



KERIS TERBANG

Issue 6 | 2021



Highlights:

Royal Brunei Air Force 55th Anniversary, a series of events commemorating the momentous milestone

Royal Brunei Armed Forces Diamond Jubilee, celebrating 60 years of defending the nation

CONTENT

- 04 THE BIRTH OF AN AIR FORCE
- 08 CELEBRATING THE MILESTONE
- 10 CELEBRATING 60 YEARS OF DEFENDING THE NATION
- 12 INTRODUCTION OF THE UAS
- 14 THE ROYAL AVIATOR
- 18 RBAF DIAMOND JUBILEE FLYPAST
- 20 ALWAYS READY
- 22 RECCE AND CONVOY EXERCISE
- 24 DINGHY DRILL TRAINING
- 26 RAMADHAN HIGHLIGHTS
- 28 CELEBRATING HARI RAYA
- 30 RBAF FOOTBALL LEAGUE CHAMPIONS
- 32 WOMEN IN FLYING OPERATIONS
- 34 ACHIEVING HERD IMMUNITY
- 36 ERRORS, MISTAKES AND VIOLATIONS
- 38 THE CONCEPT OF MULTI LAYERED AIR DEFENCE

VISION: TO DELIVER A ROBUST, RESPONSIVE AND RESOURCE EFFICIENT AIR FORCE



Lt Col (U) Pg Zulhusmi
Chief Editor

Assalamualaikum.

Welcome to Issue 6 of Keris Terbang.

Our quarterly magazine aims to provide an insight to the daily lives of the men and women of the Royal Brunei Air Force. A collection from varying backgrounds within our unit, granting a perspective of the expertise and professionalism we have to showcase.

In this edition of Keris Terbang we have provided a depiction throughout our second quarter of 2021, which includes our various activities, engagements and many more exciting articles to read through. As a highlight for this edition, whilst we have all been busy with the upcoming national celebrations, it is also a proud moment for the Royal Brunei Armed Forces in celebrating its 60th Anniversary. In addition to that, the RBAirF proudly celebrates its 55th Anniversary alongside. With so many key moments in our history as a military in 2021, we have continued to persevere throughout the ‘new normal’ whilst adapting to changes and being flexible in our approach.

I hope that you enjoy the amazing work done by the KT editors and the articles the team has prepared, let us take this opportunity to reflect on our organisation and appreciate the hard work put in. Please continue to support us with any articles, stories or images you would like to include in future editions. Again, I would like to say that **“a story and its lessons are only useful if shared”**.

Deputy Chief Editor
Cpt (U) Alli Farid

Editorial Committee
Maj (U) Adieb
Cpt (U) Ammar
Cpt (U) Hamizan
Cpt (U) Fatin
Cpt (U) Zaki
Cpt (U) Rusyduddin
Cpt (U) Selawati

Contributing Writers

Cpt (U) Hazwan
Cpt (U) Ammar
Cpt (U) Alli Farid
Cpt (U) Hamizan
Cpt (U) Haqim
Cpt (U) Ruziman
Cpt (U) Fatin
Lt (U) Alauddin
Lt (U) Fuad
Lt (U) Roy

Lt (U) Khalid
Lt (U) Syarafur
Sgt (U) Izzah

Pictures and Distribution
A2 RBAirF

Design and Layout
Cpt (U) Alli Farid
Lt (U) Syarafur

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



**Lt Col (U) Muhammad Walee
bin Hj Roslie**

“We are all leaders – leaders of teams, of friends and family and we have the power to influence. Lead from the front and be the example”

The COVID-19 pandemic is first and foremost a public health crisis, whatever its immediate strategic knock-on effects, or longer-term geopolitical implications. Unsurprisingly, at a time of near-universal challenges, military is required to provide operational support to government during large-scale civil support to help combat the pandemic. At the most basic level, the military possesses a national command network and constitutes a pool of disciplined manpower, including reserves, that can be deployed at relatively short notice to supplement civilian frontline services during national emergencies.

The months of May and June also represent special achievements for the RBAF as it celebrates its 60th anniversary, and also the RBAirF, celebrating 55 years since its formation. Throughout these years, RBAirF too have stood up, supporting the COVID-19 Task Force by placing a substantial number of military personnel on higher readiness and on standby. RBAirF specifically have continuously assisted with repatriation flights and supported extraction. of passengers from remote areas around Brunei hit by the virus.

To be successful, our top priority is focused on transforming the culture throughout organisation. We need a change in mindset for the aircrews and support teams. We need to look at the way we do business as a contributor to our nation’s business in everything we do. We have to ensure that our Airmen and Airwomen at the lowest echelon know how they fit – and if there is a disconnect and we have to figure out how to bridge the gap. We will need continuously build a positive culture with the desire to serve, to serve hard and to serve well.

Our military might is not reliant on our equipments – it’s our Airmen and Airwomen. We have been trained to be tough and adaptable, and will need to continue to take the fight to overcome the impacts of COVID-19, simultaneously maintaining our defence capabilities.

The wings leadership need to reset, learn about the new priorities and focus on a new way of looking at challenges. Looking forward, I hope that we can continue this momentum and move forward for the betterment of the organization. The culture shift won’t happen overnight and will be a lot of work, but the payoff will be worth it in the end. A healthy fleet not only encompasses the aircrafts, but also includes the ground capabilities and getting them coordinated and integrated. Safety plays a big part in that. The birth and growth of these organisations do not happen overnight, they are the result of unparalleled commitment and dedication of all personnel, including those currently serving and those who have served before. I wish everyone good health and pray that we will be under Allah SWT protection especially in these trying times. Thank you and happy celebrating to all.



THE BIRTH OF AN AIR FORCE

By Cpt (U) Fatin

This year marks the 55th Anniversary of the RBAirF since its formation on the 24th of June 1966. The five roles of RBAirF in defending the national airspace, providing air surveillance of land and maritime borders, providing air support for land defence, providing air support for maritime defence and providing air support for national tasks are symbols of the growth and expansion the RBAirF has steadily acquired throughout its 55 years journey.

Looking back to the history, RBAirF began as a humble unit in 1965. That year, interestingly Brunei had initiated the flying doctors and troop lifts to be carried out by helicopters specifically into rural areas which were then inaccessible by roads. Initially, the helicopters used were the Sikorsky S55.

Additionally, three MK10 helicopters came in 1966 and took the role in providing medical necessities. This resulted in the formation of a Helicopter Platoon signifying the birth of an air force in Brunei Darussalam.



In 1970, the Helicopter Platoon was further progressively expanded into an Air Wing with the formation of its first squadron equipped with two Bell 205A-1S helicopters. Years later, the Air Wing upgraded its Bell 205 to Bell 212 in 1974. Additionally, in 1978, the establishment of Parachute Airborne Tactical Delivery Unit (PATDU) further signified the Air Wing's efforts to expand its operational capabilities by adding the role of delivering tactical aerial supplies to the troops in the jungle. Eventually, the role of PATDU expanded to include conducting parachute training as well as the formation of a Jungle Rescue Team (JRT).



Winners of the parachute jumping competition with Cpt Mat Limin



11 years later, the growth of the Air Wing was further made possible with the introduction of a second squadron known as No. 2 Squadron in 1981, equipped with Bolkow BO 105 helicopters armed with rockets with the capability to provide Close Air Support (CAS) in providing fire power to support Land Force operations. Additionally, BO 105 can also be used for surveillance operations for both border and maritime patrols.



