SACAA
SOUTH AFRICAN CIVIL AVIATION AUTHORITY
Keeping you safe in the sky

SKYwatch

SAFETY BRIEF | 18th EDITION | MARCH 2026

Behind the Top Employer Badge: Investing in Skills That Keeps You Safe

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Editorial Note

Poppy Khoza, Director Of Civil Aviation

Warm greetings to the aviation community as we share our first issue of 2026!

It is a pleasure to share with you our first edition of *SKYwatch* for 2026, as we continue working together to strengthen aviation safety, promote responsible operations, and deepen a culture of continuous learning across the sector.

Every aircraft accident statistic represents a person. A family. A colleague. A friend. A future that is disrupted or will never be realised.

As the South African Civil Aviation Authority (SACAA), we remain deeply concerned by the continued occurrence of fatal accidents in the general aviation (GA) sector. Each fatality reported to the Regulator is not “just another number” on a page. It is a tragedy that impacts every one of us who works daily to strengthen aviation safety. With every incident, we reflect not only on what went wrong, but on what more could have been done to prevent it.

The truth is that aviation demands more compliance extensively at school level. It demands continuous improvement. It requires the humility to learn, the discipline to prepare, and the courage to pause and reassess when conditions, limitations, or personal readiness are not aligned. In our industry, the difference between sound judgement and a single poor decision can be the difference between life and death.

I would also like to extend my sincere appreciation to all participants who joined our virtual General Aviation Accident Reduction Seminar (GAARS) held in January. Your time, engagement, and willingness to learn and share experiences are exactly what strengthens our collective safety culture. These platforms are not routine engagements but they are practical safety interventions that can help prevent accidents, save lives, and protect families. We are encouraged by the participation received and hope to see even greater involvement throughout the year, as more workshops, seminars and targeted safety initiatives are planned, especially for the general aviation community.

This edition reinforces that responsibility by focusing on critical operational risks and safety lessons that every pilot, operator and aviation professional should take seriously. It examines safety issues that continue to emerge in real operations, from helicopter aerodynamics and aircraft performance limitations to the human factors that quietly create risk over time.

As drone activity continues to grow, this edition also turns to drone planning and airspace awareness. We have an informative article which highlights that while tools like Google Earth KMZ files can be helpful for basic orientation, they may provide incomplete or outdated information if used on their own. It also explains how dedicated drone planning software strengthens decision-making by improving situational awareness, supporting compliance requirements, and helping operators plan responsibly, before a flight ever begins. Importantly, it reinforces that drones do not operate in isolation: they share airspace with manned aircraft, and responsible planning protects everyone who uses our skies. The key message is simple: safety begins on the ground, and thorough planning remains one of the most effective ways to prevent avoidable incidents.

This edition further unpacks the critical differences between Vortex Ring State (VRS) and settling with power in helicopter operations- two conditions that are often misunderstood yet demand immediate recognition and correct recovery actions.

Lastly, we highlight everyday safety traps that can place even experienced aviators at risk: from flying while “rusty”, operating aircraft that have not been flown regularly, underestimating the impact of environmental conditions such as density altitude, and engaging in extreme flying practices that leave little to no margin for error. These are preventable risks, but only if we are honest with ourselves, remain disciplined in our decision-making, and commit to learning continuously.

As we reach the end of the 2025/26 financial year, accident data reflects a substantial improvement in overall accident frequency, with a marked reduction compared to the two preceding financial years.

In total, accidents declined from 133 in 2024/25 financial year to 75 at the conclusion of this 2025/26 financial year, representing a reduction of 58 accidents (44%). While the reduction in total accident numbers is encouraging, accident frequency alone does not fully reflect the severity and risk profile observed during the period.

Fatal accidents declined sharply in 2024/25 but increased significantly during the 2025/26 financial year. A total of 17 fatal accidents were recorded in 2025/26, compared to 4 in 2024/25, representing a 325% year on year increase. When compared to 12 fatal accidents in 2023/24, this reflects a 42% increase, marking the highest number of fatal accidents across the three year period.

Fatalities increased as well during the 2025/26 financial year, despite lower overall accident numbers. A total of 24 fatalities were recorded in 2025/26, representing a 243% increase compared to the seven fatalities recorded in 2024/25, and a 33% increase when compared to the 18 fatalities recorded in 2023/24. This is the highest number of fatalities recorded across the three year period under review.

Let us never normalise accidents and never accept fatalities as “part of aviation.”

Every safe decision matters. Every safety conversation matters. And each of us has a role to play in ensuring that every flight ends with a safe landing - and a safe return home.

Safe flying!

