

...Contact!

January 2021



General Charles Elwood "Chuck" Yeager – 13th February 1923 to 7th December 2020

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President's Column

David Toma



If you are reading this then we made it into 2021! I am sure that we all agree that we had ourselves a rather challenging year in 2020 and it might appear that the trend will continue for this year to

come. However we shouldn't dwell too much on that but rather concentrate on the things we can change. Having spent the festive season making airplane noises around Margate, Dullstroom and in between, I plan to continue doing lots of that whenever I get the chance! Along with more flying I hope to create more time to concentrate on my projects to date. Here is to hoping that I don't attract more projects as the year progresses!

This year we promise once again to keep working with the powers that be to protect our flying freedoms and our tinkering/building habits alike. We look forward to continuing working together for this common cause. As always if you have any suggestions or requests, please feel free to contact me personally and I will gladly do my best to see how we can help. To be honest, I am back to catch up on work but I will make some time and sneak in an article about the flying that we got up to in our next edition.

Fly Safe, Fly Lots, Fly for the love of Flying and let's get those projects in the air!

David B. S. Toma

President EAA SA

AHASA Incorporation into EAA SA 322

To ensure conformance with the SA CAA regulations Part 149 Aviation Recreational Organisation discussions were concluded with AHASA which is the Amateur Homebuilders Association of South Africa to incorporate them

into EAA 322 as Chapter 322 Homebuilders which then obviate the requirement to register as a separate ARO with ops manuals and a myriad of administrative requirement that is essentially a full time job to replicate what has been done already.

As we have concluded this it made good sense to incorporate and collectively pursue the same interests being Sport Aviation. We want to establish a Builders network, where builder members may ask each other questions and share information and hints. Hopefully we will also get to visit a lot more Build Projects to see what members are doing.

As in the EAA here in SA there also exists a huge information/mentor pool within the members of past AHASA, on all subjects homebuilt and we look forward to making these fellows and their projects as welcome as the flowers in spring into the EAA fold here in South Africa.

Many Thanks to Louwtjie Vosloo and Marie Reddy who finalised the process of the transition and the assistance of the Aero Club (Rob Jonkers and office team) in the administrative and Blue Box membership process for the members to transition on line with the memberships.

As the EAA we can commend our members who have not let the challenges of this year prevent them from flying and sharing The Spirit of Aviation. We now have some additional friends who can share the passion and work toward a smarter 2021

One of the positives of this lockdown has been the implementation of useful technology to allow people to keep in touch. Besides COVID being a new word that is fresh in most minds for 2020 is Zoom. A year ago, few of us had heard of Zoom, let alone used it. Now practically everyone has attended at least one Zoom meeting and possibly even hosted a Zoom meeting of their own. This is a great platform with participation from EAA members worldwide dealing into Johannesburg and sharing our experiences.

Happy New Year and safe happy flying ahead.

Paul Lastrucci

Vice President EAA of SA

322 Round-up

December Hybrid Gathering

Finally we overcame most of our struggles with sound and hybrid gatherings! Thanks to the help of EAA members Ian Wylde and Mike Haupt, on-line zoom attendees were able to join without issues and live attendees were able to watch on screen our presenter Chris Ferraraccio from Springdale, Tennessee in the USA.

Chris' company, AMF Aviation, specialises in aircraft recoveries and Chris is an expert in this field.



Chris Ferraraccio, AMF Aviation

His presentation covered a number of GA accidents and Chris gave us a background as to what lead up to the accident and how it could have possibly been avoided. The presentation was very relevant to South African aviation, many accidents being caused by bad weather and poor decision making. The usual culprit "get-home-itis" was also evident during his presentation. Chris' advise – "you don't have to leave a place if there's cold beer!"

Chris' comprehensive presentation included over 90 slides and included photos of the B-17 Collings Foundation accident in Connecticut last year caused in part by lack of CRM.

Due to the sensitive nature of some of the photographs and out of respect to the victims, Chris asks that no photos be copied or share. We have therefore decided not to publish the recorded link to the gathering. Many thanks to Chris for taking the time to share his presentation with us!

EAA Renewal Time!

By now most of us should have received our renewal notices and invoices for 2021. We appreciate all the support from our members and ask once again for your continued support in our ongoing struggle to keep our flying freedom alive. This affects us all – pilots, homebuilders, aircraft owners and enthusiasts. EAA National and Chapters have elected to hold 2021 subs to same as last year's, R250 for National and R250 for Chapter membership. It's not a huge sacrifice and consider the work being done by voluntary committee members on our behalf! The workload undertaken by many of our members to ensure the AP scheme continues and the licensing and ATF problems are addressed is huge. We all need to stand together and EAA needs your help! Plus, through our MACH program you could be heading to Oshkosh 2021 in our draw to take place in April at the EAA convention!



It's Renewal Time!

Renew or join EAA and you could be heading to the world's greatest aviation event

Oshkosh AirVenture
Wisconsin USA



in our MACH Incentive Program

EAA Chapter Membership R250
EAA National Membership R250



[**CLICK HERE**](#)
[**To Renew or Join**](#)



Breakfast Fly-in

Rhino Park "Steady Climb" Initiative



Predictions of heavy rain on Saturday 5th December proved to be correct causing the planned fly-in to be postponed to the next day.

Aviators and their crew were encouraged to dress up in aviation gear, serious, funny or crazy! Sunday greeted us with "iffy" weather early in the morning but lifting quickly as the sun got higher. About 20 aircraft eventually flew in, under the watchful eye of our safety officer, Nigel Musgrave. Live music, craft stalls and the Rhino Park restaurant made for a fun morning before we all headed home. The Good Spirit award must surely go to Karl Jensen who arrived, albeit late because of another engagement, in what can only be described as "Serious Aviation Gear"!



Karl Theron and Stephen Theron arrive in ZU VAL



Aviation gear was the dress for the day



Leon Joubert and his Lancair



Derek "Hoppie" Hopkins in his RV 8



Nigel Musgrave keeping us safe!



Mitzi's aviation gear – airplane earrings

Master Chef in the North West



Irene and Christina

The 'Master Chef' of the Northwest Province, Christina, at the Brits Flying Club. We have always had simply the best breakfasts at Brits for all the many visits I've had over the years of flying there. When you are at Brits, please pop into the kitchen and meet this lovely, friendly and efficient chef of Brits and then you can also visit 'Al die Bakgat-Boeties van Brits Airfield'. It is the only airfield where we are always made to feel so welcome and where we know the most friendly people. The stunning breakfasts are always available without making arrangements in advance of your visit. Thank you to all the members of Brits Flying Club and Christina.
Bye Irene

FAKR Fly-In to Mawala

A couple of EAA members based at Jack Taylor joined the Krugersdorp Flying Club on Sunday 13 December for a breakfast fly-in to Mawala. The gravel runway had stood up well to the recent heavy rains with only a few mud patches to look out for.

The lodge is situated right at the threshold of Runway 16, making it an ideal get-away for either a quick breakfast or a leisurely weekend. Many thanks to Francois Tolmay for organizing the fly-away and to the gods for organizing the weather on the day!



Mawala Runway 16, a little muddy but probably the smoothest runway you will ever land on!

1502 Round-up

December 16th Annual Open Day – Baynesfield Estate Airfield by Brian Spurr and compliments of Pilot's Post

On the 16th December 2020 EAA Chapter 1502 hosted their annual open day fly-in at the year old Baynesfield Estate Airfield. Unfortunately, the weather played havoc with the number of pilots able to make it in. A band of low cloud and rain between the coast and Baynesfield prevented coastal participation, although one aircraft made it in safely from Margate. The only others who flew in were from local fields such as Richmond and Emoyeni (Cato Ridge).



We planned to fly in on Wednesday, but after checking the weather, drove up instead. Baynesfield Airfield is about 75 kilometres from central Durban and it is very accessible. The only problem right now is a couple of stretches of road repairs that can cause a delay. This is only a temporary situation.

Baynesfield Estate was established by Joseph Baynes who bought land in the Umlaas Valley over many years. He was one of the Byrne Settlers. He developed the property and farmed dairy cattle, beef cattle, pigs and horses. The farm was originally named Nel's Rust, but it was changed to Baynesfield at the time of his death. He started the bacon industry in the Colony of Natal. He also started a dairy and butter industry and later established Model Dairy shops in various centres. He provided electricity for his factory by a 16 km canal he dug to facilitate electricity generation by two turbines.

