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KERIS TERBANG

ROYAL BRUNEI AIR FORCE FAMILY DAY

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ISSUE 16

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السَّلَامُ عَلَيْكُمْ وَرَحْمَةُ اللهِ وَبَرَكَاتُهُ
بِسْمِ اللهِ الرَّحْمَنِ الرَّحِيمِ

Welcome back to issue 16 of our quarterly Keris Terbang.

Our magazine aims to provide an insight and a glimpse of the daily running and events going on within and around the Royal Brunei Air Force showcasing the commitment and professionalism of our personnel.

In this edition of Keris Terbang we have highlighted our yearly activities and key milestones. Since the period covers the September to December range where activities tone down and we focus more on allowing our personnel to spend quality time with their families. During this period we also look at the Family Day which was a successful event in cultivating and promoting family engagements between the organisation and personnel family members. I do hope this magazine gives a great insight into what the air force is all about whilst also providing educational benefits through the different signature articles throughout the magazine.

We do hope that the 16th edition of Keris Terbang will be an enjoyable and informative read as we aspire to motivate and reward the personnel of the RBAirF in all their hard work and commitment. I would also like to take this opportunity to thank the editorial team and all article writers who have contributed and dedicated their time to the success of this magazine.

ISSUE 16

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RBAirF Family Day

Air Force kids having fun at one of the mini games during the Family Day

COMMAND AND STAFF COURSE 13/23

by Maj (U) Adif

The Command and Staff Course has been an immensely transformative experience for military leaders, offering invaluable insights and skills crucial for navigating the intricacies of military operations and strategic planning. This comprehensive program not only enhances strategic thinking but also reinforces the fundamental principles of ethical leadership.

At the onset of the course, participants embark on a journey of self-discovery, where they identify and refine core principles such as courage, integrity and teamwork. This foundational phase fosters a deeper comprehension of the moral compass guiding decision-making processes. It represents a pivotal moment where leadership philosophies align with these principles, seamlessly integrating them into daily responsibilities.

"This foundational phase fosters a deeper comprehension of the moral compass guiding decision-making processes."

Reflecting on the dynamic interactions within syndicate groups during the operational phase, the virtues of courage, integrity and teamwork emerge as guiding principles. Courage becomes the driving force behind navigating challenging debates and high-pressure scenarios, creating an environment where diverse viewpoints are not only expressed but also respected. Integrity serves as the cornerstone of interactions, fostering a culture of honesty and transparency, thereby nurturing mutual trust and respect. Meanwhile, teamwork emerges as the linchpin of collective efforts, harmonising diverse perspectives into cohesive solutions that transcend individual limitations.

Group discussion session on leadership

These principles transcend mere abstract concepts, evolving into lived experiences that emphasise the significance of fostering environments characterised by openness, mutual respect and ethical conduct. As military leaders continue their journey, these values remain steadfast, guiding actions and interactions toward creating collaborative environments that foster both individual and collective growth. Through unwavering adherence to these principles, leaders are committed to advancing operational effectiveness and nurturing the development of future leaders across diverse operational contexts.

In essence, the Command and Staff course does not just equip military leaders with tactical skills and strategic insights; it cultivates a culture of ethical leadership that directly impacts organisational effectiveness and resilience. By embracing principles of courage, integrity and teamwork, leaders foster environments where diverse perspectives are valued, trust is nurtured and collective growth is prioritised.

These ethos of ethical leadership isn't just a philosophical ideal; it's a tangible asset that enhances operational effectiveness, strengthens organisational cohesion, and ensures the development of future leaders capable of navigating complex challenges with integrity and ingenuity. As military organisations evolve in a rapidly changing landscape, the enduring commitment to these principles serves as a cornerstone for success, empowering leaders to adapt, innovate, and excel in fulfilling their mission objectives.

ROYAL BRUNEI AIR FORCE

FAMILY DAY 2023

by Lt (U) Fazrina

The RBAirF, in conjunction with its 57th Anniversary held a Family Day event which was between 25 to 26 November 2023 at the Rimba Air Force Base (Rimba AFB). The event was one of the key feature of the series of Anniversary celebrations and was aimed at allowing families of personnel to visit the air force and basically have a fun and relaxing weekend together.

Preparation and coordination for the event was started months before the actual dates. Engagements, meetings with different agencies and coordination sessions were all conducted in ensuring the event will run as planned.

The two-day event included funfair activities such as mini games for family members of all ages , bazaar stalls selling a variety of food including quick bites and pastries, and a RBAirF Static Display which was a hit among the young members of the air force family, all of which provided opportunities for family interactions and fun.

Ultimately, these activities were aimed at instilling family values in RBAirF personnel as well as civilians while appreciating the support and commitment received thus far. It also provided an opportunity for small local businesses to promote their products.

RBAirF execs and organisers at the Family Day

Pictures taken during the Family Day

C-295MW

CUSTOMER ACCEPTANCE TEST SIGNING CEREMONY

by Lt (U) Qayyum

The C295 aircraft's Customer Acceptance Test (CAT) signing ceremony was held on 19 December 2024 between Maj (U) Arif Syamirul and Airbus program manager Pablo Ramos. Present to witness the landmark signing was Yang Berhormat Pehin Datu Lailaraja Major General (Rtd) Dato Paduka Seri Haji Awang Halbi bin Haji Mohd Yussof, Minister at The Prime Minister's Office and Minister of Defence II and Commander of the RBAF, Major General Dato Paduka Seri Haji Muhammad Haszaimi bin Bol Hassan.

My visit to Airbus Defence and Space, San Pablo Sur, Seville, Spain facilities provided a valuable opportunity to gain firsthand insights into their leading-edge aeronautical technologies. Upon arrival at the facility, I was impressed by the scale and organisation of the complex, reflecting the company's commitment to efficient and streamlined production processes. Warmly welcomed by senior executives, we received a comprehensive brief for our highly anticipated two-day visit.

