'Its beautiful lines and elliptical wing attracted me at first sight'

Silence Twister

best ultralight composite

Krishna Parikh

VH-XYN

An aviation love affair...

and the birth of my Silence Twister, Izadora

by Krishna Parikh

She rumbled reassuringly and her wings gently rocked in the wind. She was like an eager dog on a lead impatiently waiting for the command to walk on. My toes squeezed on the brakes to hold her back. The large painted threshold numbers 28 were just visible over the nose. The dawn light made the tarmac glisten slightly in the damp.

In the snug cockpit, tailored to fit my body, I lightly held the control column and the throttle. Everything felt right, but there is always uncertainty in a new endeavour.

> *Sitting in the aeroplane that I built in my garage, I squeezed the push-to-talk button, 'X-ray Yankee November Twister, rolling 28, first flight.'*

My life has had many mundane and predictable moments scattered with a few pivotal exciting but uncertain ones and this was one of the latter.

The aircraft is named after my wife, Dora. I repressed the concerns for my family and concentrated on the task ahead. The voice of my grandfather saying, 'do or die,' taunted me as I pushed the throttle forward. How did I get into this position?

My grandfather may have described my youth as misspent flying model aeroplanes. He came from a time when leisure was not a luxury afforded to everyone.

He had taken the chance moving from Northwest India to East Africa and then to London seeking a better life. I was brought up on a council estate in London that was built on the site of the WWII fighter base, Croydon Airport.

All the streets were named after aircraft or aviators; the church even had a cut down four-bladed propeller as the steeple cross. Maybe that's why I was so fascinated by flight, or maybe it's the wonder that aircraft can surf the invisible air and defy gravity.

Maybe in a previous life I had been a bird. Either way, I was captivated by things that flew, including the model planes that looped and rolled above the fields opposite the house. I was always sneaking away from unfinished homework to go to my happy place and watch the models.

Fixed Wing

Later I managed to get airborne on short flights with the air cadets, and then in gliders with The University's gliding club. With the help and good fortune of an Air League scholarship, I commenced PPL training at the famous WWII Spitfire base, Biggin Hill.

Part of the attraction of flying was understanding the machine that got you in the air, but it was also a sense of escape from a complicated world. It was the different perspective it gave you and the freedom to explore new realms of nature.

Most people would agree that cost is a big barrier to flying but also the fleet of aircraft that was available for hire did not breed inspiration. Thoughts of flying were shelved for many years and only reignited while on a lap around Australia in a caravan with my wife.

Having immigrated to Australia, I met my wife in Hervey Bay. While on the trip we stumbled upon the aircraft homebuilders at Frog's Hollow, near Merimbula and then Jon Johanson in South Australia.

Jon has flown several laps around the globe in his homebuilt RV4. I had no idea that people built their own aircraft and their aircraft that I got to go for a ride in were far more exciting than anything I had flown previously.

I was inspired by the spirit of the builders, working long hours doing something they were excited about. I knew it was something I had to do; I just didn't know how I was going to afford it.

Experimental

Looking is free though and I occupied myself over many years considering which plane to build. The Vans RVs have incredible performance and amazing bang for buck, but I wanted something unique. The Falco was just a spectacular machine in my eyes, but I couldn't see myself getting through the mammoth amount of work involved with such a complicated build. A friend introduced me to the Twister. Its beautiful lines and elliptical wing attracted me at first sight. The Twister had a small economic engine so flying costs could be kept minimal.

> *Also, it came with an enclosed trailer so it could be dismantled and put to sleep if you got tired of paying for hangarage.*

Being able to maintain the aircraft you build added to the chance of owning an aeroplane that didn't end up owning you. Sure, there was only one seat but most of the time I flew by myself and coming from a gliding background, I knew how great it was to throw an aeroplane around while sitting on the centreline. The Twister was safe, having a Kevlar crash tub around the cabin and this was reassuring to a man with a young family.

Another year passed and the Twister arrived just before the birth of our second child, Zara. It arrived at the docks in its enclosed trailer and thankfully in one piece. I started insulating the garage and setting up tables but work on the plane started slowly because I struggled to find local mentors. The internet was not what it is now. There was scant information on composite building and assistance from the factory was not easy.