Ms Poppy Khoza
Director of Civil Aviation

top EMPLOYER South Africa 2026
FOR A BETTER WORLD OF WORK

Behind the Top Employer Badge:
Investing in Skills That Keeps You Safe

By SACAA Communications

The South African Civil Aviation Authority (SACAA) has once again been recognised among the country's leading organisations, securing its second consecutive Top Employer certification from the internationally respected Top Employers Institute, alongside recognition as a Top Industry Leader in the Public Sector. The achievement places the Authority within a select group of institutions that demonstrate measurable excellence in leadership, people practices, skills development and organisational culture.

For a specialised technical regulator operating in a highly competitive global aviation environment, this recognition represents a significant milestone. Aviation regulators do not compete only for resources but they also compete for scarce technical expertise. Experienced inspectors, engineers, licensing specialists, accident investigators and safety analysts are globally mobile professionals whose skills are in demand across airlines, manufacturers and international organisations. Being recognised as a Top Employer signals that the SACAA is successfully attracting, developing and retaining the calibre of expertise required to perform its safety and security mandate effectively.

While the certification reflects internal organisational maturity, its implications extend directly to the aviation community, including the general aviation sector. Safety outcomes in GA are closely linked to the depth of regulatory competence

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Behind the Top Employer Badge:
Investing in Skills That Keep GA Safe

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within the oversight system. Effective oversight depends on inspectors and specialists who understand operational realities, recognise emerging risks and can intervene early enough to prevent accidents. Retaining institutional knowledge while continuously upgrading technical capability becomes particularly important as aircraft technology, training environments and operational pressures evolve.

This capability supports the SACAA's ongoing accident-reduction priorities within general aviation, particularly in areas where accident trends historically remain elevated. These include loss of control in flight, controlled flight into terrain, weather-related decision-making, human factors and maintenance-related risks. Strengthened oversight of flight training organisations and maintenance environments, combined with improved occurrence reporting and data-driven analysis, enables more targeted safety interventions and more effective risk-based surveillance across the sector.

Director of Civil Aviation Ms Poppy Khoza said the recognition reflects a deliberate strategy to build and sustain the expertise that underpins aviation safety.

"Aviation safety is knowledge intensive. Retaining experienced professionals strengthens our ability to identify hazards early, apply appropriate oversight and support the industry in maintaining safe operations. Equally important is continuously upgrading the skills of those already in the system, because aviation risks evolve alongside technology and operations," she said.

For pilots and operators, the practical implication is a regulator better positioned to provide credible oversight, consistent technical guidance and informed safety and security promotion. Institutional stability also supports more predictable regulatory processes, improved engagement with industry and enhanced confidence in safety interventions.

Khoza added that while the recognition is an important milestone, its real value lies in what it enables.

"Our people are the foundation of aviation safety in South Africa. Investment in their development, capability and retention translates directly into safer skies for all users of the aviation system, including the general aviation community."

In a sector where human competence remains the primary safety barrier, recognition as a Top Employer is more than an organisational accolade. It is an indicator of the strength behind the regulatory system and ultimately, an investment in accident prevention.

GENERAL AVIATION

SAFETY ALERT

Avoid the Fatal Flying Trap of being a Rusty Pilot in a Rusty Plane

By Johan Lottering of International Air Affairs

Resuming flying after a long period of inactivity presents special challenges and requires diligent precautions. The rule of doing three landings each ninety days before carrying passengers is not enough to safeguard a rusty pilot flying a rusty aircraft. You need special brush-up training in all kinds of emergency situations that can occur to be at your very best. Here are a few pointers

The first thing to remember when preparing for your next flight is that it is always better to be a day late in this world than a second too soon in the next

I have learned this valuable lesson from the legendary Mr. Gert de Klerk at Wonderboom Airport. It ultimately comes down to a simple truth: 'If you have time to spare, go by air'

HERE ARE A FEW MORE TIPS THAT MAY HELP PREVENT PILOTS FROM BECOMING PART OF AN ANNUAL ACCIDENT STATISTIC

FATAL FLYING TRAP NO. 1

Never presume an aircraft that has been stationary for a long time to be airworthy, despite being within the Mandatory Periodic Inspection (MPI) calendar limits. An engine that has not been run for a few weeks will have 'drip-dried' on the inside from the protective film of oil over its metal parts - including but not limited to big-end bearings, cam shafts, crank shafts and cylinder walls. In a splash-lubrication crank case like Lycoming and Continental engines the first start can be very abrasive. The cylinder walls could have become pitted due to hygroscopic oxidation

Most crank cases have ports through which oil, under pressure, can be force-fed or the spark plugs can be removed and the engine turned by hand with the magnetos off, although not ideal. It can also be cranked with the starter without plugs till there's an oil pressure indication - not ideal but better than nothing. Rather ask an engineer to carry out these tasks

Oil seals might have become dry, battery chemicals might have broken down into basic elements, diaphragms could have become brittle, etc. Old fuel must be drained! The algae or fine foreign materials could clog fuel injectors or carb jets.

