

A black and white photograph of a man, Trevor Pound, riding a racing motorcycle. He is wearing a helmet, goggles, and a dark jacket. The motorcycle has the number '19' on the front fairing and 'North' on the fuel tank. The background is a blurred racetrack.

# TREVOR POUND

*an Autobiography*

*Life with*

**BIKES, BOATS & RACING CARS**

This story is written from memory, and from press cuttings, photographs and some letters that my mother had saved. It may contain some factual errors particularly on dates.

The narrative has several sub texts. One is an engineer's life-long love of innovation and design and development, and the other is a great partnership with my best mate Margaret.

I'm sure that at times Margaret thinks that I'm quite mad, and she is probably right, but she never tells me so.

June 2015

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## **THE "INVADER"** and the Studley Park Boathouse

My first motor sport experience ended in 1944 when as fourteen year old kids we nearly brought down a boathouse on the side of Melbourne's Yarra river. It started a year or so earlier when Ray Ellis, Bruce Cameron and I joined the Victorian Model Racing Car club. The club raced tethered petrol powered model cars on a seldom used tennis court just outside Melbourne. The cars were various sizes but mainly about 400 mm long and powered by 10 cc model aircraft engines.

We were still at school, the second world war was still running and not looking too flash for Australia, and we had no money. What we did have was a good workshop at the Preston Technical College where Ray Ellis and I were both studying. At that stage we could buy cheap castings for model aircraft engines which I guess the Model Dockyard in Melbourne had held since before the war started. Starting from there we made our own Whirlwind 10 cc engine and the rest of what was a fairly primitive tethered model race car, that we duly took along on our pushbikes to our first race meeting.

These cars were attached by a steel wire to a pylon in the centre of the tennis court, and all cars had a stiff vertical wire attached to the ignition switch on the car engine. The cars were started, launched around the perimeter of the "track" and timed over about 10 laps to record speeds and to decide the eventual trophy winners. The best cars had a speed of about 40 mph (65 kph). The cars were stopped by standing on the edge of the track just clear of the running car and holding a handkerchief or similar at a height just above the top of the car so that the wire connected to the ignition cutoff switch could be tripped. Most of the members of the club, all much older than we were, had various sorts of electric starters for their cars which ran a drum that the rear wheels of their cars could be held against until the car engine started. We had nothing like that and we started our car by inverting one of our pushbikes on the ground, cranking the bike pedals to spin the rear bike wheel, and then holding the rear tyre of our car against the rotating bike tyre to rotate and start the car engine. That all worked OK, we were nowhere near competitive with the other cars, but we enjoyed as fourteen year olds our first motor racing experience.

After we'd been running our car for about six months, Bruce Cameron wrote to the USA for some back copies of (as I recall) Model Engineer. In his letter to Model Engineer he mentioned that our student built car was not competitive but we were enjoying the racing. It appears that Model Engineer printed Bruce's letter and shortly after that we received a letter from an American guy, who turned out to be one of the USA tethered race car champions, stating that he'd read the letter and was sending to us his previous year "Invader" race car. This all seemed a bit unbelievable, but sure enough about six months later we received a package from the USA and in it was the promised "Invader". This car had technology we had never seen before in these war years in Australia. All magnesium body, US "McCoy Hornet" engine running at well over 20,000 rpm, spur gear drive, expanding rear tyres like the USA drag cars so the gear ratio would wind up as the wheel revs increased, and a Certificate stating that it had been clocked in the USA at over 100 mph (160 kph.). We could not believe our eyes but we didn't take long to fuel

up the McCoy engine, up-end one of our pushbikes and crank the bike pedals so we could run the Invader wheels against our bike tyre. We nearly dropped the car when the McCoy emitted a banshee like scream that was nothing like we had ever heard before! We couldn't wait to get our new car to the model racing car track.

By this time the Victorian Model Racing Car club had moved from the tennis court and had rented a very large unused boat house by the side of the Yarra river that they could use while a new outdoor track was being built at Maribyrnong. The boat house floor was flat and large enough in diameter to run the tethered cars, and it also had the advantage of being under cover and having work benches at one end. All that was fine until we three kids arrived with our Invader.