During the visit, I had the privilege of engaging with knowledgeable guides who provided detailed explanations of the various stages of aircraft assembly. It is truly tremendous that this facility assembles both C-295 and A400M aircraft with its complex details and the large scale of components, showcasing the company's advanced engineering capabilities. The facility shows the initial production leg where skilled workers handle meticulous assembly line processes.

This involves joining major aircraft components like the fuselage, wings, tail and other various complex systems like engines, avionics and electrical wiring. As our tour wrapped up at the assembly facility, a banner showcased C-295 aircraft in service from various countries, with Brunei Darussalam included as the most recent addition.

We were fortunate to experience one of the most advanced technologies in use at the facility: mixed reality engineering.

The RBAD delegation with the C-295

Commander RBAF trying out the simulator

The signing ceremony

This revolutionary approach allows engineers to virtually step inside a full-scale replica of the aircraft, enabling them to conduct detailed examinations, assess ergonomics, and identify potential issues before any physical prototypes are built. Our experience with mixed reality engineering was a testament that such technology is not just shaping the future of aircraft design but pushing boundaries of innovation. I believe such technology could be a game changer for our organisation, by paving the way for efficiency, cost effectiveness and ultimately contribute to safer aircraft.

The tour continued to the training facility where pilots will have their theory classes and simulator training. The simulator uses high-tech equipment to recreate the cockpit environment of the C-295 aircraft, which includes advanced software and hydraulic systems creating realistic visuals, motion and instrument responses mimicking the experience of an actual flight. Yang Berhormat Pehin and Commander RBAF also displayed their piloting skills as they managed to land the aircraft safely in the simulator.

This signing signifies the successful completion of the C295 delivery, confirming the aircraft meets all our performance and specification requirements. Witnessing this historical occasion firsthand was a truly remarkable experience, and I feel incredibly fortunate to have been part of it. This event marks an exciting new chapter for RBAirF capabilities, and I'm eager to be part of the role these C295s will play in the future.

AIRBUS

EXERCISE WIRA BUMI

by Lt (U) Mahdi

Over the course of ten intense days, from 16 to 26 October 2023, No. 2 Wing, Operations Group, RBAirF conducted the 9th Exercise Wira Bumi. The exercise saw the participation of approximately 280 personnel from No. 2 Wg, supported by units from No. 1 Wg, No. 3 Wg, No. 6 Wg, and No. 7 Wg, immersed together in a myriad of scenarios designed to test their readiness and preparedness. During the exercise, I was a troop commander of 'A' troop from 238 squadron and this exercise was a good opportunity to test my ability in exercising my command in a challenging environment.

The primary goal of the exercise was clear, which was to evaluate No. 2 Wg's operational capabilities within the framework of RBAirF operations. It was also an opportunity to refine the Techniques, Tactics, and Procedures (TTPs) whilst reviewing the current doctrines and SOPS.

The opening ceremony, held on 16 October 2023 was officiated by Maj (U) Muhd Adib bin M. Abidin, Acting Commanding Officer of No. 2 Wg, RBAirF. The event took place at 236 Squadron and marked the commencement of the exercise.

The exercise kicked off with Planning and Wargaming sessions by each squadron, which was then followed by the dissemination of orders and field deployment to respective Areas of Operations. My troop, the 'A' troop deployed to the dedicated Mistral sites within Brunei Muara and I set up my Troop Command Post within No.2 Wg HQ so I can manage and control my troop efficiently.

Movement Orders delivery

Throughout the exercise, Brig Gen (U) Dato Seri Pahlawan Mohd Sharif bin Dato Paduka Haji Ibrahim, Commander of the RBAirF, made several visits particularly to Air Defence locations which included the Squadron Command Post, Troop Command Post and a Mistral site at Bukit Residency. He also observed a demonstration of Base Security Protection, emphasising the importance of these missions in contributing to the overall operational readiness of the RBAirF. The visit from the Commander was a moment of great honour and privilege as all the deployed personnel felt a sense of pride to be able to interact with the Commander in an exercise setting.

Riot control operation

Command Post brief to Commander RBAirF

Coordination with Regimental Police

The spectrum of scenarios tested included various operations ranging from conventional to non-conventional warfare. Since both the Air Defence and Air Base Defence personnel were deployed, an array of weapon systems were used thus allowing the integration of all these systems in one big operation. Over the duration of two weeks, the exercise took part in several areas of Brunei Darussalam, including Rimba AFB, Muara, Tutong as well as Temburong which served as the final convoy destination.

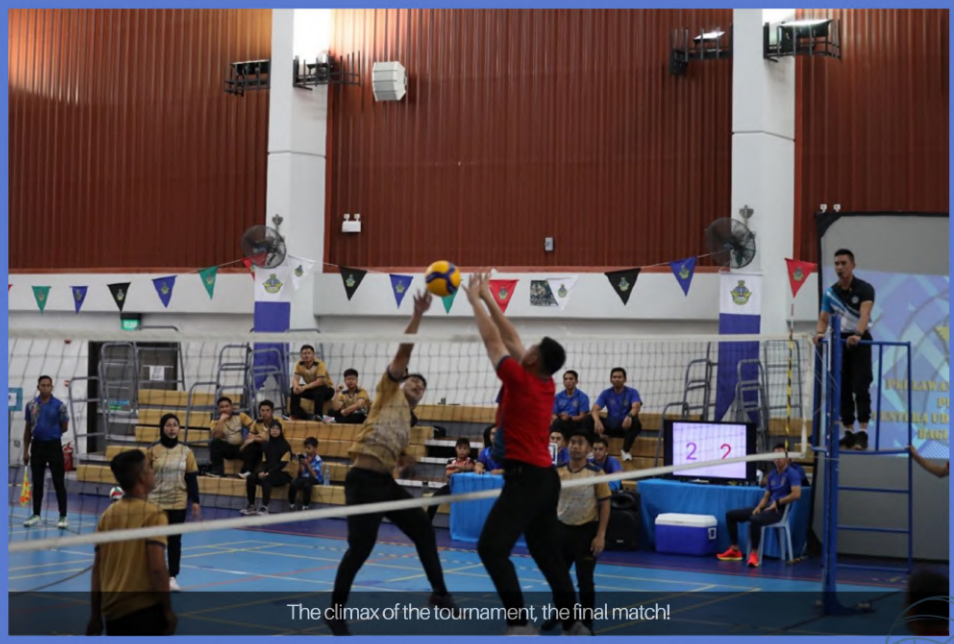
This exercise which is held biennially serves as the biggest stage of training for No. 2 Wg, RBAirF. Before this, smaller exercises from the troop level and squadron level were conducted to ensure all of the personnel are readily prepared for Exercise Wira Bumi. Overall, Exercise Wira Bumi does not only test the operational readiness of No. 2 Wing but also highlighted the RBAirF's commitment to maintaining a high level of preparedness and capability.

