

FLYING SPIRIT



June 2019

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The Official National Newsletter of the SAAF Association

MESSAGE FROM THE NATIONAL PRESIDENT

It is hard to believe that we find ourselves nearly six months into what was a new year not so long ago. Two weeks ago our Bloemfontein Branch hosted our 74th Congress which was excellent for a number of reasons. The organisation by our Bloemfontein colleagues was superb, they planned and executed an event very worthy indeed of SAAFA, my sincere congratulations and gratitude to Chairman Gavin Lavis and his wonderful team, they did us proud. It was further excellent to enjoy our SAAFA spirit as it was no doubt intended to be; fun, laughter and much enjoyment had by all. In other words, we all 'kuiered' in wonderful fashion! Our business was conducted in the same vein, sessions were effective and efficient, but with that special SAAFA spirit ever present which made them both productive and fun.

My congratulations to all our fellow members who were recognised for exceptional service to SAAFA, those who have gone above and beyond the norm and were recipients in the awards ceremony, we are very proud of you!

It is my wish that SAAFA will in the year ahead remain an Association that provides Assistance where required, is active in Remembering those who did not return, is able to Support our SAAF as and when required and that we carry out these our SAAFA objectives while engaging in meaningful Camaraderie; enjoying one another's company, which is the platform on which all else is based.

I wish you all well, and trust that SAAFA will remain an integral part of your lives and from you derive much enjoyment, along with the satisfaction and pride which comes from being of service to your fellow man.

Mike Louw

National President: South African Air Force Association

THE STANLEY WALTERS TROPHY AWARD

Every year for the past 30 years the Johannesburg Branch has recognised the top SAAF Engineering student with the presentation of the Stanley Walters Trophy and a financial prize.



The SAAF Engineering students are deployed to a number of South African Universities' Engineering Faculties from whence they emerge after the passage of some years with Pr.Eng degrees and ideally qualified to serve the SAAF. Of interest is that Brig Gen Kevin Moonsamy has directed that the students will wear SAAF uniform to lectures once a month to demonstrate their pride in and affiliation to our Air Force.

SAAFA Johannesburg Chairman and National Vice President Trevor Slade presented the award at an excellent function held at AFB Waterkloof Officers' Club in late January this year to a very charming and delightful CO Alexandra Vos, a young lady of whom the SAAF can be very proud!

Extracted from Trevor Slade's address;

On behalf of the Johannesburg Branch of the South African Air Force Association I bring greetings to you all. It is a privilege for me to be here this morning to present the Stanley Walters Award to the most deserving engineering student for 2018. This floating Trophy and the reward that goes with it is awarded annually in tribute to Stanley Walters, a man who did much for aviation in South Africa and who loved the SAAF, serving in it during World War II and thereafter. He was a founder Member of SAAFA and the amount he bequeathed on his death to SAAFA Johannesburg has continued to be used for the ongoing acknowledgement of the top SAAF engineering student.

Stanley Walters was born in England but educated in South Africa. He flew in the 1st World War in the Royal Flying Corps in France in 1917-18 as a fighter pilot. After the war he returned to South Africa and in 1922 he joined the SAAF Special Reserve. In 1936 he did a pioneering flight from London to Cape Town in a de Havilland Dragonfly. In those days there were no navigation aids, radios, ATCs, GPS's or proper runways. He had to force land at Wadi Haifa and waited for three months for spares to reach him before proceeding to South Africa.

From 1936 until the outbreak of World War II he was Mobil Oil's Chief Aviation Executive for the whole of Africa - which he criss-crossed in his Dragonfly, helping Airlines and Governments to build up an infrastructure to develop air routes, thereby opening up the African continent to air travel.



SAAFA attendees at the Stanley Walters Awards Function for the SAAF Engineering students.

L to R: National President Mike Louw, Vice-President and Johannesburg Chairman Trevor Slade, Past President and SAAF/SAAFA Liaison Philip Weyers

During World War II he served in the Directorate General of Air Services and was in charge of the coastal air force. Post war until he retired at the age of 80 he ran a company specialising in aviation technical needs including Sperry equipment, parachutes, ejection seats and safety harnesses. Due to his interest in technical development of aviation in general, the Johannesburg Branch of SAAFA, of which

he was a member, inaugurated the Award in his name, shortly before his death in 1989.

But what is the South African Air Force Association and why would we support a prize for the best SAAF engineering student?

Our Mission Statement declares that we will

- Maintain and foster friendship and camaraderie among all our Members
- Provide support and well-being for needy Members
- Perpetuate the memory of and commemorate those who have given their lives in service of their country and,
- Promote the interests, image and history of the South African Air Force, the SAAF Association and their Members.

Flying has a great tradition, the South African Air Force has a great tradition and you students are a part of that tradition. Cherish it and make the tradition of the South African Air Force even greater as you contribute your skills and loyalty to an Air Force that we are all so proud of.

It is fitting that we perpetuate Stanley Walters' name on this Award as a well deserving and fitting tribute to a great benefactor of the SAAF, SAAFA and aviation in general. SAAFA Johannesburg is proud to be associated with this trophy and our privilege to present it to the top SAAF engineering student for 2018.

