

## *The Bushpilot Training Course – An African Adventure*

As we set off from Grand Central General Aviation Airport we had only an inkling of what challenges lay ahead, yet we weren't too conscious of these as we worked the radio and negotiated the congested Johannesburg TMA. Africa was calling, an adventure lay ahead; it was just us, our planes and the prospect of learning advanced flying techniques out in the African bush. What we didn't yet fully understand is to what extent flying around Africa challenges a person beyond his usual flying or navigational capabilities. She's wild, unpredictable, unforgiving, yet beautiful and majestic, loving and accommodating. The sparsely located infrastructure causes headaches with immigration and refueling, it necessitates a self-sufficient and flexible approach. Yet it is this lack of set procedures and conditions which offers a freedom that is unparalleled; learn to embrace that freedom and you'll be dancing to the African beat.

We were heading out on the Bushpilot Training Course and extended tour of Namibia and Botswana. I'd spent months getting the word of this tour out, sorting out all the logistics and working out costs, and here we finally were, it had all come together and we were anxious to leave civilization behind in exchange for a touch of the wild and the controls of an aircraft. Wolfgang and Lindsay were to fly ZS-NOY, Peter and I were in ZS-CRO. Sean and 'CM' were already awaiting our arrival at the Namibian farm, Sandfontein, in their C182 ZS-JVU, and the bushpilot instructor, 'CC' Pocock of Bushair, was also on Sandfontein in his Swazi registered Cessna "T-41" (C172), 3D-IOI. Four planes in all, we were looking forward to some interesting formation flying.

Before jumping behind the controls however there are certain formalities one needs to take care of, most notably the validation of one's foreign license to fly South African registered aircraft. Provided you have a valid pilot's license and medical this is not too difficult – a test flight of about two hours with an instructor and a simple multiple choice air law exam is all you need for the CAA to issue the validation. All the paperwork is somewhat time-consuming though. By the time we were ready to leave the Cumulonimbus had built up and scattered showers along with a late ETA prompted us to delay our departure till early next morning.

The view of blooming Jacaranda trees below made the impression of Johannesburg being covered by a purple blanket as we routed direction Baragwanath, then increased our heading so as to avoid the Potchefstroom military shooting range. Everything was going well until, as we were passing Vryburg just short of half way, our fuel gauge showed less than half. We had filled up at Grand Central and had calculated enough fuel to get us to Upington with an hour spare, yet we were new in CRO and decided to make a refueling stop en-route for safety sake. We were relieved to find someone selling AVGAS drums after our radio into Kuruman yielded no reply, even though our fuel gauge was quite obviously inaccurate upon inspection of fuel levels. Meanwhile NOY had continued to Upington with their long range tanks.

Upington boasts a 4900m x 60m tar runway, a product of the apartheid days when South African planes were not allowed over numerous Central African countries. Their diversion route towards Europe along the west coast of Africa required too much fuel; planes couldn't take off from Johannesburg International at 5558ft with full tanks. Therefore Upington was built as a refueling point. However, it's altitude of 2800ft combined with temperatures up in the high 40s demanded a runway of considerable length...a runway which NASA would use nowadays if they needed to land one of their space shuttle in the southern hemisphere. Needless to say, we didn't have much difficulty touching down in Upington.

After clearing customs and immigration and refueling we were on our way again. Keetmanshoop was the immigration point into Namibia, somewhat of a detour for us to reach our final destination, but unfortunately that's the official way to do things. There are of course unofficial ways by means of, for example, clearing customs and immigration at road borders, but the

success rate of this is touch and go at best, and besides we needed all the fuel we could get our hands on, even with the AVGAS drums we'd ordered for the farm; Keetmanshoop supplies some of the cheapest fuel in the area. Some very dark looking weather was moving in fast from the north so after we'd cleared into Namibia and filled our tanks to the brim we were set for the last leg of the day.

