

# FOCUS



## *Strengthening Safety With Strong Fundamentals*

JAN 2023 | ISSUE 114

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**SAFETY**  
Mission Success ALWAYS

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# Foreword

*From Head Air Force Inspectorate*

*From left to right: MAJ Ou Dahui (OC "A"), MAJ Jerome Tan (OC "B"), CPT Dallas Ang (QFI), COL Nick Wong Wai Him (HAFI), LTC Chin Kaizu Joe (CO 150), ME5 Andrew Tan (HD CEN), CPT Esmond Wong (QFI) at Cazaux Air Base, France on 12 Jan 2023.*

In any organisation in the world, strong fundamentals are undoubtedly the bedrock to organisational excellence. Even as we push boundaries and develop new capabilities, we can ensure that our RSAF's safety culture will remain strong when we have highly competent airmen set with the mindset of safety ownership. Hence, we must ensure rigorous training to drill strong task and safety fundamentals within each and every RSAF airmen. The articles in this issue of **FOCUS** reflects how our personnel are able to strengthen safety in the RSAF by building and maintaining such strong fundamentals.

We start this issue with MAJ John Sng from Standards SQN sharing a personal flying incident he experienced, and how his knowledge, skills and experience acquired over many years of flying training helped him avert a potential disaster when he experienced a landing gear malfunction in flight.

In the second article, ME5 Yogesh Mehta from 708 SQN shares the training that the Full-Time National Servicemen (NSFs) in 708 SQN go through. As these NSFs are the bedrock of the Air Base Sustainment (ABS) Squadrons, it is crucial that they are provided the right training to uphold fundamentals and standards so as to ensure safe ground operations in the air bases.

MAJ Desmond Tan from 149 SQN later describes in the third article his experience at last year's Exercise Pitch Black 2022 (XPB22), and how having key fundamentals such as strong flying skills, good system knowledge and thorough mission planning and preparation allowed the aircrew to further hone and expand their competencies safely in the three-week long multinational Large Force Employment (LFE) exercise.

Lastly, ME2 Mervin John from 815 SQN shares how falling back on his strong maintenance fundamentals allowed him to detect and discover an error where the panels in the cockpit of the F-16 aircraft were wrongly installed, thus preventing a potential incident from occurring. His discovery led to a review to ensure that the system checks of the F-16 Mid-Life Upgrade programme were strengthened to prevent similar errors in future.

From these articles, I hope that you can see the importance of building and maintaining strong fundamentals, and be inspired to revisit your basic task and safety fundamentals. Your contribution to strengthening safety in the RSAF will allow us to continue achieving **Mission Success, Safety Always** for many years to come.

**COL Nick Wong Wai Him**   
Head Air Force Inspectorate

# Keep Calm and Keep Cool When Things Get HOT



**MAJ John Sng**  
Qualified Flying Instructor  
(Fixed Wing Standards Flight)  
Standards SQN

A long time ago, when I was a young pilot trainee, my instructor drilled a simple yet powerful concept into my head – Aviate, Navigate and Communicate (ANC) - where should anything happen out of the norm, you focus on flying the aircraft first, making sure it is flying to the right destination, before finally informing someone of your situation. After becoming a Qualified Flying Instructor (QFI), I educated my trainees on how ANC would guide their actions, especially in time critical scenarios such as emergency handling. On

24 Feb 2022, I had to put what was taught to me and what I had constantly preached to my students into action – I had to keep calm and ANC.

It was a beautiful day for flying – the winds were calm and the skies radiated blue above a broken cloud layer at 2,000 to 3,000 ft. I was the flight tester in the front seat of the M-346, conducting a Final Handling Test (FHT) sortie. The backseat was occupied by CPT Lee Ping Liang, a Flying Instructor Course (FIC) candidate who was one sortie away from attaining his QFI status. I was pleased with the progression of the sortie. CPT Lee had been performing well and we were setting course to return to the air base following a simulated emergency that I administered to assess CPT Lee's emergency handling abilities.



## The Incident

We were 25nm northwest of Cazaux Air Base on a descent passing 6,500ft as part of the standard recovery track via radar vectors. CPT Lee was in control, handling the simulated emergency and coordinating with Air Traffic Control (ATC) for the recovery. Suddenly, the Master Caution and right hydraulic low level (R HYD LO LV<sup>1</sup>) caution light illuminated with the associated alert tones.

Keeping calm and falling back on the concept of ANC, I took over the controls of the aircraft and quickly assessed that the engine parameters were normal and that the aircraft was still perfectly flyable (Aviate). We then requested ATC for clearance to track over the ocean to steer clear of the populace (Navigate) and informed them of our hydraulic malfunction (Communicate). We checked for the right hydraulic pressure indication and observed the pressure gradually reduce from 207 to 188 bar<sup>2</sup> - indicating a potential leak in the right hydraulic system. Once established over the waters, we quickly retrieved the emergency checklist as reference for our emergency procedures. I subsequently informed the Squadron Executive Officer (SXO) of the situation, verbalising the cautions displayed, the right hydraulic pressure indication and

stated our intentions to return to the air base via a straight-in approach to land. We were now approximately 15nm north-west of the airfield. A MAYDAY call was declared in accordance with the emergency matrix and we commenced to set up for a 10nm straight-in approach, with the right hydraulic pressure stabilising between 188 and 193 bar.

With my knowledge of the hydraulic system, I was cognisant that the right hydraulic system on the M-346 supplied hydraulic fluid to the normal landing gear extension, nose wheel steering and airbrake. With the right hydraulic system still within the normal operating range, I determined that landing gears could still be lowered via normal means, and anticipated that the right hydraulic low pressure caution<sup>3</sup> (R HYD LO P) and other cautions associated<sup>4</sup> with a right hydraulic low pressure could subsequently illuminate. I began to configure the aircraft for landing, lowering the landing gear handle in the process. As expected, the R HYD LO P and its associated cautions illuminated but the right hydraulic pressure abruptly snapped to indicate 1 bar. Scanning our landing gear position indicator, we observed only two greens with the nose landing gear ostensibly in an unsafe position. Nevertheless, we kept our calm and ANC.



<sup>1</sup> The R HYD LO LV caution will illuminate when the level of fluid in the right hydraulic system drops below one litre. The normal hydraulic quantity is between 5.1 – 6.2 litres.

<sup>2</sup> The normal hydraulic pressure range is from 161 – 216 bar.

<sup>3</sup> The R HYD LO P caution comes on when pressure in the right hydraulic system drops below 100 bar.

<sup>4</sup> Associated cautions include the airbrake, normal landing gear not available and steer not available cautions which indicate the loss of systems due to the loss of the right hydraulic pressure.

Maintaining our composure and flying the aircraft (Aviate), we quickly formulated a game plan to request to hold in Calamar (Navigate). Calamar is a training area directly south of the airfield and would provide a suitable area for a chase aircraft to carry out a visual inspection and to run through the associated checklist procedures. ATC was prompt to accede to my request. I also informed the SXO of the unsafe landing gear situation and a chase aircraft was coordinated for visual inspection (Communicate). In addition, we recommended the SXO initiate a recall of the other aircraft airborne as a precautionary measure considering the unsafe landing gear situation that we had and other trainees still airborne in the area.

We proceeded to complete the R HYD LO P checklist while we waited for the chase aircraft to join up for visual inspection. After establishing in Calamar, we also made a weather assessment - clouds were scattered and broken between 2,000ft to 3,000ft. We opted to maintain an altitude of 1,500ft to 2,000ft to avoid clouds and to maintain sight of the ground. Flying a racetrack pattern, we ensured our ground track avoided populous areas and provided for a long straight leg in anticipation of the emergency landing gear extension, which required a straight and level flight. The chase aircraft eventually joined up and reported that the nose landing gear appeared to be extended halfway, with no visible signs of a hydraulic leak. Within the cockpit, we reviewed the emergency landing gear extension checklist and refreshed ourselves on the required actions for emergency landing gear extension. We kept calm and ANC.