SAAFA CONGRESS 2019¹

The 74th SAAFA Congress was hosted by our Bloemfontein Branch at Maselspoort over the period 23 to 25 May 2019, and what a splendid event it was.



*Bloemfontein Chairman
and Congress Ring
Master Gavin Lavis
advising the Bar hours...*

The organisation by Bloemfontein Branch was superb and a fine example of what a small yet dedicated and passionate team can achieve. Maselspoort was a well-chosen venue which lent itself extremely well to the requirements of Congress and us SAAFA visitors. The catering was very good indeed and the staff very pleasant with pleasing levels of service.

Bloemfontein Branch Chairman Gavin Lavis was an outstanding host, with all possible bases covered and nothing left to chance. He was truly the personification of perpetual motion ensuring all was as it should have been. Behind the scenes, Ansie Lavis (who Gavin let us know did most of the work), Ronéle Opperman and Jeanette van Zyl were to be seen ensuring the nitty-gritty was in order.

The Opening was conducted by IPP Hugh Paine following our Act of Homage. It is always alarming to hear how many colleagues we lost during the previous twelve months. Lt Col Thabo Motaung provided us with a briefing about AFB Bloemspruit which apart from illustrating the many positives of the SAAF today, was conducted in very competent and often humorous manner, a pleasure to listen to.

¹ Feedback thanks to Philip Weyers.



Lt Col Thabo Motaung conducting an excellent briefing about AFB Bloemspruit

National President Mike Louw ran efficient, if relaxed, business sessions for the full day on Friday and on Saturday morning. Our typical SAAFA spirit was well evident on both days, with business being conducted efficiently, expeditiously and interspersed with customary banter and humour.

Friday night featured an auction conducted by that man of many talents, Francois van Zyl, Chairman of SAAFA Soutpansberg, who demonstrated a great turn of humour while extracting cash from his amused, and willing, audience. Needless to say, much fun was had and if Francois tires of the SAAF and the Law, he will doubtless make a highly successful auctioneer! The auction demonstrated in a number of respects that the SAAFA spirit is alive and well!

We were all treated to a delightful narrative of South Africa's military aviation history by Joan Abrahams, aka Tant Mossie, who thoroughly entertained everyone in her inimitable style.

Saturday night saw the staging of the SAAFA National Banquet, attended by Maj Gen Tersia Jacobs as the official representative of CAF, Lt Gen F Z Msimang. Gen Jacobs had travelled from Pretoria just to attend the banquet, and gesture much appreciated by us all.

Our IPP, Hugh Paine, announced the names of the SAAFA Office Bearers for 2019/2020 as follows:

National President: Mike Louw

National Vice-President: Trevor Slade

Patrons:

Lt Gen Mike Muller	Col Basil Hersov
Lt Gen Jan van Loggerenberg	Lt Gen Carlo Gagiano
Lt Gen Roelf Beukes	Lt Gen Zimpande Msimang

Country Vice-Presidents:

Dirk Ackerman	Frans Labuschagne
Arrie de Klerk	Derrick Page

The banquet also saw the presentation of awards to those very special people amongst us who go above and beyond for our Association.

Steve Bekker, Chairman of Durban Branch, was awarded the Order of the South African Association in the Gold Class in recognition of his extraordinary dedication and achievements for more than three decades, an award extremely well deserved! Congratulations Steve, we're very proud of you!

In addition to this, seven OSAFA Silver, three OSAFA Bronze and four Presidential Merit Awards were made, all to SAAFA members whose dedication and passion contribute so much to making our Association as unique and special as it is.

Our Bloemfontein Branch is to be commended and congratulated for organising and executing an extremely successful Congress. No detail was too small to escape attention, and nothing was overlooked. It was by all accounts an excellent event and in all respects reflected in every respect all that we hold dear about the SAAF Association. Sincere gratitude and appreciation are due to Gavin Lavis and his great team: Ansie Lavis, Val Nel, Ronélie Opperman and Jeanette van Zyl, along with so many others who gave so willingly of themselves in making Congress such a great success – thank you all most sincerely, you did SAAFA proud!



50 YEARS AGO - MAN LANDS ON THE MOON!

Can you remember back to 1961² when John F. Kennedy was the president of the United States? When he wanted to land humans on the moon? The United States had just started trying to put people in space, but was NASA ready to go to the moon?

The president and NASA knew they could do it. They were ready to put people on the moon and Apollo 11's mission was to do just that. Land two men on the moon and to bring them back to Earth safely.

On 16 July 1969 an estimated one million spectators watched the launch of Apollo 11 from the highways and beaches in the vicinity of the launch site. Around 3,500 media representatives were present. About two-thirds were from the United States; the rest came from 55 other countries. The launch was televised live in 33 countries, with an estimated 25 million viewers in the United States alone. Millions more around the world listened to radio

² NASA

broadcasts. President Richard Nixon viewed the launch from his office in the White House with his NASA liaison officer, Apollo astronaut Frank Borman.



Columbia in lunar orbit, photographed from *Eagle*

On board was Commander Neil Armstrong, lunar module (*Eagle*) pilot Buzz Aldrin and Command module (*Columbia*) pilot Michael Collins.

