinson, but in a moment of what surely would have been pure terror, the pilot was swept away in the strong floodwater current. He was later safely recovered.

The passenger remained by the aircraft, but in doing so, sustained chemical burns from fuel leaking from the crippled R22. He was also later rescued, and his burns treated.

While praising the pilot for initiating a rescue operation, the Australian Transport Safety Bureau investigation found he'd placed himself in an "...unfamiliar and demanding rescue operation".

For this, the ATSB said, the pilot was, "...neither trained nor equipped". It found that, as a result, the pilot did not take the time to assess whether his aircraft would be overweight after boarding the 'rescuer'.

The ATSB concluded that its report, "...should not deter pilots and operators from conducting mercy flights, but rather [it highlights] that when responding to an emergency, it is important to stop and take a moment to assess risk to the rescuers before assisting others".

Safety during Cyclone Gabrielle

The ATSB report is an important reminder to New Zealand pilots, says Lou Child, CAA Senior Advisor of the Triage, Analysis, and Insights team, and a former Safety Investigator.

"When you respond to an emergency, it's important you pause for a moment and make sure you're not putting yourself at unnecessary risk.

"You don't want to add to the stats of injuries and deaths," she says.

"If you crash, you can't help anyone else – and other rescue resources must respond to your accident."

The balance required in such a situation was achieved by Hawke's Bay pilot Geoff Keighley during Cyclone Gabrielle.

On their way to rescue people from precarious places like rooftops, in a borrowed Squirrel helicopter, Geoff told his crew member, "We aren't going to go in with that 'we have to save people at any cost' mindset.

"And we're not going to take any unnecessary risks. If you're not happy about something, or we can't agree on the safety of something, we don't do it. It's that simple.

"First and foremost, it's about you and I getting home tonight."

Neil Moore is a CAA Technical Advisor, and was an air ambulance pilot for 25 years. He says he asked himself two questions before accepting a task, "Is it really necessary? Is it really safe?"

Neil would gather as much information as he could. If it was a night flight, in predicted marginal conditions, he could call pilots at the destination aerodrome – often remote and uncontrolled – to confirm the weather.

"It's a judgement call, sometimes you knew you could get in safely, and other times, you'd call it and not fly.

"I'd always discuss what I'd learned with the rest of the crew and we'd make a joint decision.

"Sometimes in a non-urgent case, you could leave it until the morning. Everything seems better in the daylight."

Breaching the rules

Clearly, pilots and aviation can save lives and property in emergency situations. But section 16 of the Civil Aviation Act 2023 needs to be considered before the pilot or operator commits to an emergency flight.

Section 16 *Duties of pilot-in-command and operator in emergencies not arising in flight* outlines the conditions under which a pilot-in-command may breach civil aviation legislation in an emergency. It also lists several associated actions the PIC must take in such a situation.

Experienced pilot, and CAA Assessor and Investigator, Velma Scholz, has been involved in several helicopter emergency operations.

"Start with assessing the situation," she tells pilots. "Is this actually a life-threatening situation?' 'Are you the only way people in trouble can be rescued?"

"For example, can you call or radio through for help from another organisation specialising in emergency rescues?"

Velma says it's important to remember both your own, and your aircraft's, limitations.

"Don't rush in. Instead, plan carefully and always have an escape plan.

"Make sure someone is aware of your intentions.

"Although it's counter to human nature, you must try to distance yourself emotionally and don't make the flight 'mission-orientated' – that sense that you must succeed.

"Safety first... always." ✈️

// MORE INFORMATION

'Lessons from a cyclone' *Vector* (Winter 2023), and 'Stay or go? Lessons from air ambulance ops' *Vector* (July/August 2017). Both at aviation.govt.nz/vector > *Vector* magazine archive.

Section 16 *Duties of pilot-in-command and operator in emergencies* of the Act at legislation.govt.nz – and search on Civil Aviation Act 2023.

NEAR COLLISION

at Rangiora

Good radio communication and robust situational awareness would have avoided a heart-stopping close call.