When Joseph died in 1925, he left his entire 23000-acre estate in trust with a number of



clauses that are maintained by an administration board. This board is the one the EAA negotiated for use of the land on which the airfield now occupies. The chapter moved to the airfield in November 2019.

The airfield is now well established and the grass runway (09/27) is 845 metres long and has a good surface. On the day, despite the fact it had been cut only a few days prior to the fly in, the grass was perhaps slightly longer than desirable. This was due to the fact that there has been a lot of rain recently and also the mowers were not set quite low enough. The land in the valley is extremely fertile too! I was told that the person contracted to do the grass cutting had quit and it was left to the members to do the mowing. With two tractors it is a two-day job! Despite this the field looked really good and no problems were experienced by those who flew in.



The coordinates of the field are -29.794546, 30.359957 and the elevation is 2700 feet. The radio frequency is 124.2 (special rules apply).

The local weather at the airfield was fine, with no low-level cloud, so it is a shame many who were planning to fly in could not make it. Some of the expected aircraft that were affected were the Antonov AN2 from Virginia and the Chipmunks from Scottburgh.



A number of members chose to drive in and they were joined by MG car club members, who had been invited to share the day. Braai fires were provided and the day went well despite the limited amount of flying. Apparently, there is some thought of changing the date of this annual event in future to avoid the changeable weather at this time of year. This being the last year at this time, it was a perfect day for it.



Alan Lorimer gave the annual chairman's speech and presented a few presents of appreciation to the committee members. He also presented the annual floating trophy, the Harry Antel Award (for true altruism) to Russell Smith and Robbie Els, both of who had worked tirelessly to improve facilities on the airfield. These included electrical connections in the club house and hangar as well as commissioning a proper toilet! During his presentation, Alan said that 2020 had been a difficult year for the chapter. Covid-19 had meant that flying was seriously reduced and



people had been reluctant to take on projects and new developments. Currently the field is being operated and maintained by just the four committee members and this was a huge workload and financial commitment.

The committee is Alan Lorimer, chairman, Russell Smith, vice-chairman, Mike Korck, secretary and Robbie Els, treasurer. Alan said they wished to encourage other EAA members to locate to Baynesfield. There was ample space for more hangars and the strip itself was excellent. With the closure and possible closure of some of the airfields in the area, it would be a good time to look at this option.

The aircraft based at Baynesfield are as follows: ZU-AYF - Quad City Challenger II - Russell Smith; ZU-IAZ - Sling 2 - Mike Korck; ZU-FRD - Savannah S - Robbie Els and ZS-VLN - Piper PA-17 - Alan Lorimer.

The airfield is well positioned in the beautiful valley. Fields of great looking maize grow right up to the boundary fence. Just over the road is the Baynesfield Country Club that has good facilities that look out over a cricket field. Apart from the flying, the farm is worth a visit. There are a number of historic buildings on the property (just down the road from the airport). These include the original homestead and the newer estate house. Baynes House is now a museum that can be visited by prior arrangement. It is situated in large, beautiful and well-maintained gardens. There is a dairy museum, a sewing museum and a kitchen museum. There is also an old (working) cheese factory and it also houses the Natal Vintage Tractor and Machinery Club. The club has open

days where visitors can admire the tractors and other farming equipment collected over the years. They also have a double decker bus, an old replica filling station, blacksmith shop etc. Further down the road past the airfield is a picturesque dam (Big Dam) that offers camping and fishing. There is a lodge that can be booked for accommodation. It is an interesting and historic place. The estate also hosts country fairs four times a year.



One interesting aviation related item I found at the tractor museum, sitting out in the elements, is a jet aircraft engine. After doing some on-line research it turns out that it is from a Convair 880 bought in 1987 by the Ciskei homeland government for the president. It was a former celebrity aircraft that apparently saw many parties and other shenanigans over the years. Rock bands such as Jefferson Starship used the aircraft. It sat at Bisho airport for a number of years but the money never materialised in order to get it airworthy again. The aircraft is now on static display at a restaurant at Kei Mouth.



Back to the fly in. The most interesting aircraft to attend was the Aermacchi AM-3C 'Bosbok' owned by Craig Ralphs. The immaculate aircraft, resplendent in SAAF colours, is based at Richmond a mere 15 kilometres away. The



aircraft was a big hit and Craig was happy to show her off to young and old alike. Some of the young children sat in the aircraft and were given a lesson of how the flight controls and instruments works.

EAA members also crowded around to view the aircraft and power plant and asked Craig numerous technical questions. This is a very interesting machine with quite a history. There were apparently only 43 production machines built and there were also three prototypes. Three of them were built in Italy for the Rwanda Airforce and Craig's airframe was the first one of these. It carries the serial R1 (Rwanda 1). After delivery to Rwanda, the three machines flew less than 300 hours each. They were eventually sent back to Italy and from there sent to Denel in crates. South Africa had ordered 40 aircraft for the SAAF (serial numbers 920 to 959). The Rwanda machines stood around for years before being assembled and refurbished. Craig bought one of these and flew it to Richmond on 24 Sep 2009.

The first test flight of the type was on 12 May 1967 and it is thought that Craig's aircraft was built in 1972. The aircraft is powered by a Lycoming GSO-480 built by Piaggio. There are not many examples of this type left out there, with perhaps a dozen on the SA register (not all flying), a few in the US and a couple in Australia. There could be others.

The day was a great success and enjoyed by all in attendance. It is a shame the weather did not allow for a better aerial attendance. Once the Covid situation returns to normal, we're sure that this EAA chapter will go from strength to strength.

Mister Mach

A tribute to Chuck Yeager – 13-02-1923 to 07-12-2020

Information for this article from [The Chuck Yeager Website](#)



The town of Hamlin, West Virginia where Chuck grew up

Charles Elwood “Chuck” Yeager was born near the Mud River in the tiny town of Myra in West Virginia. He was the second son born to his parents Albert Hal and Susie Mae Yeager. Chuck was an adventurous little boy spending much time climbing trees and exploring the woods. Grandpa Yeager kindled a respect in young Yeager for nature and the outdoors by teaching him to hunt and fish, a trait that would remain with Chuck for his entire life.

At the age of 5 the Yeager family moved to Hamlin, just a few miles from Myra, a town with a population of about 400. This is where Chuck was schooled and grew up, hardly the kind of town you’d expect would produce such a world renowned aviation legend!

In school Chuck was pretty much an average student being far more interested in fishing and hunting. However, he did well in anything that involved mathematics, physical coordination and manual dexterity. Typing was one subject he excelled in! Chuck was fascinated by the machinery in his Dad’s natural gas drilling business and was always eager to learn how they worked and everything about them.

Not much ever happened in the town of Hamlin, but on one occasion, when Chuck was 15, a Beechcraft belly landed on the banks of the Mud River. Chuck and his friends rode their bicycles to the site to have a look. For someone who would

be so inextricably linked to the world of aviation, Chuck was not impressed.

After receiving his Diploma from Hamlin High School In 1941, at the age of 18, Chuck signed up for a 2-year duty with the Army Air Corps. He was trained as an aircraft mechanic. He soon



Charles Yeager is third from the left, in the front row. On his right is his older brother, Roy. On his left is his Uncle Richard (Charles Yeager’s mother’s much younger brother). Uncle Richard died in World War II.

realized there were many similarities between aircraft and automobile engines. This gave Chuck an advantage when it came to troubleshooting and repairing aircraft engines, a quality that would put him in good stead for the rest of his aviation career.

Before the US entered WW 2, the Air Corps

required pilots in training to have at least 2 years college and be 20 years of age. This, and a nauseating flight as a passenger in a plane practicing touch and goes, led Chuck to believe that there was not much of a future for him in the cockpit of an airplane.

Things however changed. When the US entered WW 2 they realized a need to train more pilots and to train them at a faster rate. The Flying Seargent program launched requiring candidates to be only 18 years old and in possession of a high school diploma. Although not impressed by his first flight, the program did interest the Corporal. He signed up in December 1942 thinking not only would it be fun, but three stripes would get him out of guard duty!



Corporal Chuck Yeager (left), AT-11 crew chief at Victorville Air Base, CA, in the spring of 1942.