SPIKE, SET, SERVE

RBAirF Volleyball Competition 2023

by Lt (U) Khalid

The tension was thick as the final whistle blew, sending a collective cheer through the crowd gathered at the Royal Brunei Air Force (RBAirF)'s Sports Complex. No. 5 Wing, geared-up in their golden jerseys, had just defeated No. 7 Wing in a thrilling match to claim the title of the 2023 RBAirF's Volleyball champion.



The climax of the tournament, the final match!

To kick off the RBAirF Volleyball Competition, senior officers from RBAirF, typically associated with stern command and strategic decisions, traded their uniforms for volleyball gear & took to the court in a friendly exhibition match demonstrating their athletic prowess.

The exhibition match not only served as a source of entertainment for the audience but also set the tone for the competitive spirit that would unfold in the subsequent match. The exhibition match was a delightful departure from the norm, injecting humor and camaraderie into the atmosphere. Laughter and cheers echoed through the arena as the senior officers dived, spiked, and volleyed with unbridled enthusiasm, setting a positive and engaging tone for the entire event.

Tournament champions, No. 5 Wing

Tournament runners up, No. 7 Wing

This year's tournament was a nail-biter from the start. No. 5 Wing and No. 7 Wing dominated their matches throughout the week. All the teams displayed exceptional teamwork and athleticism, pushing each other to the limit. The final match between No. 5 Wing and No. 7 Wing lived up to the hype. The crowd was treated to breathtaking rallies and stunning saves, highlighting the exceptional skill sets of the Air Force athletes. The score went back and forth, with each team showcasing impressive digs, blocks, and powerful spikes. In the end, No. 5 Wing managed to pull ahead in the second and decisive set, securing their victory.

Beyond the thrill of competition, the 2023 RBAirF's Volleyball Competition serves a larger purpose. It provides a platform for service members to build relationships, develop teamwork skills and demonstrate the dedication and resilience they cultivate in their military service. This competition is a testament to the exceptional physical and mental fitness of our personnel.

From the entertaining senior officer's exhibition match to the intense battles on the court, the competition exemplified the intersection of athleticism and military discipline. No. 5 Wing's victory will be remembered as a symbol of excellence, teamwork, and resilience, echoing the core values of the RBAirF.

Aviation Physiology Workshop Bangkok, Thailand

by Cpt (U) Haqim

Participants of the Aviation Physiology Workshop

Between 18 to 22 December 2023, the RBAirF demonstrated its commitment to enhance aviation medicine knowledge and practices by sending two representatives to participate in the prestigious Aviation Physiology Workshop held in Bangkok, Thailand. The selected participants were Maj (U) Abdul Haqim bin Haji Yahya, pilot from 11 Squadron of RBAirF, and Maj (Dr) Ranald bin Mohd Faizal @ Ranald Chiew, a doctor serving in RBAF. This workshop served as a gathering point for aviation experts and practitioners from various ASEAN countries, including Myanmar, Laos, Indonesia, Thailand, and Vietnam.

The collective aim was to foster collaboration and knowledge exchange in the field of aviation medicine, with the overarching goal of standardising practices and enhancing safety measures across the region. Throughout the workshop, participants engaged in a series of insightful discussions, interactive sessions, and practical demonstrations aimed at sharing best practices, latest research findings, and innovative techniques in aviation physiology.

Moreover, the workshop provided a platform for networking and building professional relationships among aviation medicine experts from diverse backgrounds, facilitating future collaborations and joint initiatives to address common challenges and promote excellence in aviation healthcare. By actively participating in this workshop, the RBAirF reaffirmed its dedication to ensuring the highest standards of safety, health, and well-being for its aviation personnel.

Presenting memento to the workshop host

Being chosen as a representative of the RBAirF and Brunei Darussalam for the Aviation Physiology Workshop was truly an honour and a milestone in my military career. This opportunity allowed me to witness first-hand the meticulous selection process for various aviation roles, including pilots, rear crew, flight surgeons, and flight nurses. The assessments these candidates underwent were rigorous and demanding, highlighting the high standards upheld in aviation operations.

For new pilots, the selection process involved a series of three comprehensive tests. Firstly, they underwent a computerised aptitude and hand-eye coordination test, meticulously administered by experienced military pilots. This test aimed to assess their cognitive abilities and motor skills essential for flying aircraft effectively. Secondly, candidates underwent psychological assessments aimed at determining their suitability for specific aircraft types based on their psychological profile and aptitude. Lastly, a thorough medical examination was conducted, encompassing various assessments such as eye exams, perspective evaluations, CO_2 level checks and full body examinations.

The Aviation Physiology Workshop provided us with invaluable insights into the rigorous training undergone by pilots to prepare for the most challenging conditions they may encounter during flight. Among the essential components of this training were sessions in hypobaric chambers, G-force training, and Spatial Disorientation simulator training.

These exercises were designed to equip pilots with the necessary skills and knowledge to effectively manage and overcome adverse situations inside the aircraft. The hypobaric chamber training simulated conditions of reduced oxygen levels at high altitudes, allowing pilots to experience and learn how to recognize and respond to hypoxia, a critical condition that can affect cognitive function and decision-making abilities in flight. G-force training, on the other hand, familiarised pilots with the physical effects of acceleration forces experienced during manoeuvres, enabling them to develop techniques to mitigate the effects and maintain control of the aircraft under high G-forces.