1ST October 1991, the designation of Royal Brunei Air Force as an independent RBAF service

In progressing towards upholding its role to the overall RBAF vision and mission in defending national airspace, sovereignty and territorial integrity, the Air Force acquired a new Ground Based Air Defence (GBAD) asset in 1995. With this new Rapier Short Range Air Defence (SHORAD) system introduced to the Air Defence Battery, its role in the protection of national airspace was further enhanced. Furthermore, in 1997, the RBAirF added the Sikorsky S-70A and CASA CN235-110M to its aircraft fleet as well as an additional Air Defence system in the form of Mistral Very Short Range Air Defence (VSHORAD) System in 1999. Progressively, more assets were introduced to the RBAirF including the Sikorsky Blackhawk S70i helicopters in 2013.





April 1996

*His Majesty Sultan Haji Hassanal
Bolkiah Mu'izzaddin Waddaulah
presenting the Panji-Panji Pasukan to
Angkatan Tentera Udara Diraja Brunei*



CELEBRATING THE MILESTONE

By Cpt (U) Fatin

To mark the significant milestone of 55 years' journey of RBAirF, the appointed committee has enlisted a number of events throughout the month of June and July 2021.

The series of events began with the Doa Kesyukuran Ceremony. It was held on 23 June 2021 at Surau Al-Barakah, Rimba Air Force Base. The event commenced with the recital of Al-Quran, followed by mass Maghrib prayer, Sunnat Hajat prayer, recital of Surah Yaasin, Doa Kesyukuran and concluded with mass Isya' prayer. RBAirF personnel from all ranks and vocations all expressed their gratitude towards Allah Subhanahu Wa Ta'ala for blessing the air force with achievements and the contributions.



On 25 June 2021, as part of the 55th Anniversary, the RBAirF also held the Surah Yaasin and Tahlil recitation at Royal Mausoleum Building for the late parents of His Majesty the Sultan and Yang Di-Pertuan of Brunei Darussalam, Al-Marhum Sultan Haji Omar 'Ali Saifuddin Sa'adul Khairi Waddien ibni Al-Marhum Sutan Muhammad Jamalul Alam, Al-Marhumah Duli Raja Isteri Pengiran Anak Damit binti Al-Marhum Pengiran Bendahara Pengiran Anak Abdul Rahman and also Al-Marhum Duli Yang Teramat Mulia Paduka Seri Pengiran Muda Haji 'Abdul 'Azim ibni Kebawah Duli Yang Maha Mulia Paduka Seri Baginda Sultan Haji Hassanal Bolkhiah Mu'izzaddin Waddaulah.

The main event was held on the 26th of June 2021, which was a parade ceremony held at the Air Movement Centre, Rimba Air Base to commemorate the 55th Anniversary of RBAirF. The parade was led by two contingent commanders consisting of personnel from the Operations Group and the Support Group. The event also included a cake cutting ceremony.

An article from the series of RBAirF Anniversary celebrations was also published at the Rencana Khas section of the Pelita Brunei newspaper on 28 June 2021. It has provided an insight of the achievements and journey the RBAirF have achieved and endured in its 55 years of service.

The final event to conclude the celebration is a Dinner Night held on 3 July 2021 at the Officers' Mess, Berakas Garrison. The guest of honour in attendance was His Royal Highness Major (U) Prince 'Abdul Mateen ibni His Majesty Sultan Haji Hassanal Bolkhiah Mu'izzaddin Waddaulah. Officers' in attendance were happy to be able to celebrate this year's anniversary with a Royal Aviator in presence.

FEATURE

With the momentous achievement of reaching its 55th year anniversary, the Commander of RBAirF, Brigadier General (U) Dato Seri Pahlawan Mohd Sharif bin Dato Paduka Haji Ibrahim has constantly reminded every personnel the importance of maintaining active contribution and dedication towards the success of the organisation.



“The acquisition of assets alone can never contribute to a capability without the presence of skilled personnel”



5
5
Y
E
A
R
S



CELEBRATING 60 YEARS OF DEFENDING THE NATION

By Lt (U) Syarafur

The RBAF has come a long way, starting with just a small unit consisting of sixty personnel trained at Port Dickson, Negeri Sembilan, and now, grown as a full-fledged organisation capable of delivering its vision and missions. On the 31st May 1961, the Brunei Malay Regiment was formed and decades later, it was known as the Royal Brunei Armed Forces following the country's independence in 1984. The organisation's roles and responsibilities have always been to maintain the sovereignty and territorial integrity of the country, and to assist other government agencies when required in order to maintain public order and good relations with the community.



Every year, the organisation aims to grow better in order to keep up with the modernisation occurring around the world. His Majesty Sultan Haji Hassanal Bolkiah Mu'izzaddin Waddaulah ibni Al-Marhum Sultan Haji Omar Ali Saifuddien Sa'adul Khairi Waddien, Sultan and Yang Di-Pertuan of Negara Brunei Darussalam officiated the Defence White Paper as a guideline for the RBAF to move forward.





31st May 2021 marks the 60th anniversary of the organisation, a significant feat for the country. The RBAF Diamond Jubilee was celebrated with the annual Grand Parade, albeit the current Covid-19 pandemic still affecting major parts of the world. The capital was packed with crowds and military personnel who woke up early just to get the best seats so they can enjoy the Grand Parade. Some even rented hotel rooms nearby the Taman Haji Sir Omar Ali Saifuddien while others came early and prayed their Fajr prayer at Sultan Omar Ali Saifuddien Mosque.

The day began with a dry run for the personnel involved with the parade. Everyone was in high spirits and was eager to impress the crowd especially their family members, and the only way to do this was to give their best during the actual parade. The sirens signified the arrival of His Majesty Sultan Haji Hassanal Bolkiah Mu'izzaddin Waddaulah ibni Al-Marhum Sultan Haji Omar Ali Saifuddien Sa'adul Khairi Waddien, Sultan and Yang Di-Pertuan of Negara Brunei Darussalam, followed by the national anthem played by the RBAF band marking the start of the Grand Parade. The Grand Parade was excellent, clean and inspired with joy of the anniversary. This year's celebration was also memorable as the flypast was led by His Royal Highness 920 Major (U) Prince 'Abdul Mateen, piloting the Blackhawk S-70i towards the end of the parade.

The celebration continued with His Majesty visiting the capabilities showcase outside the Brunei Arts and Handicraft Centre where several new capabilities for the RBAF were displayed. Amongst them were the Unmanned Aerial Systems (UAS), Night Vision Goggles (NVG) and Gatling Gun for the RBAirF. This was followed by an afternoon lunch at the Serambi Suluh Hall, Tarindak D'Seni. His Majesty and members of the Royal Family met with former RBAF leaders and personnel who served and worked tirelessly for the country.



INTRODUCTION OF THE UAS

By Cpt (U) Ruziman



THE UNVEILING

On the 31st of May 2021, the RBAF celebrated its 60th Anniversary where the Unmanned Aerial System (UAS) was also officially unveiled. A Grand Parade was held at the Taman Sir Muda Omar 'Ali Saifuddien, which was then followed by the viewing of the exhibition of RBAF's new assets by His Majesty and members of the Royal Family. This was then continued with the unveiling of the UAS through the launching of the UAS Integrator by His Majesty at the Brunei Arts and Handicraft Centre Bandar Seri Begawan. Also present at the unveiling event was the Chargé d'Affaires Emily Fleckner and Chief of the Office of Defense Cooperation Commander Randall Jones.