A Saturn V AS-506³ rocket launched Apollo 11 at 13:32:00 UTC. It entered Earth orbit at an altitude of 100.4 nautical miles (185.9 km). After one and a half orbits, the S-IVB third-stage engine pushed the spacecraft onto its trajectory toward the Moon with the trans-lunar injection (TLI) burn at 16:22:13 UTC. About 30 minutes later, with Collins in the left seat and at the controls, the transposition⁴, docking, and extraction manoeuvre was performed. This involved separating the command module *Columbia* from the spent rocket, turning around, and docking with the

Luna module, *Eagle*. After the LM was extracted, the combined spacecraft headed for the Moon, while the spent rocket stage flew on a trajectory past the Moon. This was done to avoid colliding with the spacecraft, the Earth, or the Moon. The slingshot effect from passing around the Moon threw the rocket stage into an orbit around the Sun.

On July 19 at 17:21:50 UTC, Apollo 11 passed behind the Moon and fired its service propulsion engine to enter lunar orbit. In the thirty orbits that followed, the crew saw passing views of their landing site in the southern Sea of Tranquillity about 12 miles (19 km) southwest of the crater Sabine D.

At 12:52:00 UTC on July 20, Aldrin and Armstrong entered *Eagle*, and began the final preparations for lunar descent. At 17:44:00 *Eagle* separated from *Columbia*. Collins, alone aboard *Columbia*, inspected *Eagle* as it pirouetted before him to ensure the craft was not damaged, and that the landing gear was correctly deployed.¹ Armstrong exclaimed: "The *Eagle* has wings!"

As the descent began, Armstrong and Aldrin found that they were passing landmarks on the surface two or three seconds early, and reported that they were "long"; they would land miles west of their target point. *Eagle* was traveling too fast. The problem could have been mascons - concentrations of high mass that could have altered the trajectory. Flight Director, Gene Kranz, speculated that it could have resulted from extra air pressure in the docking tunnel, or it could have been the result of *Eagle's* pirouette manoeuvre.



Five minutes into the descent burn, and 6,000 feet (1,800m) above the surface of the Moon, the LM guidance computer (LGC) distracted the crew with the first of several unexpected program alarms. Inside Mission Control Centre, the engineers decided it was safe to continue the descent, and this was relayed to the crew. The program alarms indicated "executive overflows", meaning the guidance computer could not

complete all of its tasks in real time and had to postpone some of them

³ https://en.wikipedia.org/wiki/Apollo_11

⁴ Transposition, docking, and extraction (often abbreviated to transposition and docking) was a manoeuvre performed during manned Apollo program missions from 1969 to 1972. It involved an astronaut separating the Apollo command and service module (CSM) spacecraft from the adapter which fastened it to its launch vehicle upper stage, turning it around, and docking its nose to the lunar module (LM), then pulling the combined spacecraft away from the upper stage.

When Armstrong again looked outside, he saw that the computer's landing target was in a boulder-strewn area just north and east of a 300-foot (91m) diameter crater (later determined to be West crater), so he took semi-automatic control. Armstrong considered landing short of the boulder field so they could collect geological samples from it, but could not since their horizontal velocity was too fast. Throughout the descent, Aldrin called out navigation data to Armstrong, who was busy piloting *Eagle*. Now 107 feet (33m) above the surface, Armstrong knew their propellant supply was dwindling and was determined to land at the first possible landing site.

Armstrong found a clear patch of ground and manoeuvred the spacecraft towards it. As they got closer, now 76m above the surface, he discovered his new landing site had a crater in it. He cleared the crater and found another patch of level ground. They were now 100 feet (30m) from the surface, with only 90 seconds of propellant remaining. Lunar dust kicked up by the LM's engines began to obscure his ability to determine the spacecraft's motion. Some large rocks jutted out of the dust cloud, and Armstrong focused on them during his descent so he could determine the spacecraft's speed.

A few moments before the landing, a cockpit light informed Aldrin that at least one of the 67-inch (170cm) probes hanging from *Eagle's* footpads had touched the surface, and he said: "Contact light!" Armstrong was supposed to immediately shutdown the engines, as the engineers suspected the pressure caused by the engines own exhaust reflecting off the lunar surface could make them explode, but forgot. Three seconds later, *Eagle* landed and Armstrong shutdown the engines

Eagle landed at 20:17:40 UTC on Sunday July 20 with about 25 seconds of fuel left. Armstrong transmitted; "Houston, Tranquillity Base here. The *Eagle* has landed." Armstrong's unrehearsed change of call sign from "*Eagle*" to "*Tranquillity Base*" emphasised to listeners that landing was complete and successful.



Once Armstrong and Aldrin were ready to go outside, *Eagle* was depressurised. The hatch was opened and Armstrong initially had some difficulties squeezing through the hatch with his portable life support system (PLSS). Some of the highest heart rates recorded from Apollo astronauts occurred during LM egress and ingress. At 02:51 Armstrong began his descent to the lunar surface. The remote control unit controls on his chest kept him from seeing his feet. Climbing down the nine-rung ladder, Armstrong pulled a D-ring to deploy the modular equipment stowage assembly (MESA) folded against *Eagle's* side and activate the TV camera.