Once stabilised in a straight and level flight, we ensured that we maintained below the emergency landing gear speed limit of 200 knots (Aviate) while keeping an eye out for the area boundaries (Navigate). After informing the chase of the impending activation of the emergency landing gear handle (Communicate), I verbalised the keywords that were drilled into me during

my training (Identify, Verify, Activate) and proceeded to pull the emergency landing gear handle. To our dismay, there was still no change to the landing gear indications - the nose landing gear (NLG) still indicated that it was unsafe. The chase aircraft subsequently verified that the NLG did extend slightly but it was still not fully extended.

At this point, I told myself to trust in my training - I had practiced handling similar emergencies many times in the simulator before and now was the time to put my training experience into action. We proceeded to apply positive and negative Gs in an attempt to lower the NLG. Alas, our efforts proved futile. Staying optimistic,



we analysed the situation and concluded that a controlled ejection was not necessary as the aircraft was in a configuration that permitted an emergency landing.

We subsequently adjusted fuel in preparation for the landing with an abnormal landing gear configuration. During that time, we reviewed the landing with an unsafe gear emergency checklist and verbalised the actions required post-landing. These actions were time-critical but were not boldface actions<sup>5</sup>. They included shutting down the engines and closing the fuel shut-off valves prior to egressing the aircraft. We verbalised and practised these vital actions several times inside the cockpit before commencing

the approach. We continued to keep calm and ANC, putting faith in the countless emergency drills we had done in training. We proceeded with the approach in accordance with the checklist and the rest was history with myself and CPT Lee landing safely unharmed.

Looking back, a scene from the Top Gun movie came into my mind, where Tom Cruise also faced a challenging time landing a battle-damaged F-14 without a NLG onto an aircraft carrier. Similar to the movie scene, I attributed our safe landing to keeping calm and running through multiple iterations of ANC, not allowing adversity and fear overwhelm and consume our thought processes, with each step guided by our intimate knowledge of the aircraft systems, coupled with our strong flying and emergency handling fundamentals.

### *Keep Calm...*

The “fight-or-flight” response refers to a physiological reaction that occurs in response to a perceived threat or harm. We may also be familiar with similar terms such as “startle response” and “acute stress response”. As humans, we are wired to react instinctively to powerful stimuli, like the pain of touching something hot, or the shock of hearing loud bangs on what would otherwise be a routine flight. Our instinctive and startle reaction to unexpected events is a deep-seated and reflexive action rooted in our biology.

Such a flight, fight, or freeze response, however, is not helpful during an emergency. Aircrew are susceptible to the startle response when faced with unexpected emergencies - the heart starts to race, the adrenaline increases, breath quickens, and stress levels go up. When stress levels exceed our ability to cope, problem-solving abilities become sluggish, decision-making skills are impaired, and situation awareness gets fuzzy. The chances of making a mistake, or initiating an

<sup>5</sup> Boldface actions refers to a prescribed set of actions that aircrew would need to memorise and apply immediately when encountered during critical emergencies in order to recover the aircraft safely.

inappropriate response to rectify the situation, increase dramatically. Some pilots may even freeze and essentially do nothing to prevent an eventual crash.

Given the dynamic and fast-paced nature of aviation, I am certain that every pilot has experienced such a startle response before — be it in an actual flight or a stressful emergency simulator sortie. Aircraft emergencies are not the only reason for those adrenaline surges arising from a fight-or-flight response. Other common examples include an unexpected transition from flying in clear blue sky conditions to suddenly encountering bad weather inflight, going blind on your flight lead or falling behind the power curve on your mission.

So how can we manage this reaction in the event of an emergency? Well, we should keep calm and ANC. When you are in the middle of an unexpected event, it is challenging to react calmly and rationally. We need to push ourselves to stop, think, and analyse the situation before reaching a conclusion or act, despite the stress induced by the event.

It is not possible to stipulate the procedure to handle every possible adverse event. Even if we did, the limits of our human memory would preclude us from knowing them all. Nevertheless, aircrew should strive to constantly accrue knowledge and regularly practice their emergency handling to deal with some of the more common emergency scenarios to build sound airmanship. Knowledge and skill are crucial, and one can never go wrong by striving to be mentally and physically prepared for the proverbial “anything”. For any kind of emergency, step one must always be keeping your wits. There is simply no place in the cockpit for the fight-or-flight response that degrades into a panic-stricken, freeze-or-flail flurry of unfocused activity.

Drawing a parallel, the direction to “keep calm and ANC” is, or should be, the first item on your emergency checklist. Panic will only waste

two of your most precious commodities — time and altitude. The concept is simple: stop and take a moment to process what’s happening before you decide or take an action. In some cases, you may simply be a flick of a switch or a turn of some knob away from returning to ordinary flight. Hence, when faced with emergencies, strive to be calm and methodical in your immediate actions and don’t let the startle response overrule sound judgement.

## **ANC - The Basics of Emergency Procedure Handling**

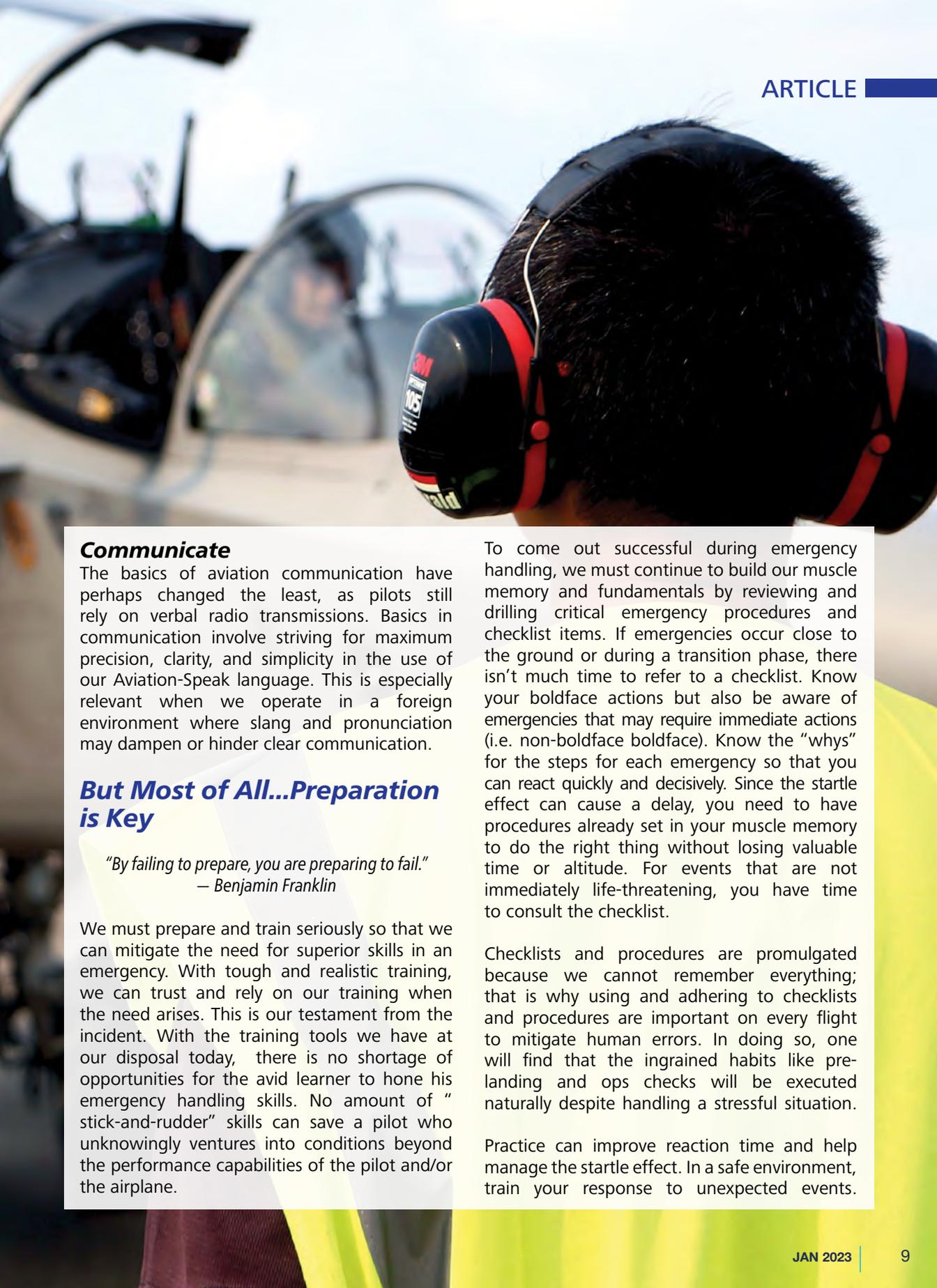
Back to Basics! We can probably agree that aviation’s equivalent of the basics is to *Aviate*, *Navigate* and *Communicate*. Allow me to paint the context for the usage of this adage, to define how one would apply it in today’s complex operating environment.