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Avoid the Fatal Flying Trap of being a Rusty Pilot in a Rusty Plane

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AVOIDING FATAL FLYING TRAP NO. 2

Underestimating the effects of environmental conditions like high Density Altitude (DA) or bad weather can be lethal. Remember, each degree Celsius deviation above the International Standard Atmosphere (ISA) causes the air to be effectively 120 feet higher or more 'rarified' and each Hectopascal below standard reduces density by another 30 feet. The compounded effect of not having a cool early-morning departure could result in the plane or helicopter under-performing and being effectively overloaded and unable to maintain a safety height.

The same approach in terms of Indicated Airspeed (IAS) will result in a higher True Airspeed (TAS) at high density altitude (DA) and consequently a higher groundspeed. This increases kinetic energy and momentum, which in turn require- longer stopping distances and raises the risk of runway overruns.

Pilots operating piston twins must also ensure that if a single-engine service ceiling can be maintained in the event that one engine becomes inoperative during or after take-off.

There are multiple considerations to take into account but the principle is simple, whether flying a twin or single-engine aircraft, leave that extra baggage behind if you can't comply with take-off performance requirements. Leaving baggage behind won't kill anyone but operating an aircraft that is effectively overloaded might!

If you are concerned about maintaining a safe climb gradient or adequate terrain clearance, consider conducting a circling climb. Do as many circuits as necessary to reach a safe altitude. The extra fuel used in climbing to a safe height may be the best investment you'll ever make

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GENERAL AVIATION SAFETY ALERT

Avoid the Fatal Flying Trap of being a Rusty Pilot in a Rusty Plane

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FATAL FLYING TRAP NO. 3

Nobody needs to be anywhere if it means putting lives at risk. If you do not have an Instrument Rating (IR) do not attempt to fly into clouds. Spatial disorientation can occur very quickly with potentially catastrophic consequences. Even with modern avionics such as GPS and autopilot systems, severe turbulence and adverse weather conditions can exceed the capabilities of both the aircraft and its automation.

Pilots should also avoid attempting to fly low in the 'wedge' between rising terrain and a lowering cloud base. This situation can rapidly reduce escape options and significantly increase risk.

Do not push the limits! It is simply not worth it.

FATAL FLYING TRAP NO. 4

Extreme Flying is not the same as Aerobatic Flying by an expert and has claimed far too many lives. I stopped counting after 105 safety talks and presentations a few years ago. Some get it. Some never will.

After attending far too many memorials of fellow-aviators I would rather offend a few by showing wreckages like these than lose them to the accidents that cause them. I have heard some argue images like these don't sell magazines. They put people off. Well, they can't see it if they're not with us anymore. Here's what a former colleague said: In my eleven years as accident investigator, I had never once come across a fatal accident in which everyone who'd known the deceased had ever failed to tell me what a good and safety-minded pilot he or she used to be.'

FATAL FLYING TRAP NO. 5

'Over-confidence, complacency, or arrogance? '**Slapgat**, **Windgat** or **Hardegat**,' a former Director of Civil Aviation coined the old Afrikaans Air Force expression at a GA safety function.

Please avoid showing off by flying low level or into canyons, along rivers, etc. as the high-tension lines that cross have invisible suspension lines above.

The so-called 'bye-bye beat-up' or a high-speed low-level fly-past followed by a steep pull-up can cause the airspeed indicator (ASI) to over-read, rapidly increase G-loading and lead to a high- speed whipstall with an uncommanded roll to an inverted attitude.

Extreme flying is not the same as a planned, carefully executed aerobatic manoeuvre performed by a properly trained and well-rehearsed pilot. Conventional aircraft are also not designed with the control surface deflection limits or structural strength required to withstand G-forces associated with such manoeuvres.

For more information please feel free to contact me at info@iaamag.co.za or WhatsApp +2782-550-3665.

ABOUT THE AUTHOR

Johan Lottering is the Senior Editor of **International Air Affairs**. He spent six years as the Examinations Moderator for pilot licencing at the SACAA. He played a constructive and sometimes leading role in compiling General Aviation safety initiatives. During his aviation profession he was mostly involved in the business side, involved with sales, insurance, training and charters. He held an ATPL and accumulated over 6,500 flying hours of which about 3,000 as an instructor. He has written three books about aviation and has a keen interest in promoting safety matters.