At the event, a brief presentation was conducted by the the project manager of the Insitu, Tim Brown followed by a demonstration by two RBAirF operators using the UAS simulator.

EXPERIENCE DURING ACQUISITION

As part of the preparation for the acquisition of the UAS, several meetings took place within the Integrated Project Team (IPT) which discussed preparation and acquisition strategy of the UAS. The strategy had also included the site setup and infrastructure validation, establishment of power, water and telecommunication utilities as well as the retrieval of correct map format from the Survey Department. The IPT also coordinated with the Department of Civil Aviation (DCA) in pursuing the airspace management for the UAS. Administrative works in coordinating the movement of the Insitu personnel to Brunei was also done in line with the Covid-19 SOP. With the presence of the Insitu personnel in Brunei, the acquisition of the UAS commenced through a Site Acceptance Test (SAT) which was a significant portion of the User Requirements Document (URD).

SITE ACCEPTANCE TEST (SAT)

The SAT composed of a single sortie and was performed on Wednesday, 09 June 2021 where the launching took place and was initiated on the ground by the Deputy Commander of RBAirF. The SAT is performed by the Insitu personnel at Bukit Agok hub and Rimba Spoke as per the base test requirement defined in the SAT. While performing the demonstration, a flight test card addressing all 73 requirements were checked by the qualified operator from the RBAirF.

Following the launch, a high-pass for recovery to validate the approach setup was done simultaneously with a check-in with the Air Traffic Controller to validate the transponder functionality prior to departing the area for the purpose of border surveillance. An Air Vehicle (AV) handoff to Rimba took place to demonstrate coverage of two border areas outside Line of Sight (LoS) from Bukit Agok, but within view from Rimba, ten minutes of loiter time were performed at each point of interest which evaluated the system Intelligence Surveillance and Reconnaissance (ISR) capability whilst under Rimba control. Once ISR evaluations were completed, the AV control was then returned to Bukit Agok for the remainder of the sortie.





THE ROYAL AVIATOR

By Cpt (U) Hamizan

The 60th anniversary of the RBAF was nothing short of monumental. As the RBAF marked yet another remarkable milestone, No. 1 Wing, Operations Group of the RBAirF achieved another landmark feat of their own by taking part in a formation flypast that was more than a decade in the making.

During the RBAF Golden Jubilee parade at the capital, the RBAirF had the honour of executing a six-aircraft 'diamond formation' that was led by His Royal Highness Major (U) Prince 'Abdul Mateen ibni His Majesty Sultan Haji Hassanal Bolkiah Mu'izzaddin Waddaulah.

OFFICER TRAINING

His Royal Highness Major (U) Prince 'Abdul Mateen embarked on his military career more than a decade ago as an Officer Cadet (Intake-102) at the Royal Military Academy Sandhurst (RMAS), Surrey, United Kingdom from 9th May 2010 until 15th April 2011. After undergoing training for almost a year, HRH successfully completed his Officer Cadet Course and was awarded with the rank of Second Lieutenant.

His momentum however did not stop here, as a year later HRH was awarded again with the rank of Substantive Lieutenant which took effect on 9th July 2012. He was presented with his rank insignia in a ceremony that was held at the Berakas Garrison Officers' Mess on 14th September 2012. Within the next four years, HRH achieved the rank of acting Captain, effective 9th May 2016 in another ceremony held on the 31st August 2016 at the Bolkiah Garrison Officers' Mess.



In an interview with the local media at the ceremony, HRH made a statement *"I'm going to be doing my flying training, which will be starting next week, and I think I'll take it step by step. I'll try and finish this flying training, come back, specialise, then we'll see what happens from there"*. This was the precise moment where the world saw HRH's desire to enter into the military aviation world and also a moment that brought the RBAirF great honour and pride.

FEATURE

Upon the completion of his flying training, HRH was awarded the rank and title of Substantive Captain (U), effective 9th May 2017 in the RBAirF. HRH was presented his rank insignia in a ceremony held once again at the Bolkiah Garrison Officers' Mess. Finally, to top off HRH's rise through the ranks, HRH was awarded the rank of Substantive Major (U) and took on the responsibility of Formation Flypast Leader, representing another significant notch in his belt and without a doubt, the main highlight of 2021.



BASIC FLYING TRAINING

Despite his quick ascent through the ranks of the RBAirF over the years, HRH never faltered in his dedication towards progressing his career as a military pilot. On 28 April 2017, he began his Elementary Flying, Fixed Wing on the Grob Tutor 115E aircraft for seven months at the Royal Air Force (RAF) Cranwell, United Kingdom. He then furthered his training onto the Single Engine Rotary Wing (SERW) with the Squirrel HT1 trainer aircraft at the Royal Air Force (RAF) Shawbury, United Kingdom. HRH successfully completed his training and qualified as a helicopter pilot on 28th March 2018 which paved the way for another momentous milestone in HRH's career where he was awarded with his Pilot "Wings" insignia from the Royal Air Force (RAF) the next day. This was then followed by the award of Pilot "Wings" insignia of the Royal Brunei Air Force that was presented by His Majesty Kebawah Duli Yang Maha Mulia Paduka Seri Baginda Sultan Haji Hassanal Bolkiah Mu'izzaddin Waddaulah during the RBAF's 57th Anniversary celebration in 2018.



AVIATION PHYSIOLOGY TRAINING

As a qualified helicopter pilot, HRH had to undergo several compulsory aviation training courses such as the Aviation Physiology Training in Singapore. Back in 2018, HRH consented to attend a four-day full course of the Aviation Physiology Training at the Aeromedical Centre in Singapore. There, HRH was joined by other aircrew members of the RBAirF to go through the course together as a team, simultaneously experiencing various simulated aviation environments and its effects towards the human mind and body.



CONVERSION TO THE SIKORSKY BLACK HAWK S70I

Throughout his career in the RBAirF, HRH has flown several aircrafts including the likes of the Jet Ranger Bell 206-B and the Bolkow BO 105 as a familiarisation flight. Ultimately however, HRH decided to join the Black Hawk S70i fleet, commencing a conversion course to the platform and undergoing a month-long full length course of Ground School and Flight Simulator Training at the CAE, MPTC Brunei. HRH made his first flight on the Black Hawk S70i on 28th June 2018 after completing the basic ground training.



Furthermore, HRH's efforts has also displayed the highest level of proficiency and resilience, so much so that within a year, HRH was presented with the status of Limited Combat Ready (LCR) Co-Pilot (Day) on 22nd February 2019. Two years later, HRH went on to complete his night flying training, which involved night navigation, earning him the status of Limited Combat Ready (LCR) Co-Pilot (Night) on 18th May 2021. With this, HRH was officially able to fly the Black Hawk S70i aircraft both during the day and night. As HRH continued to move from strength to strength, he was eligible for upgrading and on the 26th May 2021, HRH successfully upgraded towards the status of Combat Ready (CR) Co-Pilot (Day) which included formation flying.