### **Aviate**

At the most fundamental level, to aviate means to maintain aircraft control. This requires mastery of the aircraft through our stick-and-rudder skills. We do this by striving for attitude, altitude, and airspeed precision on every flight. However, aircrew today also aviate using the remarkably sophisticated avionics that are the hallmark of modern aircraft. The concept of aviate thus includes the “mental airplane” skills to make sense and proper utilisation of the information, avionics and automation management.

### **Navigate**

Navigation has progressed from primitive pilotage, dead reckoning skills and E6B “flight computer” to GPS moving map displays. However, I am still a firm believer that basic pilotage skills - such as clock-map-ground interpretation - are important fundamentals that need to be constantly revisited. We must be proficient and confident in our navigational abilities if and when technology fails. This also applies to HUD-off flying skills.



## **Communicate**

The basics of aviation communication have perhaps changed the least, as pilots still rely on verbal radio transmissions. Basics in communication involve striving for maximum precision, clarity, and simplicity in the use of our Aviation-Speak language. This is especially relevant when we operate in a foreign environment where slang and pronunciation may dampen or hinder clear communication.

## **But Most of All...Preparation is Key**

*"By failing to prepare, you are preparing to fail."  
— Benjamin Franklin*

We must prepare and train seriously so that we can mitigate the need for superior skills in an emergency. With tough and realistic training, we can trust and rely on our training when the need arises. This is our testament from the incident. With the training tools we have at our disposal today, there is no shortage of opportunities for the avid learner to hone his emergency handling skills. No amount of "stick-and-rudder" skills can save a pilot who unknowingly ventures into conditions beyond the performance capabilities of the pilot and/or the airplane.

To come out successful during emergency handling, we must continue to build our muscle memory and fundamentals by reviewing and drilling critical emergency procedures and checklist items. If emergencies occur close to the ground or during a transition phase, there isn't much time to refer to a checklist. Know your boldface actions but also be aware of emergencies that may require immediate actions (i.e. non-boldface boldface). Know the "whys" for the steps for each emergency so that you can react quickly and decisively. Since the startle effect can cause a delay, you need to have procedures already set in your muscle memory to do the right thing without losing valuable time or altitude. For events that are not immediately life-threatening, you have time to consult the checklist.

Checklists and procedures are promulgated because we cannot remember everything; that is why using and adhering to checklists and procedures are important on every flight to mitigate human errors. In doing so, one will find that the ingrained habits like pre-landing and ops checks will be executed naturally despite handling a stressful situation.

Practice can improve reaction time and help manage the startle effect. In a safe environment, train your response to unexpected events.

## ARTICLE

Review “what if” scenarios in your head and mentally walk through your intended course of action. This is done through simulator training sessions and tabletop exercises (TTX). Every emergency simulator sortie is a valuable opportunity to hone your emergency handling skills. One of the biggest benefits of such practice is learning to confront and overcome the natural and human response of “this can’t be happening to me”. Practice makes perfect.

Maintain proficiency by revisiting fundamentals. Poor training in any skill set increases the potential for an undesirable outcome. Just like athletes, aircrew must continually train to attain peak performance. We cannot assume the skills and knowledge acquired a couple of months ago would still be fresh and automatically ready to be called upon when required.

One must also ensure situation awareness. Make sure you know what is going on around you at all times, and that starts from your pre-flight planning. From our incident, knowing that there were trainees who were airborne and the potential of us closing the runway due to our emergency situation, allowed the exercise of good CRM with the SXO, with our proposal to initiate the recall of aircraft. Having awareness of where we were and sound knowledge of the airspace and local region helped us coordinate for an area clear of populace to handle the emergency. We must be keenly aware of what’s happening around us. In short, Perceive, Process, Perform.

Almost anything can happen during a flight. However, if you prepare in advance to manage the startle response and correctly deal with

an unexpected event, it is very likely you will come out ahead.

As I have pointed out, vigilance and preparation will substantially improve one’s chances of a successful outcome. On every flight, use every opportunity to hone emergency handling skills. Plan what you would do if you lost an engine at regular intervals of a flight, from takeoff to landing. Rehearse the flow of checks and commit critical actions to memory so that they become instinctive and methodical. In summary, don’t rely on luck; count on training and preparation to keep your motor running.

### **Conclusion**

Confucius once said, “By three methods we may learn wisdom: First, by reflection, which is noblest; Second, by imitation, which is easiest; and third by experience, which is the bitterest.” We must reflect and learn from the lessons of others so as to not repeat errors. Imitate by revisiting fundamentals be it whether you are a trainee or senior aircrew. Preparation is key to avoid confining ourselves to the option of learning through experience.

Hence, it is important to take your training seriously. Every simulator and every flight counts. A small improvement each flight goes a long way. Always seek ways to improve yourself and revisit previously acquired knowledge and skills to keep yourself refreshed. Build correct and strong fundamentals to eradicate bad habits. Go back to basics and strive for perfection to maintain standards. Leverage advanced training tools like hi-fidelity simulators to identify your weaknesses and hone your strengths.



Another Apollo 11 precept is learning to address the unknown. The Apollo 11 astronauts trained tirelessly to handle every conceivable emergency before their mission but were still startled when they encountered a 1202 alarm code prior to their moon landing. These things can happen, and they tend to happen when you least expect them. As pilots, we ought to share the same spirit in striving to handle all possible emergencies through realistic and demanding training. We should also endeavour to develop a deeper understanding of the aircraft we operate and the potential pitfalls of modern technology (autopilot, glass cockpits, angle of attack indicators, engine monitoring systems, etc). Know your equipment — including the gadgets you bring on board – these may prove to be the difference one day if you encounter an adverse event.

Thankfully, the Apollo 11 crew had Mission Control to help troubleshoot the 1202 alarm code. While pilots don't have the luxury of engineers and scientists being at the ready when something goes wrong, we do have access to ATC who can help in a vast number of ways, from directions to the nearest airport or suitable landing area, to obstacle awareness, to coordinating a first responder rendezvous. Communication with others is important as it allows your intentions to be known clearly without people needing to second guess it, whilst allowing others to provide valuable inputs to guarantee success in your flight.

While your next flight may not encounter difficulties associated with extraterrestrial travel, with the right training, tools, and mindset, you'll be better prepared to handle any earthly airborne challenges that may come your way.



CPT Lee and MAJ Sng



## ABOUT THE AUTHOR

**MAJ John Sng** is a Qualified Flying Instructor (QFI) on the M-346. He was previously Officer Commanding 'A' Flight in 150 SQN. MAJ Sng is currently holding the appointment as QFI from Standards SQN attached to 150 SQN. He has over 1800 hours on the M-346.