Vortex Ring State vs. Settling with Power:
Understanding the Difference and Staying Safe

By Dave Gove

In the complex world of helicopter flight, few aerodynamic conditions generate as much confusion and risk as Vortex Ring State (VRS) and Settling with Power. These two terms are often used interchangeably, but doing so can mask important distinctions. Understanding their differences is crucial for pilots, safety officers, and aviation students alike. Both phenomena can lead to catastrophic outcomes if mishandled, but they arise from different causes and require different recovery techniques.

This article aims to clarify the differences between VRS and Settling with Power and explore the conditions under which each occurs and provide clear guidance on how to avoid and recover from these potentially fatal flight regimes.

WHAT IS VORTEX RING STATE (VRS)?

Vortex Ring State occurs when a helicopter descends into its own downwash. This creates a ring shaped pattern of vortices around the rotor disk causing disturbed airflow, increased recirculation and drastically resulting in a reducing lift. The result is a turbulent self sustaining flow that the helicopter cannot easily escape without deliberate pilot action.

Conditions Leading to VRS:

High rate of descent (typically more than 300 feet per minute)	Low or zero forward airspeed (usually below 10 to 30 knots)	Moderate to high power applied

The paradox of VRS is that more power doesn't help! Applying more collective can actually make the situation worse by intensifying the turbulent flow, recirculation and increasing the descent rate. Symptoms include uncommanded roll and pitch oscillations, vibrations, and an overall loss of control responsiveness.

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RECOVERY FROM VRS

The traditional recovery method involves lowering the collective to reduce the descent rate and applying forward cyclic to gain airspeed to fly out of the vortex. A more modern approach, the Vuichard Recovery Technique, has gained popularity for its rapid effectiveness. This method involves simultaneously:

- Applying lateral cyclic (usually right in counterclockwise rotor systems as viewed from above).
- Using coordinated pedal input to maintain heading.

This lateral maneuver helps the helicopter move out of its own downwash quickly and with minimal altitude loss.

WHAT IS SETTLING WITH POWER?

Settling with Power is a broader term describing any situation where a helicopter continues to descend despite power being applied. While VRS is one cause of settling with power, not all settling with power scenarios involve vortex formation. In many cases, the issue is not disturbed airflow but insufficient power to maintain or arrest the descent.

Causes of Settling with Power (Non-VRS):

- Operating at or near maximum gross weight
- High-density altitude environments (e.g., hot and high conditions)
- Tailwinds or poor wind direction on approach
- Over pitching the rotor system
- Poor approach planning or steep vertical descent profiles

KEY DIFFERENCES BETWEEN VRS AND SETTLING WITH POWER

ASPECT	VORTEX RING STATE	SETTLING WITH POWER
Primary Cause	Descent into own downwash, creating vortices	Power applied but insufficient for conditions
Airflow Behavior	Turbulent, recirculating flow through the main rotor	May be normal or slightly disturbed
Rotor Efficiency	Severely degraded due to vortex ring formation	May be normal but power limited
Airspeed	Low or near zero	Can happen at various airspeeds
Corrective Action	Lateral or forward movement of cyclic to exit vortex	Reduce load, gain airspeed, or autorotate

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Vortex Ring State vs. Settling with Power: Understanding the Difference and Staying Safe

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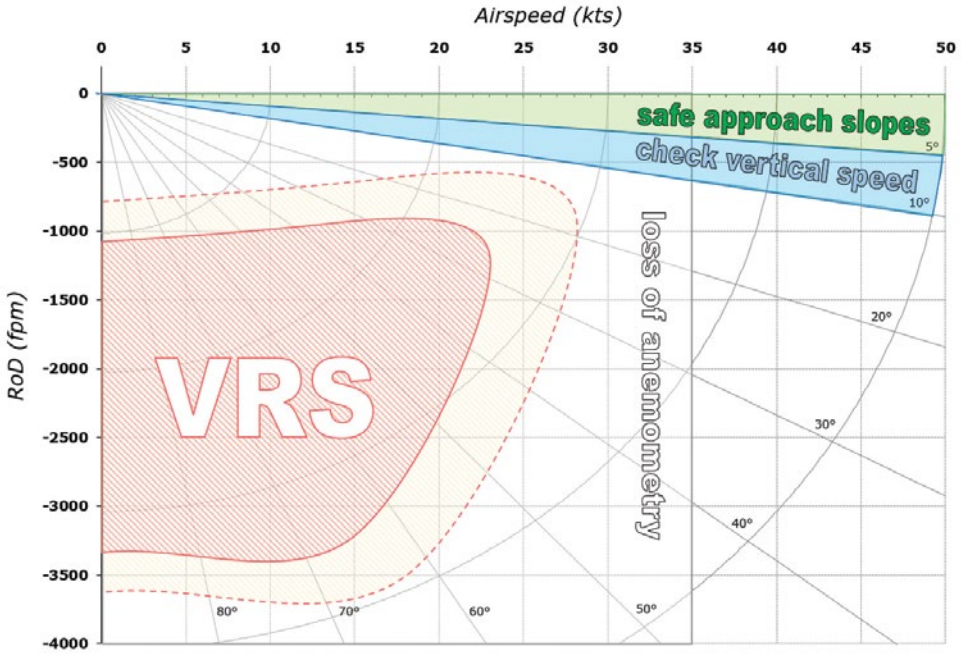
REAL WORLD RELEVANCE