FORMATION FLYING "BLUE FORMATION" TRAINING FOR THE RBAF'S DIAMOND JUBILEE

The formation flypast training took place from 24 to 29 May 2021 and was led by HRH as 'Blue Lead'. As Formation Lead, he was responsible for the formation flight path, from departure to achieving Time-On-Target (TOT) overhead Taman Haji Sir Muda Omar 'Ali Saifuddin at the capital. All the while ensuring the safety and station keeping of each aircraft within the formation, an act of precision performed by HRH also prevented any flight safety threats that could jeopardise the formation. HRH's prowess and proficiency was evident and witnessed by the whole nation.





During the course of training leading to D-Day, HRH also raised several flight safety issues encountered during training, in an effort to create a heightened sense of awareness amongst the aircrew in preparation for D-Day. Came Monday, 31st May 2021, a historical moment took place, one that carried the pride of the RBAirF and the RBAF in general as HRH led the best formation flying display in conjunction with the Diamond Jubilee of the RBAF's 60th year.



Royal Salute to HRH 920 Major (U) Prince 'Abdul Mateen for representing excellence in the field and for executing one of the most momentous formation flypast in recent history. We pray that HRH will continue to be blessed with success.





RBAF DIAMOND JUBILEE FLYPAST

By Lt (U) Fuad

During this year's RBAF Diamond Jubilee celebration, I was privileged to be given the opportunity to be part of the ground coordinator team for the formation flypast. The team consisted of five aircrew supported by two signallers. It was rather challenging for me as I have very little experience in conducting this. To better prepare ourselves, our ground coordinator team attended the grand parade rehearsals prior to the actual event. The main aim of this was to record the sequence of events particularly the timings of each event. The significance of this was to identify checkpoints, that can be given to the flypast crew to further improve the precision of the flypast and to ensure that the formation will arrive at the centre of the Taman Haji Sir Muda Omar 'Ali Saifuddin (SOAS) during the exact part of the middle of the national anthem. Another challenge we encountered were the ongoing amendments to the sequence of events leading up to the final dress rehearsals, which affected the timings.

On the D-Day, the day started early with us setting up on the top floor of the Persatuan Guru-Guru Melayu Brunei (PGGMB) building in Bandar Seri Begawan. It was an ideal observation point as it had a clear overview of Taman SOAS, helping the team to observe the ground movements and at the same time the route of the formation aircraft. Our ground coordinator team was split into two. One team would stay at the building to coordinate with the aircrew and another would be on the ground in the vicinity of Taman SOAS to coordinate with the top team on the event concerning the ground movements. I was part of the ground team along with one crewman.

The arrival of His Majesty marked the start of the event. We stood by as the sequence of events carried on as per the final rehearsal, starting with the inspection of the Guard of Honour, followed by the sequences as rehearsed during the rehearsals. 'Lift off, Lift off, now!' Cpt (U) Khairuddin transmitted on the radio to the formation crew. The countdown starts, followed by the radio calls transmitted for each checkpoint with reference to the coordination from the ground movements and timings recorded. The final cue was initiated during the start of the National Anthem. I waited anxiously for the overhead marker, the beat of the drum in the middle of the anthem. The sound of the helicopter rotors could be heard from far away. Louder and louder as they flew closer to the Taman. As I stood next to the royal dais where the monarch stood, six Blackhawk S70i flew past steadily and elegantly. By the time the anthem was finished, everyone have successfully achieved their mission.

ROYAL BRUNEI AIR FORCE

FLIGHT SAFETY POSTER COMPETITION

**HOW MUCH DO YOU CARE ABOUT
SAFETY?**

**SUBMISSION DEADLINE
18TH DECEMBER 2021**

HOW TO ENTER:

- Produce a Poster to illustrate any flight safety related matter and of any theme
- Poster must be in **ENGLISH**
- Entries must be submitted in PDF format
- **A3 Printable**
- No limit for submission per person
- Open to **RBAirF** personnel



**PRIZES TO
BE WON!**

SUBMIT POSTER TO:

RBAIRF.FLIGHTSAFETY@GMAIL.COM

FOR FURTHER INQUIRIES, CONTACT
CPT (U) QAMARUL AT 7230130



ALWAYS READY

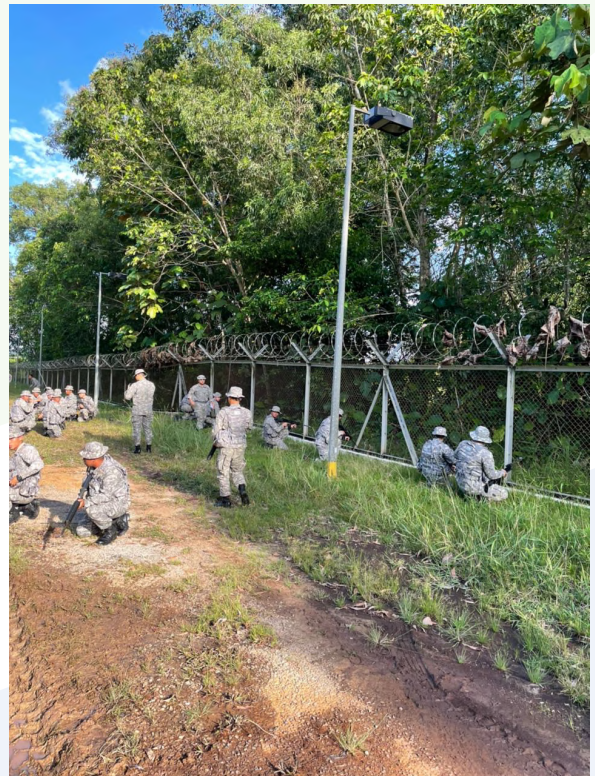
By Lt (U) Roy

As part of the ongoing preparation for the Hikmat Bersatu VI Exercise, 236 Squadron from No. 2 Wing conducted the squadron level exercise codenamed Perisai Biru for 5 days, from 7 June 2021 until 11 June 2021. The exercise was a collaboration between RBAirF Regimental (Police RBAirF RP), from No. 6 Wing as well as personnel from 77 Squadron, No. 7 Wing as umpires.

Additionally, the exercise was also aimed at understanding the currency of the Base Defence Standard Operating Procedure (BD SOP) in order to ensure that it is still relevant in the current operating climate. A total of 111 personnel took part in the exercise, in which the main players were from 236 Squadron and RP. They were divided into three troops which are troop A, B and C.

The exercise began as usual with the issue of Warning Orders to signify the start of the exercise. The Officer Commanding (OC) issued directives to set up defence preparation and this lasted for several hours. After the activation of the defence, the routine tasks started.

This routine tasks include Foot and Vehicle Patrol, Key Point Guard, Cordon and Search, Security Checkpoint, and Anti-Riot taskings. The troopers were also taught and given the opportunity to carry out on Platoon Attack concepts from Close Target Recce to Advance Contact within Rimba Air Base that simulate Fighting in Built-up Area (FIBUA) situations.



EXERCISE

“I’ve been involved in quite a number of exercises before. Although this seemed like a normal routine exercise with common scenarios, I still learn something new every single time”



Moreover, during the exercise another interesting scenario involving Improvised Explosive Device (IED) were also given to the exercise players. This was in the form of an IED planted near or inside critical infrastructure and then testing the response of the Base Defence personnel. To ensure the standards and objectives of the exercise were achieved, there were frequent scheduled visits from the umpires. They were also there not only to ensure the smooth running of the exercise, but more importantly to ensure the safety of all the personnel involved.