Although he experienced some airsickness during his first flights, Chuck went on to complete primary pilot training at Helmet CA and then basic flight training in BT-13's at Gardner Field in Taft CA. He completed advanced training on the 10th March 1943 in Arizona where he received his pilot's wings.

Chuck then joined the 363rd Squadron at the Tonopah Bombing and Gunnery Range in Nevada where he was a non-commissioned officer. Later that month he moved onto the



Yeager in front of a BT-13A during basic pilot training at Gardner Field, CA, December 1942.

Bell-P39 Airacobra training in fighter tactics. While many pilots battled with the Airacobra, a squadron mate recalls “ not Yeager, Chuck became the yardstick by which we could measure the rest as they joined us, several each month. Yeager could fly. Right from the start he was impressive”.



Flight Officer Yeager's P-39 over the Tonopah Bombing and Gunnery Range in April 1943.

The unit eventually shipped out to England in November 1943.

In England, Yeager was assigned to the 8th Air Force equipped with North American P-51

Mustangs. Chucks first mount was a P-51B which he named “Glamurus Glenn” after his fiancé Glennis Faye Dickhouse.

Flight Officer Yeager’s first combat mission was on 11 February and shortly thereafter, on the 4th March, he downed his first ME109. However, bad luck was soon to follow. Yeager was shot down the next day while making a head-on pass at a group of 109’s over occupied territory in Bordeaux, France. Chuck bailed out, there were enemy troops everywhere. To avoid being captured he opened his chute at the last minute and descended into a forested area. On landing he rolled up his parachute and took cover in the heavy brush.

The next morning he was discovered by a startled woodcutter who, although he spoke no English, knew he needed help and got him into the hands of the Maquis, the French Resistance movement.

Chuck’s aim was now to get to Spain and he spent the next few weeks travelling with the Maquis and also helping them set up fuses – an skill he had learned in his dad’s gas drilling business.

Eventually Chuck rejoined his unit back in England but had some difficulty being accepted back into to combat duty. He carried his appeal all the way to the Supreme Allied Commander, Commander Gen. Dwight D. Eisenhower, and finally returned to combat in August, flying Glamorous Glenn II, a P-51C with a “Malcolm Hood” canopy. Soon Yeager was flying the P-51D model, which he named Glamorous Glen III. It was in this aircraft that he achieved most of his combat victories.

Chuck was blessed with exceptional eye sight and this combined with superb piloting skills, concentration and relentless verocity, helped him rack up 12.5 aerial victories—including five ME 109s on 12 October and four FW 190s on 27 November.

“That day was a fighter pilot’s dream. In the midst of a wild sky, I knew that dogfighting was what I was born to do.” Chuck recalled of his four FW 190 experience.

Yeager was ultimately promoted to captain during his tour in the European theatre and, when he completed his final flight on 15

January 1945, he had totalled 64 combat missions for 270 hours.

Chuck was then assigned to a base in Texas where he spent sometime as a flight instructor, one of the low points in his aviation career. His luck changed shortly there after – a new ruling was announced that any pilot who had evaded capture in the war could be assigned to a base of their choice. Chuck and Glennis were about to have their first child and decided that they should be close to Chuck’s mother in Hamlin, so after studying a map, they chose Wright Field in Dayton, Ohio. What an impact this decision would have on Chuck’s life!

Chuck was assigned as Assistant Maintenance Officer in the Fighter Test Section at Wright Field. This meant that he would get to fly a seemingly endless list of aircraft coming of the maintenance line, including some of the new jets that were making their way into aviation. The Flight Test Commander was Colonel Albert Boyd, a man who demanded extremely high standards from his crew. Boyd soon took notice of Yeager’s ability to fly and understand the mechanical systems of each and every aircraft he flew.

Later in 1945, Boyd and a group of test pilots headed off to Muroc Airbase in the Mojave desert to test what would become the USA’s first operational jet fighter, the Lockheed P-80 Shooting Star.

It was on this trip that Boyd entrusted the young officer Yeager over the regular test pilots to ferry one of the unpredictable jet back to Wright Field. Shortly after that Boyd approached Chuck about attending test pilot school.

There were issues with Chuck’s lack of education, but Boyd knew that Chuck could outfly any pilot at Wright Field. At pilot test school Chuck made friends with an engineer, Jack Ridley, who could explain mathematics and physics to Chuck in a way he could understand. This friendship was start of a team that would include Chuck’s friend Bob Hoover and change the world of aviation forever.

The Bell Aircraft Company was testing a radical new design that would go faster than any



Chuck Yeager and Jack Ridley

aircraft before at the Muroc Air Base. It was intended that this aircraft and their civilian test pilot would be the first to break the speed of sound.

During WW 2 pilots had experienced unstable controls and structural mishaps when getting close to the speed of sound and it was considered by many engineers that a physical barrier existed that prevented airplanes from flying past Mach 1. However, the counter argument was that bullets could fly faster than sound.

Bell started the design with the shape of .50 calibre bullet and made the X-1 structurally very sound. The small aircraft was powered by four powerful rocket engines and was built to withstand 18 G's. The problem with their project was their test pilot, Chalmers "Slick" Goodwin. Chalmers was demanding huge amounts of money to fly through Mach 1 and the project was put on hold.

Colonel Boyd saw the military potential in the project and successfully lobbied for the project

to be placed under his command and to find a test pilot willing to fly the X1 through the speed of sound.

Yeager was one of the volunteers but thought that his lack of education would prevent him being selected for the program. However, Boyd was well aware of Yeager's ability to fly, his total commitment to a mission and his ability to stay calm under pressure – the perfect combination for a test pilot on this mission. Bob Hoover was selected for back up pilot and Jack Ridley for Flight Engineer for the X-1 Mission.

The three men arrived at Muroc in July 1947. The mission was completely different to anything Chuck had flown before, the plane did not take off but was to be dropped from a modified B-29. It carried very little fuel and would glide down to earth to land at Roger Dry Lake.



Bob Hoover

The first few flights in the X-1 were unpowered to let Chuck get a feel for the aircraft. On the 29th August they were ready for the first powered flight. Chuck was happy with the aircraft's performance. Colonel Boyd laid down very strict procedures for progressing to Mach 1, each flight was only to increase speed by two hundredths of a Mach number. Reaching Mach.86 on October 5th Chuck experienced turbulence and buffeting from shock wave compression. The next flight at Mach.94 shock waves formed on the control surfaces and caused them not to function. Calmly, Chuck throttled back, jettisoned the fuel and landed the aircraft. Engineers had predicted that the

nose would pitch up or down at Mach 1, but without elevator control, as had happened at .94, he would not have been able to correct for whatever pitch changes that would occur at Mach 1.

It was Jack Ridley that came up with a solution. Bell had given the X-1 the ability to change the angle of attack of the horizontal stabiliser while in flight. Perhaps Chuck could control the aircraft using this method. After testing it thoroughly on the ground Chuck was confident this method could work. The following flight saw .96 on the Mach meter, Ridley was correct and Chuck was able to regain control of the aircraft. The next flight would only be after the weekend.



Chuck and Glennis headed to a popular restaurant called Pancho's, after which they decided to take Pancho's horses for a ride. Racing back, neither of them realised the gate was closed. Chuck was thrown off his horse breaking two ribs when he hit the ground. Knowing Boyd would not allow him to fly with broken ribs, Chuck was determined that this was not going to keep him out of the cockpit at such a crucial stage in the program. His wife took him to an off-base doctor who strapped up the ribs. Only problem was that he was not sure how he would close the cockpit door in the X-1. He confided in Ridley who devised a make-shift handle from a broomstick. They tried it out on the ground and found it worked perfectly!

14th October and the test crew were ready for their next flight. The plan was to get to Mach .98. Chuck closed the latch with his broomstick. At .94 he corrected the aircraft's instability using

the horizontal stab trim switch and then fired the fourth rocket. The Mach meter fluctuated at 0.965 and then went off the scale. Ground controllers reported hearing distant thunder. In fact they had heard the first supersonic boom produced on earth!

As the Mach needle left the scale, Chuck realized that the buffeting had stopped. He realized this was supersonic flight and was as smoother than could be imagined. He remained here for 20 seconds before shutting down two engines and gliding back to earth.

The team had achieved what they had set out to do!