Both VRS and Settling with Power are responsible for numerous helicopter accidents, especially during hover operations, confined area approaches, or downwind landings. In many military and civilian flight schools, VRS is now explicitly trained as part of advanced emergency procedures. The U.S. Army and other defense organizations have studied it extensively as it contributed to fatal accidents during operations in mountainous terrain or urban landing zones.

PREVENTION IS KEY

As always in aviation, the best recovery is prevention. Pilots should:

Avoid steep, vertical descents at low airspeed unless absolutely necessary.	Monitor rate of descent, especially during hover or approach.	Maintain awareness of power margins, especially in high-altitude or hot-weather conditions.	Use wind to their advantage – approach into the wind whenever possible.	Practice recovery and correct VRS procedures during recurrent training, refer to the Pilot's Operating Handbook (POH) for the helicopter you are flying.



CONCLUSION

While often mentioned together, Vortex Ring State and Settling with Power are not the same thing. VRS is a specific aerodynamic state involving recirculating airflow through the rotor, while settling with power can include any descent where power is applied but ineffective. Misunderstanding the distinction can have fatal consequences.

With proper training, situational awareness and respect for helicopter limitations, pilots can confidently recognize and recover from both condition or better yet, avoid them entirely.

ABOUT THE AUTHOR

Dave Gove is an aviation safety specialist with extensive experience in flight operations, regulatory oversight, and safety systems management. Passionate about building proactive safety cultures, Dave has contributed to training, auditing, and mentoring aviation professionals across multiple sectors of the industry.

VNE – The Red Line You Should Never Cross

By Dr. Robert Clark

Let's be honest. How many times have you been tempted to go, or physically gone beyond VNE (the never exceed velocity of an aircraft)? Just attend a braai at the airfield, add a few beers, and you will have people discussing their experiences of exceeded VNE! They are also the guys who normally land up in hospital with a broken wrist from all the'high fives'they get at the braai. Before we get overly excited and congratulate these individuals, let's take an honest look at what VNE actually is and the perils associated with it.

The acronym VNE suggests that you should not go there. It states "NEVER EXCEED" for a very good reason as the aerodynamic forces before, and beyond VNE can have detrimental effects to the aircraft, and dire consequences for you and your passengers. Structural damage is common beyond VNE, and no pilot wants that headache to deal with in flight.

So, what is VNE?

Some people believe it is 110% of the cruise speed and, therefore, you are safe to exceed the VNE in clean air. That cannot be true as the Jabiru 430 cruise speed is 120 knots, and the VNE is 140 knots.

Research however, would suggest that there is no correlation between cruise speed and VNE.

VNE, according to literature, research suggests that this velocity is approximately 10% less than the maximum dive velocity at which the test pilot did not experience buffeting severe enough to cause structural damage.

VNE indicated on the ASI

If this is true, why don't we descend at VNE as we know that the aircraft has certainly gone faster during the testing phase? There are multiple reasons for not doing this, but let's just look at a few:

- I believe the **FIRST REASON**, and certainly the easiest to understand, is that the red line on your air speed indicator must be telling you something. The colour red normally means stop what you are doing or there will be consequences! In the case of your aircraft, it will most probably will be structural damage. We also associate red with danger. Drive through a red traffic light a few times and your luck will eventually run out. Likewise,

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VNE – The Red Line You Should Never Cross

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exceed VNE once or twice, and your luck will run out! The warning of imminent danger could be an aerodynamic flutter, a high-speed whistle or the instantaneous destruction of the aircraft. When this happens, you lose your status as the PIC (Pilot in command) of your aircraft and become a passenger of a doomed fuselage without wings that is going to crash and burn.

- The **SECOND REASON** is flutter. Have you ever watched our national flag in a nice steady breeze? It is stable and a beautiful sight but what happens when the wind speed increases? Things start to get unsteady and flutter starts to set in motion, which results in uncontrolled oscillations of the flag. The same phenomenon happens to your aircraft. When you approach or exceed VNE, the aerodynamic forces can induce a flutter that could be destructive in nature. Just go onto the internet and search for aerodynamic flutter. The videos are horrifying! Who on earth wants to be in an aircraft with the horizontal stabilizer flapping around uncontrollably?