The boat house was a typical Yarra boat house built on stilts to keep it clear of rising flood waters. After everyone was duly awed by the appearance and the new technology of our Invader, we did our inverted pushbike start of the McCoy engine and launched the Invader with a scream that drowned every other noise in the vicinity. All was well for a few laps until the Invader built up speed and the gear ratio wound up as the rear tyres expanded and then the car started to exceed any speed previously seen in the boat house. As the speed built up to what was a terrifying level, we were all crouched around the walls of the boat house wondering what to do when the boat house started to rock on its stilts under the unbalanced centrifugal action of a 5 kg model car approaching goodness knows what speed. The rocking of the boat house got worse and worse, and none of us kids were game enough to get sufficiently close to the "track" edge to get at the cut-off switch on our car. Eventually one of the adults braved it enough to reach across with a broom handle and hit the cut-off wire on the Invader before the boat house collapsed.

It was duly suggested that we didn't come back with the Invader until the new outdoor track was finished. But we did have the satisfaction of having by far the fastest tethered model race car in the country, and we didn't quite wreck the boat house.

## RMIT and the Preston Motor Cycle Club

At the end of 1945 I was just 15 years old, had been awarded Dux of the Preston Technical College and had won a scholarship to commence a five year Fellowship Diploma in engineering at the Royal Melbourne Institute of Technology (RMIT). I duly started at RMIT in 1946 as a very green and immature youth among classes largely compromised of mature men returning from war service.

RMIT was just two blocks away from the Elizabeth Street centre of Victorian motorcycling. Every lunch time I could watch with awe and considerable envy as a “never seen before” parade of new motor bikes started to go onto display at the end of the war in the various shop fronts. The pinnacle was the Vincent Rapide, to be quickly followed by the Vincent Black Shadow .... the ultimate dream machine, and then the Black Lightning in race trim.

We were also starting to see new cars from England which were much closer to the sporting car ideals that I had at the time. One of my engineering student friends arrived at RMIT one day with his mother's new 1948 2.5 litre Riley which was advertised as capable of 100 mph. Of course we had to immediately drive it along Geelong Road to test it to prove that the advertised 100 mph capability was valid. It was! There were no outright speed limits on Australian roads in those days.

One of my favourite cars was the 1946-1948 3.5 litre Jaguar with its huge headlights. We often went on excursions in one owned by the family of another student friend. One of my engineering mates at RMIT was Graham Hoineville who in later years played a major part in the formation of the Confederation of Australian Motorsport (CAMS). It was

Graham, who was a member of the BMW Ski Club who had ski lodge at Mt Buller, who introduced me to snow skiing. BMW as a auto manufacturer was virtually unknown to the Oz general public in those days. When queried what “BMW” stood for, the ski club guys used to say that it stood for “Bloody Mountain Wonders”.



Vintage cars which are almost priceless these days were relatively cheap and commonplace among the RMIT students. One had a

30/98 Vauxhall, one had a 3 litre Bentley, and another had a pre-war sports Alvis. Jack Nelson, who was the mechanic at our local motor bike shop was a very early collector of old classic cars. He had many "old" cars including a couple of Bentleys and a huge black Hispano Suiza about 1930 vintage. The Hispano had so much room between the front and rear seats that another row of seats could be raised from the floor to carry more passengers. That was lovely car.

There were virtually no second hand bikes to be had at that time. Anything on wheels had been commandeered during the war by a desperate Australian Government faced with an imminent Japanese invasion from the North and the North East. Darwin had been devastated by about three times the tonnage of bombs that had ever hit Pearl Harbour, and crack Japanese troops had been heading towards Australia over the Owen Stanley Ranges in New Guinea. That those troops were turned back, the very first defeat of the Japanese Imperial Army in the South Pacific, was a miracle. That they were defeated on the infamous Kakoda Track by a rag tag army of ill equipped but pretty well trained kids from Camp Darley, near Bacchus Marsh, was even more of a miracle.