Chuck Yeager and EAA



Chuck Yeager played a big role in EAA activities. In 1994 he became the second chairman of the Young Eagle program as well as appearing regularly at Oshkosh AirVenture, not only at the warbirds area but also at the Theatre in the Woods. Chuck was a life-time member of EAA.

In 1995, EAA recognized Chuck's commitment to the organization by presenting him EAA's highest honour, the "Freedom of Flight Award".

EAA Upcoming Events

Planning for 2021

13 January 2021

EAA Chapter 322 Zoom only Gathering (due to the newly imposed Level 3 Lock down). Look out for the e mail and WhatsApp reminder which will include the zoom link, link also is on the last page of this Contact! Time 18h30

13th February 2021

At this stage we are not sure if we will be able to make this a hybrid gathering, that will depend on future lockdown decisions. However, this will be an exciting event as it will be one of the first combined Chapter Gatherings, EAA Chapter 322 in Johannesburg and EAA Chapter 932 in Illinois. Each chapter will be making a short presentation on their history, their member's projects, what they fly and typical away trips they undertake. Please



Virtual Gathering with EAA Chapter 322 of South Africa

February 13, 2021 | FREE

During *AirVenture*, many of us have enjoyed the camaraderie of our next-door neighbors in *Camp Scholler*, members of **EAA Chapter 322** from *Johannesburg, South Africa*. At February's joint virtual gathering, we'll have an opportunity to learn what recreational flying is like halfway around the world! Join us as we meet the pilots, see their airplanes, and learn about the places they enjoy flying to. In return, we'll be sharing what's happening among our own Galt Airport community and introduce some of our local pilot population to EAA Chapter 322. *Please check back here for the time and for a Zoom link as the date of this event approaches.*

note that this gathering will take place at Chapter 932's regular time, 10h00 on a Saturday morning in Chicago. It was decided that this would be a good time for us as it will be 18h00 on a Saturday evening. By this time we should have packed away our aircraft and be ready for an ice-cold beverage to round off the day! We ask all members to join us for this occasion. Details will follow!

27th February 2021

Drive-In Night at Jack Taylor Airfield, Krugersdorp! Enjoy the nostalgia of a 1950's drive-in evening as you relax in your car, plane or garden chair and watch an aviation related movie. Food stalls and coffee stands will be on hand. Guests may also bring their own beverages.

For those flying in, overnight camping will be available on the airfield



Impromptu Breakfasts and Fly-ins

Keep an eye on our EAA Members WhatsApp Broadcast Group where we will inform members of any impromptu flying activities. These will include our Pancake Breakfasts which we will be arranging at various airfields within easy reach. If your airfield is willing to hold an event, let us know, we will support you!

EAA Convention & Aeroclub AirWeek
23rd to 27th April 2021



NEVER TURN BACK by Dave Lister

I was in attendance at our monthly chapter 322 meeting in late 2019 when a discussion took place as to the reasons why not to try the above. I remained silent and listened to the members. A point made by Roy Watson which stuck out for me was the return to the runway is nearly a 360 not just a 180 degree turn.

Back in the good old Grand Central days, late 80's, when the chapter members operated there, every Saturday was busy with EAA type aircraft. I was part of this great comradery and it was shown one particular Saturday morning.

I lined up on runway 35 waiting for the tower to clear us for take-off. There was a Baron behind us followed by a Tiger Moth with other aircraft joining the queue. Once released, opened the throttle and headed down the runway, getting airborne fairly quickly. The Baron was lining up ready to go as we climbed out straight ahead when suddenly there was a bang followed by a tremendous vibration. I thought the engine was going to break away from the airframe. As my hand was still on the throttle, I immediately slammed it shut, pushed the nose down, looked at what was ahead, looked back at the runway and initiated the turn to the left (remember a Baron was just airborne), switched off all electrics, fuel pump and ignition and also told my panicking co-pilot to shut up (yelled in fact), as he was telling me how to fly the aircraft which he had never been in before or any other

similar type. I then realised I needed to tell the tower we were coming back so switched the Master and radio back on. The Baron had seen me dip the nose and took avoiding action and wondered why I did not say anything. The Tiger Moth who was already on the roll was instructed to abort and went onto the grass to stop (Tigers have no brakes). I rolled out of the approximate 240° turn then right by 60° and lined up with the runway. I deployed the Dive brakes to control the now fast downwind approach, approximately 90 knots ground speed and with plenty of runway settled her on the tar, after the landing markers and rolled to a stop. A number of the Chapter members rushed to help push us onto the taxiway and clear the runway to a safe parking space. We got out the cockpit and as I looked at the propeller, found half of the one blade was missing.

The above sequence from shutdown to landing took little more than a minute but at the time seemed to take forever. It is amazing how fast the brain works when things go wrong!!!

The explanation of my actions needs to be looked at in a bit more detail.

What had happened?

Get rid of the distraction in the cockpit.

What does the POH say?

Weather.

Training.

Equipment (Aircraft)

1. This was a test flight for the engine which had recently been rebuilt – the pilot in the cockpit next to me had done the rebuild but we had overheating problems. He was aboard to evaluate the situation. I had fitted a borrowed, wooden prop while waiting for the new VP 1
2. I needed to get rid of the distraction quickly (co-pilot) so that I could give my full attention to the task ahead.
3. While all this was happening, I remembered what the POH said “at 500 foot consider turning back”.
4. We had 18 to 20 knots of headwind straight down the runway – minimum fuel, no luggage and had just passed the airfield boundary at about 400 ft.
5. The late Jeff Birch – my instructor at the time had taught me to fly the aircraft to the best of its flying characteristics – including slow turns at a set angle of bank and remaining on blue line, in this case 51 knots.

6. The aircraft involved was a G 109 Grob Motorglider, with a glide ratio of 30:1.

On reflection it was the speed of the decision and action which culminated in a successful turn back forced landing. Remember to fly the aircraft, navigate and then communicate – I seem to have got that right which saved us on the day. I hope I do not have to go through that experience again!

The conditions on the day were all in my favour but I hasten to add that most normal powered aircraft will NOT succeed in the return from that altitude and ask you all not to even try, you will NOT make it back!!!

PS. I still fly the Grob today operating out of FAKR. Crosswinds there are always a problem and some days it is best left in the hangar. If returning from a flight the grass cross runway is an option.

REMEMBER: Take off is optional, landing is mandatory (Words from the General – B. S.)



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John Illsley's Comper Swift

Update on John's fascinating project

COMPER SWIFT



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PROJECT UPDATE: COMPER SWIFT REPLICA

John Illsley, Chapter 322

Much water has passed under the proverbial bridge since I last penned something on this project, so in the hope that this might be of interest to some EAA members, what follows should bring you up to date on progress.



An original Comper Swift "The Scarlet Angel" operated by the Shuttleworth Collection in Britain. The South African replica will also have wheel spats.

Background to the type

For the uninitiated, the Comper Swift was a British sporting and racing aircraft of the 1930s. Designed by Nick Comper, the aircraft first flew in 1930 using a 40hp ABC Scorpion engine and then the more powerful Salmson radial. However, when Douglas Pobjoy started building his range of geared radial engines, which had the best power-to-weight ratio of the time, these became the standard engines of the type after it went into production.

The aircraft type was one of dozens that emerged in the inter-war period, then known as "ultralights", today the category in which falls microlights and light sport aircraft. The Swift was built in limited numbers by Comper's company and was the only one of his four designs to go beyond the prototype stage. Nevertheless, the type achieved success as a racing and touring aircraft, and was used on a few long-distance flights, some of which set records. One of these was the 1931 Britain to Australia flight of Alan Butler who set a new record of nine days, two hours and twenty minutes, flying a Swift fitted with additional fuel tanks. This aircraft, registered G-ABRE, was



Alan Butler flew this Swift from England to Australia in 1931 and set a new record

shipped back to Britain and was subsequently bought by the South African aviator, Victor Smith, who in 1933 used it to try and break Amy Mollison's record to the Cape. High winds on the last leg forced him to land near Van Rhynsdorp by night using a parachute flare and the resultant delay in obtaining fuel cost him the record. My replica will carry the same colour scheme as Victor Smith's aircraft. His adventures were very much the inspiration for this project and when flying, it will, I hope, serve as a tribute to him.



South African, Victor Smith flew the same Swift as Butler on an attempt at the London to Cape Town record in 1933.