A private helicopter was on a cross-country flight when it landed for a couple of minutes at Rangiora aerodrome. The PIC wanted to check an issue with the flight instruments.

At the same time, a Cessna 152 with a CPL aboard was readying for take-off.

The pilot heard a helicopter make a departure radio call, but did not take much notice as he was head down, undertaking his 'run up' tasks. He then made a radio call that he was taxiing to the hold point for Runway 07.

He called again a short time later that he was lining up and rolling 07, vacating to the west. He assumed the helicopter had already left the vicinity.

But the helicopter began lifting as the Cessna pilot began his departure.

They headed toward one another.

The Cessna pilot became aware of the helicopter bearing towards him and took prompt avoiding action to the right, to cross behind the helicopter.

They missed colliding by six seconds.

The aerodrome manager said later that it was the closest to a collision he'd seen.

Neither pilot filed a report with the CAA, although the Cessna pilot did tell his chief flying instructor when he landed back at Rangiora.

Neither pilot felt they were close to a collision.

The CAA's findings

The helicopter pilot didn't make a joining call before landing, which would have provided other pilots with greater visibility and situational awareness.

The helicopter pilot did make a radio call before lifting off but that lift-off was delayed. A further radio call to the Cessna would have clarified and confirmed the helicopter pilot's intentions.

The helicopter pilot had seen the Cessna start its take-off roll, but decided he could maintain separation so continued his departure.

Airways information indicates that the degree of horizontal separation (172 metres) and the nature of the converging aircraft, would have led a reasonable and prudent PPL-H holder to consider aborting their departure.

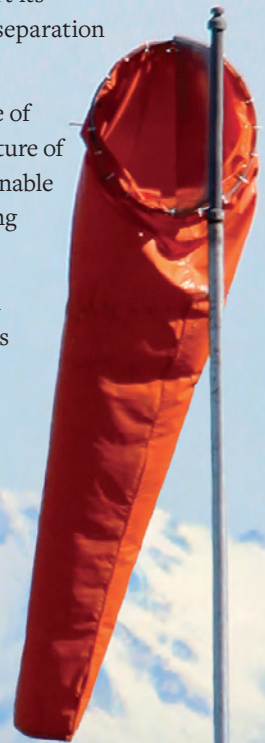
The Cessna pilot acknowledged there was an opportunity between hearing the helicopter's pre-lift-off radio call and beginning his own departure to have another look and make another radio call, just to confirm the status of the helicopter.

Safety lessons

The near miss incident at the unattended Rangiora aerodrome was, in part, due to the crew of each aircraft failing to effectively monitor the radio and undertake a visual scan. This resulted in an incorrect mental model of the other aircraft's position and intentions.

These findings¹ reinforce the importance of effective radiotelephony procedures, and a good lookout scan. ➤

¹ Based on the lessons learned, and discussed with both pilots, the investigation was closed with a 'no further action' outcome.



FREE CAA EDUCATIONAL RESOURCES FOR SAFER AVIATION

Good Aviation Practice (“GAP”) booklets are the best advice we can give on operating safely – whether you’re flying in the Southern Alps, want to become a licensed aircraft maintenance engineer, or need to understand the civil aviation rules.

New and upcoming

CAA weather card

Our popular CAA weather card has been updated. Last revised in 2023, this new version includes an alignment of the TAF and METAR AUTO for international aerodromes with ICAO requirements, inclusion of hours of manual SPECI and METAR availability, plus an update to the space weather advisory validity period. The card is A5 size and hole-punched to fit in your AIP Vol 4.

To order the new weather card, go to aviation.govt.nz/education-resources.

In, out, and around Cook Strait

The terrain from Kaikōura and Golden Bay to Paraparaumu and Masterton provides a venturi for robust, changeable winds to develop, which can result in strong turbulence and mountain wave conditions.

The weather over Cook Strait can change quickly, and conditions in the upper South Island may be completely different from those in the lower North Island.

This GAP booklet introduces pilots to the sometimes challenging journey through this airspace.

In, out, and around Mount Cook

Before flying into the beautiful and unique Mount Cook and Westland National Parks, make sure you study the weather, terrain, reporting points, and local procedures. During summer, it’s busy airspace with tourist and private flights, and gliding.