The designers, the amazing Streiker brothers, have many other projects they are involved with and the build instructions that were directly translated from German to English required some intuition to get the gist of them. Unfortunately, I hit a roadblock as the wings did not fit in the fuselage. No matter how hard Dora and I tried, we could not get the wing spars far enough into the spar tunnel to allow the locking pins to fit. This is something set up in the factory and sleep deprived with a small baby and starting a new business, I felt out of my depth. There was nothing to do but lock the door to the garage and put the project to the back of my mind.

Two years passed and my release from 'the grind' morphed from the dream of aircraft building to motorcycles. Now riding on two wheels gave me the sense of freedom to feel alive. However, the bikes would often take me to the local airport to watch the aeroplanes.

Aerobatics

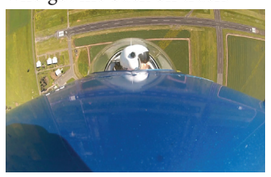
It was the aerobatic joy ride that Dora bought me that reintroduced me to flying and guided me to aerobatics. I'd loved flying aerobatics on model aeroplanes, making them dance in the air, but found after my first aerobatics Chipmunk flights that I got terrible airsickness. My instructor encouraged me and I got through an aerobatic endorsement.

It was an introduction to a great community of pilots and spurred me on to aerobatic competitions in the Decathlon. Desire soon became insatiable and I wanted a more capable machine. My instructor matchmade a partnership with two other young pilots, we formed a syndicate and bought a Pitts S1S. We were still getting to know the aeroplane when an engine failure caused one of my mates to walk away from it wrapped up in a paddock. It was a relief that my mate was not injured but we were grounded again.

For our next step we stuck our necks out, as new aerobatic pilots, making a big upgrade to the mighty DR107 One Design. The One Design is the David of David and Goliath fame, in that it's a homebuilt high-performance aeroplane powered by four cylinders that competes head-to-head against the six-cylinder-powered million-dollar unlimited machines.

Aerobatics in this was just thrilling. We worked our way up the categories and learnt to do formation aerobatics. These were heady days but at the back of my mind was the partly started and neglected Twister.

It felt like I had failed with 'Izadora' and decided the only way to get her out of my mind was to put her for sale in the classifieds. Thankfully it didn't sell, and it was Peter Prendergast, the previous owner of our DR107, who got me back on track.



Back to the project

When he heard of my wing fitting woes, Peter, who was a serial aircraft builder, came around to the workshop. The metal guide plates on the spar tunnel had slight surface corrosion, enough to affect the high tolerance fit of the spar in the spar tunnel.

> *All it took was a slight clean up with Scotchbrite. The wings went on. Hope returned.*

This was a major turning point in the build, a bit like passing a marathon run's 10km mark. The next thing was working through the list of mods that I directed to address mishaps that had occurred in the fleet. Some had been adopted by other builders and some were original. I employed safer tailplane attachments, hard points for a six-point harness, fine fuel filters to strain the composite dust that had proved to have choked previous composite homebuilt aircraft engines. Other improvements included toe brakes, rather than the hand type that came in the kit, smooth glider type canopy hinges rather than the kit's piano hinge that was unkind to the air. I redesigned the cockpit panel and subpanels to give a HOTAS (hands on throttle and stick) type feel.

Engine

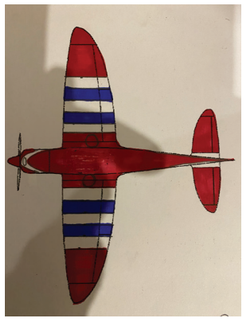
A large issue was choosing an engine. By now, the fleet had built plenty of hours and problems emerged with the engines. The four-cylinder Jabiru motor, which mine had come with, had performed well for a Twister aerobatic formation team in the UK but the owner had spent a huge amount of time on preventative maintenance.

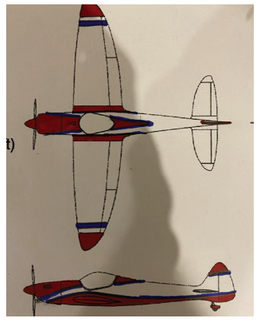
They had moved to UL Power motors with inverted oil systems. In this demanding application of formation aerobatics, the motors had issues and the UK Twister team suffered several engine failures. An aircraft with one engine, I believe, should have one the pilot can trust in.