Smith's Swift was not the first of the type seen here. In 1931 Lieutenant "Boozy" Byas, a South African serving in the Royal Navy, flew his Swift to SA to visit his parents who lived in the Orange Free State and he later flew on to Cape Town.

Swifts continued to be used for racing after WW2 in Britain which helped to ensure that some survived. Today there are seven known survivors of which four are still flying.



An artist's impression of Victor Smith carrying out his forced landing in the Knersvlakte near Van Rhynsdorp at night by the light of a parachute flare.

The approach to the replica

Almost a full set of factory plans have survived in the UK and having secured these from two



The elevator of John's replica under construction.

different sources, I was able to tackle the project once a Pobjoy engine had been found in California, after a search spanning a number of years. (In the USA, Pobjoy engines were mainly used in auto gyros and also in one tiny racing aircraft)



The sub-assemblies that were initially completed: fin and rudder; tailplane and elevator and ailerons.

The woodwork in the Swift is conventional but the real challenge lies in the hundreds of metal fittings that feature at almost all of the junctions of fuselage members. Nick Comper did not follow the simpler path being used by companies such as Avro and De Havilland of glued structures as utilized on the Avian and the Moth series. Instead, his complex designs follow the practices of the World War one and early 1920s, with metal fittings holding together most of the timber and with extensive internal bracing. Indeed, at one stage, the internal fuselage structure on my project bore a marked resemblance to the SE5a, a famous WW1 fighter (of which one can still be seen at the military museum in Johannesburg).



Some of the hundreds of metal fittings being primed with zinc chromate.

Although flatpacks of these metal parts are available from a company in the UK, the cost is prohibitive and so with the help of a colleague who teaches a technical subject, about 90% of the metal fittings were re-drawn as Auto CAD items.

I have a friend in England who undertook a Swift replica and made all the fittings by hand, just as they would have been in the 1930s. Given that this would add thousands of manhours to the build time and feeling no necessity to replicate the original techniques, I used the CAD drawings to have most of the parts laser or water jet cut from 4130 sheet metal. (The existence of the CAD drawings means that should anyone out there be sufficiently mad to undertake a Swift build, this would greatly assist them). There are few machined fittings in the design, but the undercarriage legs do feature some and here I was able to draw on the expertise of fellow EAA member Sean Cronin in replicating these using CNC milling techniques.



The centre section starts to take shape as part of the middle fuselage. The undercarriage attachments points and the suspension system are also evident.



The middle and rear fuselage frames during a trial fitting.

While the drawings were being converted for the purpose of fabricating the metal parts, I tackled some smaller sub-assemblies that were essentially glued structures. Hence the wing ribs, ailerons, tailplane and elevator were completed first. Large jigs made with sheets of Supawood were then used to make up the side

frames of the forward fuselage (which also carries the engine bearers) and the middle fuselage. The upper and lower frames of the rear fuselage were made in the same way. These large items are made from Spruce with some of the lower elements being of Ash, a very strong but much heavier type of wood. All of these frames are glued structures, featuring birch ply gussets and brass gim pins.



The forward and middle fuselage showing the many metal brackets and the internal bracing.

It is when the frames start to be assembled into the three fuselage modules (front, middle and rear) that the fun really starts. With the addition of all the cross members (and the Warren girder elements in the rear fuselage) the clusters of metal brackets come into the build. There are nineteen junctions (multiplied by two in most cases for the left and right-hand versions) at which metal fittings feature, in part to add strength and partly to act as pick-up points for cross bracing. I was very fortunate to have sets of photos of these junctions and many other details from an original Swift owned by an orthodontist in Australia that was under rebuild. These were absolutely vital in figuring out how each cluster of brackets come together, keeping in mind that the brackets are fitted on both the outside and inside of each fuselage frame, with the inside clusters always being the ones where there is a layer of fittings that pick up cross members, other major sub-assemblies and bracing. This is less true of the rear fuselage which is largely glued, except for the stern post area and the attachment points that connect to the middle fuselage.

undercarriage legs and the internal suspension system which is based on coiled shock chord. Another steel tube doubles as the seat mount and features wire bracing and its own set of turnbuckles to allow for an adjustment in seat angle!



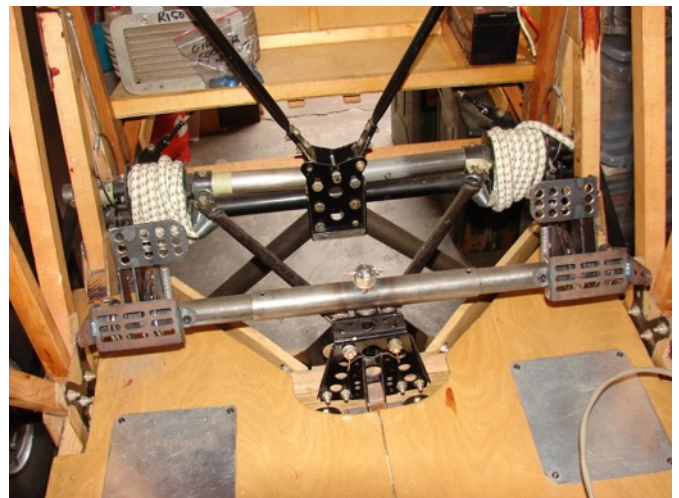
Detail of a typical junction point in the fuselage frame: layers of brackets fulfilling a variety of purposes.

The Swift has a shoulder mounted wing, which is attached to a triangular shaped centre section. The front triangular frame is mounted at an angle relative to top of the fuselage, which presents some very tricky geometry at various points. The rear part of this centre section carries the instrument panel and the fuel tank occupies the space ahead of it. It is



Current progress on the fuselage, which is now nearing completion.

The middle fuselage is by far the most complex section, featuring as it does, the cockpit, wings and undercarriage attachment points, and the connection points for the front and rear fuselage. Internal cross bracing varies in form and includes tubular steel, swaged rods and even piano wire with turnbuckles. Substantial tubular cross members pick up the



The rudder bar with toe brakes fitted. Ahead of this is the undercarriage suspension based on bungee cord.

this arrangement that means that the pilot has no view directly ahead and has to look left and right of the centre section. This never fails to elicit comment from those who see photos of the aircraft. Of course, all of the metal fittings (over three hundred) cannot achieve their function without many bolts attaching these to the woodwork. Hence there are a few hundred AN3 (and a few AN4) bolts also featuring in the equation and I am a regular customer of the ever-obliging Republic Aircraft Parts at Wonderboom. Fortunately, the “hardware account” has been spread over several years, which makes it more affordable.

Finding parts

While most of the project relies on newly-made wood components, metal fittings and American aircraft hardware, there are some key components that have not been made from scratch and where a degree of originality has been pursued. I have a full set of British instruments collected over many years. A mint condition Sutton Harness awaits installation. A donor in Hoedspruit working on a VP1 sent me a suitable venturi (to drive the turn and bank instrument). Mark Sahd in Queenstown donated the Auster wheel drums and Ricardo de Bono provided the Auster brake assemblies (after he had fitted hydraulic versions to his own Auster). Gerald Maddams provided one back plate for the brake assemblies. These are specific to the left and right-hand wheels and one is more prone to breaking, so I am told, and thus more difficult to find. I really didn't want to have to spend Pounds buying one from Britain. Then I got lucky. I went to Brian Zeederberg's hangar sale at Baragwanath and lo and behold I found *two* of the required backplates! What were the chances? That sale also yielded an oil cooler and some AN fittings for connecting pipes.

The late Mike Spence gave me a set of vintage magneto switches and he also allowed me to scratch through his extensive collection for bracing wires. On the second expedition, I took two schoolboys from the PBHS Aeronautical Society and let them loose as “aviation pickers”,

armed with tape measures. Mike had hundreds of WW2 military surplus bracing wires, all off British types. These were of aerofoil section, but they lent themselves to the internal bracing of the Swift fuselage and wings. The beauty of these rods (apart from not having to have them made overseas) is that they each have a long threaded section on the one end, which can be cut down to match the required length. Consequently, it was possible to find a full set of bracing wires for the entire project by searching through piles of rods and finding those that fell within the lengths required after cutting.