# Strong Fundamentals Enable Safer Ground Operations



**ME5 Yogesh Mehta**  
Former Commanding Officer  
708 SQN

## Introduction

On 5 Oct 2022, 708 SQN marked its 11<sup>th</sup> year of successful operations as an Air Base Sustainment (ABS) Squadron. The ABS squadron is responsible for essential services such as the provision of vehicles, general equipment stores, accommodation, meals, as well as medical services in order to sustain operations within the air base. Many of the squadron's operations are carried out by Full-Time National Servicemen (NSFs) who are with the squadron for approximately 15 to 18 months. While the demands are high and operation conditions are dynamic, the squadron is greatly dependent on these NSFs despite them being young and inexperienced. Due to the nature of our operations and the demographics of our

people, there is a constant need to engage the 'minds' and 'hearts' of the NSFs to strengthen fundamentals as well as instill discipline, safety habits and a sense of purpose. This article shares the training that the NSFs, specifically the Transport Operators (TOs) and Medics, go through to ensure that they can contribute to the missions without compromising safety.

## Key Operations and Achievements

Looking back on the past two years, it had been a busy yet fulfilling moment for 708 SQN. The squadron was at the forefront of COVID-19 medical preparations, ground coordination, and conducting swab tests before and after various overseas missions.



This included the development of COVID-19 vaccination plans together with the Singapore Aeromedical Centre and the successful execution of the first two mass vaccination exercises for the RSAF in Changi Air Base (CAB). This was in addition to the numerous transportations, general equipment store, meals and accommodation requirements that we had to fulfill for key operations. While a number of these operations were unique and demanding, the squadron came together to answer the call of duty.

We continued to embrace change and innovation into our daily activities. For example, our development of the Red Teaming drills and the Deliberate Action Programme (DAP) is noteworthy as these initiatives helped to reinforce the vigilance and safety instincts of our TOs and Medics. We also incorporated Robotic Process Automation (RPA) in order to enhance the cold drugs and vaccine inventory checking process within the medical centre. This process helped to eliminate human errors during the weekly inventory check.

## ***Engaging the 'Mind'***

### ***Training Right from the Start***

The TOs undergo a basic driving course and cross-country driving training at the SAF driving school in order to ensure that they are adequately trained and competent to operate SAF vehicles on different terrains. This includes learning how to drive large vehicles such as 5-ton trunks on different terrains. After receiving their driving qualifications, they will be posted to the ABS squadron where they will be familiarised with the vehicle platform which they will be operating on. The training includes distinguishing the operating features of the vehicle platform, with added emphasis on the usage of the vehicle's controls, operating mechanism, blind spots and turning radius. An assessment is then conducted to ascertain whether the TO is competent and confident in operating the assigned vehicle platform.

Similarly, the medics undergo an initial vocation training at the SAF Medical Training Institute (SMTI). This provides the medics with fundamental medical skills such as Basic Cardiac Life Support (BCLS), management of a patient with injuries and operation of medical equipment. The medics are subsequently posted to the medical centres where they undergo a month of On-Job-Training (OJT) in order to hone their medical skills and deepen their understanding of the different operations within the medical centres. This includes triage, treatment documentation, operating a dispensary and providing ambulance support.



*3SG Cassidy is a Transport Supervisor. He strongly believes that providing quality training and learning the right fundamentals will ensure that TOs will be competent and proficient in their job and that in itself is a form of 'Care for Soldier'. 3SG Cassidy regularly takes time out of his own schedule to guide the newly qualified TOs, making sure that they are well-versed with the daily maintenance checks on the vehicles. These checks are necessary to ensure that the vehicle is in good operational condition before setting off for the driving detail.*

### ***Continual Training and Engagement to Strengthen Fundamentals and Standards***

With the TOs and Medics equipped with the basic knowledge required to perform their duties, they begin to support operations. From this point onward, there is a constant effort and focus to strengthen their *minds* through continual training. Besides the currency training, some of the other initiatives include the following:

1. ***Spatial training:*** The TOs undergo a series of obstacle courses with tight gaps specifically set up for each vehicle platform. This is to enhance the TO's ability to make sound judgements through their understanding of the vehicle capabilities and dimensions and adopt the correct techniques and procedures.
2. ***Contingency Training:*** The TOs are regularly refreshed on emergency braking drills, safe following distances and how to react to situations and adverse conditions at Kaki Bukit Driving Centre.
3. ***Just-In-Time training:*** This is for qualified TOs to refresh on a particular vehicle platform which they are trained on, but have not operated on for more than 10 days.
4. ***Deliberate Action Programme:*** This practice is infused into both driving and medical critical tasks so that the TOs and medics are mindful



and aware of the task at hand, pay close attention to critical moments of their task, and prevent errors from happening in the process.

**Red teaming:** Given that some of the maintenance tasks such as Before Operation Service (BOS) are routine in nature due to their frequent repetitions, there can be a tendency for the TOs to gradually lose their alertness and become complacent while conducting these checks. Hence, a structured and iterative process is in place to assess how thorough the TOs are in performing their maintenance checks and detecting defects in vehicles during their daily BOS. The drill is not meant to penalise those who failed to pick up defects, but rather a mechanism to break the routinisation factor of these routine tasks and ensure that the vehicles are inspected thoroughly before the driving detail.

**5. Emergency Resuscitation Drill (E-drill) and Fortnightly Medical Training:** This is to ensure that the medics remain ready to perform emergency resuscitation. There are also a series of lessons to enhance core medical skills.

**6. Weekly Protected Training Time:** Simulated medical training focused on team-based resuscitation. This is particularly important to build confidence in the medics and allow them to clarify doubts and improve their fundamentals.



*CPL Soh Shih Chi, a medic, is a good example of a confident individual who is always keen on sharpening and upgrading his skills. In the weekly PTT, he carries his enthusiasm and passion for learning, while sharing his experiences with the newer medics. He believes*

*in lifelong learning, where he actively challenges himself with difficult training scenarios, and guides newer medics along the way. CAB personnel have benefited from his positive and humble attitude in the many emergency cases that he has handled. For instance, he had responded promptly and effectively to a patient who complained of a severe headache, which was later diagnosed with subarachnoid haemorrhage. He was awarded the Chief of Air Force Safety Award in recognition of his timely life-saving contribution.*

It is equally important to build a strong and lasting Safety Culture. While the squadron experiences frequent turnovers of NSFs, the safety environment and culture created must be sustained. Hence, there needs to be a shared belief that we must continue to be vigilant and strive for zero accidents. From past lessons learnt, accidents typically occur during routine



and mundane tasks. In this regard, supervisors play a pivotal role in setting the right expectations and safety standards during daily operations.

## ***Engaging the 'Heart'***

### ***Building a Sense of Purpose***

It is essential to share with our personnel the intent and how their individual efforts fit into the overall success of the mission. When they are able to focus on a larger purpose, they will naturally feel engaged. Time, effort and resources are also put in place to guide and develop them. This will enable the individuals to set high goals and be equipped with the right tools and knowledge to make effective decisions and contribute to their work meaningfully.

### ***Creating Ownership***

We emphasise individual responsibility at every level. Supervisors and men must take ownership of their own and their team's safety. They must

take pride in their work and always strive to do things right the first time without the need to make corrections due to the lack of focus or competency issues. An open and supportive environment is also created to allow individuals to share their mistakes and improve processes. This empowers them to be accountable for their actions, and reinforces the need for them to train well in order to achieve the desired outcomes.

### ***Recognition and Appreciation***

It is important to recognise the efforts of our personnel when they have done well during the call of duty, or have displayed exemplary attitudes. A simple compliment or treat, or awards such as the Commander's Coin, letter of commendation, or the best serviceman of the month award, encourages them to do better knowing that their work performance and positive attitudes will be recognised. These initiatives, in turn, will also motivate other NSFs around them to emulate the successes of those who have already been awarded.



Chief of Air Force Safety Award Team

## Conclusion

NSFs are the bedrock of the ABS squadrons. Command emphasis is essential to set a strong safety culture and to provide the right training so that the NSFs uphold the fundamentals and standards. The approach, at times, is required to be calibrated as NSFs come from diverse backgrounds and some may require a longer time to understand and internalise the processes. The supervisors need to communicate effectively, share relevant experiences, and place emphasis on watch areas so that the NSFs inculcate safe practices and are unafraid to call for a stop when required. With the minds and hearts engaged, the men will continue to strengthen their fundamentals and ensure safe ground operations.