So in 1947 when Ray, Bruce and I started to look for a motor bike it was tough. We would wait at the Preston Railway station at around 5 a.m. on a Saturday morning for the first train to arrive from Melbourne with the AGE newspaper, quickly scour for any motor bike ads in our price range, and then head off on our push bikes to try to beat the rush. Eventually over a period of about six months we managed to buy a 1930 350 cc 4 valve Rudge, 1928 350 cc Big Port AJS, and a 1932 250cc Montgomery with a JAP engine. We immediately joined the Preston Motorcycle Club and started riding in Scramble events. The immediate post-war Scramble events were essentially run with collections of pretty old pre-war bikes; all rigid frame and web forked.

The Preston motor bike club ran an annual Winter Trial that went across the most difficult areas around Melbourne and the Dandenong Ranges. It wasn't a race, the object was just to finish and George Robinson at that time was the club Captain whose job was to show everyone else the way. Just after I joined the club George asked me to ride in his sidecar at the next Winter trial. I was a student at the time and I had no money and no transport so I jumped at the chance. The passenger's job is to hang out the side and that sort of stuff to stop the bike overturning on the difficult bits of the trails. One part of the course was a section called Muddy Lane. It was mud with a light cover of water at the start. We did that OK the first year. The next year that I rode with George we reached the start of muddy lane and stopped to let the others catch up. Unfortunately we didn't know that there had been a flood down Muddy Lane a short while before, and that that had formed a deep gully under the water. So George stood up on the footrests of our bike, and waved his hand for everyone to follow - and we rode off the edge and into 3 feet of water! It took us a couple of hours to dry off the engine and get going again. I loved the winter trial!

At around the same time the first Melbourne Jazz Festival was held in the New Theatre, I think in Flinders Street. That was a three day audio eye opener and initiated a life long love of traditional jazz. We decided to form our own little jazz band, undaunted by the fact that only Bruce had previously displayed any musical talent. Bruce had learned to play cornet/trumpet at High school, so Ray and I decided to concentrate on piano and clarinet. Every Saturday morning I caught the tram from Preston into Melbourne city to be taught clarinet, while Ray concentrated on guitar and piano. My brother Bill decided to learn drums and he spent time under the tutorship of the renowned Melbourne drummer Billy Hyde. We used to practice every Friday night in Mum and Dad's lounge room. Mum would make supper for us and gradually we attracted more of our Preston Motorcycle Club mates. Alan McBeath bought a trombone and we often had one of the gang playing washboard

or tea chest bass. As could be expected of a group of musically untalented motor bike racers, or would-be motor bike racers, we made a pretty awful music but we had a lot of fun. It was a tribute to the tolerance of Mum and Dad that they were willing to be kept awake half the night just so that we could enjoy ourselves. Our "band" became known as the "Preston Piss Pots" a title which arose from the fact that we were all virtually tee-total. We played just for fun and for social functions at Dad's Lodge.

My first job, after I graduated from RMIT in 1950, was with the Aeronautical Research Laboratory (ARL) at Fisherman's Bend just west of Melbourne. ARL had two major wind tunnels; a low speed 9 x 7 wind tunnel with a working section nine feet wide and seven high with a maximum speed of around 300 kph from memory, and a high speed tunnel with a working section about 400 mm square and capable of speed just above Mach 1. Both were closed circuit tunnels which meant that the cross section gradually increased from the working section, turned through four corners with corner vanes and then returned to a much larger section (18' high x 14' wide in the case of the 9 x 7 tunnel) and then entered a contraction section down to the working section area. The 9x7 tunnel was powered by a large electric motor, and when I joined ARL the high speed tunnel was powered by a Rolls Rolls Merlin aircraft engine extant from the war. ARL had several crates of Merlin engines for use as change over spares. I worked in the 9 x 7 wind tunnel where we did work as varied as tests of precise scale models of a variety of aircraft, modification of the design of the intake of the full scale Jindivik target aircraft, check stressing of the then new Sydney Myer Music Bowl, funnel modification on the Princess of Tasmania ferry, aerodynamic design of a range of missiles, and a variety of research projects.