Not as simple was finding the other elements that make up each bracing rod. On each end is a fork end and these have opposite (left and right hand) threads. Each fork end requires a lock nut, again with opposite threads. Finally, each fork end requires a clevis pin with a split pin. Mike sold me almost sufficient fork ends, but I was short of a few 7/32” right-hand thread versions. I chanced upon the fact that every Tiger Moth uses two of these per aircraft (one of five different sizes used on the rigging) and so I started scrounging among Tiger Moth owners. Cliff Reynolds donated all of his replaced fork ends; two more came from the Watson family; one from Peter Steyn and finally two from Peter Lastrucci. I still need one more in that particular parts quest.

The chances of finding sufficient clevis pins and lock nuts seemed unlikely, so I called on my old Auster-owner friend in Port Alfred. George Armstrong is a wizard on a lathe and I leaned on him for a few big favours. The clevis pins were machined from surplus aircraft bolts and the lock nuts were made from hexagonal brass rod that was cut and threaded with specially made cutting dies. My abuse of the friendship didn't end there, as George also made up all of the brass bushes that feature in the joy stick assembly and the elevator control horns.

All in all, the tracing and making of parts has again shown what a network of wonderful kindred spirits we have in EAA across the country.

Fitting brakes

The original Swifts were not fitted with brakes, using instead a tail skid to provide some kind of braking action. Factory drawings show that there were Swifts that had brakes fitted in the 1930s, but these were the exceptions. All of the Swift replicas built in recent decades and a few of the originals that have undergone rebuilds have been fitted with brakes. Of these, most have been hydraulic installations. Because of the need to operate off tarred runways and for safety reasons, I decided that brakes were essential. Although they are much maligned, the cable-operated drum brakes on Austers were deemed adequate for the project, which is after all much lighter than all Auster types and are a system with which I am well acquainted.

Fitting the brake back plates to the undercarriage legs is straightforward, but the engineering challenge is to make the pedals work on a rudder bar. Eventually it was decided to design a system in which these pedals would be toe brakes mounted on the rudder bar itself and using the tubular steel rudder bar as the fulcrum around which the pedals would rotate. Austers originally had heel brakes mounted on the cabin floor, so the adaptation to a rudder bar required much head scratching and included the installation of a cam to achieve the required leverage. Sandro Strimer's workshop at Wonderboom played an essential role in making this work.

Engineering: the good, the bad and the necessary

It should have become apparent from the description above that there are a plethora of metal fittings in a Comper Swift and that the design is very over-engineered, as are many British aircraft. On the positive side, this makes for a very strong airframe. This is borne out by the fact that a few racing versions of the Swift were fitted with Gipsy Major engines, with very little additional strengthening of the original airframe required.

On the other hand, there are a few places in the

design where the engineering is appalling. The best example is in the area below the cockpit. The loads from the lift struts to the wings need to be transferred through the fuselage. This is achieved by two large rods that attach to the base of the lift struts via eye bolts. On the original drawings the one rod is shown spanning the fuselage directly, but the forward rod *bends* underneath some of the wood structure! One of the Swift replica builders in the UK has had a modification approved by the LAA (Britain's main association for homebuilders) which allows both rods to run directly through the wood structure and I have incorporated this into my project. Incidentally, the rods with their rolled (not cut) threads were made in the UK by a company that does work on Formula One racing cars.

Almost inevitably with replica projects there have to be some concessions to allow the aircraft to operate in a modern environment. Two common examples for taildragger designs are the need to replace tail skids with tail wheels and the need to install a radio. Both of these will apply to the Swift project. Fitting the radio without using a panel mount that would detract badly from the authenticity, meant devising a vertical box (which will also hold a flask) down the side of the cockpit. Finding a location for the battery led to one of those adaptations of what the original design contained. In this case, the front luggage locker came to serve three purposes. On the factory-built Swifts it was designed to hold a small suitcase. Several restorations and replicas have not bothered to include this locker. However, I figured that it could be used to solve two issues: where to place the battery box (inside) and where to mount the oil cooler (below)! Being slightly ahead of the c of g, it is an ideal item to make useful beyond its originally intended purpose, which will still be useful for small items such as wheel chocks.

Seeking inspiration

As any homebuilder will know, finding inspiration to press on with a project, especially as it starts to extend over several years, is one

of the factors that ensures that the undertaking will reach completion. With no other Swifts in South Africa, one has to visit other countries if you wish to see one flying and talk to owners.

Dr Roy Fox in Australia owns two Swifts as part of his vintage aircraft collection, one each of the Pobjoy and the Gipsy Major variants. I met him at Oshkosh in 2008 and he later kindly supplied some of the missing engine parts. A few years ago I was able to meet up with him again at Omaka air show in New Zealand where I had the chance to sit in his newly-restored Pobjoy-powered Swift.



Trying out a newly restored Swift at Omaka airfield in New Zealand. It will be based in Australia.

My friend Phillip Cousens in England completed a replica three years ago and he has been a mine of information on all of the technical problems one encounters recreating a design that is over eighty years old. I was able to “try on” his Swift at the quaintly-named Hinton in the Hedges airfield. Some good You Tube clips of test flights of Phillip’s machine have also provided useful prompts.

The first replica completed is now part of the Real Aeroplane Company collection at Brighton airfield in Yorkshire. Thanks to the chief engineer I was able to photograph that exact reproduction. The Shuttleworth Collection has an original Swift (The Scarlet Angel) in flying condition.



John Illsley with the Swift once flown by Alex Henshaw at the RAF Museum at Cosford.

There is also a restored Swift (that once belonged to Alex Henshaw) at the RAF Museum at Cardington. Two other stored Swifts exist in England and there is a further airworthy example in Spain, but I haven’t managed to see any of these three.

In 2018, with the encouragement of Gerald Maddams, I attended the Shuttleworth Collection’s Race Day air show, which displays an amazing collection of vintage racing cars and aircraft. Part of the attraction was that for the first time in decades there would be three Swifts flying together in a mock air race. That sight of three of these small and unusual aircraft airborne certainly provided some inspiration to complete my own.

Of course, reaching the stage in the project where one can wheel the fuselage outside and sit in the cockpit remains one of the best motivations. This stage was reached a few months ago. One can be forgiven for letting your imagination run wild as you try out the cockpit!

What next?

The two major elements that remain are the wings and the engine. The wings are both shorter and simpler (in terms of internal structure) than the pair I built for my Aeronca C3 restoration, so I don’t anticipate any major problems. Internal bracing is by way of swaged rods rather than the yards of piano wire and dozens of turnbuckles in the Aeronca.



A real treat to see - two Swifts flying at an air show at Old Warden airfield.

The Pobjoy engine has been completely stripped down and most missing parts have been sourced or made. I will probably hand this to someone with radial engine experience to rebuild.

To all those EAA members who have provided parts, expertise and encouragement, my sincere thanks. Projects like this require many contributors and I have been blessed with these in abundance.

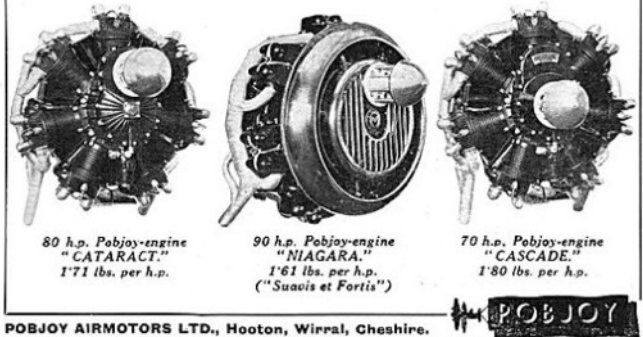
Completing the project will take a few more years and will add a unique type to the local aviation scene. So, as they say, "watch this space"!

Douglas Pobjoy and the Pobjoy Engine

Douglas Rudolf Pobjoy started in the engine business working with Roy Fedden at Cosmos Engineering just after the end of World War I. Cosmos went bankrupt shortly after the war, and its assets were picked up by the Bristol Aeroplane Company, where Fedden would go on to produce a line of extremely successful engines.