Apollo 11 used slow-scan television incompatible with broadcast TV, so it was displayed on a special monitor and a conventional TV camera viewed this monitor, significantly reducing the quality of the picture. The signal was received at Goldstone in the United States, but with better fidelity by Honeysuckle Creek Tracking Station near Canberra in Australia.

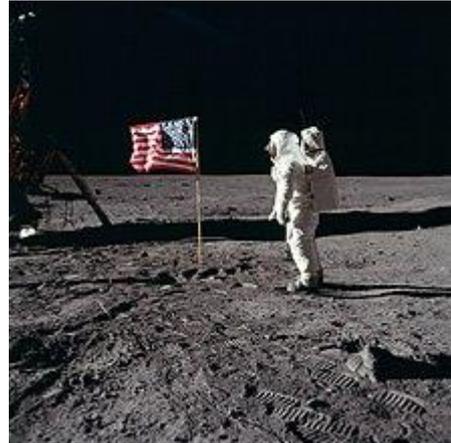
While still on the ladder, Armstrong uncovered a plaque mounted on the LM descent stage. The plaque bore two drawings of Earth (of the Western and Eastern Hemispheres), an inscription, and signatures of the astronauts and President Nixon. The inscription read:

Here men from the planet Earth first set foot upon the Moon, July 1969 A.D. We came in peace for all mankind.

After describing the surface dust as "very fine-grained" and "almost like a powder", at 02:56:15, six and a half hours after landing, Armstrong stepped off *Eagle's* footpad and declared: "That's one small step for [a] man, one giant leap for mankind."

Armstrong intended to say "That's one small step for a man", but the word "a" is not audible in the transmission, and thus was not initially reported by most observers of the live broadcast. When later asked about his quote, Armstrong said he believed he said "for a man", and subsequent printed versions of the quote included the "a" in square brackets.

Armstrong and Aldrin collected soil samples and took photographs. Aldrin described the view with the simple phrase: "Magnificent desolation."



The astronauts planted the Lunar Flag Assembly containing a flag of the United States on the lunar surface, in clear view of the TV camera. Aldrin remembered, "Of all the jobs I had to do on the Moon the one I wanted to go the smoothest was the flag raising." But the astronauts struggled with the telescoping rod and could only jam the pole a couple of inches (5cm) into the hard lunar surface. Aldrin was afraid it might topple in front of TV viewers. But he gave "a crisp West Point salute". Before Aldrin could take a photo of Armstrong with the flag, President Richard Nixon spoke to them through a telephone-radio transmission which Nixon called "The most historic phone call ever made from the White House." Nixon

originally had a long speech prepared to read during the phone call, but Frank Borman, who was at the White House as a NASA liaison during Apollo 11, convinced Nixon to keep his words brief.

They deployed the EASEP⁵, which included a passive seismic experiment package used to measure moonquakes and a retroreflector array used for the lunar laser ranging experiment.

Then it became time to depart and head back to Earth. Aldrin entered *Eagle* first. With some difficulty the astronauts lifted film and two sample boxes containing 21.55 kilograms of lunar surface material to the LM hatch using a flat cable pulley device called the Lunar Equipment Conveyor (LEC). Armstrong then jumped onto the ladder's third rung, and climbed into the LM. After transferring to LM life support, the explorers lightened the ascent stage for the return to lunar orbit by tossing out their PLSS backpacks, lunar overshoes, an empty Hasselblad camera, and other equipment. The hatch was closed again at 05:01. They then pressurized the LM and settled down to sleep.



Aldrin next to the Passive Seismic Experiment Package with *Eagle* in the background

After about seven hours of rest, the crew were awakened by Houston to prepare for the return flight. Two and a half hours later, at 17:54:00 UTC, they lifted off in *Eagle's* ascent

⁵ Early Apollo Surface Experiments Package

stage to re-join Collins aboard *Columbia* in lunar orbit. Film taken from the LM ascent stage upon lift-off from the Moon reveals the American flag, planted some 25 feet (8m) from the descent stage, whipping violently in the exhaust of the ascent stage engine. Aldrin looked up in time to witness the flag topple: "The ascent stage of the LM separated. I was concentrating on the computers, and Neil was studying the attitude indicator, but I looked up long enough to see the flag fall over." Subsequent Apollo missions usually planted the American flags further from the LM to prevent them being blown over by the ascent engine exhaust.

During his day flying solo around the Moon, Collins never felt lonely. Collins felt very much a part of the mission. In his autobiography he wrote: "this venture has been structured for three men, and I consider my third to be as necessary as either of the other two". In the 48 minutes of each orbit when he was out of radio contact with the Earth while *Columbia* passed round the far side of the Moon, the feeling he reported was not fear or loneliness, but rather "awareness, anticipation, satisfaction, confidence, almost exultation".



Eagle rendezvoused with *Columbia* at 21:24 UTC on July 21, and the two docked at 21:35. *Eagle's* ascent stage was jettisoned into lunar orbit at 23:41. Just before the Apollo 12 flight, it was noted that *Eagle* was still likely to be orbiting the Moon. Later NASA reports mentioned that *Eagle's* orbit had decayed, resulting in it impacting in an "uncertain location" on the lunar surface.