The Long Range Weapons Establishment (LRWE) was still being set up when I first joined ARL, and many of the scientists and engineers that transferred to LRWE did so from ARL. One the early jobs that I had was to wind tunnel test a paravane that was to be used in an early Woomera project in an attempt to recover falling test rockets before they hit the ground. The idea was that the paravane would be flown on a wire from one side of an Beaufighter aircraft and the paravane wire would catch the line between a descending rocket and its parachute. The rocket now attached to the Beaufighter would be latched onto a wire stretched between two sides of a gully at Woomera and recovered from there. I had several visits to Woomera to witness the paravane trials. We never succeeded in getting the system to work!

## MOTOR BIKE RACING and the B31A BSA

Fisherman's Bend also was the site of the first post-war circuit motor races around Melbourne. These events were run as combined car and motor bike events on two legs of a wartime airstrip which ran alongside ARL. With an income for the first time in my life, I bought a 1948 500 cc Red Hunter Ariel on the "drip feed" (time payment) and raced for the first time at Victoria Park, Ballarat. The undamped "virtual centre" rear suspension on my 500 cc Ariel was pretty diabolical for a race machine and it was clear that I'd have to look elsewhere to fulfill my racing ambitions. Fortunately my mate Ray Ellis had a 350 BSA that he was prepared to sell me as he was on his way to work at Australia's first radium mine at Radium Hill.

The bike was a relatively uncommon B31A BSA. The "A" being for alloy engine, very much the same engine that was fitted to the early post-war Gold Star BSAs. The bike had telescopic front forks but a rigid rear end. I had access to a good workshop in the wind tunnel complex at ARL, and with Phil Irving's "Tuning for Speed" in one hand I started rebuilding my race bike. I made up additional dampers to fit inside the BSA telescopic forks (notorious "floaters") by fitting alloy pistons with little by-pass shims to 5/16" rods bolted into the top fork nuts. I bought new half round files to match the BSA input ports, and I hand filed the inlet port to fit an Amal TT carburettor. I lightened the flywheels and I scrounged a Manx Norton front wheel and fitted that. I made up a race seat from layers of 3 ply wood and Mum covered it. I also made up multi-position footrests and handle bars so that I could tailor the riding position to exactly as I wanted it – my feet positioned high enough and far enough forward so that I had absolutely no weight on my arms. Finally it was ready and I rode it for the first time at Darley in what I remember was the relatively new "Clubman" category.

Motor bike racing in those days was organized primarily around the major "TT" categories, Lightweight TT (250 cc race bikes), Junior TT (350 cc race bikes), Senior TT (500 cc race bikes), and Sidecar TT. All those events ran "open" fuel, the most common being Shell "A" which was straight methanol, and Shell "K" which was a petrol, benzene, and methanol blend. The Clubman category was introduced to cater for riders of modified road bikes, and that category was restricted to pump petrol. Clubman bikes also were eligible to enter in the "TT" events, and in fact were often necessary to provide adequate race fields.

My alloy B31A was pretty competitive as a Clubman bike from first time out. I would run it in both Junior and Senior Clubman events on petrol, and do a quick jet change (up by almost 3 times) to run on methanol in the Junior and Senior TT events. There was a significant power gain in running on methanol even on the low compression ratio set up for petrol.

I also ran it several times in "grass track" trim. Grass track races at that time in Victoria were run on one mile oval horse racing tracks. No brakes were permitted and I ran the BSA with a speedway front wheel, no left footrest and a low right hand footrest to suit the speedway style riding. Grass tracks were very fast and fairly dangerous, particularly for speedway style sidecars.

Most of us had two motor cycle dreams in the early 50s. One was to compete at the Easter race meeting at Bathurst, and the other (much bigger) dream was to ride at the Isle of Man TT.

So in 1952 with very little money I headed for Bathurst with the front axle of the B31A fixed onto the rear of a sidecar attached to my Red Hunter Ariel. My 16 year old brother Bill came with me. All our tools, fuel and camping gear were in the sidecar, and Bill sat on the pillion seat. The road to Bathurst from Melbourne in those days was bitumen only as far as Albury and then pretty rough gravel all the rest of the way to Bathurst via Junee. It was a slow trip and Bill and I slept en route on the ground, under a tarpaulin thrown over the bike.