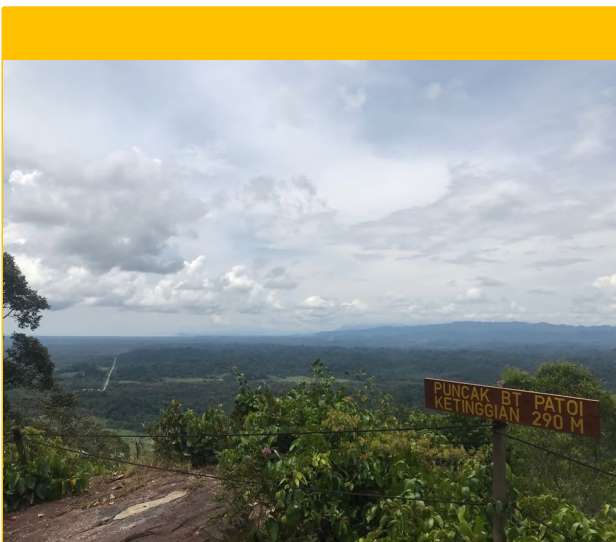
RECCE AND CONVOY EXERCISE

By Lt (U) Alauddin

Starting on the 4th of June 2021, No. 238 Squadron of No. 2 Wing conducted the Convoy and Recce exercise which was held over a period of four days. The exercise is part of the annual training schedule planned specifically for the air defenders to harness their skills and confidence prior to operational and bigger exercise deployments. Additionally, it was also aimed at identifying potential new locations for the Mistral Very Short Range Air Defence (VSHORAD) system, particularly in the Temburong area where limited recce have been done.



This exercise was also conducted to ensure that all Mistral Sites are well updated and serviceable as well as looking for new possible sites for any possible vital point that need to be protected. These sites need to be maintained periodically due to changes such as ground differences as well as building development. It also enhances the deployment, by allowing troops to deploy more rapidly as the area would be cleared and thus permitting easier movement with a clearer view of engagement. Within the exercise, elements of convoy movement drills were also practiced to refresh the squadron and all its personnel especially on the sequence of the convoy and correct practices.





Issue 2 Photo of the Quarter

Post turn-around inspection by ground crew just before an early freefall training sortie.

Taken by: Cpl (U) Mohammed Azwanee

PHOTO OF THE QUARTER

Have you ever taken photos that you have always wanted to share with everyone? Send us your best photographs and we will showcase the best one every quarter of Keris Terbang!

? How to Enter:

Please submit photographs via email to:

abdqawiy.yakub@mindef.gov.bn along with a simple declaration in the email that you are the sole creator and copyright owner of the submitted photograph/s.

You may submit up to 3 photographs. In order to be judged by the editorial committee without being stretched or distorted, each photograph must be submitted in .jpeg, or .jpg format and no larger than 10 MB.

? Who may enter:

All RBAirF personnel, TEMD and Civillian staff may enter.

? What to enter:

✔ Picture submissions must be RBAirF-related.

✔ Any photograph taken with a mobile device (phone or tablet) is accepted. The contestant certifies that he/she is the sole creator and copyright owner of the submitted photograph.

✔ Cropped photos are eligible. We will not accept digitally or otherwise enhanced or altered photos. Minor adjustments of pictures, including sharpening, contrast, toning, slight color adjustment and conversion to grayscale are acceptable.

✔ For a photo in which a person is recognisable, you must be prepared to provide a model release from the subject in the form of permission, whether written or verbal. Photos that violate or infringe upon another person's rights, including but not limited to copyright, are not eligible.

DINGHY DRILL TRAINING

By Cpt (U) Hazwan

MORE THAN JUST A REFRESHER

In aviation, safety is paramount. Aircraft are equipped with safety systems and mechanisms in order to ensure the safety of the pilot, aircrews and passengers are taken care of to the fullest. However, should the worst case scenario happens, the survival of the aircrews and passengers becomes the priority. It is therefore important for the aircrews to do their training on survival techniques. While it is impossible to simulate the emergency procedures on real aircraft, most of the training is done on the ground using facilities and simulated scenarios. One survival training that the aircrews need to train on is survival on water. In this case, the focus of the training is the use of life jackets and life rafts that are equipped in the aircraft. Life jackets and life rafts are two of the basic equipment that is needed on board when flying. They are used in the event of controlled emergency landing on the water to increase the chance of survivability of the aircrews and passengers. Thus, the aircrews need to be familiar with the usage of life jackets and life rafts for emergencies purposes.



It is also equally as important for the life jackets and life rafts to work the way they are designed for. This is where the role of the maintainers comes in which is to ensure that the life jackets and life rafts can be used when needed. In RBAirF, the equipment are maintained by Survival Equipment Section (SES), a section under the command No. 5 Wing. During maintenance, following maintenance procedures from the Original Equipment Manufacturer (OEM), it is sufficient that the SES personnel test the life jackets before maintenance and inflate the life raft on the ground using a blower. However, it is good for the SES personnel to see the equipment being tested on water and this is usually done concurrently with the aircrew's Dinghy Drill training.

TRAINING



A recent dinghy drill was conducted on 18 June 2021 at the RBAirF Swimming Pool. A total of 56 personnel consisting of aircrews and A2 personnel involved in the No. 1 Wing Dinghy Drill Refresher Course. The SES was requested to assist in the course mainly in the provision of the life raft and life jackets. SES personnel were also to supervise the usage of the equipment throughout the course. A total of 15 SES personnel was involved consisting of 5 SNCOs and 10 NCOs. Based on the results achieved at the end of the training it is clear that all parties involved in the conduct of the training and the provision of equipment have carried out their tasks properly.

Although the course is for the aircrews, it was also an opportunity for the SES to grab the benefits of being involved with the training. Firstly, it is an opportunity to see and appreciate their equipment being tested on water and are working as expected. This can help the SES personnel to understand better the mechanism of the equipment that they maintain. Secondly, it gave them the feeling of pride and satisfaction. Just like the feeling of an aircraft engineer seeing their aircraft flying, it is satisfying and good-feeling to see the equipment that they maintain work. This can increase their morale to continue to do good and adhere to the maintenance manual in maintenance. Lastly, it is an opportunity to teach and show to the new SES personnel on life jackets and life rafts. While they do theoretical practices, being involved in the course can help to teach the new personnel better.

In conclusion, life jackets and life rafts are important items in aircraft, as well as the usage and maintenance. In terms of maintenance, SES personnel is committed to doing their best to ensure the serviceability of the life jacket and life raft for the peace of mind, safety and survivability of the aircrews and passengers





RAMADHAN HIGHLIGHTS

By Cpt (U) Ruziman

MONTH OF TARAWIH AND TADARUS

The month of Ramadhan is a month full of blessings, where the gates of heaven are opened while the gates of hell are closed and devils are bound. It is the month where the third pillar of Islam, fasting in the month of Ramadhan is made obligatory. While the world still struggles with the COVID-19 pandemic, praise to Allah the Almighty that it is with His blessings that Brunei was able to curb the spread of the virus. With His blessings too, the RBAirF was able to embrace the month of Ramadhan to the fullest unlike the previous year where religious activities under the Ihya Ramadhan Programme were able to take place within all units under the RBAirF.

Ihya Ramadhan Programme activities included enlivening of the Surau Al-Barakah with the presence of RBAirF personnel performing congregational Sunnat Terawih and Witir prayers followed by Tadarus Al-Quran every night, making cemetery visits as well as conducting a ceremony for the embracing of Islam for a personnel during the month of Ramadhan.