The aircraft carrier USS *Hornet* was selected as the primary recovery ship (PRS) for Apollo 11.

Weather satellites were not yet common, but US Air Force Captain Hank Brandli had access to top secret spy satellite images. He realised that a storm front was

headed for the Apollo recovery area. Poor visibility was a serious threat to the mission; if the helicopters could not locate *Columbia*, the spacecraft, its crew, and its priceless cargo of Moon rocks might be lost. Brandli alerted Navy Captain Willard S. Houston Jr., the commander of the Fleet Weather Centre at Pearl Harbour, who had the required security clearance. On their recommendation, Rear Admiral Donald C. Davis, the commander of Manned Spaceflight Recovery Forces, Pacific, advised NASA to change the recovery area. This was done; a new one was designated, 215 nautical miles (398km) northeast of the original.

Before dawn on July 24, *Hornet* launched four Sea King helicopters and three Grumman E-1 Tracers. Two of the E-1s were designated as "air boss" while the third acted as a communications relay aircraft. Two of the Sea Kings carried divers and recovery equipment. The third carried photographic equipment, and the fourth carried the decontamination swimmer and the flight surgeon. At 16:44 UTC (05:44 local time) *Columbia's* drogue parachutes were deployed.

This was observed by the helicopters. Seven minutes later *Columbia* struck the water forcefully 2,660 km east of Wake Island. During splashdown, *Columbia* landed upside down but was righted within ten minutes by flotation bags activated by the astronauts. A diver from the Navy helicopter hovering above attached a sea anchor to prevent it from drifting.



The crew of Apollo 11 in quarantine after returning to Earth, visited by Richard Nixon

More divers attached flotation collars to stabilise the module and positioned rafts for astronaut extraction.^[163]

The divers then passed biological isolation garments (BIGs) to the astronauts, and assisted them into the life raft. The possibility of bringing back pathogens from the lunar surface was considered remote, but NASA took precautions at the recovery site. The astronauts were rubbed down with a sodium hypochlorite solution and *Columbia* wiped with Betadine to remove any lunar dust that might be present. The astronauts were winched on board the recovery helicopter. BIGs were worn until they reached isolation facilities on board *Hornet*. The raft containing decontamination materials was intentionally sunk.



After touchdown on *Hornet*, the helicopter was lowered by the elevator into the hangar bay, where the astronauts walked the 30 feet (9.1m) to the Mobile Quarantine Facility (MQF), where they would begin the Earth-based portion of their 21 days of quarantine.

In accordance with the Extra-Terrestrial Exposure Law, a set of regulations promulgated by NASA on July 16 to codify its quarantine protocol, the astronauts continued in quarantine. After three weeks in confinement (first in the Apollo spacecraft, then in their trailer on *Hornet*, and finally in the Lunar Receiving Laboratory), the astronauts were given a clean bill of health. On August 10, 1969, the Interagency

Committee on Back Contamination met in Atlanta and lifted the quarantine on the astronauts and on those who had joined them in quarantine (NASA physician William Carpenter and MQF project engineer John Hirasaki), and on *Columbia* itself. Loose equipment from the spacecraft remained in isolation until the lunar samples were released for study.

It seems to me that all this took place just the other day but in July this year it would have been 50 long years ago. Such has been life over the past 5 decades and how much changes have we witnessed in technology since then. Interestingly enough all 3 crew members were born in 1930. Buzz Aldrin and Michael Collins still survive today at the age of 89.

Some fast thinking official from Immigration and Customs got the crew to sign this Entry Certificate at Honolulu Airport.

GENERAL DECLARATION			
(Outward/Inward)			
AGRICULTURE, CUSTOMS, IMMIGRATION, AND PUBLIC HEALTH			
Owner or Operator <u>NATIONAL AERONAUTICS AND SPACE ADMINISTRATION</u>			
Marks of Nationality and Registration <u>U.S.A.</u>	Flight No. <u>APOLLO 11</u>	Date <u>JULY 24, 1969</u>	
Departure from <u>MOON</u> <small>(Place and Country)</small>	Arrival at <u>HONOLULU, HAWAII, U.S.A.</u> <small>(Place and Country)</small>		
FLIGHT ROUTING			
<small>("Place" Column always to list origin, every en-route stop and destination)</small>			
PLACE	TOTAL NUMBER OF CREW	NUMBER OF PASSENGERS ON THIS STAGE	CARGO
CAPE KENNEDY	COMMANDER NEIL A. ARMSTRONG		
MOON	<i>[Signature]</i>	Departure Place: Embarking <u>NIL</u>	MOON ROCK AND MOON DUST SAMPLES - Cargo Manifests Attached
JULY 24, 1969 HONOLULU	COLONEL EDWIN E. ALDRIN, JR. <i>[Signature]</i>	Through on same flight <u>NIL</u>	
	<i>[Signature]</i> LT. COLONEL MICHAEL COLLINS	Arrival Place: Disembarking <u>NIL</u>	
		Through on same flight <u>NIL</u>	
Declaration of Health <small>Persons on board known to be suffering from illness other than airsickness or the effects of accidents, as well as those cases of illness disembarked during the flight:</small> <p style="text-align: center;">NONE</p>			For official use only HONOLULU AIRPORT Honolulu, Hawaii ENTERED <i>[Signature]</i> Customs Inspector
<small>Any other condition on board which may lead to the spread of disease:</small> <p style="text-align: center;">TO BE DETERMINED</p>			
<small>Details of each disinfecting or sanitary treatment (place, date, time, method) during the flight. If no disinfecting has been carried out during the flight give details of most recent disinfecting:</small> 			
Signed, if required _____ <small>Crew Member Concerned</small>			