ARE YOU SAFE TO DESCEND AT A SPEED JUST BELOW VNE? WELL, LET'S UNPACK THIS AND YOU DECIDE FOR YOURSELF:

When an aircraft is tested for VNE prior to certification, it is brand new and in mint condition. It is probably true that most aviators don't fly brand new aircraft. What about your 25-year-old aircraft that has been in a training school for 20 years and withstood the abuse of student pilots, and flight instructors demonstrating flight manoeuvres that are not common in everyday flight? Do you still apply the same assumption to VNE? Materials do change when subjected to stress, especially when these stresses exceed the elastic deformation limit. Are you still prepared to stress your aircraft as if it was brand new?

VNE testing for VNE is done in a controlled manner, with a test pilot who has a parachute and in perfectly calm conditions and in a brand-new aircraft. Have you thought what happens if you are approaching or exceeding VNE and you encounter turbulence or a gust of headwind. Just stop what you are doing and think about it. What you think is a good idea with the wind whistling in your ears could turn into a catastrophic event in half a second. Just think about that. Your entire life of working hard for a better future, raising a family, spending time with loved ones, having a spouse, having family holidays in Thailand, owning your own aircraft, living on a farm, being blessed with grandchildren- all that ends in half a second. Is it still such a good idea?

- The **THIRD REASON** is that there is no reason to ever go near VNE is if you are flying to your favorite destination for a weekend away with the family, start the descent earlier. Who really cares if you are not the first plane to arrive at the destination? It is not a race and should never be seen as such. Aviation should be fun, not a competition to see who lands first by pushing the flight envelope of the aircraft.

I urge you to reconsider your actions if you have consciously exceeded VNE. The problem when you approach VNE or the exceedance thereof is that the associated aircraft failure is normally instantaneous, with dire consequences. Who wants to be 5 000 ft AGL (above ground level) without wings, knowing that the next 20-30 seconds are going to be a totally helpless and terrifying situation?

There is also the debate whether VNE is based on IAS or TAS. The answer seems to be type specific. Before your next flight, ensure you know what is applicable to your aircraft before you land up on the wrong side of VNE.

As a responsible aviator, plan your descent and consciously avoid VNE. Buy a faster aircraft if speed excites you but don't be irresponsible and exceed the flight envelope of your aircraft.

ABOUT THE AUTHOR

Dr Robert Clark is a private pilot based in eMalahleni, Mpumalanga. He has 500 hours' flying experience, mostly on non-type certified aircraft. Besides having a love for aviation, he is passionate about aviation safety and operating aircraft within the manufacturer's specifications. Dr Clark has been a regular contributor to SKYwatch since its inception.

The Safety Risks of Relying on Google Earth KMZ Files for Drone Operations

by Jonathan Bates

Safe drone operations, whether for professional work or weekend recreation, should start with a clear understanding of the airspace at the intended location. Many drone pilots use Google Earth KMZ files for this purpose. The KMZ files provide airspace overlays that make it easy to visualise restricted or controlled zones, which can be very useful during initial planning and spatial awareness. However, relying solely on KMZ files as the primary source of airspace information introduces real safety risks.

The key concern is that KMZ files are static snapshots at a specific point in time i.e. time of upload. While they may be created using reliable data, they are not continuously updated and may therefore become outdated.

Airspace, by contrast, is dynamic. Controlled zones shift, new restricted areas are declared, and temporary no-fly zones may be issued at short notice.

As a result, KMZ overlays may fail to reflect:

Temporary flight restriction areas or NOTAM changes.	Recent changes to controlled or restricted areas.	Newly implemented drone-specific regulations.

The use of outdated KMZ files can therefore lead to unintended safety infringements. A drone pilot may unknowingly launch into restricted airspace, creating conflict with manned aircraft or breaching regulatory requirements. For commercial operators, these types of infringements could result in fines, license suspensions, or reputational damage. For recreational users, the consequences may include penalties or worse- a serious safety incident.

Aviation-approved airspace data is maintained through official channels such as Aeronautical Information Publications (AIP) and the NOTAM system. These sources are systematically updated to ensure accuracy and reliability. Professional drone platforms that integrate official data provide operators with near real-time, situational awareness that goes beyond static visualisations and therefore act as an additional safeguard to drone operations.

While official airspace data sources may appear less accessible to recreational drone users, simplified and user-friendly platforms are available to make this information easily consumable to non-aviation professionals. For the most part, the KMZ files are adequate to the recreational flyer, but there are times where more detailed information may be required.