We'd clocked 730nm since leaving Jo'burg that morning. The original plan had been to overnight in Upington the evening before, but the delayed departure meant that we'd had to make up time. We were all very relieved to finally touch down on the gravel strip at Sandfontein where our hosts were waiting for us with cold beers. A short trip down to the lodge and we were happily relaxing in the couches on the veranda overlooking the planes below which stretched out as far as the eye could see, the sunset casting an array of colors on the surroundings. We thoroughly enjoyed our first braai (South African barbeque) and a few more drinks, eagerly listening to CC as he introduced us to the type of advanced training we could expect in the next couple of days; if his fly-by demonstration earlier that evening was anything to go by, we were in for some serious flying!

An early start was necessary due to the upcoming midday heat. High 30 to low 40 temps at an altitude above 2000ft meant early morning and late evening flying times, we had enough ground school to cover for the rest of the day. CC had cleared a stretch of ground right next to the lodge; "That main landing strip is too far away, we don't want to trek between there and here all the time, we want to train, fly and sleep next to the planes at night". And so a new landing strip was born, about 300m long (200m usable as the rest was too soft) this thing was so close that one morning I was covered in grass and sand after my roommate forgot to close the bungalow door before take-off...ahh, I just love the smell of whipped up dust and AVGAS fumes early in the mornin'.

CC took each of us up in turn in CRO, whose wider wheels and manual flaps made it the perfect bush plane to train in. Our home-made strip put short field take-offs first on the agenda, later we would have to land on the very same strip!!! Soft field take off and landing, obstacle clearance take off and landing, unimproved surface and road take off and landings, as well as emergency and precautionary landings were all discussed, a demonstration given (to prove that it is actually doable), and finally we were given the controls to practice it ourselves. Overcoming our psychological block is the biggest issue...we've just landed and come to a stop within 150m on the main strip, yet when it comes down to doing it on such a short strip our immediate reaction is "impossible". Having CC there as a safety pilot however did calm the nerves slightly.

Most enjoyable for most of us was the low level flying, it's quite magical to be at the controls while flying a couple of feet off the ground or river, constantly aware and in tune, it makes you feel Alive! Short and soft field take off and landing's, low flying, mountain flying, emergency maneuvers, these are all the get-out-of-trouble tricks they don't teach you at flying school but which you are glad to have up your sleeve in a harsh, remote and unpredictable environment. CC also gives instruction on night emergencies and night bush flying.

Just as interesting and important when flying Africa were CC's tips on what survival kit by way of food and water and what basic tools and equipment to take with. During the ground school the cowlings are removed to discuss basic engine diagnostics; in times of engine failure it's good to know that, given the right tools, 98% of the time you'll be able to fix her well enough to fly her to the nearest maintenance facility. We looked into electrical and avionics diagnostics. Airframe repairs, AVGAS/MOGAS and testing for water or alcohol, navigational tips, SA weather, over the two days we felt that no stone was left unturned in learning how to fly and survive in the African bush.

Then on the third day we were confronted by an event which drove home the real importance of what we'd learned; CRO went down. During a low level flight over the Orange River there was a sudden loss of engine power and the pilot decided to do a precautionary landing. Part of the course had been about such scenarios and how to deal with them, how to find a suitable landing

site. In this case there was a long sand bank island on the edge of the Orange River. It was perfect, the aircraft touched down and all was going well. But then something unexpected happened. Suddenly the nose wheel dug into an extremely soft sand patch and the plane was pushed up onto the prop. They'd lost most of their speed already, yet there was still enough momentum for the plane to hoist all the way up onto the nose, where it stayed for a few seconds, swaying between the possibility of falling back onto its wheels or onto its roof. A light wind finally decided the situation and pushed it over the wrong side up.