Bathurst in those days was run as a sort of combined motor bike and car event, but in reality these were quite separate events. The bike riders moved into Bathurst on the Wednesday before Easter, practiced on Thursday and Friday, raced on Saturday and pulled out on Sunday. The car crews moved in on Sunday and raced on Easter Monday. There was virtually no dialogue between the motor bike and car fraternities in those days.

I don't remember much of the 1952 Bathurst event but the return ride home from Bathurst to Melbourne was unforgettable. We left Bathurst in pouring rain, with the BSA hitched to the rear of the sidecar on the Ariel, and with Bill on the pillion of the Ariel. The engine on the Ariel got very sick and we only got as far as Blayney (about 40 kms out of Bathurst), when the Ariel engine seized. We found a farm house, late at night and in blinding rain, and the owners offered us an old barn to sleep in and to work next day on the Ariel. When we pulled down the Ariel engine it was clear that we could do nothing to get it going again. We decided then to unload the BSA race bike and have Bill ride the BSA and tow me on the Ariel outfit all the 900 km way back to Melbourne. Shortly after leaving Blayney the gear lever of the BSA fell off and was lost so we fitted a clamp-on Mole wrench to the gear lever shaft and Bill had to change gear with that from then on. We had no lights and the rain poured down all the way back to Melbourne. Eventually we got to Wandong, about 60 kms north of Melbourne, late at night and totally saturated. Bill collapsed into the doorway of a Wandong shop front while I telephoned our parents to ask Dad to come and collect us. Which Dad duly did in his utility, but had trouble finding us as we'd both passed out and were fast asleep in a dark shop doorway. It was an epic and unforgettable first race trip to Bathurst.

Bill and I returned to Bathurst again in 1953 and that time I won the Junior Clubman event from a very strong race field and we returned home in much better spirits than we had the previous year. We had a lot of circuit racing venues in Victoria at that time which was in marked contrast to New South Wales which had been almost closed down by that State's infamous Speedway Act. We raced in Victoria at Fisherman's Bend, Darley, Little River, Victoria Park, Flinders Naval Base (in aid of a new Chapel), Bandianna, Mildura, Hume Weir and Altona.

I had joined the Philip Island Auto Racing Club (PIARC) in 1952 and we were spending a lot of time in the 1952-1956 period in working bees to construct the Philip Island racing track. This was a very ambitious project conceived by a business owner in Cowes, Philip Island, to build a racing track on land totally owned by the Club in contrast to all other circuits at that time which ran on public roads, Commonwealth owned airstrips, or tracks on land owned by private land owners. The idea was to buy a 300 acre property on Philip Island which had become available at a reasonable price, and to fund the purchase through shares sold to members of the auto and motorcycle fraternity. The concept was well supported, the land was bought, and we settled into regular working bees to clear the land of gorse and tea tree and start laying out

the track. Large firms signed up to pay for signage and track was sealed and ready for the opening race program in December 1956.

Around the same time the Confederation of Australian Motor Sport (CAMS) was formed in Melbourne. Before then, auto racing in Australia was managed in a fairly loose sort of way by the Automobile Association. When the AAA decided to withdraw from managing auto racing, there was no option but to set up an organisation like CAMS as a matter of extreme urgency.

By virtue of too many successes on the little BSA including wins at Bathurst, Darley, and Altona and close 2nd places at Fishermens Bend , Bandianna and Port Wakefield, I became classified under new national rules in 1953 as a "Super Clubman. This meant that in 1954 I was only permitted to race in "Title" events and not Clubman events - the days of the faithful B31A were nearing an end. My problem was that I'd only been working for a few years since I'd graduated and I didn't have the money to buy a "proper" race bike. So for the Easter 1954 Bathurst race meeting I had to stick with the B31A and just contest the Junior (350 cc) TT event where the bike was totally outclassed. What to do?