Begin your homework by reviewing *In, out, and around Mount Cook*. This new version will bring you all updated imagery, as well as the latest aeronautical information, and illustrative snips of reporting points from visual navigation charts.

Aircraft airworthiness and maintenance

Aircraft maintenance plays a critical part in aviation safety. This GAP booklet aims to provide easily readable guidance to aircraft owners/operators on some key aircraft maintenance requirements in New Zealand.

// **These booklets are not yet ready for release, but we’ll send email notifications as soon as they’re ready to order.**

And as the season changes...

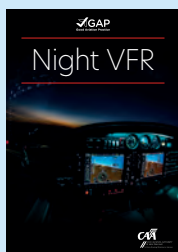


Winter flying

Whether winter conditions are present because it's winter, or because you're flying at higher altitude, you can encounter 'winter flying' at any time of year in New Zealand.

Whether flying fixed-wing or rotary VFR operations, your preparation may be all that stands between you and harm.

This GAP booklet provides a brief introduction, or maybe a refresher, on good safety practices for colder conditions.

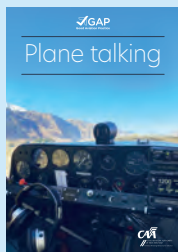


Night VFR

Flying at night presents pilots with a new set of threats and challenges compared with flying during the day.

This booklet describes adapting to the dark outside the cockpit, recognising illusions, how to plan your night flight, and handling emergencies.

Always popular



Plane talking

This in-demand booklet is a handy guide to good radio operating practice. Robust radio communication is vital to aviation safety. Done properly, it allows orderly sequencing, adequate separation, and collision avoidance.

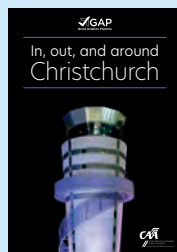


Navigating the rules

The civil aviation rules set the common standards that everyone can depend on to help manage risks in aviation.

This booklet provides an introduction to the rules, CAA notices, 'transport instruments', emergency rules, advisory circulars, and airworthiness directives.

Recently updated titles



In, out, and around Christchurch

Canterbury is a busy and complex piece of airspace. Bounded by the Southern Alps to the west and the Pacific Ocean to the east, this relatively small and narrow area is home to a wide variety of operations, including training and aerospace activities.

This booklet, updated late in 2025, aims at improving pilot knowledge of visual reporting points and GA pilots' familiarity with this airspace, especially around the Christchurch control zone.



Medical matters

Written primarily for pilots and air traffic controllers, this booklet, updated in 2025, explains all things medical. There's also information and advice about human factors and other relevant matters, including mental health. »

» GAP online

Our *GAP online* pages are for GAP booklets only available at aviation.govt.nz. They're not in printed form because they may need to be updated more frequently than our standard GAP range.

At present, we have three online GAP booklets, *How to manage an aerodrome*, *How to be a senior person*, and *How to be a chief flying instructor*.

You can find them at aviation.govt.nz/GAP-online. ☞



// MORE INFORMATION

These GAP booklets, other GAP titles, and more safety education products, including posters, are available at aviation.govt.nz/education-resources or scan this QR code.



You can download digital copies from there, or order free printed copies.

Sign up to receive email notifications when we have updates about our educational resources, including *Vector* magazine. Go to aviation.govt.nz/subscribe. Make sure to sign up to the 'Educational publications and workshops' list. At the same time you can sign up to other subscription lists that might interest you.

Letter to Vector

Learning styles model a 'discredited framework'

I'm writing regarding the recent *Vector* article, "Teaching differently". (Spring, 2025)

Firstly, I want to commend the team for tackling the crucial topic of neurodiversity and the need for individualised, flexible instruction in flight training.

This guidance is excellent, sorely needed in our industry, and a true advancement in safety culture. The core message – that instructors must possess a broad toolkit of teaching methods to adapt to individual processing needs – is spot-on.