ROYAL AERONAUTICAL SOCIETY'S RECOGNITION OF SAAFA MEMBER'S CONTRIBUTION TO AEROSPACE IN 2018

Founded in 1866, the *Royal Aeronautical Society* (RAeS) has as objectives the support and maintenance of high professional standards in aerospace disciplines and providing a unique source of specialist information while providing a forum for the exchange of ideas with the view to exerting influence in the interests of aerospace in the public and industrial arenas.

The Society is an international, multidisciplinary professional institution dedicated to the global aerospace community with over 22,500 members. In the 101 years that the title of Honorary Fellowship has been awarded since first in 1917, only 191 Honorary Fellowships have been awarded. In December 2018, an Honorary Fellowship was bestowed upon Maj Gen Des Barker (SAAF Rtd), only the second South African after Professor Beric Skews (WITS/2008) to join the illustrious roll of honour of the RAeS Honorary Fellows.

Honorary Fellowship Reference. *The world's highest distinction for aerospace achievement awarded for only the most outstanding contributions to the aerospace profession. This honour is conferred on those whose careers, leadership, inspiration and impact marks them out as among the most eminent, widely recognised and influential aerospace professionals of their generation.*



Citation: “Major General Barker, Experimental test pilot, is admitted to Honorary Fellowship in recognition of the major role that he played in establishing and developing a formal flight test capability in the South African Air Force (SAAF) and defence industry. In a flying career spanning more than four decades, Major General Barker also played key roles in a wide range of SAAF flight test programmes. He served as Chief Test Pilot (1990-1995) and then Officer Commanding (1996-2000) of the SAAF Test Flight and Development Centre. In addition, through

his publications and presentations he has made a significant contribution to display flying safety internationally”.

“Major General Barker qualified as a pilot in 1969, a maintenance test pilot in 1974 and an experimental test pilot in 1984. He is a qualified flying instructor and a display pilot with 7,200 flying hours on 58 different types of aircraft. He was appointed as Air Attaché to the United Kingdom in 2000 and Base Commander AFB Makhado in 2004. He retired in 2008 as Chief of Air Staff Operations and became the Manager of Aeronautics Research at the Council for Scientific and Industrial Research from which he retired in 2017”.

“He remains self-employed as a civilian experimental test pilot and serves as the Vice President of the Society of Experimental Test Pilots (South Africa) and on the boards of the Aeronautical Society of South Africa, and of Airshow South Africa. In addition to his publications on display flying safety, *Zero Error Margin*, he has written a handbook for general aviation pilots: *Guidelines for the Flight Testing of Experimental and Homebuilt Aircraft*.

He has received numerous honours and awards from the South African Air Force, the European Airshow Council 2011 Paul Bowen Award, the Jock Maitland Sword of Honour 2018 and The Society of Experimental Test Pilots, Guillaumaud Trophy 2012.”

Asked to comment on the award, Barker said: “It’s with humility and pride that the RAeS Honorary Fellowship award is accepted and even more humbling as a test pilot to share the

honour with the world's most illustrious scientists, engineers and aviators including Orville Wright, Winston Churchill, Thomas Sopwith, Frank Whittle, Sydney Camm, Barnes Wallis, Dr Theodore von Kármán, Capt. Eric 'Winkle' Brown, Alex Henshaw, Chuck Yeager and Joseph Kittinger.

The Honours and Awards, were announced on Tuesday 4th December 2018 at the Wilbur and Orville Wright Lecture. Bill Tyack, Chairman of the Medals and Awards Committee, commented: "This year's Medals and Awards Ceremony was a splendid occasion. The excellence and diversity of the achievements of our various categories of recipients, coming from 15 different countries, demonstrates the vitality of the aerospace community around the world.

Well done Des Barker. You have done South Africa proud.

THOSE HAIR-RAISING TRAFFIC CIRCLES IN SOUTH AFRICA!

Let's move away from aviation for a moment and discuss something that is a little closer to home and a frustration to many, I am sure: – **Traffic Circles!**

Ever since those terrible traffic circles were introduced into South Africa and painted on each and every street corner, that was never designed to accommodate them, we have been plunged into a cauldron of "Who's in the Right" fever".

Let's take a look at what the law and the rules of the road actually say about traffic circles.

TRAFFIC CIRCLES/ROUNDAABOUTS⁶

In South Africa we often refer to roundabouts as "traffic circles". There are, in South Africa, two distinct culprits however. One is the roundabout and the other is described as a Mini circle. I think the Mini circle gives us the biggest headache but let's take a look at each of them.