From our model racing cars days I knew about nitro methane but that was not a product available on the open market in Australia and was very, very expensive. Since the fuel of "TT" events was "open", I figured that maybe I could fabricate an injector that could be manually operated from a small separate tank of "nitro" which might give me an additional boost up the long climb at Bathurst towards Quarry Bend. So I made up a small "nitro" tank which fitted under the front of bike seat, and I made up an injector unit in the ARL wind tunnel workshop that bolted onto the engine between the BSA cylinder head and the Amal TT carburettor, and was triggered by a lever alongside the throttle twist grip on the handlebars. I bought a small amount of nitro methane from a friendly Chemist, and the setup was ready to try out at Bathurst.

On the long drive from Melbourne to Bathurst I had a lot of time to think. We knew virtually nothing at that time about "nitro". The reason that nitro methane provided a power boost to engines was that it contained oxygen in a chemical form and that was additional to the oxygen that the engine normally sucked in from the air. In effect nitro is an explosive. I had no idea what would happen when I pulled my "nitro" injector trigger. What I did know was that the nitro tank was located just inches beneath my genitals, and an explosion did not bear thinking about. So I started the first Junior TT Bathurst practice session with some misgivings and it was several laps before I plucked up enough courage on the climb to Quarry Bend to pull the injector trigger. Nothing whatever happened! No extra power; no explosion. The latter being of great relief. When I drained the nitro tank it contained exactly the same amount I put in. My nitro injector was a total failure. It had seemed like a good idea at the time!

## JIMMY GUILFOYLE and the Guilfoyle BSAs

I just had to bite the bullet and buy a “proper” race bike. No option. Manx Norton was the obvious choice but we were getting reports from Europe via Roger Barker and others that the then current model Manx Norton were stripping bevel gears. It was a problem that was solved on later Manx's by use of larger bevel gears and an ingenious “hunting tooth” arrangement in the bevel drive train. However that didn't help me at the time.

At the Isle of Man TT in June 1954 a new 350 cc 7R AJS had won the IOM Junior TT. The AJS agents in Melbourne offered to order a new 7R AJS for me and also offered an attractive “terms” repayment so after a bit of thought I placed my order and in due course I got delivery of my first “proper” race bike.

In parallel with all that, by virtue of my results on the B31A, I was approached with an offer from Jimmy Guilfoyle, a BSA dealer located at Deepdene just east of Melbourne. The deal from Jim was that he would convert a little pre-war 250 cc BSA scramble bike into circuit racing trim, and he wanted me to ride it. This was the same bike that Geoff Duke had ridden in a scramble on his recent visit to Australia ... in spite of “girder forks and rigid frame”! I didn't know Jim from a bar of soap at that time, but I guess he could see similarity between what he wanted and the rigid frame B31A that I was having a lot of successes with. The deal was that he'd prepare the bike, pay the entry fees etc. and keep any trophies and prize moneys that we won. That was OK by me so the deal was done. Jimmy told me at one stage that he didn't care if everyone thought that Jimmy Guilfoyle was a bastard as long as they knew that there was a Jimmy Guilfoyle. Jim and I were as different as chalk and cheese but we got along very well in a partnership that lasted for more than five years.

The little 250 BSA proved to be a winner. I won the first race that I had on the bike at Fishermans Bend and established a new 250 cc Fishermans Bend lap record. Jimmy was a good mate of Jack Curruthers in Sydney and we travelled several times to Sydney to stay with Jack and Lil and young Kel Carruthers and to race at Mount Druitt. We slept on the floor in Lil's dining room. Kel Curruthers was about 16 years old at the time and we enjoyed racing together in the 250 cc and 350 cc events. Kel was to go on about 10 years later to win a World Championship for Benelli. Around that time I was also offered a ride on Eric Walsh's 125 cc “Walsh Bantam” which also was a winner.