However, I noted the article's unfortunate reference to the 'learning styles' model. This hypothesis claims that tailoring instruction to a student's self-professed style improves learning outcomes. But decades of research have thoroughly debunked this model.

All effective flight training is inherently integrated and requires the simultaneous development of cognitive, psychomotor, and perceptual domains – it is never 'one or the other'.

Relying on the learning styles model risks encouraging instructors to prematurely limit their teaching strategies or classify students based on a discredited framework, and popular misconceptions about neurodiversity.

Brian Paavo

Wānaka

Response from Sarah Sharpe, educator and pilot.

I agree with Brian that instructors need to understand that students will have different ways of processing and understanding information. Every brain is complex and unique and we don't fit into isolated boxes in terms of how we learn best. It is, therefore, essential that 'multi-sensory' teaching is the norm, incorporating visual, auditory, kinaesthetic, and read-write modes – in other words, use a broad range of tools.

Getting to know the students and having conversations about 'learning how to learn' is a critical first step. This will empower students to understand their own learning strengths and weaknesses, and to adopt strategies that will work best for them and the task.

Being aware of different cognitive strengths, particularly those often associated with neurodivergent brains, will improve outcomes for all. As Brian mentions, flexible, individualised instruction is what is required in flight training.

Vector notices

OCCURRENCES DASHBOARD

These are the number and type of occurrences reported to the CAA, 1 October 2025 to 31 December 2025 (Q4) compared with 1 October 2024 to 31 December 2024.

Occurrence type

Aerodrome incident

Q4 2024	Q4 2025	
44	113	⬆️

Aircraft accident

Q4 2024	Q4 2025	
6	19	⬆️

Airspace incident

Q4 2024	Q4 2025	
639	695	⬆️

Aviation-related concern

Q4 2024	Q4 2025	
358	365	⬆️

Bird strike

Q4 2024	Q4 2025	
605	545	⬇️

Dangerous goods

Q4 2024	Q4 2025	
14	18	⬆️

Defect

Q4 2024	Q4 2025	
127	183	⬆️

Hang glider accident

Q4 2024	Q4 2025	
12	7	⬇️

(6 paragliders and 1 hang glider accident Q4 2025)

Navigation installation occurrence

(for example, a transmitter failure)

Q4 2024	Q4 2025	
5	2	⬇️

Operational incident

(for example, encountering severe icing)

Q4 2024	Q4 2025	
575	602	⬆️

Parachute accident

Q4 2024	Q4 2025	
0	0	⊖

Promulgated information occurrence

(for example, inaccurate weather information)

Q4 2024	Q4 2025	
5	7	⬆️

Total occurrences

Q4 2024	Q4 2025	
2390	2556	⬆️

The number of occurrences in each category sometimes increases after we publish each dashboard. That's because some occurrences from that quarter are reported after the quarter ends.

Want to dive into these stats even further? Head to aviation.govt.nz/dashboard to check out our occurrence and activity dashboard for details on occurrence rates, trends, aircraft activity, and more.

AVIATION SAFETY ADVISORS

Contact our aviation safety advisors for information and advice. They regularly travel around the country to keep in touch with the aviation community.

Carlton Campbell – Operations, South Island
027 242 9673 / carlton.campbell@caa.govt.nz

Richard Lane – Airworthiness, South Island
027 269 5796 / richard.lane@caa.govt.nz

John Keyzer – Airworthiness, North Island
027 213 0507 / john.keyzer@caa.govt.nz

LITHIUM BATTERIES CAMPAIGN POSTER FOR OPERATORS

Flying soon?

Power banks and spare lithium batteries must travel in your carry-on bag. Never in your checked luggage.

Pack smart and play your part.

All batteries must be packed in your carry-on bag.

Power banks and spare lithium batteries must travel in your carry-on bag. Never in your checked luggage.

Pack smart and play your part.

All batteries must be packed in your carry-on bag.

Recent research indicates that passengers are not very aware of the dangers presented by lithium batteries.

In its widest public campaign ever, the CAA is aiming to raise awareness among commercial passengers of the dangers of packing batteries, powerbanks, and some devices in their checked luggage.