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**ME5 Yogesh Mehta** is the former Commanding Officer of 708 SQN at Changi Air Base. He was responsible for the sustenance of the air base operations through the conduct of effective Ground Logistics and Medical (GL&M) operations. He is currently studying at Goh Keng Swee Command and Staff College.



# Strengthening Safety With Strong Fundamentals in Exercise Pitch Black 2022



**MAJ Desmond Tan**  
Officer Commanding  
149 SQN

The Republic of Singapore Air Force deployed the F-15SG, F-16D+ together with the Gulfstream G550 AEW and A330 Multi-Role Tanker Transport to Exercise Pitch Black 2022 (XPB22), a three-week long multinational Large Force Employment (LFE) exercise between 19 Aug 2022 and 8 Sep 2022 in Darwin, Northern Territory, Australia. The Royal Australian Air Force (RAAF) hosted participating military forces of up to 2500 personnel and up to 100 aircraft from across 17 nations for the exercise, including the UK, India, Indonesia, France, USA, Netherlands and Singapore. Significantly, Japan, the Republic of Korea and Germany participated fully for the first time. XPB22 was also the first LFE many nations participated in since the COVID-19 pandemic, with the last XPB conducted in 2018. This exercise provided the RSAF with the opportunity to participate in larger scale and realistic training to maintain high levels of readiness for our airmen in day and night environments. Operating out of Darwin International Airport, the traffic intensity of military and general aviation was at its peak. The large number of participating aircraft operating in the airspace was the first of the XPB series and safety was paramount to ensure mission success for everyone.

This was the first XPB LFE since the COVID-19 pandemic, with XPB20 cancelled due to the pandemic. Achieving Zero Accident was a goal that we worked tirelessly to achieve. To ensure a safe and successful XPB, thorough mission planning and preparation, honing our fundamentals through building strong habit patterns, maintaining good discipline, having the right mindset and practicing good Crew Resource Management (CRM), were key enablers.

## ***Mission Planning and Preparation***

As with all missions, thorough mission planning and preparation sets the foundation to achieve mission success safely. In mission planning, participants gather face to face to discuss and formulate a deconfliction game plan that is sound and logical. It was necessary to set contracts to be adhered to. Emphasis was placed to understand the operating procedures of the various platforms to ensure that false assumptions which could threaten the safety of flights were not made. For example, the taxi spacing of the Su-30MKIs was different from ours. If kept unaware of such seemingly benign “standards”,



we could potentially taxi in between their formation and cause Foreign Object Debris (FOD) ingestion to their engines or be in their engine's jet blast area.

Thorough mission planning allowed all participants to be clear of the mission objectives, contracts and contingencies. However, that alone was only half the battle; ground preparation was also essential. Strong procedural knowledge, chair flying through the sequence of events and various contingencies allowed us to be clear of what we need to do in order to execute the mission safely. Emphasis was placed to go through Emergency Procedures (EP) Table-Top Exercises (TTX) in the detachment, especially in a foreign airfield. With strong knowledge of the airspace and restrictions, this allowed our aircrew to be sharp and knowledgeable in order to make prompt decisions accurately, confidently and safely. This could only be possible by having strong flying and system knowledge fundamentals, and thorough mission planning and preparation.

## ***Developing Strong Habit Patterns and Maintaining Good Discipline***

Developing good habits is fundamental for our flying. It builds muscle memory and a foundation for us to fall back on and build situation awareness and mental capacity. To be disciplined in enforcing good habits and eradicating bad habits is critical to ensure safety, especially when we have many aircraft operating together in this exercise. Work up training focused on reinforcing the way we scan our parameters, procedures, handling of emergencies, adherence to contracts and usage of our sensors. It was the good habit of looking out, knowing where

to look during different phases of flight and disciplined usage of our sensors to clear our flight path that prevented any potential mid-air collisions with other aircraft, especially during the visual run in and break recoveries where high volume of traffic is expected at the airport.

Good habit patterns and discipline will typically result in high standards in flying which naturally translates to high standards in safety. It is with this mantra that we ensure that our aircrew are disciplined to adhere to training rules, and this would eventually allow us to push the boundaries safely to operate at the edge of the human's and aircraft's operating performance. In a high-end training environment, it is paramount that these remain the foundation as one moment of ill discipline could endanger not only ourselves but the other 70 aircraft fighting in the same airspace.

## ***Having the Right Mindset***

The movie *Top Gun* serves as an inspiration to many aircrew around the world and one famous quote from the movie resonated with everyone at the exercise: *"It is not your flying, it's your attitude. You're everyone's problem. That's because every time you go up in the air, you're unsafe. You're dangerous"* As such, the safety slogan adopted for the exercise was *"You're Dangerous"*. It was a poignant reminder for everyone to be prepared, focused and be on guard against the sense of invulnerability and other potential pitfalls, especially as this was the first LFE for us since the pandemic. It was fundamentally our attitude towards the conduct of the exercise that allowed us to safeguard ourselves to train realistically while ensuring safety.



## ***Vigilance and CRM***

One of the safety principles of the RSAF is that "Safety is an Individual, Team and Command Responsibility". With the intense traffic volume at Darwin International Airport, it was important to actively utilise CRM to prevent human error from occurring which could lead to devastating accidents. In a traffic intensive aerodrome, issuance of clearances and acknowledgement could be delayed, or worse, forgotten. It was through constant vigilance and CRM from every team member in the exercise, be it the Air Traffic Control controller, or the aircrew flying the aircraft, who were proactive in preventing the final layer of holes in the Swiss cheese from aligning, through actions such as being proactive to provide information to enhance everyone's situation awareness, and clarifying clearances and doubts if there were any in the cockpit.

## ***Final Thoughts***

Some may mistake safety as a deterrent to train realistically and push boundaries. I have come to learn, especially after XPB22, which was the first multinational LFE since the COVID-19 pandemic, that as we focus on having strong fundamentals, knowledge and good habits, safety will naturally be strengthened in our daily tasks and become ingrained in the way we think, speak and act.



## **ABOUT THE AUTHOR**

MAJ Desmond Tan is an Instructor Weapon Systems Officer (Fighter) on the F-15SG. He was previously the Unit Safety Officer in 149 SQN and is currently in the squadron holding the appointment of Officer Commanding. He has over 1300 hours on the F-15SG.

# Discovering an Incorrect Installation



**ME2 Mervin John**  
Air Force Engineer  
815 SQN



Air Force Engineers from the Communications, Navigation and Electronic Warfare Flight, 815 SQN

## ***F-16s Mid-Life Upgrade Programme***

The F-16 in the Republic of Singapore Air Force (RSAF) is currently undergoing Mid-Life Upgrade (MLU) to introduce new capabilities and address system obsolescence issues. When the upgraded F-16 aircraft are released from the production lines, the RSAF would perform independent production acceptance and flight checks to ensure that the aircraft are airworthy. These independent acceptance checks consist of many areas on the aircraft, involving AFE from various specialist trades from 5 Air Engineering and Logistics Group (AELG), and would typically take up to a week to complete.

## ***Falling back on Maintenance Fundamentals***

On 10 May 2022, I was tasked to perform the independent acceptance checks for the new upgraded systems under my specialist flight's responsibilities. As taught in my training school, I would commence my checks in a systematic sequence, starting from the cockpit followed by the visual check on the various switches, control knobs and panels in the cockpit. As I was checking on the console areas against the cockpit layout as stipulated in the technical manual, I paid attention to the layout as it was a known fact that there are some differences in the cockpit layout for the F-16C and D/D+ variant under the F-16



MLU programme. I noticed that two of the panels of the Chaff/Flare Dispensing System seemed to be incorrectly installed. As I was using a newly promulgated manual to check the new cockpit layout, I double-checked to make sure that I was referencing the correct pages in the technical manuals. I confirmed that the two panels were installed incorrectly and proceeded to inform my supervisors of the findings.