THE ROUNDABOUT



You must obey traffic circle rules at the roundabout.

In the words of the official legislation:

Indicates to the driver of a vehicle that he or she shall move in a clockwise direction at the junction ahead and he or she shall yield right of way to traffic approaching from the right, within the roundabout, where such vehicles are so close as to constitute a danger or potential danger.

A roundabout is a type of circular intersection that reduces potential conflicts between vehicles and improves the efficiency of the intersection. In South Africa these are large permanent structures that are laid out on roads that have especially been designed to accommodate them.

They follow the basic rule of yielding to the right to any traffic that is **already in** the circle. Furthermore they could have dedicated lanes within the roundabout, lane markings, yield signs, stop signs and traffic lights. The roundabout therefore can be considered as a normal

⁶ Department of Transport and Arrive Alive.

extension of the intersecting roads and all normal traffic signage and basic traffic laws must be obeyed.

Here are some tips from Arrive Alive:

Approaching a roundabout:

- On approaching a roundabout take notice and act on all the information available to you, including traffic signs, traffic lights and lane markings which direct you into the correct lane
- Slow down as you approach the intersection - You're typically not required to stop.
- As you enter the roundabout, traffic coming from your right has right of way. This means that traffic streaming into the roundabout from the entrance to your right will keep coming as long as no one is coming from their right
- Watch out for vehicles already on the roundabout; be aware they may not be signaling correctly or signaling at all.
- Keep in mind that buses or large trucks need extra room to make turns and might take up more than one lane in a traffic circle.
- Obey all traffic signs and road markings.
- Signal your intent to other drivers when entering, going around and exiting the circle.
- If you miss your turn, just go around again. Avoid swerving at the last minute.

To Turn Left (taking the first exit)

- Signal left and approach in the left-hand lane.
- Keep to the left on the roundabout and continue signaling left to leave

To go straight on (taking the second exit)

- Select the appropriate lane on approach to and on the roundabout. If no marking on the road it is usually safest to keep to the left lane.
- Stay in this lane until you need to alter course to exit the roundabout.
- Signal left after you have passed the exit before the one you want..

To Turn Right (taking the last exit or third exit)

- Signal right and approach in the right-hand lane.
- Keep to the right on the roundabout until you need to change lanes to exit the roundabout.
- Signal left after you have passed the exit before the one you want to use.

THE MINI CIRCLE

Let's now take a look at those pesky little painted circles.



Slow down and give way to other vehicles that cross any Yield line before you do.

Proceed in a clockwise direction around the painted island, without driving on it.

In the words of the official legislation:

Indicates to the driver of a vehicle approaching a mini circle that he or she shall yield right of way to any vehicle which will cross any yield line at such junction **before him or her** and which, in the normal course of events, will cross the path of such driver's vehicle and that the driver shall move in a clockwise direction within such junction and attempt **not to** encroach on the mini-circle.

Next time you approach one you will notice that the first indication of an impending Mini circle will be the Regulatory Warning Sign that there is a traffic circle ahead:



The next thing that you are likely to notice is a traffic calming road structure (speed bump), but this is not necessarily always the case.

Then, just at the entrance to the Mini circle, there will be a Regulatory Yield Sign and a Yield line and sign painted on the road:

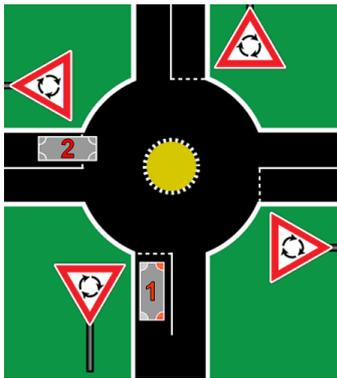


Yield at Mini Circle

The yield at mini circle regulatory sign R2.2 imposes a mandatory requirement that drivers of vehicles approaching a mini circle shall yield right of way to any vehicle which will cross any YIELD LINE marking RTM2 at such junction before them, and which, in the normal course of events, will cross the path of such driver's vehicles, and that the driver shall move in a clockwise direction in such junction and attempt not to encroach on the mini circle.

In Plain English it means this means is that the **first vehicle to cross the line has the right of way**. This works in much the same way as a four way stop.

Who has the Right of Way?



Example:

In the example on the left Vehicle 2 has the right of way even though Vehicle 1 is to the right. This is because Vehicle 2 has crossed the line first.

So be careful. The vehicle on **your left** could have the right of way if it has crossed the Yield Line before you!

Indicating your Intentions:

Most mini circles are too small, often just a "dot" in the road, to allow for turn signalling as one would in a roundabout. The rule is therefore different to a roundabout: When approaching a mini circle one should indicate their desired direction of travel **before entering** the circle.



Turning Right:

Indicate with the right turn signal before entering the circle so that other traffic is aware of where you want to exit.



Proceeding Straight

When proceeding straight it is not necessary to indicate.



Turning Left

Indicate with the left turn signal before entering the circle so that other traffic is aware of where you want to exit.

Be Careful!