One of the most enlightening experiences for me, as a pilot, was the Spatial Disorientation simulator training. This simulation exposed us to the phenomenon of spatial disorientation, where pilots may misinterpret their aircraft's orientation relative to the Earth's surface, leading to potentially dangerous situations. By experiencing and learning to recognize the symptoms of spatial disorientation in a controlled environment, pilots can develop strategies to maintain spatial awareness and prevent accidents.

I was particularly impressed by the advanced training equipment provided by the Royal Thai Air Force, which utilised cutting-edge technology to replicate realistic flight scenarios and challenges. This commitment to excellence in training underscores the importance placed on producing highly skilled and proficient pilots within the country. The Aviation Physiology Workshop not only offered a comprehensive overview of the physical and psychological demands placed on pilots but also provided practical training experiences that were instrumental in enhancing our capabilities and readiness for the demanding nature of aviation operations.


THOMAS
& FRIENDS

RBAirF BAKTI

AT THE FAMILY DAY

NOISE-INDUCED HEARING LOSS

by Cpt (U) Fatin

Overview

Did you know that Noise Induced Hearing Loss (NIHL) is the number ONE occupational disability, especially in the military? It is also the second most common form of acquired hearing loss after age- related loss (presbyacusis).

How can we acquire NIHL?

Acoustic Trauma - one-time exposure to loud sound OR daily exposures to moderately loud sounds

What are the symptoms / Warning Signs of Hearing Loss?

1. Speech sounds distorted or muffled

2.Difficulty understanding speech, especially with background noise

3.Muffling of sounds after noise exposure

4.Ringing or buzzing sounds in the ear

5.Difficulty hearing on the telephone

6.Need for loud volume on TV and radio

7.Frequently asking people to repeat themselves

8.Difficulty hearing some pitches (usually high frequency)

What are the sources of noise?

1. Road traffic noises

2.Aircraft noises

3.Construction sites

4.Usage of equipment (i.e. rifles in the military)

Why is noise a problem on the job?

Creates safety hazards by masking alarms and other warning sounds

Discourages communication between workers because shouting is hard to do and hard to listen to

Why is Protecting My Hearing So Important?

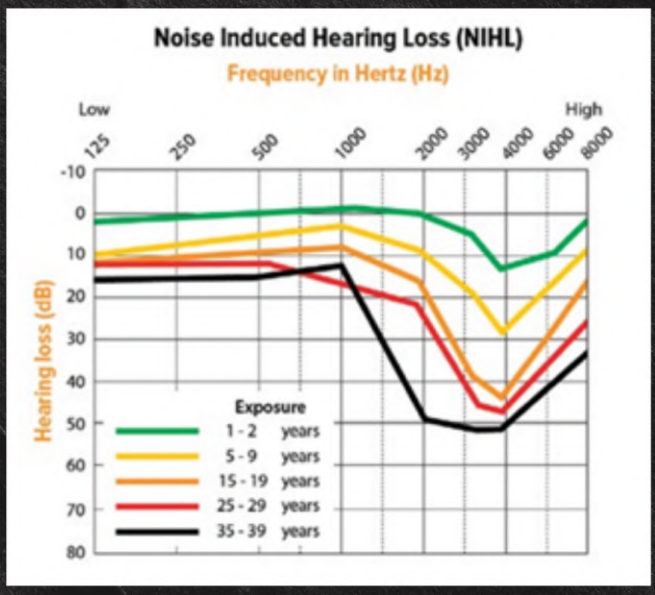
1.Hearing loss destroys your ability to hear and understand speech, especially in background noise Hearing loss is permanent and NOT medically treatable

2.Impaired hearing can cause serious or fatal mistakes in training and emergency operation situations

How Can I Protect My Hearing?

1.Reduce noise in the environment

2.Wear well-fitted hearing protection



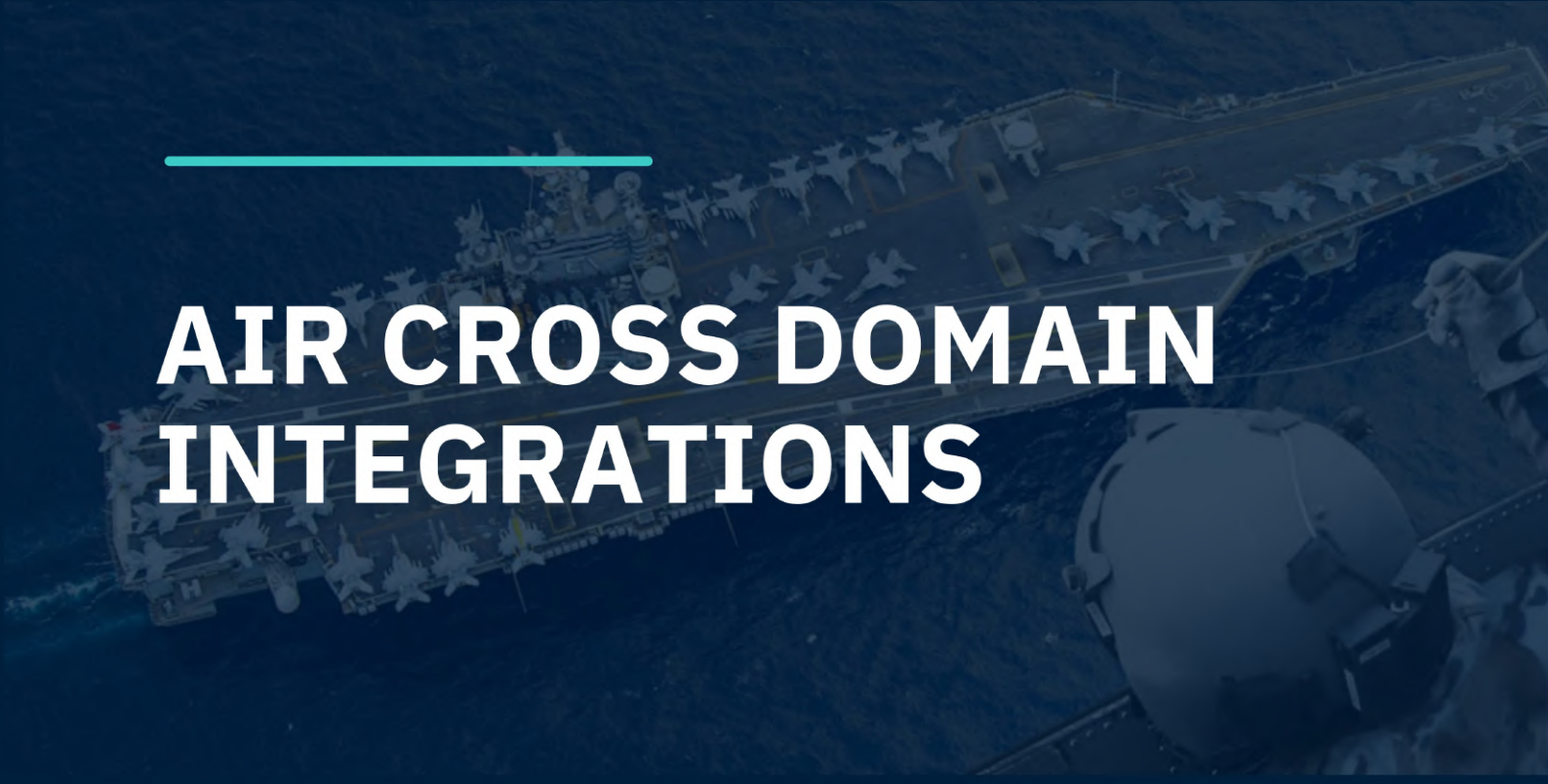
Noise-induced Hearing Loss increases significantly during the first ten years of exposure at above 4,000Hz