Thankfully both the PIC and CC came out unscratched. They unbuckled themselves from their upside down position and stood outside the plane deciding what to do. They were in the middle of nowhere, not even sure in which country they were as the Orange River forms the boundary between South Africa and Namibia. They had no radio contact and there were no farm houses as far as the eye could see. Suddenly the survival training was more than just a training exercise, but quite ironically the survival kit was not in the plane...it had been left by the lodge where CC had explained its contents the night before. The only things on board were a First aid kit, signal strips and a few bottles of water. It didn't matter though, first things first it was important to setup communications and some forms of beacons for overhead planes to see. The plane battery was unscrewed and placed the right way up. The radio's antenna cable was dismantled from the base of the antenna and the cable reconnected to a piece of 600mm long electrical wire hung between the two main wheels. A washed up old car tyre was placed onto a pile of dried wood, ready to be lit as soon as a plane flew by. Bright sheets of plastic signaling strips were laid out to direct a landing search and rescue party onto the hard sand and a long piece of toilet paper attached to the tail of CRO as a windsock. CRO was expected back at the lodge and at some point we'd jump into one of the other planes to come looking for them. Everything was going to be ok, they'd be found before nightfall, a plane would come and rescue them.

Imagine their surprise when it wasn't a plane that came to the rescue, but a canoeing party. While some of the pilots were to spend the morning with further training, the rest of us decided to head out for a day on the canoes, taking in the peaceful river with its odd rapids. It was by chance that we'd even decided to canoe this far down the river when we saw the upside down tail of the plane, looking desolate and foreign to this environment. A few hefty strokes on the paddles brought us close enough to see the familiar markings...it was CRO. We were most relieved to find that both pilots were ok, and together with the help of the canoes and NOY which we managed to radio as they flew over some time later we were all sitting back at the lodge by nightfall. NOY had also taken the emergency tools and supplies, realizing that they weren't in CRO, with the idea of dropping them to the guys on the ground if a rescue effort was not immediately possible.

The question at this point was how to proceed. Thankfully all pilots were ok, but we were minus one plane. We'd contacted insurance and all would be handled from their side. We had a planned route which still led north up the coast of Namibia, then over to the Okavango, before returning back to SA. Sean and 'CM' were not joining us for the extended tour, they'd planned from the beginning to meet us at Sandfontein for the course and would head straight to Johannesburg; Sean had a flight to catch back to London. That left us with five people in a C182 and a C172. Two planes were not an option considering all our camping gear and fuel needs. The only option was to source another plane, a costly and time consuming exercise...the closest known hire and fly operations were in Johannesburg or Cape Town, we couldn't even call up Windhoek as none of us had a Namibian license validation.

It was Sean that came to the rescue in that he graciously offered for us to take over JVU. We called the owner for permission and added Peter's name as PIC on the aircraft insurance. But of course Sean still needed to get back to Jo'burg so we phoned a charter company in Upington who would meet Sean at a private landing strip at Onseepkans; Sean could clear immigration back into SA at the road border and fly back from there. Things were back on track, we were a day behind schedule sorting out all the logistics, but the show would go on. We were all quite eager to get back behind the controls and continue the trip, making up for lost time, and so an

early departure was called for. After loading the planes with most of our gear we filled the tanks with the remaining fuel from the drums and enjoyed our last evening at Sandfontein. Our hosts Rodica and Willie had been most helpful in accommodating us throughout the good and the bad, and Rodica even packed us some food supplies for our next few camping nights (the delayed departure meant we couldn't go shopping as originally planned). And so the crack of dawn brought with it the sounds of Continental engines roaring to life. Our spirits were high as we took off into the sunrise of yet another day in Africa.

Our first stop heading North West was Ai Ais and the Fish River Canyon. We had originally planned to camp out the night at Ai Ais but the loss of CRO and the resultant loss of time meant we had to push on. However this didn't stop us from enjoying the full glory of the canyon as we negotiated its bends, following the river below. It was magnificent! Second biggest after the Grand Canyon in the US yet much more remote and rewarding the Fish River Canyon is one of the true wonders of nature, its shades of weathered stone showing off millions of years' erosion. We remembered CC's instructions on canyon flying in finding the side of the valley with the updrafts, and confidently flew inside it down its whole length. The name 'Fish River' is not to be confused with 'Kingfisher', 'Fishfinger' or any of the other names Wolfgang kept calling it, but we knew what he meant and it made for a good running tour joke.