Pobjoy also spent time in the RAF as an education officer. Here he met Flt. Lt. Nicholas Comper who went on to design the Comper Swift, that would later fly from London to Australia in 9 days 2 hours. Pobjoy partnered with Parnall to develop an engine for the Swift. Although they felt that a cast-block inline engine like the ones being produced by Cirrus and de Havilland would always be less expensive, they nevertheless selected the radial layout for their design, feeling that the cost would be more than offset by the

THE WORLD'S LIGHTEST AERO ENGINE IS NOW EVEN LIGHTER STILL



POBJOY AIRMOTORS LTD., Hooton, Wirral, Cheshire.

lighter weight and higher performance his designs would offer. Douglas Pobjoy later took over the design, and started a company of his own to produce it at Hooton Park in the Wirral. The Parnall/Pobjoy design, the 7-cylinder 67 hp Pobjoy P, received its 50-hour type rating in 1928. This was followed in 1929 by the 75/80 hp Pobjoy R, that became very successful, notably on the General Aircraft Monospar. Later designs included the 85/90 hp Pobjoy Cataract, replacing the Pobjoy R, and the 130 hp Pobjoy Niagara of 1934. The Niagara was used on a number of designs by Shorts designers, notably the Short Scion Senior and the original half-scale prototype for the Short Stirling, the S.31. The Niagara's compact size and excellent performance led to it being used on the General Aircraft GAL.38 and Airspeed AS.39 extremely long-endurance slow-flying "Fleet Shadower" prototypes produced to Air Ministry specification S.23/27 where they maximized airflow over the wings.

In 1934, Pobjoy Airmotors moved its plant to Rochester, Kent, to be closer to its largest customer, Shorts. The move, and the ongoing effects of the Great Depression, drove the company into financial difficulty, and it was eventually bought outright by Shorts. The company was made public in 1935. Douglas Pobjoy then moved on to designing de-icing equipment for high-altitude flights.

On 4 July 1948, he was returning from a sales trip to Helsinki when the Scandinavian Airlines Douglas DC-6 in which he was flying was involved in the 1948 Northwood mid-air collision. All 38 passengers in both aircraft were killed.

A True Pocket Rocket

Dieter Bock's Lancair Legacy – by Willie Bodenstein, Pilots Post



Strapping myself in for a flight in Dieter Bock's Lancair Legacy powered by the Performance Engines 'EXP' version of the IO-550 was a dream come true. This was to be my 101th aircraft type in which I had flown.

The brainchild of Lance Neibauer, the Legacy, looks fast even when standing still on the apron. Efficient high performance and elegant design with speed as the primary focus were Lance Neibauer's targets when he designed the original two-place Lancair 200 over thirty years ago.

Neibauer's first creation was powered by the Continental O-200, the same engine that Cessna used in their 150. It propelled the much lighter, beautifully streamlined, marvelously slender and graceful Lancair 200 to an incredible 200 mph (320 kmh).

The key to Neibauer's success, besides designing an aircraft with not an unnecessary extra square inch of wetted area of cross-section, was the use of vacuum-formed

pre-pregated fibreglass and graphite composite sandwiches in the construction.

Having decided on the Legacy Dieter attended a two week workshop at the Lancair factory in the USA. "The most difficult tasks are joining



the fuselage halves and then fitting the canopy. Attending the workshop was an invaluable experience and not only took care of a few major assemblies but prepared me for a smooth ride to completion." Dieter told me before our flight.

The standard IO-550 will power the Lancair to 240 knots (444 kph); the EXP installed in

Dieter's pushes that up 250 knots (463 kph). know that is not a lot," Dieter told me, "but the EXP with its balanced conrods, flow-matched heads, balanced crank and ported and polished cylinders works less hard than a factory unit and this translates to ease of mind and engine longevity."

Safely strapped in my eyes wondered over the panel that to a certain extent seemed to be a contradiction in terms. The left side of the panel side consisted of the usual array of steam gauges whilst the center consisted mostly of Garmin unit's whilst the right was taken up by an expansive MGL Voyager flat screen multi-function display.

The canopy closed the high compression Continental roared into instant life effortlessly from cold. Throbbing menacingly with little sign of vibration we head towards the run-up point, park and go through the necessary checks before lining up. Jack Taylor airfield with its rather short and challenging runway is not where one would expect found a high performance aircraft such as the Legacy. However, at 60 knots (111 kph) we were airborne with runway left. We were soon climbing at 130 knots (240kph) as we headed for the GA at Hartbeespoort dam to

find some airspace to play with and Dieter briefly allowed me to fly her. I was in seventh heaven!

Needless to say Dieter put her through her paces whilst I sat in awe and marvelled at the genius of Neibauer's design. I have heard so much about the Legacy but nothing could have prepared me for the sheer joy of experiencing it at first hand.

All too soon our flight was over and we returned for a high-speed flight overhead the field before going downwind for base and finals. Our final approach speed was 100 knots (185 kph) from a fairly steep approach. The runway looked frightfully short at that speed. By the time we were over the threshold we were down to 90 knots (166 kph) still much higher that what I'm used to. However, the Legacy's efficient brakes quickly slowed us down and we were soon at a comfortable taxiing speed with at least a third of the 800 metre runway remaining.

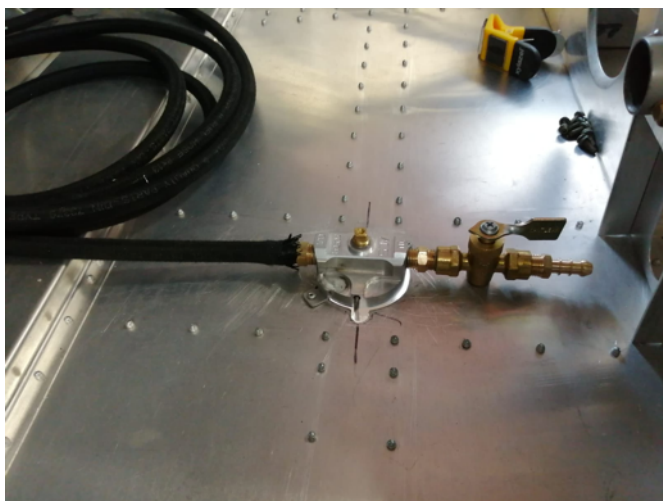
Did the experience live up to my expectations? Without a doubt. The Legacy is everything that I thought it would me and much more. Needless to say it took a while to wipe the smile from my face.



Project Update

Ant Harris' Zenith C 750

Ant's Zenith C 750 project is now standing on it's wheels. Brakes, rudder peddles, and doors are fitted. Next job is engine mount and engine installation. Ant is installing a Jabiru motor with a variable pitch propeller in the aircraft. Performance on this STOL aircraft should be great and hopefully we will see it flying in the not-too-distant future!



Taylor Titch Rebuild

Dries van Vuuren, Kokstad



My present project, restoring a Taylor Monoplane, ZS UHG. She first flew in 1978 and last flight was in 1990. In total she did 230 hours. I installed rudder pedals with toe brakes, an 85 hp Jabiru with closed cowl. Plans are to do a complete recover and paint. Three Taylor's were built by Ian Parker and other builders in the 70tys in Pietermaritzburg. ZS-UHG and ZS-VWZ survived but the 3rd one was destroyed in a crash.

ZS -VWZ belongs to Dr Kenny O Conner in Pietermaritzburg. Barry De Groot was the 2nd owner but did not restore UHG to flying condition. Some how EAA chapter at Grassroots got hold of it where it gathered dust. Keaton Perkins then bought it and sold ZS-UHG to me when he realised he needs a 2-seater. I hope to have it flying mid 2021!