> *So, the project stalled again and the door to the garage was locked again, and an advert was placed in the SAAA classifieds again.*

Peter mentioned I should put the trusty Rotax 912uls in the Twister. No one had done it yet, but the factory had clearly stated the airframe was not suitable for the engine. The penny had not dropped as to why the engine was not suitable until we had made the engine mount and got the engine hung. The firewall on the Twister is only 60cm wide and there was no space for the radiator, oil cooler and to maintain the Twister's sharp nose.

The solution for this came after our Oshkosh pilgrimage. The inspiration of seeing what hundreds of thousands of builders could achieve spurred me on to find a solution. It was the hundred or so WWII fighters parked up, that provided me the opportunity to study how the designers had cooled their engines in a way that reduced the drag it caused.





The solution that came to me was to place the radiator horizontally nestled within the engine mount. This allowed me to keep the cowling lines smooth. I made a carbon duct that takes high pressure air from behind the prop, directing and slowing it to the radiator. It is then squeezed and accelerated into the low-pressure area below my adjustable cowl flap. That was my theory anyway, but I am no engineer. Only time would tell if this design would work.

Paint

The paint scheme was very much a fun part of the personal expression that comes with building your own aeroplane.

Many Twisters, like gliders, had been painted white to reduce the under-sun temperatures that can soften composite glues. However, we all know that red planes look sexier and go faster! The design Dora and I came up with kept the heat absorbing red paint to minimally structural areas and mainly to the underside. The 'invasion stripes' were a small nod to the wing shape—presumably the mighty Spitfire inspired the Twister's German designers.

All the Twister needed now was an identity. The 'racing' numbers on the wing were inspired by Reno racers, signifying the kit number 10. There was no doubt that she had to be named after my wife who encouraged me, put up with me being an often-absent parent, and having glass fibre dust in the bed (editor's note: behind every great man stands an exhausted woman with fibreglass dust in her bed).

Plus, I felt that naming the plane after her would avoid any jealousy that may come from the many hours devoted to the machine!

Test Flights

Now it was just her and me at the end of Runway 28. As the power came on, I kept her straight and pushed the tail off the ground. She departed the ground briskly, well before the point I had planned to abort the take off. A glance at the temperatures—all green.

As the runway ahead disappeared, my eyes turned right, over to the paddock that I had chosen in case the engine gave up. We climbed above the scattered cloud to a height where I could relax.
The elation of seeing the dawn sun on those elliptical wings is hard to explain. It felt like being on a date with a new girlfriend you had been thinking about for a decade. Exciting, but nerve-wracking.

Having completed the 25 hours of flight testing, I am more trustful and comfortable. She's not the fastest nor most aerobatic aeroplane but she's beautiful and oh so sweet to fly.

Ausfly

The last chapter of the build was capped off with my flight to Ausfly in Narromine 2022, with camping gear and a toothbrush in the locker. I met some wonderful and inspiring people and the aeroplane won Best Composite Aircraft.

Now that the dust from the build has literally settled, I ask myself if I'd build another plane. I'm not sure I've got it in me. There's not really any practical or logical reason to do it, it's just something in your blood that calls you to it and I now feel a massive sense of accomplishment.

It feels a bit like the end of a good story book and now there's a slight emptiness and I'm starting to look at new projects to fill the void.

My sincere thanks go to all that helped me bring *Izadora* into existence and be the aircraft I'm proud to have built.

Big thanks go to the SAAA and the team that support the infrastructure that allows us to go on such a special adventure.

VH-XYN
Vixen [vik-suhn]
-noun
1)a female fox.
2) a spirited or fierce woman

- Silence Twister VH-XYN
- Single seat
- Kevlar honeycomb airframe
- Aerobatic (+6 -3G Load)
- Quick release de/rigging
- Rotax 912uls
- Hercules wooden fixed pitch prop
- Retractable gear
- 130kt cruise @18lph
- 35ltr wing tanks x2
- Smoke oil tank