Further west we flew over the mining town Rosh Pinah where they were busy pulling the oxidic zinc deposit out of the ground, and after that we saw nothing but sand dunes ahead. We had entered the Sperrgebiet, a name which directly translates to "prohibited zone". This area was home to the biggest diamond deposits ever found and there were many men and women, local and immigrants, who had lived in this hostile environment to find the precious stones. Of course it wasn't a free for all for ever and as Namdeb took over a massive area of the Namib Desert was proclaimed off limits to the general public, with heavy fines imposed on those who ignored the restrictions. Nowadays, supposedly, a complex satellite surveillance system keeps an eye on the borders, and everyone is quite secretive if asked about diamonds or getting permits to visit the area. We didn't need permits, we had wings, we could fly straight into an area which hardly anyone gets to see, and no one could stop us; we were free, however, we weren't free to land!

The legendary morning fog for this part of the world was still quite thick as we reached the coastline and headed north but by the time we reached the Bogenfels, a large rock arch jutting into the ocean, there was not a cloud in sight, nor much else for that matter. Finally we were awoken from the silence and our reflective mood by a call from CC. He had taken a more direct route so as to keep up with us, and he gave through his heading and co-ordinates. It was three minutes before we had IOI visual and with NOY to our left we slowly closed in on him. The winds and turbulence made for difficult precision maneuvering, but CC gave through instructions and we managed to get into a pretty close echelon formation.

Our landing at Lüderitz was quite uneventful, and we refueled and tied the planes down. In general we always made use of the tie-downs, but here in Lüderitz we knew it to be more important than ever. The sudden dust storms that get kicked up in this part of the world are quite spectacular, but beauty has its price and is often punctuated by destruction. We would make do without such beauty thank you very much.

Our local guide, Marion Schelkle from Lüderitz Safaris and Tours, was waiting for us with her VW Microbus and drove us across to Kolmanskop. This ghost town is one of Namibia's most intriguing relics of the past. At one time the focal point of the diamond industry in Namibia, it was deserted in 1956 following the discovery of richer diamond fields further south. Left to the mercy of the blasting winds and encroaching sands of the Namib, its structures gradually crumbled and fell apart, but still many houses stand with mountains of Namib Desert sand filling their empty

rooms. After all this flying and taking in the history we were quite ready to sit down for a good lunch so Marion drove us into Lüderitz. Many charming and fine buildings reveal its colonial history as the first German settlement in South West Africa, yet we were interested more in another aspect of its fame...the fresh Atlantic oysters.

We had hardly finished lunch when someone pointed to the weather outside. The winds had picked up dramatically and a sort of haze descended on the surroundings. Marion confirmed that this was most unusual, and as we'd had strange weather for most of our time in Namibia (we'd had thunderstorms one of the nights! Followed by two very chilly days!!! In Namibia?) we decided not to tempt fate. We gulped down the last of the oysters and made a dash for the airstrip. Winds were howling and sand was flying, getting into every nook and cranny. There was hardly any communication or flight briefing on the ground other than shouting the co-ordinates of the destination airfield above the howl of the wind. With the tie-downs off we had to take off as quickly as possible, and I was concerned the plane would flip over when turning it diagonally to the wind. But Africa would let us continue to brave the elements for another day; we had taken off and were relieved to hear NOY and IOI over the radio. CC who had taken off first had already flown out of the dust and haze cloud and within seconds we had the hot expansive desert below, the weather front moving in along the coast to our left, and one heck of a tail wind. We had hoped to fly along the Lange Wand, where the massive sand dunes suddenly drop off straight into the Atlantic Ocean, but instead we arrived at camp early and enjoyed an afternoon sundowner around our campfire.