CROSS DOMAIN INTEGRATION

by Maj (U) Alli Farid

In any conflict or crisis in the world today, it is very unlikely that it will require a single service response. This is why joint operations have dramatically increased in importance as they have the potential to be highly effective as the various assets and capabilities within the different single services can complement, enhance, and compensate each other's' strengths and limitations. As such, over the past decades more and more cross-domain integrations have been carried out especially between the air domain and other domains.

In order to ensure effective cross-domain integration, there must be mutual trust and understanding between all the parties. Historically, the cooperation between players in these different domains have shown that it can be an extremely effective mean to end conflict. The only downside is that once the conflict or crisis ends, the cooperation between the parties tend to diminish and the only way to deal with such issue is to maintain interaction through frequent training, exercises as well as liaisons.



AIR CROSS DOMAIN INTEGRATIONS

AIR-LAND INTEGRATION

The main objective of Air-Land Integration is to maximize the combat power in an operation by coordination and synchronizing efforts and capabilities from the air and land domains. This involves a number of processes including planning, coordination, command and control and other associated processes within a certain battlespace. Air power can take advantage of land forces through its thorough understanding and awareness of land battlespaces whereas the land forces can definitely benefit from the additional firepower required to create or maintain freedom of action.

Although control of the air which is mostly solely provided by air power essentially enables freedom of manoeuvre for land forces, Air-Land Integration is still required for missions such as Intelligence, Surveillance and Reconnaissance (ISR), attacks and mobility requirements. This may also include Close Air Support (CAS) and Close Combat Attack (CCA) operations required by land forces.

For the RBAirF, Air-Land Integration encompasses a number of operations. For example, the RBLF requires air assets for mobility to move to and from theatres of operations using the Blackhawk S70i. Previously, the RBAirF was also able to provide CAS for manoeuvring land force elements using the recently decommissioned Bolkow BO-105.

AIR-MARITIME INTEGRATION

Air-Maritime Integration is the understanding, combination and application of air and maritime assets, procedures and capabilities to enhance operational effectiveness in both domains. Both the air and maritime domains share a certain degree of similarity, particularly the scale and strategic scope, the degree of control which forms the basis of freedom of manouvre as well as others.

Maritime capabilities usually depend on ISR and combat air capabilities to allow them to operate more effectively and safely. Maritime air defence capabilities found in battleships or other vessels on the other hand also provide the benefit of protection for air assets operating within the area. It is however important to note that the critical requirement and challenge for this area of integration is the timely sharing of information across all the involved platforms and is a very important factor for mission success.

For the context of RBAirF, maritime ISR can be provided by assets such as the UAS, Blackhawk S70i as well as the incoming C-295 aircraft. These information and date will be very useful to RBN to further enhance the joint operational effectiveness across both services.

FLIGHT SAFETY:

KOBE BRYANT'S HELICOPTER CRASH

by Lt (U) Qawie

KOBE BRYANT IS FAMOUS FOR BEING ONE OF THE BEST BASKETBALL PLAYERS IN THE HISTORY OF THE NBA. HE PLAYED GUARD FOR THE LOS ANGELES LAKERS FOR 20 YEARS. HE WAS KNOWN FOR HIS TOUGH DEFENSE, VERTICAL LEAP, AND ABILITY TO SCORE WINNING BASKETS AT THE END OF THE GAME. HE IS WIDELY CONSIDERED THE BEST BASKETBALL PLAYER OF THE 2000S AND PERHAPS ONE OF THE BEST OF ALL TIME.

The Sikorsky S-76B

The tragic helicopter crash involving Kobe Bryant on January 26, 2020, shocked the world and raised significant questions about flight safety. This case study delves into the incident, exploring the factors contributing to the crash and proposing safety measures to prevent similar occurrences.

On the day of the accident, a Sikorsky S-76B helicopter departed from John Wayne Airport in Orange County, California, in transit to Camarillo Airport. The flight, operated by Island Express Helicopters, carried nine passengers, including Kobe Bryant, his daughter Gianna, and a pilot. The helicopter crashed into a hillside in Calabasas, California, amid foggy and low-visibility conditions, resulting in the tragic loss of all onboard.


Remnants of the crash

Pilot Ara Zobayan's last communication with Air Traffic Control prior to the tragic crash occurred around 9:44 a.m. He informed them that he was ascending to 2,300 feet to evade a layer of clouds. Within a minute, the helicopter descended over 1,000 feet into the rugged terrain.