This short synopsis might have helped you to understand the workings of a Mini circle but that doesn't mean that the other driver has also read this article!

TWO MONTHS IN A CESSNA 172 – WITHOUT LANDING!⁷

Can you imagine spending over two months in a Cessna 172, flying 24hr a day, without even landing for fuel? That's exactly what two pilots did back in 1958 in the California and Nevada desert. Bob Timm and John Cook set a world endurance record, remaining airborne for just under 65 days. It was a publicity flight, sponsored by the Hacienda Hotel in Las Vegas.

Timm worked at the Hacienda, and he had the passion for flying, along with a dream of setting a world record by staying airborne for longer than any other pilot in history. He convinced his boss to sponsor the flight, reasoning it would bring a lot of publicity to the hotel.

A stock Cessna 172 was purchased and then modified for the flight. Although the Continental engine was basically untouched, two oil systems, filters, and a 95-gallon fuel tank were installed. The oil could be changed and the plane refuelled without shutting down the engine.

Except for the pilot seat, the interior was gutted, and then re-done to include a mattress and a sink. The right side door was collapsible, providing access to the exterior and enabling the co-pilot to operate a winch for bringing supplies aboard from below. Refuelling and resupplying the airplane were the tricky parts. Twice daily, the plane was flown just above a speeding truck from which a hose was hoisted up to pump 95 gallons of AVGAS into the belly tank. Food, water and other supplies were lifted up from the truck as well.

On 4 December 1958, the pair departed McCarran Airport in Las Vegas in pursuit of their dream. Immediately after take-off, they flew low over a speeding car while someone with a giant paint roller applied a special white paint to the tyres of the plane. It would provide proof that the pilots didn't land at night in some far off airport for a rest or repairs.

There was an autopilot, but Bob and John needed to take turns flying and sleeping. Four hour shifts seemed to work well. They had a radio to talk to the mechanics at their base, a radio to speak with their families at home, and a monitor was set up in the Hacienda lobby as part of the publicity campaign. The two fell into a routine that worked well, and by the halfway mark of the flight, it was Christmas. The hotel kitchen staff was charged with the meals, and on December 25, John hoisted a turkey dinner up from the fuel truck.



⁷ From British Microlight Aircraft Association written by Brian Meek

Boredom and fatigue were the biggest problems. One night, both men were asleep for over 2h. The plane, on autopilot, continued south until it was almost in Mexican airspace before Timm woke up. On about day 40, their heater failed. Even in the desert, winter nights can be cold. The men wrapped themselves in blankets for a few days, until something could be rigged and lifted up to fix the problem.

As the end of the flight neared, Bob and John began to check each other's work, fearing a human error would cause them to fail in their quest for a world endurance record. Each procedure, every item, every decision was carefully planned and discussed.

The previous record was 50 days. As that day passed, they decided to extend their flight as long as possible, finally touching down over two weeks later. By then, the engine had started to carbon up and had lost so much power that climbing out with full fuel was dangerous. The list of 'snags' included the generator, heater, tachometer, fuel gauge, winch and electric fuel pump.

It was a tremendous achievement for both man and machine – 64 days and 22h in the air. They did 1,558.3 hours on that engine in the course of that flight, slept in shifts on a small mattress and said they will not do it again - as they both stank too much.

Bob Timm died unexpectedly in 1978; John Cook passed away in 1995. The Cessna 172 was sold to a Canadian pilot, but was eventually brought back to Nevada, where it now hangs from the ceiling at McCarran International Airport.

TRIBUTE FROM PORT ALFRED BRANCH – Lt GEN DENIS EARP

By virtue of the fact that Port Alfred Branch has enjoyed a long and special relationship with General Denis Earp and Beth, over some 40 years, we humbly record our deepest and sincere condolences to you, Beth, and your family, on the sad call to Higher Service of our SAAF/ SAAFA Icon, Denis, and trust that you, Beth, will receive the necessary strength and blessing from above, during this difficult time; we are all thinking of, and praying for you, especially Deleste and Wally van der Meulen on behalf of the then West Rand Branch, since sadly closed down, and Port Alfred Branch.

After an illustrious SAAF and SAAFA career, fighter pilot, a thorough gentleman, wonderful friend and family man, Denis is now at rest, waiting until you meet again; God Bless you and keep you well and safe.

Sincere SAAFA wishes. Take care of yourself, Beth.

Should you need any support or assistance please give us a call to help you.

Port Alfred Branch and Members.

TAIL PIECE

I wear no uniforms, no blues or army greens.
But I am in the military in the ranks rarely seen.
I have no rank upon my shoulders, salutes I do not give.
But the military world is the place where I live.

I'm not in the chain of command, orders I do not get.
But my husband is the one who does, this I cannot forget.
I'm not the one who fires the weapon, who puts my life on the line.
But my job is just as tough. I'm the one that's left behind.

My husband is a patriot, a brave and prideful man,
And the call to serve his country, not all can understand.
Behind the lines I see the things needed to keep this country free.
My husband makes the sacrifice, but so do our kids and me.

I love the man I married. Patriotism is his life.
But I stand among the silent ranks known as the military wife.
Author Unknown

Please send any contributions to the Editor:
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