## ***My Reflections***

As I was reflecting and writing this safety article, I came to the realisation that it was my operational discipline<sup>1</sup> and strong maintenance fundamentals that led to the discovery of the incorrect installation of the panels in the cockpit. Drawing from my past experiences and valuable lessons shared by my Unit Safety team from previous Ground Accident/ Incident Reports that were broadcasted in our Safety Information System, it was necessary to adopt the correct process of referring to our technical manual whenever we are performing maintenance tasks on the aircraft. The monthly safety case studies on Human Factors during our safety programme that were regularly shared with my squadron personnel allowed me to recognise that human errors can occur regardless of experience or rank. Therefore, it is always important for AFEs

to uphold operational discipline with sound maintenance fundamentals as we are the ones that play an active part in preventing the next incident/accident from happening.

## ***Safety Mindset and Ownership***

A key lesson that I have learnt over the years during my time in the RSAF is that “we should not take for granted that things will always be safe”. It has been emphasised in our training that while doing checks on aircraft systems, the mindset should be to look out for what might be wrong instead of expecting everything to be correct. This is to ensure that important details that could cause potential issues to the aircraft are not missed out, and this is a mindset that I always hold true when carrying out maintenance tasks.

Besides having a positive safety mindset, it is important to have safety ownership at work and this is encapsulated in the RSAF’s safety principle – Safety is an Individual, Team and Command responsibility. At the individual level, I know that I am empowered by my commanders to take action should something be amiss to ensure that safety is not compromised. In this incident, my discovery and subsequent reporting of the incorrect panel installation led to a review of the processes by 5 AELG with

<sup>1</sup> Operational discipline refers to the practice of being disciplined, ensuring compliance to technical manuals when carrying out tasks.



the various engineering companies and agencies involved in the F-16 MLU programme to ensure that the system checks are strengthened at their end to prevent similar errors in the future.

## Conclusion

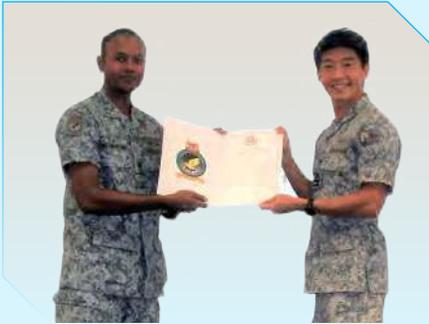
The F-16 MLU is expected to continue for a few more years, and 5 AELG will continue to support the fleet transition and operationalisation of the F-16 MLU in a safe and timely manner. When operating both the current F-16 and the new F-16 MLU aircraft in Tengah Air Base, we must maintain strong maintenance fundamentals and continue to have safety mindsets and ownership at all levels. Everyone would need to continually watch out on the key safety areas, especially the “Gotchas” associated with operating different variants of the F-16s. This would require us to be vigilant at all times and fall back on maintenance fundamentals when in doubt. Everyone must do their part to be mindful of their tasks and adopt a “Dare to Care” attitude when it comes to open reporting, as this creates awareness of a potential pitfall for lesson sharing, and subsequently prevents future incidents/accidents from happening. Only then can we continue to have safe operations to support the RSAF in achieving Mission Success Safely!



## ABOUT THE AUTHOR

**ME2 Mervin John** is an Air Force Engineer by vocation with 6 years of experience on the F-16C/D. He specialises in Communications, Navigations and Electronic Systems and is qualified to work on component troubleshooting and repairs in the workshop. He is the Sports Representative for 815 SQN and actively plans out sports activities and encourages healthy and active lifestyle for his squadron personnel.

## Outstanding Safety Award



ME2 Mervin (left) receiving his award from BG Amos Yeo (right).

On 10 May 2022, ME2 Mervin John from 815 SQN was performing independent acceptance checks on the F-16 aircraft that was ferried back to Tengah Air Base after its output from the F-16 upgrade production.

During the checks, he noticed that the Mini Control Display Unit (MCDU) and Fire Control Panel (FCP) belonging to the Advanced Countermeasures Dispensing System were installed in the wrong arrangement in the cockpit. The discovery was highlighted to the flight command team for follow up.

ME2 Mervin was vigilant and demonstrated strong technical competency, despite this being a new system introduced as part of the upgrade, to spot the incorrect arrangement of the MCDU and FCP in the cockpit. For his attention to detail and Dare-to-Care attitude, ME2 Mervin was awarded the Outstanding Safety Award.

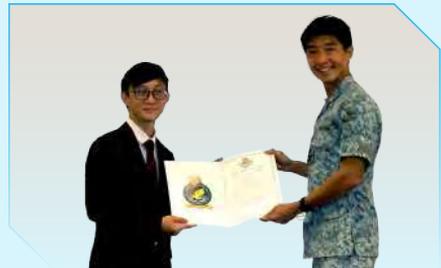
On 11 Feb 2022, LTA Tan Lai Teck Arthur from 608 SQN was alerted to a medical incident at Changi Air Base (East). During the Singapore Airshow 2022, a USMC personnel injured himself.

LTA Tan rushed down with a first aid kit and attended to the injured USMC personnel while waiting for medical attention. He managed the incident calmly and professionally.

2WO Yang Jinhui and 1SG Claudia Chan from 608 SQN were also alerted to the incident. 2WO Yang quickly activated the medics on duty and escorted them over. He also assisted LTA Tan to administer further medical aid to the injured USMC personnel until the arrival of an ambulance.

1SG Chan provided some counselling support to the other two USMC personnel on site who were fairly shocked by the incident. 1SG Chan also assisted in communicating and providing timely updates to the USAF and Base Command Post.

Their involvement was contributory to the safe and expeditious medical evacuation of the USMC personnel, potentially saving his life and also further strengthening the defence relations between the USAF and RSAF. Hence, LTA Tan, 2WO Yang and 1SG Chan were awarded the Outstanding Safety Award.



LTA Tan (left) receiving his award from BG Amos Yeo (right).



2WO Yang (left) receiving his award from BG Amos Yeo (right).

## Outstanding Safety Award



3SG Gan (left) receiving his award from BG Amos Yeo (right).

On 28 Mar 2022, 3SG Tristan Joel Gan and PTE Ng Chung Ee from 608 SQN were en route in the dog van to Changi Airbase East, when both of them spotted an injured cyclist who was bleeding profusely, and immediately stopped their vehicle and rendered assistance to the cyclist.

They called for an ambulance and checked his injuries. They also contacted the cyclist's spouse and went the extra mile to keep the cyclist calm while they awaited for the ambulance.



PTE Ng (left) receiving his award from BG Amos Yeo (right).

In this incident, they went above and beyond their call of duty to assist a person in need. Their ability to calmly assess the situation and take appropriate actions ensured that the cyclist received timely medical attention. They showed great compassion and were exemplary in their conduct. 3SG Gan and PTE Ng were awarded the Outstanding Safety Award.

On 22 Jul 2022, 3SG Alden Tan Fu Kang from 806 SQN, a Flight Line Crew (NSF) member was assigned to perform aircraft launch functional checks. During the aircraft start-up, he noticed that the exterior canopy jettison pin was not removed and he immediately informed the pilots.

3SG Tan had gone above and beyond his required job scope by performing these checks, as his tasks did not require him to ensure that the exterior canopy jettison pin are removed.



3SG Tan (left) receiving his award from BG Amos Yeo (right).

For his vigilance and attention to detail while conducting functional checks and ensuring operational safety in his tasks, 3SG Tan was awarded the Outstanding Safety Award.

## Chief of Air Force Safety Award



LTC(RET) Chua (left) receiving his award from MG Kelvin Khong (right).