Zobayan, who had amassed more than 8,200 flight hours, had requested special clearance that morning to operate in adverse weather conditions instead of adhering to the standard regulations, which mandate a minimum visibility of three miles.

FACTORS CONTRIBUTING TO THE CRASH

Response team at the crash site

01

Adverse Weather Conditions:

Weather conditions, particularly dense fog and low visibility were prevalent in the area at the time of the crash. The National Transportation Safety Board (NTSB) investigation identified weather as a significant factor affecting flight safety. Poor visibility can impede a pilot's ability to navigate safely, especially in hilly terrain.

02

Pilot's Complacency in Decision-Making:

The pilot, Ara Zobayan, made the decision to proceed with the flight despite the adverse weather conditions. The pressure to fulfill Kobe Bryant's travel needs and the pilot's familiarity with flying in challenging conditions might have influenced this decision. However, the NTSB later highlighted potential lapses in judgment regarding weather assessment and risk management.

03

Spatial Disorientation

Spatial disorientation occurs when pilots lose awareness of their aircraft's position and orientation relative to the Earth's surface. In conditions of reduced visibility, such as fog, pilots can experience spatial disorientation, leading to incorrect control inputs and loss of control. The hilly terrain of Calabasas may have exacerbated the risk of spatial disorientation.

SAFETY RECOMMENDATIONS

Remains investigation

01

Enhanced Weather Awareness:

Pilots and flight operators should prioritize comprehensive weather briefing and analysis before every flight. This includes assessing current and forecasted weather conditions along the planned route, as well as considering alternate routes or delaying the flight if adverse weather is anticipated.

02

Risk Management Training:

Aviation organizations should provide pilots with comprehensive training in risk management and decision-making. Emphasizing the importance of recognizing and mitigating risks, including weather-related hazards, can help pilots make safer choices during flight operations.

03

Technology Integration:

Integration of advanced weather forecasting tools and real-time weather data into cockpit instrumentation can enhance pilots' situational awareness and decision-making capabilities. Additionally, the development and adoption of enhanced vision systems (EVS) and synthetic vision systems (SVS) can improve visibility during adverse weather conditions, reducing the risk of spatial disorientation.

ROYAL BRUNEI AIR FORCE

PHOTO GRAPHY

Competition

THEME

- RBAirF Events
- RBAirF Daily Routine
- RBAirF Assets
- RBAirF Personnel

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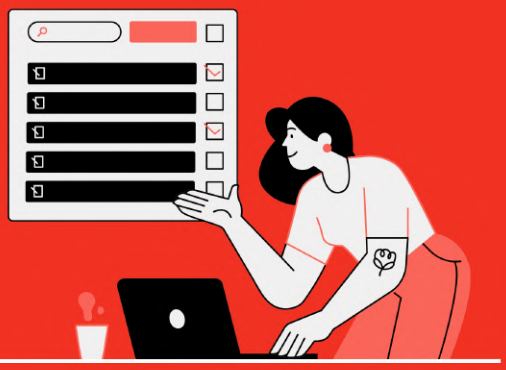
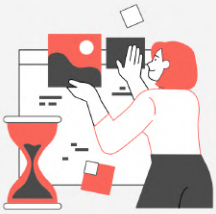
Efficiency Tips: Develop Effective Habits



Start Now!



START SMALL AND BE CONSISTENT

Consistency is key, commit to practicing the habit daily to reinforce its development.

SET CLEAR AND SPECIFIC GOALS

Make your goals measurable, achievable, and relevant to keep yourself motivated.

TRACK YOUR PROGRESS

Keep a habit tracker or journal to monitor your daily adherence to the habit.

USE POSITIVE REINFORCEMENT

Celebrate small wins and reward yourself for sticking to the habit. Positive reinforcement encourages continued behavior.

BUILD A SUPPORT SYSTEM

Share your habit-building journey with friends or family who can encourage and support you.

FOCUS ON THE WHY

Understand the reasons behind developing the habit and its positive impact on your life.

LEARN FROM SETBACKS

Accept that setbacks are a part of the habit-building process. Analyze the reasons for setbacks and use them as opportunities to improve.

REVIEW AND ADJUST

Visualize yourself performing the habit effortlessly and achieving your goals.

IMPLEMENT HABIT STACKING

Attach the new habit to an existing one that is already well-established. This way, you build on an existing routine to develop new habits seamlessly.

VISUALIZE SUCCESS

Regularly review your habit-building journey and assess the effectiveness of the habit.