I was not in love with my own new 7R AJS! It was bulky with a huge fuel tank suited to the Isle of Man, I didn't like the riding position,

but worst of all my bike had a problem with a locking front brake. The first time I rode it at Fishermens Bend the front brake locked on at the end of the main straight and I went down in a big way from high speed. Jimmy and I progressively backed off the ramp on the front of the twin leading shoe brakes, but at the next event at Bandianna in January 1955 it locked on again in practice and I spent that day in the Bandianna hospital while Jimmy worked again on backing off the ramp on the front brake shoes. Out of hospital and well bandaged for the races on the next day, the front brake locked on again in spite of all Jimmy's efforts the day before and I was back in hospital again for treatment of more abrasions.

Jim had just taken delivery of some of the then new BSA DB32 and DB34 Gold Star BSA bikes. The Gold Stars were available from the BSA factory with close ratio gear options and a range of cams to suit a raft of competition options from scrambles through to circuit racing. The latter in Isle of Man Clubman trim. These were nice bikes and Jim offered to prepare initially one of the DB32 (350 cc) bikes for me to race. It was time to quit the 7R AJS which I did with no regret whatever.

By this time Norton's had cured the bevel drive problems on the Manx engines, and the engines were being sought by car racers keen to try the new Cooper 500 car race category. Jimmy had an option from one of his Sydney mates to buy a complete Manx Norton less engine... which he did. The engine having gone into a Cooper 500. To fit a BSA Gold State engine into the Manx frame only required cutting and modifying one lower frame bar and we did that in Jimmy's workshop. So the first of the "Guilfoyle BSA" Clubman bikes was born. The "Clubman" Regulations from around 1955 to 1959 required only that the engine be from a production road bike; the frame was "free". Working together Jim and I could change engines in around 20 minutes between the 350 cc DB32 and the 500 cc DB34. We would run on standard pump petrol in the Clubman races and then switch to methanol (Shell A) for the Junior TT, Senior TT and Unlimited events. The Guilfoyle BSA's in both 350 and 500 cc trim were delights to ride and I won a lot of races, including a Clubman Double at Bathurst in 1958, and the NSW Junior TT at Bathurst in 1959. I think the latter was the first time that a push rod engine had won a major title at Bathurst since about 1928. Albeit, it had poured with rain for the whole race and the track was treacherous so winning was largely a matter of survival. But win we did.

The first streamline shells were being fitted to race bikes around 1954, and were what was fitted to the works Guzzies that Bill Lomas and Dicky Dale rode when they visited Australia. These fitted right around the front wheel and were what we later called "full bins" or "dustbin" fairings as opposed to the "dolphin" fairings that appeared later and are what are still used today. Jimmy bought our first dustbin fairing, from Tony McAlpine as I recall, and we used that on the Guilfoyle BSA's on selected circuits from about 1955/1956. Full front end fairings that



enclosed the front wheel had low aerodynamic drag but they proved to be pretty dangerous. For an object to be stable in an airflow it needs to have “weathercock stability”. To achieve that, the aerodynamic centre of pressure needs to be behind the centre of gravity. Hence feathers at the tail of arrows and tail fins on most aircraft. By contrast the “dustbin” fairings had an aerodynamic centre of pressure well forward of the bike's centre of gravity so they had negative weathercock stability and in any sort of side wind they tended to yaw the bike away from the direction of the side wind. I can recall riding at Bathurst and holding a discernible angle of lock on the front wheel to counteract the tendency of the bike to swap ends. It was worse when the bike became airborne such as at Longford in Tasmania when fast bikes left the ground as they entered the drop to the Viaduct. At that point the full bin would start to roll the bike and also start to turn it sideways so that when the front wheel did land back on the road, the bike was pointing in a different direction to the road and the first few seconds after landing were pretty exciting. Full bins were banned in Europe from about 1958 (?) but we were allowed to use them in Australia at least until well into the 60's. My 500 Manx in 1962 was clocked at Bathurst with a full bin at 153 mph (almost 250 kph)