“O you who have believed, decreed upon you is fasting as it was decreed upon those before you that you may become righteous.”

Surah Al-Baqarah 2:183

RELIGIOUS



CEMETERY VISITS

Cemetery visit is one of the activities which fell under the Ihya Ramadhan Programme. Each Wing of the RBAirF was assigned to various cemetery locations within the Brunei-Muara. For each cemetery visit, the visit commenced with a mass cleaning-campaign at the vicinity of the cemetery and then followed by the recitation of Surah Yassin, Tahlil and Doa Arwah.

This activity is one of the charitable activities conducted by the RBAirF during the holy month of Ramadhan. It also served as a way to enhance the spiritual development and cooperation amongst the RBAirF personnel as well as a mean to encourage the desire to serve and contribute to society.

RBAirF PERSONNEL EMBRACES ISLAM

In this holy month of Ramadhan, the RBAirF held a conversion to Islam ceremony at Surau Al-Barakah which marked a new beginning of life to a RBAirF personnel, Pvt (U) Amirul Azeeddin bin Moxsin from No. 2 Wing. The ceremony was witnessed by the RBAF Services Commander, RBAF Senior Officers, officers from the RBAirF and representatives from the Ministry of Religious Affairs as well as the family members of the new convert.

The event began with the recitation of verses from the Al-Quran by Cpl (U) Awang Muhammad Amiruddin Khairul Anuar bin Haji Awang Mohammad Yusoff followed by the Dzikir Marhaban and then a presentation of memento from the Commander of RBAF. The ceremony was then concluded with the recitation of the closing doa by Commander Haji Ainolnizam bin Haji Ibrahim, RBN, Head of RBAF Religious Department.

“So, whomsoever Allah wills to guide, He makes his heart wide open for Islam...”

Surah Al-An’am 6:125





CELEBRATING HARI RAYA

By Cpt (U) Ammar

A YEARLY TRADITION

Eid tradition dictates that all Muslims gather together to commemorate the conclusion of Ramadhan and to seek forgiveness amongst one another. Every year, the RBAirF celebrates Hari Raya in a grand manner whereby for the most part, every unit has a unique theme for its open office. However, in view of the COVID-19 pandemic, the government introduced national guidelines and regulations for this year's Eid celebration.

In particular, invited guests must be confined to a specific number as the event is designated as private, the practice of handshakes and hugs are discouraged, and any person who feel unwell or have concerning symptoms is not allowed to attend. Therefore, all unit under the RBAirF was required to come up with their own initiatives that must be in line with the guidelines.

These initiatives also include splitting the guests into groups with allocated time slots, and hosting the event on separate days. Despite the limitations placed on the celebration, everyone's mood was not dampened as they shared moments and had good times together. Unequivocally, Eid celebration this year will be one to remember as it was celebrated for the first time under the new normal, in line with the government's guidelines to contain the ongoing pandemic. Despite the new normal, everyone felt blessed and grateful to have been able to celebrate Hari Raya in moderation this year.

Despite these limitations, individual wings under the RBAirF each conducted their own gathering in accordance to the SOP, unlike the previous years where there were grand centralized events celebrating Hari Raya annually.

RELIGIOUS





RBAF FOOTBALL LEAGUE CHAMPIONS!

By Cpt (U) Haqim

The recent Covid-19 pandemic that has been affecting Brunei since 2020 has resulted in the closing down of most of indoor and outdoor activities especially those relating to sports. When we received the instruction to join the RBAF Football League, we were filled with excitement. RBAirF took the opportunity and decided to join and form a team although the annual competition was announced at a very short notice. The league consists of five teams, Ministry of Defence (MINDEF), Royal Brunei Land Force (RBLF), Royal Brunei Navy (RBN), RBAirF and Training Institute RBAF (TI RBAF). This year league was hosted by the RBN beginning from the 3rd June of 2021 until 9th June 2021.

I am honored to be elected as the team manager for the RBAirF team as this is my first experience to be involved in a football team management. Throughout my role as a team manager I have encountered several challenges which includes the team selection, and inexperience in management. This article will articulate my experience and measures, or steps taken as the team manager.

The first problem I encountered was regarding the team selection. The day before our first game against the RBLF, we held a selection process to determine the squad members. Due to a poor turnout, we decided to conduct the session again in the afternoon. This time the turnout was much better and we managed to compile a full squad ready for the next day. The reason for the poor turnout earlier was mostly due to the availability of players who mostly occupied with other commitments.



SPORTS

Then came the day of our very first match in the league against RBLF at the MINDEF football field. Without any training and enough preparation, we lost, albeit a very impressive display in my opinion. What I noticed was that during the game there were very little communication between the players as they were still getting used to each other. The commitment and desire was also lacking, hence costing us the game.

However, there was no time to be depressed as the next game was just three days away. The coaching staff and I called the players to report to training the next day and we started by reflecting on what we could have done better. There was no question on the commitment of the players after as they were all very eager to train.

With proper training and preparation, the RBAirF team won the remaining games against TI RBAF, MINDEF and RBN respectively. The last match in particular against RBN was hectic and nerve-wrecking but with the team's efforts and spirit, team RBAirF managed to carve out a win to become the champion of the RBAF league.

"The first loss was a great setback for us, it also became our wake up call to perform better for our next matches"

TEAM	GP	W	D	L	F	A	GD	P
RBAirF	4	3	0	1	5	12	7	9
RBLF	4	2	2	0	10	12	2	8
MINDEF	4	1	2	1	8	13	5	5
RBN	4	1	2	1	6	11	5	5
TI RBAF	4	0	0	4	23	4	-19	0

RBAirF Top Scorers:

16334 SSgt (U) Endy Vyzunny bin Hj Zarudin – 3 goals
50693 LCpl (U) Md Abd Quddus bin Matassan – 3 goals



WOMEN IN FLYING OPERATIONS

By Sgt (U) Izzah



What is unbeknownst to most, before the birth of the first female pilot, female aircrew have already been serving the skies for more than two decades. In 1998, the first intake of RBAirF crew women was introduced, and out of five who made the cut, only two crew women succeeded in receiving their wings and subsequently went to the Operations Wing to fly.

THE FIRST TWO CREW WOMEN

21049 WO2 (R) Fitriani binti Donglah Started her service with RBAF on 17 Feb 1997. She served as an aircrew at No 1 Sqn, Operations Wing RBAirF, and was one of the few and last female crew to fly with the Bell 212 accumulating almost 600 flying hours in total. Towards the end of her service she was posted to the Air Operations Centre, before ending her 18 year service in 2015.



WO2 Fitri's tour at No 1 Sqn exposed her to the likes of operational taskings such as Trooplifts, Live Winching as well as the regular Medevac call outs. One of the most memorable albeit frightening experience as she recalls, was during a training sortie out in Muara, during which, the Bell 212 experienced a failure on Engine No. 1, resulting in an emergency landing at Pulau Muara Besar. Another incident was an encounter with hydraulics failure whilst on a routine task in Belait area, again resulting in an emergency landing at Rampayoh (LP199).