TOOL CALIBRATION DEVICE

Ensuring Precision

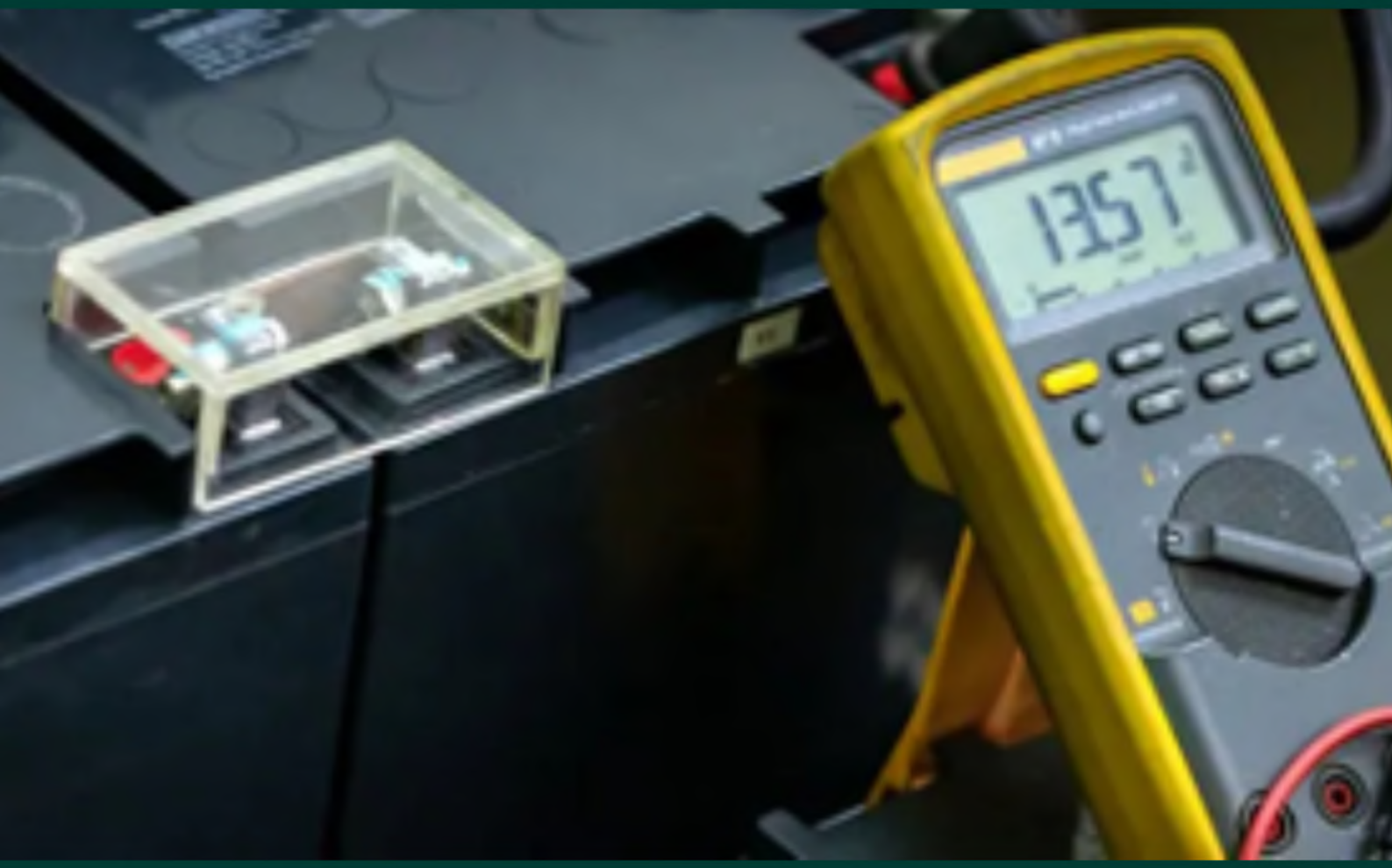
by Lt (U) Amirul Ariff

In the era of technology and machineries, precision is not just a preference but a necessity. Tool Calibration is a significant factor to guard against errors within processes to make sure that measurements remain accurate and reliable. While the technicalities of calibration procedures are well-documented, personal experiences often provide a reminder of its significance in real-world applications. It contributes to multiple factors namely safety, accuracy and others depending on the application.

At its core, calibration is the process of fine-tuning and verifying the accuracy of measurement tools and equipment. From simple rulers to complex machinery, a wide array of instruments requires regular calibration to maintain their precision. The consequences of neglecting calibration can be dire, ranging from minor errors in production outputs to catastrophic safety hazards. Thus, calibration serves as a reference of quality assurance in different situations and applications.

The calibration process unfolds in a series of meticulous steps aimed at ensuring accuracy and reliability. It begins with a thorough inspection of the tool, identifying any deviations from the desired standards. Skilled technicians then make precise adjustments to bring the tool back into alignment.

Finally, verification tests are conducted to validate the accuracy of the recalibrated instrument. Throughout this process, adherence to calibration standards and traceability to reference standards are paramount to ensure the reliability of measurements. The concept of calibration is standard throughout different applications as there will always be a reference point that indicates it is calibrated.



In the bustling world of electronics, a simple yet crucial lesson unfolded during a calibration exercise involving MOSFETs. These tiny components play big roles in various electronic devices, but their accuracy relies heavily on something called reference voltage. In one instance, a slight deviation in the reference voltage caused readings to go haywire, throwing off the entire system. It was like trying to read a map with a compass that pointed in the wrong direction. Learning that calibrating with the reference voltage accurately is important to ensure accurate readings from the MOSFETS. It's a small detail, but it makes a big difference in ensuring electronics work the way they should. It shows that the tiniest component contribute to real life applications and its deviation with the lack of calibration.

Across industries, calibration plays a pivotal role in ensuring quality control and regulatory compliance. In aerospace, calibrated instruments guide the fabrication of intricate components, ensuring the safety of air travel among other industries as well.

Despite its importance, maintaining calibration schedules poses challenges, including resource constraints and downtime. However, proactive measures can mitigate these obstacles. Implementing robust maintenance schedules and investing in automated calibration systems streamline processes, minimising disruptions while ensuring adherence to standards. Calibration management software offers a centralised platform for tracking calibration activities, facilitating compliance and enhancing efficiency. In the relentless pursuit of precision, tool calibration stands as a beacon of assurance, guarding against errors.. By combining technical expertise with personal experiences, professionals can underscore the importance of calibration and strive for excellence in any application. As industries evolve and technologies advance, the significance of calibration remains unwavering, making sure staying in a realm of precision and reliability.

ARTIFICIAL INTELLIGENCE IN MOBILE PHONES

by Lt (U) Nazwan

Water Resistance

AI

Long Battery Life

Fast Charging

Samsung S24 Ultra

Over the years, the pace of the evolution of technology has dramatically increased. One of the essential daily gadgets used by practically everyone is the mobile phones and without it, difficulties will definitely arise especially in executing our jobs. This is due to the fact that phones nowadays are not merely means of communication, they provide tools for task management, scheduling, documents sharing, allowing virtual meetings and many other functions. It is important to note that 20 years ago we only had mobile phones that could be used to send short texts and make calls. Fast forward to today, so many new features have been introduced as mentioned previously.

Along with the growth of mobile phones, Artificial Intelligence (AI) has also emerged as a force, reshaping the whole abilities of mobile phones and also drastically changing the way the user interacts with mobile phones. From simple means of communication to advanced photography features and also security measures. A great example of the incorporation of AI is the recently launched Samsung S24 Ultra, packed with so many great features.