MAJ Khoo

On 16 Feb 2022, following a discussion of the shared usage of Pierce Landing Point training area, a Helicopter Training Area in Light Aircraft Training Area - Alpha, LTC(RET) Chua Kok Kar from HQ TRADOC and MAJ Khoo Jin Xian from HQ HeliG discovered that the Range Danger Area of Nee Soon 500m range had overlapped the Pierce Landing Point training area, and the vertical and lateral limits of the Notice to Airmen (NOTAM) did not cover the entire Range Danger Area, putting aircraft at risk when the Army conducted their live firing training.

When the issue was uncovered, HeliG and the Army immediately halted training. The team from AOD and HQ TRADOC worked closely and developed an optimal solution that allowed the Air Force and Army to resume training in the affected areas. In addition, the team uncovered three additional active Army ranges where the airspaces above were not designated as Danger Areas. This issue was subsequently rectified by CAAS with the promulgation of new danger areas.

In view of the team's strong safety instinct, the RSAF potentially averted mishaps resulting from aircraft flying inside of the Range Danger Areas. For their efforts, LTC(Ret) Chua and MAJ Khoo were awarded the Chief of Air Force Safety Award.



Left to right: 2SG(NS) Tan, LTA Tan, MAJ Zhu, CPT Ng, ME4 Chan, 3WO Lee.

On 27 Jul 2022, MAJ Zhu Kexin, CPT Benjamin Ng, LTA Tan Kian Tiong, ME4 Evan Chan, 3WO Lee Choo Yuen and 2SG(NS) Tan Chong Yi from 122 SQN were onboard their C-130 aircraft conducting Search and Locate (SAL) training. As the crew opened the cargo door as part of the profile's pre-drop checks, a loud 'thud' sound was heard and the cargo door began to close without any input. The aircraft then began to pitch up to almost 10 degrees nose up, and required the aircrew's quick reactions to immediately arrest the uncommanded pitch up.

A climb was initiated to diagnose the emergency, and it was noticed that the elevator controls felt heavier than normal.

Upon inspection, the aircrew discovered that the cargo door actuator assembly and its associated hydraulic lines had been dislodged and was resting on the elevator control cables. After discussion, the crew repositioned the dislodged actuator assembly and hydraulic lines away from the control cables to reduce the resistance to the elevator controls. An emergency was declared and the aircraft was recovered safely.

Despite experiencing an emergency that was not documented in the Flight Manual, the crew remained composed and responded well to the emergency with their excellent teamwork, good systems knowledge and out-of-the-box thinking. For their exemplary performance and strong safety instincts in handling the emergency, the team was awarded the Chief of Air Force Safety Award.

## Chief of Air Force Safety Award



Left to right: ME1 Chua, CPT Ngo, CPT Lau, MG Kelvin Khong, MAJ Tan, LTC Fu.

On 6 Sep 2022, LTC Eugene Fu, MAJ Dexter Tan, CPT Jonathan Lau, CPT Ngo Xian Zhi and ME1 Marcus Chua from 123 SQN were flying an Anti-Submarine Warfare sortie in the Search and Rescue Training Area. After training, they began the recovery to Sembawang Air Base. The crew then heard a loud buzzing sound with an associated high frequency vibration and noticed a momentary flash of the "Low Rotor RPM" warning caution light. The crew quickly assessed the situation, maintained aircraft control and carried out the immediate emergency actions.

The aircrew observed that the engine parameters were in an unusual condition that differed from any emergency that the pilots had been trained for. They made the correct diagnosis of the emergency as "No. 2 Engine High Speed Shaft Failure". The aircrew subsequently proceeded to shut down the No. 2 engine and diverted to Changi Air Base. Every member of the crew worked closely together as a team and provided effective CRM to one another to ensure the safe and successful recovery of the aircraft.

The crew did well to maintain composure and apply sound analysis to diagnose and respond to the emergency as a team. The outstanding handling of an unfamiliar emergency situation with a strong display of CRM to result in the safest outcome of a challenging aircraft emergency led the team to be awarded the Chief of Air Force Safety Award.

## 03/22 CAF Quarterly Safety Forum

The 03/22 CAF Quarterly Safety Forum (CQSF) was conducted at Temasek Club and via Virtual Teleconferencing on 5 Jan 2023. The CQSF's safety theme was "**Strengthening Fundamentals Through Good Habits**".

The forum allowed our personnel to understand the RSAF's safety performance in the last quarter, discuss and share the safety incidents/issues that have occurred, and be cognisant of the watch areas for Q4 WY22/23.



## RSAF Safety Officers' Course

AFI conducted the 02/22 RSAF Safety Officers' course from 3 to 18 Jan 2023 as part of the RSAF's ongoing effort to build a strong safety culture. 33 officers, including officers from RMAF, TNI AU and RTAF successfully completed the course. This course aims to equip all personnel with the knowledge and tools to contribute towards safety at their respective workplaces.



## Annual Safety Workshops

The Annual Safety Workshops were successfully organised in the months from Oct to Nov 2022. The workshops provided an opportunity to promote Safety Awareness and encourage communities to discuss Safety-related issues concerning their Type Group. This is a good initiative and its express purpose should be communicated especially for the 'newer members of the community'. This probably is more important than the motherhood "workshops provide safety awareness" which we all know already.



**Heli Group**  
7 Nov 2022



**C3 Group-  
Command,  
Control and  
Communication  
Group**  
27 Oct 2022



## Human Factors Education

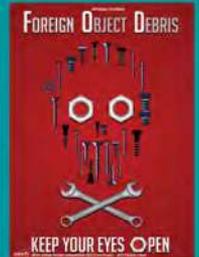
The Human Factors Awareness Programme and the Human Factors (HF) Management Workshop were conducted at AFTC on 24 and 25 Nov 2022 respectively. Participants were educated and apprised on the latest HF knowledge and tools that would help reduce HF incidents/accidents in their work places.



# RSAF SAFETY POSTER DESIGN COMPETITION 2023

ATTRACTIVE PRIZES  
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### 2021 SAFETY POSTER WINNERS



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TODAY**

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NUMBER OF SUBMISSIONS**

**SUBMISSION BY  
1 NOV 2023**

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INFORMATION ON THE COMPETITION RULES!



# 4 Pics 1 Word

What word can you derive from the 4 pics?



--	--	--	--	--	--	--

H	R	A	E	D	U	T
E	Z	M	G	L	A	C



--	--	--	--	--	--	--	--	--	--	--	--	--

D	N	N	G	C	E	I
T	A	E	M	A	U	N

We welcome your feedback, contributions of safety-related stories, cartoons, suggestions, experiences, or concepts that you can share. Email us at [apb\\_pub@defence.gov.sg](mailto:apb_pub@defence.gov.sg) with your full name and contact number.

The images used on this page are licensed under CC by 2.0, and links can be accessed via the digital version of this issue.

1. "Hazard" by "Shasta Halliburton"
2. "hazard" By "Tom Hodgkinson"
3. "Eden Hazard" by "Thomas Richards"
4. "Guarding the flock" by "Jan"
5. "Maintenance" by "Minnesota DOT".
6. "Maintenance" by "Peter Burka."
7. "Electrical Maintenance" by "JM Electrical Service"
8. "Untitled" by "Rafaella Kouka"

Permission was granted by LOTUM GmbH to publish 4 Pics 1 WORD in **FOCUS**

**WIN!**  
**S\$30**  
 WORTH OF  
 VOUCHERS!

# Crossword

Email your answers with your Rank/Name, Unit, Contact number and last 4 digits of your NRIC to AFI (ME3 Su Xinyi) by 7 APR 23. All correct entries will be balloted and 3 winners will receive S\$30 worth of NTUC FairPrice vouchers each.