LOOKING BACK



21053 SSgt (R) Mariah binti Suntai started her service with RBAF on 17 Feb 1997. Initially posted to 2 Sqn, RBAirF to fly with the BO 105 for a few months. Then, she was posted to fly with the CN-235 as a loadmaster. SSgt Mariah flew with the CN-235 until the end of her 20 year service in 2015, accumulating 900 total flying hours on all platforms.

Along her tour in No 2 Sqn, SSgt Mariah has undergone tasks ranging from trooplift, border patrols as well as underslung taskings on the BO 105. One of her most challenging times was her upgrade exam week, coinciding with an appendix operation that she had to endure. Nonetheless, her determination in passing her CAT 3 upgrade didn't deter her from performing and giving her best, thus giving her the sought after status of being one of the first female aircrew in RBAirF. A few years after her service on the BO 105, SSgt Mariah was posted to No 5 Sqn, transitioning platforms and career as a loadmaster on the CN-235, of which she continued to serve until the end of her career in RBAirF.

RAISING A FAMILY WHILST MAINTAINING A FLYING CAREER

It is inevitable that as a woman, managing the responsibilities that comes with being a female aircrew/loadmaster, with motherly and spousal duties will be coupled with numerous challenges. Time management is key, in order to attain and harmonize that work-family balance. Military flying duties is something that is unique, as it requires a highly committed sense of comradery, and the willingness and readiness to administrate duties at the squadron is equally important as it is at home.

WORDS OF ADVICE

The aspiration to become a female aircrew and the willingness to venture into a military flying career is highly encouraged. Despite the notion that deems military flying inappropriate for women to pursue, it is a profession that truly defines service to the nation, as RBAirF continues to be the sole air support provider up to today.

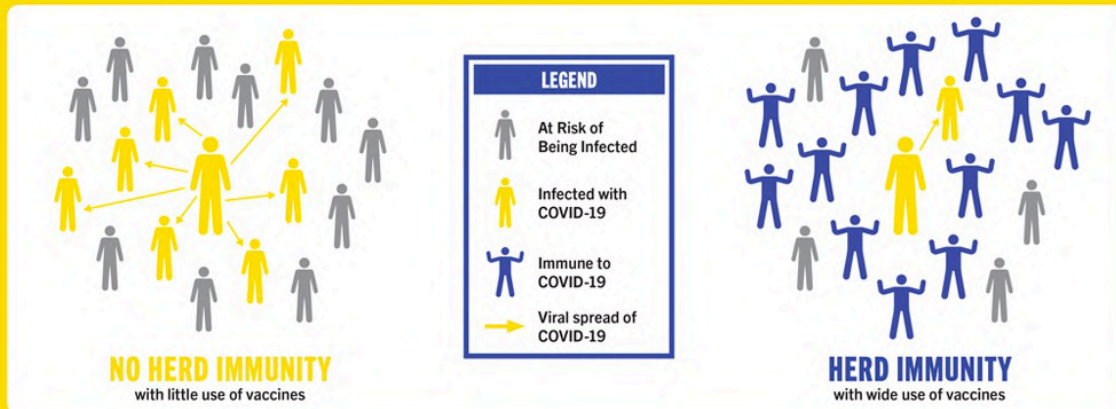
And as the saying goes, the 'weaker sex' does not bear any weight in this modern age, as it is undeniable that women possess the ability to pursue any profession, no matter how challenging or demanding, as long as one perseveres and march on to deliver the responsibilities as an aircrew, and a military aviator.





COVID-19 AND HERD IMMUNITY

WHEN ENOUGH PEOPLE ARE VACCINATED IT IS HARDER FOR DISEASE TO SPREAD.



ACHIEVING HERD IMMUNITY

By Cpt (U) Alli Farid

Since the start of the pandemic, the Covid-19 virus has affected a majority of worldwide population, with impacts ranging from social to economics. Although there has been no local transmission of Covid-19 cases in Brunei Darussalam, we should always remain vigilant. As part of the Ministry of Health's initiative to curb and battle the pandemic, RBAF has rolled out its vaccination programme for its personnel. As mentioned during one of the talks by the MOH personnel, one of the reasons for mass vaccination is to achieve herd immunity.

HERD IMMUNITY

The term herd immunity is when a large portion of the population becomes immune to a certain disease, thus masking the spread of diseases from one person to another unlikely. As a result, gradually, the whole population will become protected and not just those who are immune. In most cases, a certain percentage of population must be capable of getting the diseases in order for it to spread, which is known as the threshold proportion. If the proportion of the population who are immune to the disease is greater than the threshold population, the spread of the disease will therefore decline gradually, thus contributing to the immunity threshold. It is also worth noting that the threshold for every disease are different.

HOW TO ACHIEVE HERD IMMUNITY?

Broadly speaking, there are two main ways of achieving herd immunity. They are natural infection and vaccines.

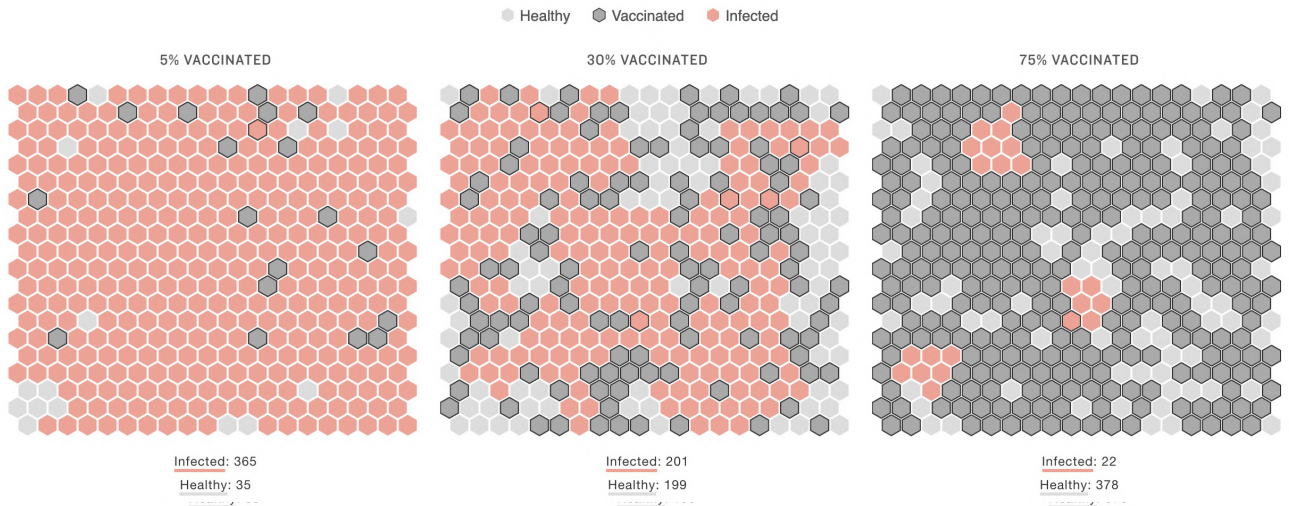
Herd immunity through natural infection is reached when sufficient people within the population have recovered from the disease and have developed protective mechanisms against future infections. For Covid-19, there are a number of problems associated with this method.

The first factor is reinfection, it is not clear how long a certain person is protected from Covid-19 once he or she has recovered as there are still possibilities for them to contract it. The other problem is the health impact of the method. For example in the United States, roughly 70% of the population would have to recover from the virus to curb the pandemic and achieving the herd immunity. The issue is that these infections may involve major complications such as deaths especially to those who have existing health conditions.