For example, when you take pictures, and you want to edit or remove certain unwanted elements of the picture you can simply erase it and the phone will use AI to regenerate the erased portion of the picture.

Additionally, AI in the previously mentioned mobile phone can be used for translation. For example you can simply highlight a text and it will translate it for you in an instant. Perhaps the most stunning feature is the AI live translation feature. You can basically speak to anyone in another language and the phone will translate it for you in near real time without having to wait.

Mobile phones nowadays are also equipped with personal assistants with AI. Siri, Google Assistant and many more have helped the users tremendously simply by doing simple things such as helping answer a call while the user is in a situation where they have to focus on other tasks as well as to manage their daily schedule and chores. These personal assistants may also suggest and recommend content to the user based on the data they gather over the internet.

With the help of AI, the safety of mobile phones has also been improved through the introduction of facial recognition login, fingerprint scanning and even voice recognition. Back then it was only the password as the main gate of security which can easily be breached by hackers.

The way the user makes use of the device is also constantly analyzed by the AI and through the patterns of usage, useful suggestions, applications, and news articles are usually recommended. These recommendations can have a positive impact on the users to help them to find out more about what their devices can do. Taking an example of such users that may be overloaded with many tasks, AI may suggest some apps that might help the users to prioritize the important tasks and also help to remind the submission of their task.

Although the advantages and benefits of AI are overbearing, we must also not take lightly the potential risks of using AI. Most sites require personal data in order to gain full access such as credit card data, full address of the users and even family details and these stored data are prone to cyber hacking. In some instances these can simply be done by clicking on a rogue link sent by anyone.

Another drawback of having AI is becoming too dependent on it and not relying on human natural skills or intellectuals. With these advancements we rely less on each other and there is so much less physical interaction compared to 20 years ago.

BREATHING TECHNIQUES FOR EFFICIENT RUNNING

by Lt (U) Ahmad

Efficient breathing is crucial for runners striving to optimize their performance especially during long runs. Proper breathing techniques does not only enhance oxygen intake but also improve endurance, prevent fatigue, and support overall well-being during runs. Whether you're a beginner or a seasoned athlete, mastering these breathing strategies can significantly enhance your running experience and endurance.

Firstly, focus on rhythmic breathing synchronised with your strides. Coordinate your inhales and exhales with your footfalls, aiming for a consistent pattern. Many runners find a 3:2 ratio effective, inhaling for three steps and exhaling for two. This rhythm helps maintain a steady flow of oxygen to your muscles, reducing the risk of cramps and fatigue.

Diaphragmatic breathing, also known as belly breathing, is another technique to enhance efficiency. Instead of shallow chest breathing, engage your diaphragm to draw air deep into your lungs. Practice expanding your belly with each inhale and contracting it with each exhale. This technique maximizes oxygen exchange and reduces the effort required for breathing, allowing you to sustain longer runs with ease.

Furthermore, it is also recommended to maintain relaxed shoulders and jaw to prevent tension that can restrict airflow and release any tightness in these areas while running, allowing for smoother, and more effortless breathing. Relaxation techniques such as progressive muscle relaxation or mindfulness meditation can help you cultivate this relaxed state during your runs.

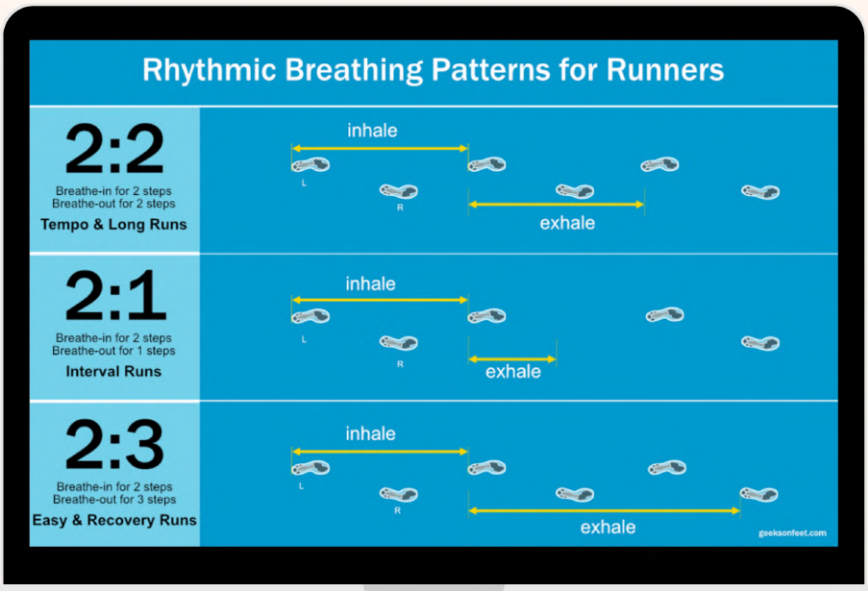
HELPING YOU RUN FASTER AND FURTHER

> "I breathe in strength and breathe out weakness"

Incorporating breath control exercises into your training regiment can also improve respiratory efficiency. Practice breath-holding drills to increase lung capacity and tolerance to high-intensity efforts.

Interval training sessions with focused attention on breath regulation can train your body to adapt to different breathing patterns under varying levels of exertion.

Lastly, stay mindful of your breathing throughout your run. Pay attention to any signs of discomfort or irregularities in your breath, adjusting your pace or technique accordingly. Consistent practice and mindfulness will help you develop a natural, efficient breathing rhythm that supports your running goals.



AT A GLANCE

- **Rhytmic breathing ensures steady oxygen flow to the body and improves performance**
- **Diaphgramatic breathing improves endurance by providing higher amounts of oxygen per breath**
- **Breath control exercises i.e. through interval training can improve lung and overall body performance**

In conclusion, mastering efficient breathing techniques is essential for runners aiming to maximize their performance. By incorporating rhythmic breathing, diaphragmatic breathing, relaxation techniques, breath control exercises, and mindfulness into your training, you can optimize oxygen intake, enhance endurance, and achieve peak running performance. Start implementing these techniques today to elevate your running experience to new heights.