The sunrise over the dunes of the Namib Naukluft Park is spectacular. Our guides drove us to Dune 45, which we clambered up with some difficulty...with every step forward it seems that one takes two steps back. Finally at the top however we were rewarded with a rising sun casting its golden light over the surrounding sea of golden-red dunes. Truly magical, even to us pilots the sight from this vantage point was something to behold. Finally all this climbing had got the stomachs growling, and we eagerly headed further into the park towards Sossusvlei. This magical oasis is only wet after a good rainy season, yet lone Camelthorn and Acacia trees still manage to cling to life through the extended dry periods, offering protection from the sun and a great place to have breakfast. In contrast the adjacent Deadvlei is a clay pan baked hard by the sun with skeletal trees scattered around, a backdrop of huge orange-red dunes adding to the dramatic effect.

Back at the planes we had a long day of flying ahead. We were heading into Botswana, deep bush country, and we were eager to finally move on from the constant desert and sand. This meant a refueling and immigration stop at Windhoek Eros, and then again at Ghanzi. The large distances over flat ground without any recognizable landmarks, which made dead-reckoning very challenging, also left us with all the time in the world to pull out the GPS and practice formation flying, swapping positions and dancing around each other as gracefully as our flying skills would allow. 15 miles out we changed frequency to 118.9 "Ghanzi approach this is Three Delta India Oscar India in formation with Zulu Sierra November Oscar Yankee and Zulu Sierra Juliet Victor Uniform, requesting a formation fly-by." Finally the radio crackled to life with a confirmation. "This is Ghanzi, go ahead with formation fly-by and land at own discretion". A small crowd had congregated down below to watch the aerial display; this excited welcome was our first impression of Botswana. Just above the airfield we broke away one at a time and came in for the landing. When IOI announced that JVU should keep up the pace after landing as he was directly behind us the second ATC announcement came, "Guys, just be careful". On the ground we were welcomed by a friendly bunch who apologized that the immigration officials weren't there, but got onto the phone to them immediately.

We weren't too fazed about the missing officials as we had more pressing issues; there was no AVGAS available. This is quite common when traveling Africa and there hasn't been an official work-around regarding this, but lately a new ruling by the SA CAA helps alleviate the problem. When CC heard about it he immediately applied for and obtained the STC for IOI which permits the use of MOGAS. No engine tweaking required, the Americans have been running on it for

years, and unofficially so have many pilots flying around Africa. With such shortages of AVGAS it's good to know that you're still covered by insurance if you have one of these STC's. No need to mention the cost savings. Using AVGAS from the jerry cans and IOI's wings we managed to fill both NOY and JVU's tanks, organised a bakkie (pick-up truck) and drove to the nearest petrol station to refill the jerry cans, which we then poured back into IOI's tanks. No questions asked, problem solved, the jovial customs official that rocked up speedily cleared us into Botswana and off we were for the last leg of today's flight.

As usual IOI had taken off before us and gave through distance and heading to destination. 23 degrees sounded a bit strange as we were flying at a 30 degree heading; he must be somewhere to our right. But even when we were all twenty miles from our destination we didn't have IOI visual. The visibility was clear except for a couple of isolated showers, one of which CC had flown through. But they were to our left? "IOI, please confirm your co-ordinates for Guma Camp". The one's he'd written down were right, but the only single hill in the area he'd mentioned flying next to, Tsodilo Hill, was far off at our 10 o'clock. As was expected the co-ords had been entered into the GPS incorrectly. There was no excuse for this, CC shamefully offered to buy the first round of drinks that eve. Another lesson learnt, use the GPS only as a backup, the map should be used as the primary navigation tool.