The other method of achieving herd immunity is through vaccines. Unlike natural infections, vaccines provide immunity without the detrimental effects of illnesses or complications. Historically, vaccines have successfully suppressed previous contagious diseases such as smallpox, diphtheria and polio to name a few. Herd immunity will also help to protect the portion of the population who cannot be vaccinated such as children and newborn babies.

CHALLENGES TO HERD IMMUNITY THROUGH VACCINES?

There are several challenges to using vaccines for herd immunity. One of them is vaccine hesitancy. Due to the limited knowledge of the virus, and the extremely fast inception of the Covid-19 vaccines, many people have questioned the safety and effectiveness of the vaccines. Another challenge regarding the use of vaccines are concerning the protection period. It is still unclear how long the vaccines will protect the individual from the Covid-19 virus. Scarcity of data and the emergence of new variants have added to the scepticism of vaccines usage.



ERRORS, MISTAKES AND VIOLATIONS

By Lt (U) Khalid

Human performance is a huge focus area for aviation safety with different human factors often identified as contributing factors to incidents and accidents. It is important to understand that humans make errors no matter how experienced or knowledgeable they are. However, it is also equally as important that there are systems and the culture in place to help address and mitigate human performance failure. Thus, the RBAirF Aviation Safety team is very committed in ensuring personnel understand human factors and how human performance failures can be sub-categorised into three different areas: error, mistake and violation.

This article explains the fundamental differences between Errors, Mistakes and Violations, especially with regards to flight safety. Generally speaking, committing a violation is a conscious decision, whereas an error or mistake can be made while a person is consciously trying to perform in an error-free manner.

ERROR

Typically occur at the task **EXECUTION STAGE**

Slips

Lapses

SLIPS can be thought of as actions not carried out as intended or planned. Slips are usually easy to detect quickly and do not have immediate serious consequences due to built-in system protections.

LAPSES (memory) are missed actions and omissions, i.e. when somebody has failed to do something due to a lapse of memory and/or attention or because they have forgotten something, e.g. forgetting to lower the undercarriage on landing.

Lapses may be more difficult to detect by the individual and therefore may also be more likely to have consequences.

MISTAKE

Typically occur at the **PLANNING STAGE**

MISTAKES are a specific type of error brought about by a faulty plan/ intention, i.e. somebody did something believing it to be correct when it was, in fact, wrong, e.g. switching off the wrong engine in an engine fire in flight for a twin engine aircraft.

Mistakes are even more dangerous than Errors, because the person committing the mistake believes that he or she is doing the correct thing and thus carries on with the action often despite a growing number of signs that things are not going right.

FLIGHT SAFETY

VIOLATION

Violations involve **DELIBERATELY** (and **CONSCIOUSLY**) departing from known and established rules or procedures.

Unintentional Violation

Routine Violation

Situational Violation

Optimizing Violation

Exceptional Violation

Error and Mistake is an unintentional action or decision.
Violations are intentional failures – deliberately doing the wrong thing.

UNINTENTIONAL VIOLATION

Unintentional Violations arise from procedures that are impossible for people to follow, only because they are confusing, complex and ambiguous. An example might be where an air traffic controller exceeds the maximum number of work/duty hours after reaching an incorrect conclusion from a complicated duty-rest time planning tool.

ROUTINE VIOLATION

Routine Violations result from automatic and sometimes unconscious behaviour. They are habitual actions (strong, but wrong, habits) accepted by the particular work group as normal business, are often tolerated by the organisation and/or governing body. Employees will usually consider routine violations as low-risk to themselves and the task. For example, airside drivers may always drive 10km/hr above the mandatory speed limit.

SITUATIONAL VIOLATION

Situational Violations are the result of organisational and environmental factors that make it difficult for employees not to commit violations. These factors include time pressure, lack of supervision, poor ambient conditions (e.g. light, noise, heat), insufficient resources, and a negative culture. For example, Technicians may find themselves “signing-off” completed work on an aircraft without acquiring the necessary supervisory cross-check. Either because of a lack of supervisors, or because the process takes too long.

OPTIMISING VIOLATION

Optimising Violations occur when people try to make a task more exciting or interesting to impress others or to relieve boredom. These are common when people are involved in long periods of monotonous work, such as monitoring tasks, or when the rules are restrictive or outdated. This can be characterised by bored and fatigued pilots during a quiet long-haul flight - let's see what happens when we push this button!

EXCEPTIONAL VIOLATION

Exceptional Violations are rare occurrences that take place in very unusual circumstances (e.g. emergencies, equipment failure). They can be the result of a conscious decision to violate or an instinctive reaction to the situation.

In summary, errors and mistakes are unintentional actions or decisions while violations are intentional failures – deliberately doing the wrong thing. The successful management of , errors, mistakes and violations requires continuous improvement at both the individual and organisational level. It is vital for all personnel to be able to identify the differences, particularly at which stage of the execution within an operation and to have certain control measures in place to prevent them.



THE CONCEPT OF MULTI LAYERED AIR DEFENCE

By Cpt (U) Alli Farid

My tour as a Regiment Operations Officer (ROO) has opened my eyes on the contributions of my unit as the sole air defence provider for the RBAF. Equipped with the Mistral Very Short Range Air Defence (VSHORAD), as the Ground Based Air Defence (GBAD) platform, the task of providing air defence coverage has been handed to No. 2 Wing of the RBAirF. The main challenge associated with only having one system for air defence, as it logically implies is that there's only one layer of protection.



THE CONCEPT

Ideally, to provide a comprehensive air defence coverage for a nation, there must be a number of systems with varying ranges thus creating layers of protection. This term is known as the Multi Layered Air Defence concept. As the term implies, the multi layers consist of a number of layers which preferably should overlap within one another.

Typical configurations of a Multi Layered Air Defence (MLAD) setup consist of VSHORAD, Short Range Air Defence (SHORAD), Medium Range Air Defence (MRAD), Long Range Air Defence (LRAD), Fighter Jets, supplemented by a radar system capable of very long range detection, tracking and identification.

AIR POWER



PURPOSE

The main purpose of the MLAD is to ensure that no hostile or unknown air threats can enter a country without consent. Conceptually, if the aircraft can get past the first layer, then the inner layers will have the capability to engage and thus rendering the unauthorised entry very difficult to execute.

For example, if an unknown aircraft is detected approaching the country by the radar, the first layer consisting of fighter jets will be called upon. The first reaction will be to fly to the unknown aircraft, identify and perform corrective actions which could be in the form of escorting the threat away from the country or to land to a nearby location. If this does not materialise, then the next inner layer will be activated. LRAD effectors will be activated, sending missiles to engage the aircraft at the furthest possible range. If this also fails, then the inner layers of MRAD, SHORAD and VSHORAD will then be activated accordingly based on their engagement ranges.

CURRENT SETUP

The role of radar information providers are currently provided by the personnel at the Department of Civil Aviation (DCA) Tower, supported by the RBAirF Air Traffic Controllers. The layers, in this case is only provided by the Mistral VSHORAD with its range of 5.5km. Previously an additional layer was provided by the Rapier SHORAD with its range of 10.0km, however it was decommissioned in 2010. It is also worth noting that the RBAirF continues its efforts to modernise its assets, including its GBAD fleet in order to eventually achieve the desired MLAD capability.





KERIS TERBANG