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The Safety Risks of Relying on Google Earth KMZ Files for Drone Operations

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In summary Google Earth KMZ files are not inherently unsafe, and they remain a helpful visualisation tool for broad planning. The caution is that these files should not replace aviation-approved data, especially in the commercial setting or where larger more complex drones are operated. Safe operations depend on combining visual tools with official, updated sources of airspace information as well as the appropriate levels of mission and operations planning. Whether you're capturing aerial footage for a client or flying recreationally over a park, the principle is the same, use KMZ files for visualisation, but trust aviation data for decision-making. It's the difference between convenience and compliance, and this could prevent a serious safety incident.

Safe Drone Flying and Why Planning Software Helps – But Can't Do It All!

Flying drones for commercial purposes has become a big part of industries such as agriculture, construction, security, and surveying. As drone operations increase in both frequency and complexity, ensuring safe and compliant flights is more important than ever. One of the effective ways to achieve this is through good mission planning- and this is where drone planning software plays a significant role.

Today's planning and compliance platforms make it easier to prepare for flights by consolidating critical information in one place and supporting overall flight readiness and situational awareness for both the pilot and operator.

These software planning tools primarily assess the following:

- Check whether the proposed operational areas fall within restricted or controlled airspace information.
- Provide alerts to the operator or pilot if the proposed flight plan may violate any aviation rules.
- Keep records of missions and approvals for both the pilot, aircraft and operator.
- Supporting workflow management, operational processes and approval chains to reduce the risk of omissions.

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The Safety Risks of Relying on Google Earth KMZ Files for Drone Operations

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This level of automation may save time, reduce administrative errors, and provide greater confidence that flights run in accordance with the regulations and the Operations Manual of the UASOC.

While these platforms are valuable tools, they do not, however, guarantee safety. They can't spot every risk in every scenario and are usually predictive rather than reactive or "live". Factors such as sudden weather changes, newly installed obstacles (for example, power lines) unexpected airspace restrictions or human factors such as pilot distraction can still significantly affect operational safety. Flight planning software is there to support good decision-making and not replace it. The responsibility for safe operations always rests first with the remote pilot and secondly with the operator.

In South Africa, the Civil Aviation Authority (SACAA) allows operators to use planning software, but there are conditions.

One key requirement is that the use of software must be referenced in the Operator's Manual (OM). This ensures the use of the software is part of the official approved procedures of the UASOC, and not just a 'nice-to-have' tool.

If operators are using planning software for commercial drone operations, then the following should be implemented:

1. Ensure the platform is formally listed in the Operations Manual (OM).
2. The flight planning team and pilots are properly trained on how to use the platform/s.
3. The software is utilised as an aid, not the only safety measure for flight planning and awareness.
4. Continuously review and validate risks to ensure alignment with the dynamic operational environment.
5. As operations and software evolve, these are kept in sync.

In summary, drone planning software is a great tool for safer and smoother operations. It helps catch risks, ensures compliance, and keeps flight operations and USOC processes organised, however, it is not a substitute for human judgement, training and responsibility. An operation that combines technology with good training, clear procedures, and a strong safety culture, can make the most of these tools while still ensuring that safety ultimately remains where it belongs, and that is in the hands of the drone pilot.

No Ground School, No Exam: A Turning Point for South African Student Pilots

By Angelo Dube

Pretoria, South Africa: On 17 March 2026, the South African Civil Aviation Authority (SACAA) issued a notice of compliance that, at first glance, appears administrative. It is anything but. Buried within what reads like a routine reiteration of examination requirements is a quiet but significant shift in how aviation knowledge is accessed, validated, and ultimately controlled in South Africa.

This is not just about exams. It is about who gets to sit in the cockpit of opportunity.

THE RULE, AS IT STANDS

The notice, issued by the Personnel Licensing department, aligns with SA-CATS 61.01.10(4)(a)(iii) and applies across the board – pilots, cabin crew, air traffic controllers, and maintenance personnel. The basics remain unchanged. Arrive 45 minutes early. Bring your identification. Produce proof of booking.

But then comes the line that changes everything:

"In the case of an initial writing of a subject, proof of having undergone the required knowledge instruction training by the Chief Ground Instructor or alternatively his or her designee of a Part 141 approved training organisation".

That single paragraph does one thing decisively: it closes the door on self-study as a pathway to examination.

FROM SELF-STUDY TO STRUCTURED INSTRUCTION

For years, self-study has been the quiet enabler in South African aviation. It allowed determined students, often with limited financial means, to work through the syllabus independently, master the content, and present themselves for examination.

It was not perfect. But it was accessible. This new requirement replaces that model with a compulsory, structured pathway: ground school first, exam later. No exceptions.

From a teaching and learning perspective, the move has merit. Framed through Bloom's Taxonomy, one could argue that structured instruction pushes students beyond rote memorisation into deeper cognitive engagement – application, analysis, and synthesis. Aviation demands this. Safety depends on it.

But pedagogy is only one side of the story.