The number of lithium-ion battery fires on flights is increasing. If batteries, devices, and powerbanks are carried in cabin luggage, and a battery catches fire, cabin crew can quickly and safely manage the blaze.

But in the cargo hold, at present, little can be done.

If you're a passenger-carrying operator, you might make use of the detachable poster on the back cover of this edition of *Vector*. Remove it and pin it to the wall around the area your passengers check in.

For more information, read our *Vector Online* story 'The menace that is the lithium battery' at aviation.govt.nz/vector-online.

SEE BACK COVER TO TEAR OFF YOUR COPY »

ACCIDENT BRIEFS

Airborne Windsports Edge X 582

Date and time:	16-Oct-2022 at 10:00
Location:	Ashley River Mouth
POB:	2
Nature of flight:	Private other

The pilot conducted a beach landing at the Ashley River mouth in Rangiora. As the aircraft landed on soft sand, its nose dug in, and then it flipped at low speed. There was minimal damage to the aircraft and no injuries to the occupants.

CAA occurrence number 22/6085

Gardan GY-20 Minicab U/L

Date and time:	15-Oct-2022 at 12:00
Location:	Stratford
POB:	1
Damage:	Substantial
Nature of flight:	Private other
Age:	51 yrs
Flying hours (total):	348
Flying hours (on type):	1

After take-off, a partial engine power loss occurred. The pilot turned back to land on the reciprocal runway. During the flare for landing, the grip came off the control stick causing the pilot to momentarily lose pitch control, resulting in the aircraft striking the runway in a nose-down attitude. There was damage to the undercarriage and propeller. The pilot advises that the cause of the partial power loss has not been determined.

CAA occurrence number 22/6206

REPORT SAFETY AND SECURITY CONCERNS

Report your aviation-related safety or security concern at aviation.govt.nz/report.
Or email triage@caa.govt.nz.

The CAA's safety reports are at aviation.govt.nz/safety-reports.

More accident briefs can be read on aviation.govt.nz/safety or scan this QR code.



Robinson R22 Beta

Date and Time:	02-Jan-2022 at 16:00
Location:	Karamea
POB:	1
Damage:	Destroyed
Nature of Flight:	Private other
Pilot Licence:	Commercial Pilot Licence (Helicopter)
Age:	72 yrs

The pilot initially reported to the CAA that approximately 10 seconds after lift-off from a remote landing site, a moderate to severe vibration was felt through the helicopter. With no safe landing site available, the only evasive action was to descend down the valley directly to clear ground by using a slow descent with half right pedal, reducing power to the tail rotor swashplate. The pilot thought at the time that the tail rotor drive shaft was likely the cause of the vibration. The pilot planned a low power level run on to the chosen landing site. As they applied power, however, they lost all control of the helicopter which spun and nosedived into a paddock. The pilot suffered serious injuries.

TAIC opened an inquiry into the accident (TAIC Ref AO-2022-002) which found that:

“The helicopter very likely experienced a rotor overspeed. This is when the drivetrain exceeds the manufacturer’s revolutions per minute speed limit. The rotor overspeed very likely caused the tail rotor drive shaft to deform. When landing, the increased power and addition of collective very likely caused the tail rotor drive shaft to deform to the extent that it contacted the tailcone’s internal structure and tail rotor control tube. This resulted in a complete loss of drive and control to the tail rotor. The pilot then lost directional control of the helicopter. The Commission was unable to conclusively determine when the rotor overspeed occurred. However, based on the evidence, it likely occurred during take-off on the return flight to Karamea. The Commission could not rule out that another rotor overspeed could have occurred as the helicopter attempted to land at Karamea. The cause of the rotor overspeed was very likely a result of the helicopter being flown inadvertently outside the Robinson R22 approved rotor speed limitations.”

CAA occurrence number 22/7

ACCIDENT NOTIFICATION

24-hour 7-day toll-free telephone

0508 ACCIDENT (0508 222 433)

aviation.govt.nz/report

GA DEFECTS

GA defect reports relate only to aircraft of maximum certificated take-off weight of 9000lb (4082kg) or less. More GA defect reports can be read on aviation.govt.nz/aircraft or scan this QR code.