85 hp Jabiru Engine



ZS UHG modified with toe brakes



Taylor Titch General Characteristics

Crew 1
Length 16' 1 1/2"
Wingspan: 18' 9"
Height: 4' 8"
Wing area: 68 sq ft
Empty weight: 500 lb
Max takeoff weight: 750 lb
Fuel capacity: 10 imp gal
(12 US gal; 45 L)
Powerplant: 1 × Continental
C85-12F Four-cylinder air-
cooled horizontally opposed
piston, 85 hp (63 kW)
Propellers: 2-bladed Hegy
wooden scimitar propeller, 5 ft
0 in (1.52 m) diameter

Performance

Maximum speed: 200 mph
Cruise speed: 110 mph (econ.
cruise)
Stall speed: 50 mph (flaps
down)
Never exceed speed: 225 mph
Rate of climb: 1,100 ft/min



The Taylor Titch

John Taylor's Mini Spitfire



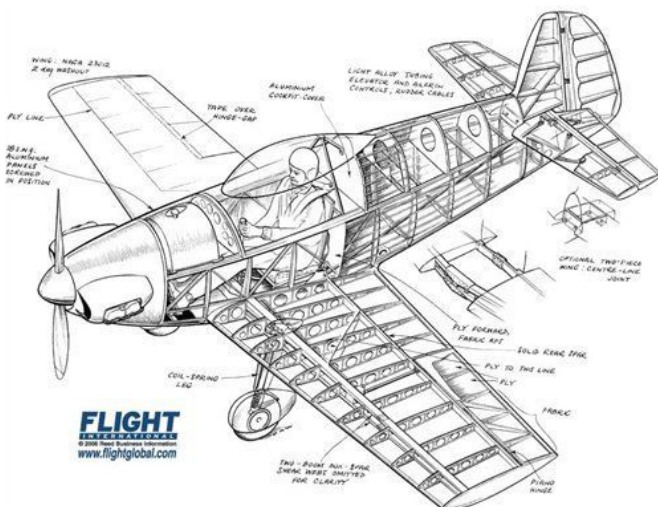
John Taylor designed the Titch as an entry in the 1964 Midget Racer Design Competition promoted by Rollason. Among the criteria requested was that it had to be a single-seater powered by a Rollason Ardem flat-four engine, design limits were $\pm 6g$, maximum wing area of 65 sq ft and a maximum weight of 750lbs. As a result of Taylor designed a high performance single-seater, the Titch based on his earlier Taylor Monoplane.

At the closing date of the competition 42 designs had been submitted which was won by a project named Beta but the Titch was placed second.

Taylor built the prototype, registered G-ATYO, at Leigh-on-Sea, Essex between 1965 and 1966. The Titch first flew at Southend Airport on 4 January 1967.

The designer John Taylor was killed when the prototype Titch crashed at Southend on 16 May 1967. The marketing of plans for both his aircraft designs were taken on by his wife and later his son.

As of 2011, 40 examples had been completed and flown



John Taylor's Prototype G-ATYO

High Point for High Wing!

Friday 18th December – Sling's new model takes to the skies!



Prototype ZU SHW taxis out for first flight



For those that cannot remember – this is what an ATF looks like!



A good way to end the year – the proud Sling Team!

[Click Here to View First Flight](#)



News from New Zealand

Raglan Beach Fly-in by Warren Butler



Raglan is a small coastal town situated on the west coast of New Zealand's North Island, around 50km west of Hamilton. The town is established a few km inland from the volcanic black sands beach, right next to a tidal lagoon and about a 10 min walk over a river bridge from the 650m x 60m wide grass airfield. A unique feature of this airfield is that the grass strip divides the road and the lagoon beach for pedestrian access and since the whole area is designated as public access, we have to be mindful of the fact that there are often people walking across the middle of the airfield between the road and the lagoon beach, despite there being very clear signage on both sides for pedestrians to be vigilant of aircraft. We have all had the experience of at least one go-around or an aborted take off for the unwary/ignorant public. There is also a popular camping ground right on the airfield with facilities ranging between unpowered tent sites and RV parking, to self-catering modular style accommodation. The town has a lot of historic

attractions such as the iconic colonial-style Harbour View Hotel, built in the 1800's. It still offers accommodation and an extremely popular, pub, gaming room and restaurant. During the summer months, Raglan bursts at the seams due to its popularity and proximity to Auckland and central Waikato. Teeming with restaurants, coffee shops, ice cream parlours and pubs, we visit there quite often throughout the year, and so do many other pilots. With only a 20 min flight from my home airfield at Mercer Airport, it is always a default excuse to nip down for a good burger and chips. With the town being so small, thankfully there are no fast-food franchises like McD's, KFC or BK. Everything seems to be uniquely created from scratch. From wood-fired pizzas to hand-crafted desserts, there is something in Raglan for everyone.

For the past 12 years or so, during the first weekend every November, the annual Raglan Black Sands fly-in happens at the airfield. I have attached the flyer for 2019 here. Bruce Cooke is

one of the local club members and together with some helpers, gets things organised for the gathering. Since arriving in New Zealand from South Africa 12 years ago, I have attended every one of these awesome gatherings, with the odd occasion having a bit of damp weather spoiling attendee arrivals from afar. On any given year, there can be as many as 120 aircraft flying in, either just for the main day Saturday, or around 60 for those staying the whole weekend.

This year, due to potential accommodation conflict issues at the campgrounds, the annual Black Sands fly-in was held at Te Kowhai Airfield which has almost 1000m of a grass airstrip, between Raglan and Hamilton. We are very mindful not to use the word “airshow” in any



publication that is not a true “airshow” since the CAA have very strict protocols, safety measures and a few tons of paperwork required before you can call anything an “airshow.” We as pilots are also not to encourage mass public spectators at these events either, since the maximum people occupancy limitations are easily exceeded which breach health & safety rules, toilet facilities, etc, etc. At the final count, there were 75 visiting aircraft, from a Mosquito homebuilt helicopter to a Cirrus SR-22, a few Harvards, Gyros, Tiger Moths and everything in between. The idea of the fly-in is simply an excuse for a gathering of like-minded aviation enthusiasts to come together, preferably with their aircraft, and enjoy a weekend of flying



around, meeting new people, seeing old faces and perhaps learning some new skills. Speaking of which: Many aviators have never intentionally landed on a beach. Well here is the perfect place to do it safely via a briefing workshop held by an experienced pilot, prior to all of us heading out for the occasion. Here in New Zealand, you can land on any beach as long as you strictly adhere to a few simple basic rules:

1 – Anyone already on the beach landing area has preference, be they sunbathers, walkers, fishermen/women/persons (got to be PC here in NZ 😊)



2 – Land or take-off at your leisure as long as you don’t overfly too close to people or



property or conduct your flying that could endanger anyone else, including yourself and pax

3 – Observe airspace and general flying rules

That's pretty much it. During our Raglan weekends, there is a particularly suitable area called Gibson's Beach which is on the west coast, around 8 Nm north of the Raglan Harbour mouth. Since we have a tidal range of around 3m, low tide is always best because this exposes the hardest, widest and smoothest part of the beach for at least an hour each side of low tide. With steep-sided 300m sandstone cliffs just inland of the beach, any easterly component wind above around 10kts can produce really nasty wind-shear and turbulence below 1000ft while on approach or departure from the beach. Winds parallel with the coastline or an onshore breeze present no issues at all. One of the cool features of this beach is that it is extremely remote, with no vehicle or public access since it borders on private property. With beaches being public land, we can have free access right up until anyone says to 'keep put,' which has never happened before. There are crystal clear tiny waterfalls with the sweetest drinkable water all along the sandstone rocks. The exposed rocky outcrops at low tide also reveal the juiciest, plumpest green-lipped mussels you can find in NZ. Free for the taking, no permit required, maximum of 50 per person per day. I always keep at least one tough plastic bag in the aircraft since it can double-up for many uses, not just for airsick paxes! Of course we

filled up ours to the max. There were around 15 aircraft on the beach this time.

During previous events, they have organised spot-landing competitions and 'jamboree safari cross-country' exercises. The latter consists of a course of around 100 NM with at least 20 points of interest that need to be identified from the air. Each aircraft has to have one observer and take-offs are staged around 3 minutes apart with the fastest aircraft departing first.



Once given an initial bearing after take off, the first clue might be something like: 2 NM north of Taupiri Train Station is a school. How many netball fields are at this school? Follow the main road East and at the river crossing, there is something parked up near the bridge that looks out of place. What is it? (This time it was a river barge that was on a flat-bed trailer awaiting towing by road) Another one might be.....at trig beacon # xxxxx, there are some repeater telecommunication dishes. How many are there? Adjacent the sawmill are stacked bales of silage. How many levels are stacked?



Author of this article, Warren Butler ex KZN now living in New Zealand



This makes for some very interesting flying and observation since the person setting the course often takes us across various airspace boundaries so your airmanship, lookout and piloting skills have to be sharp, changing frequencies and making the appropriate radio calls adds to the work. There is always a spot-landing comp upon return, with zero points before the line and 1 point for every meter over the line. Lowest score for that section wins, of course. There is normally a prize giving afterwards and a BBQ (almost always on gas.....sadly) and sometimes a guest speaker who could be an ex-war ace, or some special achiever in aviation, with a slide-show or presentation.

As soon as I get my office diary for the New Year, one of the first things I do before even writing my name or phone number in the front, is to blank out the first week in November for the next annual Black Sands Fly-In!

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