THE COST OF COMPLIANCE

The other side is cost. Ground school is not free. It never has been. What this notice and the strict enforcement of the pre-exam requirement do is transform ground school from an option into a gatekeeper. And gatekeepers, in South Africa, must always be interrogated.

A glance at the SACAA's latest figures tells a familiar story. The aviation sector remains skewed along racial and gender lines. There are currently 16620 licensed South African pilots in the country. Of these, 12070 are white males and 1030 females, followed by 1727 African males and 916 females; 346 Indian males and 78 females; and 354 Coloured males

and 99 females. In aggregate, 13100 (approx. 79%) are white pilots compared to a collective of 3520 (approx. 21%) black pilots (African, Coloured and Indian) – a true reflection of what the legacy of the job colour bar system has done over the years. On the gender spectrum, 87% of pilots are males, and 13% female.

These are not just statistics. They are the afterlife of exclusion. South Africa's aviation industry was built in the shadow of the job colour bar – an architecture of exclusion that reserved skilled professions for a select few. The effects linger. Access is uneven. Entry is expensive. Against that backdrop, any additional cost, no matter how well-intentioned, lands differently depending on where you stand.

For some, it is a minor inconvenience.

For others, it is the difference between entry and exclusion.

INVISIBLE BARRIERS, REAL CONSEQUENCES

Barriers in modern systems are rarely explicit. No one stands at the door and says, "you may not enter." Instead, the system adjusts itself – incrementally, procedurally – until participation becomes uneven.

Mandatory ground school is one such adjustment. It is defensible. It is rational. It is globally aligned. But it is not neutral.

This is not a uniquely South African phenomenon. The International Civil Aviation Organization (ICAO), through its NGAP programme, has long acknowledged barriers to entry in aviation, particularly for women. The lesson is clear: access must be actively managed, not assumed.

GLOBAL STANDARDS, LOCAL REALITIES

To be fair to the regulator, this move does not occur in isolation. The European Union Aviation Safety Agency (EASA) has long required formal ground instruction before examination. In that sense, SACAA is aligning itself with an established global standard. And there is logic to this. Unlike universities, the SACAA examination system does not operate within semesters. There are no year marks, no continuous assessments, no structured academic progression. The exam is the assessment.

In such a system, the requirement for proof of instruction becomes a proxy for academic engagement. It assures the regulator – and the industry – that the candidate has at least been exposed to the full scope of the syllabus under guided conditions.

That matters. Particularly in a safety-critical environment.

THE RISK NO ONE IS TALKING ABOUT

But there is a practical issue lurking beneath the surface. How much ground school is enough? In the absence of prescribed notional hours, aviation training organisations are left to determine this themselves. In an industry where instruction is billed per hour, the incentive structure is obvious.

More hours mean more revenue. Without clear regulatory guidance, the risk is not hypothetical. It is structural. Students may find themselves navigating inconsistent – and potentially inflated – training requirements across different schools.

If the intent is standardisation, then standardisation must extend to how much instruction is required, not merely that it must occur.

A STRONGER LICENCE, A NARROWER GATE?

There is no doubt that this move strengthens the standing of the South African-issued ICAO licence. South Africa has long been regarded as a jurisdiction of high training standards. This development reinforces that perception. It signals rigour. It signals alignment. It signals credibility. It also positions the country as a continental leader in aviation training, particularly within the context of the Single African Air Transport Market (SAATM) and the broader ambitions of intra-African mobility.

The SACAA's own data supports this. A total of 6624 licence holders (inclusive of 5925 pilots) in its system are non-South African, an indication that the market already recognises the value of its certification framework. The question, however, is whether strengthening the licence inadvertently narrows the gate to entry.

WHERE TO FROM HERE?

Regulation, at its best, is a balancing act. It must uphold standards without entrenching exclusion. It must protect the system without pricing people out of it. The SACAA's notice is a step forward in many respects. But it is also a moment that calls for reflection.

- Can the regulator introduce guidelines on notional ground school hours?
- Can there be flexible or subsidised pathways for financially constrained students?
- Can the industry guard against the quiet creep of over-commercialisation in training?

These are not peripheral questions. They go to the heart of what the aviation sector becomes. Because in the end, while aviation is and should be focused on safety and standards, the imperatives of access, opportunity, economic growth and who gets to take flight remain central.

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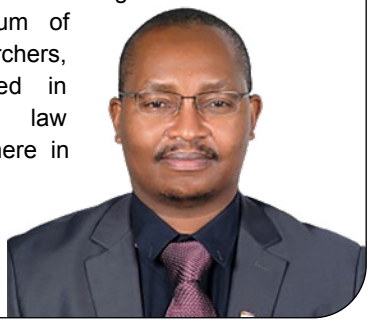

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