KEY TO ABBREVIATIONS:

AD = airworthiness directive

NDT = non-destructive testing

P/N = part number

SB = service bulletin

TIS = time in service

TSI = time since installation

TSO = time since overhaul

TTIS = total time in service

Diamond DA 40

ATA chapter: 3400

During a training flight, after leaving controlled airspace, the student pilot observed their display screens were each displaying a large red X. This occurred twice, both instances lasting 15–20 seconds, and covering both screens, except the airspeed indicator. The screens reverted to normal for the rest of the flight. The pilot decided to return to land and declared a PAN-PAN. The traffic inset was continuously rebooting during taxi until shutdown.

The engineers reset and rebooted the avionics system and could not reproduce the fault. The aircraft was returned to service.

CAA occurrence number 22/7146

Cessna 172M

Carburettor

Part model: MA-4-5

Part manufacturer: Marvel Schebler

Part number: 10-5193

ATA chapter: 7300

TSO hours: 10.2

TTIS hours: 10.2

While on the roll out during a touch and go, a partial engine failure occurred. The pilot vacated the runway and stopped the aircraft.

The maintenance provider was able to replicate the fault during a ground run. The engine would idle rough below 1100rpm and would stop at times. The carburettor was removed and sent for inspection. The carburettor was stripped, and a small amount of grit was found in the bowl area. It was suspected that some of this grit was able to block the idle jet. The source of the grit could not be determined. The carburettor was cleaned and inspected for contamination with a new fuel screen fitted. The carburettor was reassembled and tested with no further issues.

CAA occurrence number 22/7172

Airbus Helicopters AS 350 BA

Module 3 gas generator

Part model: Arriel 1B

Part manufacturer: Safran HE

Part number: 70BM031090

ATA chapter: 7230

TSI cycles: 8316

TSI hours: 1167

TSO cycles: 8316

TSO hours: 1579

While in cruise, shortly after take-off, the pilot encountered what they thought was an engine failure. They entered a 180-degree autorotation and warned their passengers that they would be making an emergency landing.

At approximately 500ft AGL they discovered they had partial power. The pilot came to the conclusion that the power loss was initiated by the bleed valve closing. They decided to fly back to base, ensuring the bleed valve stayed open using a low power setting and they frictioned the collective.

The flight was approximately two to three minutes long at a 55% torque setting. The pilot set the aircraft up with a shallow approach in preparation for a run-on landing. The engine lost power and repeatedly backfired about one metre off touch down when pulling greater than 60% torque.

After the occurrence, the aircraft was grounded. The maintenance controller was informed, and an engineer was appointed to borescope the engine.

Damage was found on the compressor cover where it had been impacting the centrifugal compressor wheel. The engine manufacturer was informed and they recommended splitting the 2-3 module and carry out further investigation. On further investigation, it was discovered that the compressor cover had collapsed into the compressor wheel. The engine model previously had occasional issues with cracking around the bleed holes on the front cover, which can lead to sections breaking off and going through the compressor. This would cause the compressor stalls and the damage (bending) to the end of the front cover. The OEM had issued a mod (TU275) to address this by reducing the neck clearances to help eliminate harmonic vibration and cracking. The manufacturer will monitor for and investigate further cases. This is only the second one they are aware of in over 20 years.

CAA occurrence number 22/7680

Flying soon?

Power banks and spare lithium batteries must travel in your **carry-on bag**

Never in your checked luggage

Lithium batteries power many everyday items.

If they aren't packed safely, these batteries can overheat and catch fire.

If a fire happens in the cabin, crew can deal with it quickly and safely - **that's why they must be in your carry-on bag.**

Pack smart and play your part.



All batteries must be packed in your carry-on bag:



Spare lithium batteries* (with terminals protected)



Power banks



Vapes



Earbuds



Hearing aid chargers



Power tool batteries



Drone batteries

* It is strongly recommended to pack ALL spare batteries in carry-on, not in checked luggage.



Always check with your airline or visit aviation.govt.nz/packsmart



Together, we fly safer