Described as "the jewel" of the Kalahari, the Okavango Delta is a tranquil and isolated oasis set in Botswana's harsh and arid desert. This 15,000km<sup>2</sup> wetland is formed by the Okavango River which drains away through a maze of lagoons, channels and islands, most of which are only accessible by plane. The abundance of water attracts all form of wildlife from the dry surroundings, including elephant and buffalo, giraffe, many species of buck and of course the king of Africa, Leo himself. A Mokoro (dugout "canoe") trip gets you up close and personal with the wild, seemingly oblivious to your presence, while there's ample opportunity for fishing and the likes. Those wanting to experience Africa in its raw form will find it out here, where the animals are king and we humans merely observers to the ways of the wild. It was with a certain sense of apprehension that we got back in the planes two days later; it felt like we were leaving paradise behind to return to our "ordinary" lives back in the concrete jungle. But we were also returning to our passion behind the controls of a plane, and thoroughly enjoyed a low level flight over the Delta while routing south to Maun, the region's capital.

We had been monitoring the MET reports for South Africa and were expecting some thunderstorms, but as we flew over the Limpopo River border the skies up ahead looked frighteningly dark. It was already late afternoon and the clouds were thick and heavy, dropping their load in a torrential downpour accompanied by the region's famous thunder and lightning. On top of this we had the Soutpansberg mountain range to cross over, with our immigration point, Polokwane, just past it on the Highveld. With the aid of the map, GPS co-ordinates and heading we managed to negotiate up to the Highveld through a series of valleys while dodging the worst of the thunderstorms, and were glad to have VFR conditions on final approach. Some local pilots gave us advice on how to proceed considering the additional storms ahead, and after clearing formalities we were back in the skies. Even with all the work involved in constantly mapping the route through the valleys of the Drakensberg we had time to marvel at the beauty of the area, augmented by the impressive cloud formations and lightning bolts. Adding to this the challenges in getting through these conditions made this one of the most rewarding flying days we'd had, and as we descended along the Lowveld to Hippo Pools we knew there'd be a fridge of well deserved beers waiting.

Hippo Pools lies on the banks of the Olifantsriver, close to the Blyde River Canyon and the Kruger National Park. Its setting makes it a great destination for weekend getaway flights from Jo'burg, and for us hardy travelers it offered a good place to relax and enjoy some western comforts; after several nights camping a hot shower and soft bed felt like heaven. Our hosts Ryan and Henrietta were very accommodating and happy to welcome a flying party, although there were also other guests who had arrived in their own aircraft. Our last evening in Africa was to be one of celebration; the cooks whipped up a delicious South African dish, called a Pootjie, which

we enjoyed around the embers of the cooking fire. Some good local wine accompanied the food, while we waited for the hippos to come feed on the lucern that Ryan had laid out on the grass. They never came, but we weren't too disappointed; we'd seen Africa in all its splendor and enjoyed this last evening in the company of other pilots, relaxing and chatting and reflecting on everything we'd experienced in the last ten days.

An early morning's start took us to Blyde Poort for breakfast with a breathtaking view, from where we continued down the third biggest canyon in the world, the picturesque Blyde River Canyon, and along the Drakensberg mountain range. We were welcomed by CC's girlfriend, Shirley, to the Bushair strip, from which CC operates. After unloading and repacking our gear it was time to say our goodbyes to CC, Shirley and IOI. He had really been of great help on this tour, passing on his wealth of knowledge and experience, leading the way and deciphering the heavily accented ATC calls when we couldn't make them out. But now he was home, and the rest was up to us. With CC's instructions on flying into the Johannesburg TMA and a confidence born from experience and teaching we headed east, back to civilization, back into congested airspaces.

Back at Grand Central it was with a certain sense of nostalgia that we handed over the keys to NOY and JVU, but it had been an adventure filled trip which we would relive in trying to take in the enormity of what we'd all seen and done. Wolfgang, Peter and Lindsay had a long international flight ahead of them. I had it slightly easier as my flight to Cape Town would only take two hours. Yet sadly none of us would be at the controls, and it was with a certain mischievous look that the guys turned to face me at the departure hall and said "Be sure to let us know the dates of your next bushpilot tour to Malawi..."

Photos of this tour are available at <http://www.bushpilot.co.za/oct06>

Information on future bushpilot courses available at <http://www.bushpilot.co.za>

Email: [letsfly@bushpilot.co.za](mailto:letsfly@bushpilot.co.za)