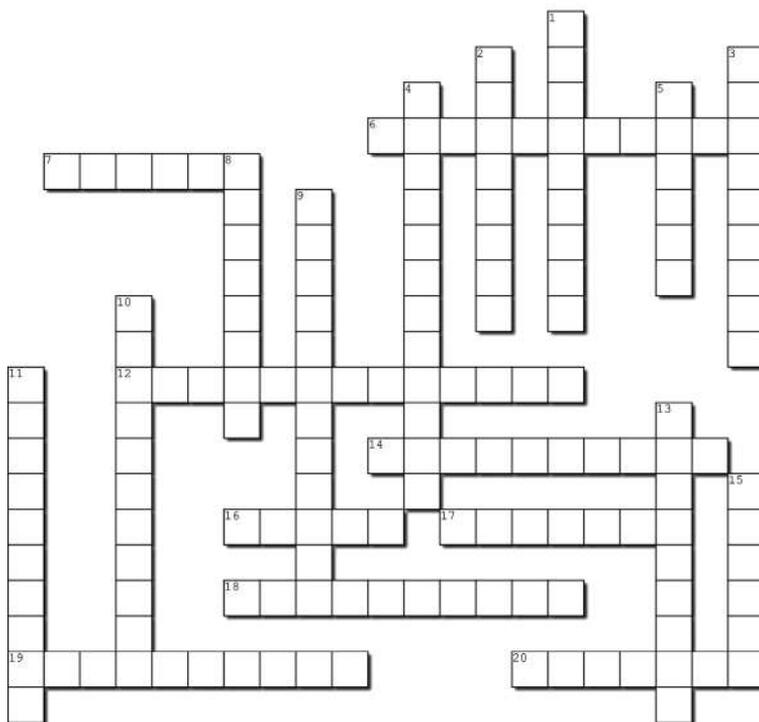
The crossword puzzle is open to all SAF personnel except personnel from AFI and members of the **FOCUS** Editorial Board.

## FOCUS 113 WINNERS

Joanne Yap Siew Hoon,  
 ATD

Low Hui Xian,  
 MSIB, AELD

LCP Kieron Yew Qi Rong,  
 OCS Air-Wing



### Across

6. This will enable the \_\_\_\_\_ to set high goals and be equipped...
7. This provides the \_\_\_\_\_ with fundamental medical skills such as Basic Cardiac Life Support (BCLS),
12. This was in addition to the numerous transportations, general equipment store, meals and \_\_\_\_\_ requirements that...
14. During that time, we reviewed the landing with an unsafe gear emergency checklist and \_\_\_\_\_ the actions....
16. This exercise provided the RSAF with the opportunity to participate in larger \_\_\_\_\_ and realistic training...
17. Given the \_\_\_\_\_ and fast-paced nature of aviation, I am certain that every pilot has experienced such a startle...
18. As taught in my training school, I would commence my checks in a \_\_\_\_\_ sequence, starting from the cockpit followed...
19. The chase aircraft \_\_\_\_\_ joined up and reported that the nose landing gear
20. Keeping calm and falling back on the \_\_\_\_\_ of ANC,

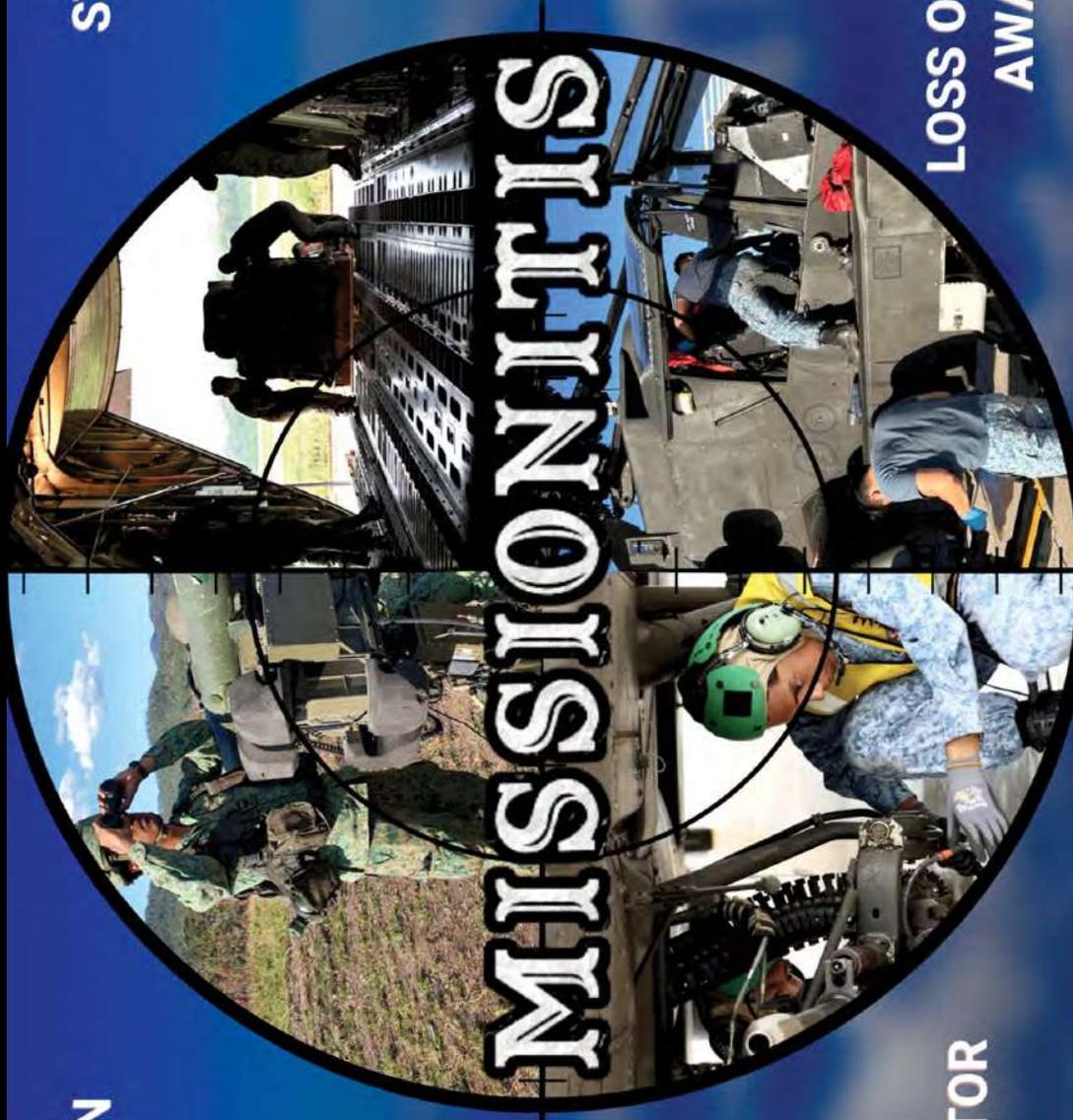
### Down

1. As I have pointed out, \_\_\_\_\_ and preparation will substantially improve one's chances of a successful outcome.
2. The chase aircraft subsequently verified that the NLG did extend \_\_\_\_\_ but it was still not fully extended.
3. \_\_\_\_\_ to many aircrew around the world and one famous quote from the movie \_\_\_\_\_ with everyone at the exercise:
4. Besides having a positive safety mindset, it is important to have safety ownership at work and this is \_\_\_\_\_ in the...
5. It is not possible to stipulate the procedure to \_\_\_\_\_ every possible adverse event.
8. We must prepare and train seriously so that we can mitigate the need for \_\_\_\_\_ skills in an emergency.
9. the men will continue to strengthen their \_\_\_\_\_ and ensure safe ground operations.
10. As I was reflecting and writing this safety article, I came to the \_\_\_\_\_ that it was my operational discipline
11. Once stabilised in a straight and level flight, we ensured that we \_\_\_\_\_ below the emergency landing...
13. The "fight-or-flight" response refers to a physiological reaction that occurs in response to a \_\_\_\_\_ threat or harm.
15. We must reflect and learn from the lessons of others so as to not \_\_\_\_\_ errors.

Answers to page 30: "Hazard" and "Maintenance"

**FIXATION**

**STRESS**



# MISSIONS

**RUSH FACTOR**

**LOSS OF SITUATION  
AWARENESS**

**RSAF**  
**SAFETY**  
Mission Success ALWAYS