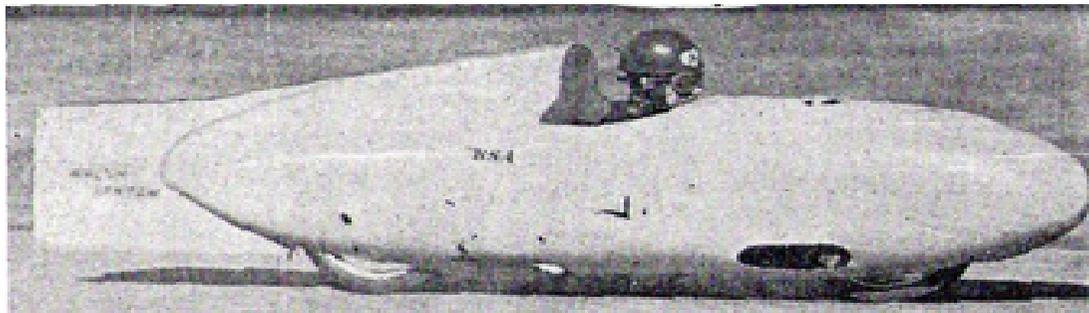
Whilst the DB32 and DB34 BSA's were great engines, they were not trouble free. We had on-going problems with crank pins, and the roller main bearings were regularly being hammered loose in the aluminium crankcases. There was no Loctite in those days to secure the main bearings so each time we had to strip the engines and machine the crankcases to take alloy sleeves to be pressed into each half of the crankcase and which in turn were a tight press fit around the main bearings. I developed a habit of riding with a couple of fingers around the clutch lever so that I could quickly throw the clutch to avoid a slide with a locked engine when a crank pin broke.

At one stage I was riding in every solo event on the race program. Ultra Lightweight (125 cc), Lightweight (250 cc), 350 cc Clubman, 500 cc Clubman, Junior TT, Senior TT and Unlimited. I won at least one race at the opening meeting of Philip Island but I've no recollection now of what bike/s I rode to do that. My favorite tracks were Bathurst, Philip Island, Longford, and Darley.

At work around that time I was involved in an interesting “war game” simulation to help the Government to decide on the purchase of two competing land to air missile defence systems: Bloodhound and Nike. A simulated air defence operations room was set up at a small Royal Air Force base, Frognell, in the Melbourne suburbs. Missile control stations were set up and we were supplied with simulated radar detection data from incoming air raids. We had choices of how many air defence missiles would be fired, and when they would be fired. Using statistical information on missile launch reliability, detection probability, and kill probability a set of umpires would use a random number generator to provide immediate feedback to the missile controllers on the simulated outcome of their action so decisions on the next defensive action could be taken by the missile controllers. In the end a comprehensive picture could be drawn up over many simulations on the effectiveness of the two competing weapon systems. I was surprised at how realistic this defence situation appeared to us in the operations room and the tensions that were developed as the various simulated air raids progressed.

Jimmy Guilfoyle, and Eric Walsh whose bikes I rode, were both contracted to BP Australia as was I. Accordingly, we were invited in 1955 when BP decided to sponsor attempts by cars and bikes on the Australian Land Speed record. The site chosen was a long straight stretch of road between Coonabarabran and Baradine in New South Wales.

Eric had a wartime aircraft auxiliary fuel "belly tank" lying in the corner of his yard. It was a rough streamline shape about 10 feet long and around 18" diameter. Eric asked me if I could squeeze inside it and when I found that I could, he started work to fabricate a long and low frame to fit inside it, and to run with one of his 125 cc Walsh Bantam race engines. I would sit effectively at ground level, with my feet on either side of the front wheel, and the engine would fit behind me with a conventional chain drive to the rear wheel. Eric had relatively small wheels made up to fit within the body and I'd control it with narrow conventional handlebars attached to shortened BSA Bantam front forks. Gear change lever and rear brake were about level with the front axle. Holes were cut in the body immediately below my feet so that I could put my feet on the ground to hold the machine upright.



We tested a rough prototype without engine and with Eric pushing me up and down the street in front of his house and I found that it was rideable. I made up a plywood fin to go on the back of the body to increase longitudinal stability which took the overall length of the machine to 11' 6" (about 3.5 metres). My original intention was to make up a cockpit canopy to fit over my head but in fact we didn't have time to make the canopy before we had to leave for Baradine.. The major problem was the engine. Eric had suffered serious head and facial injuries some months previously when the flywheel of one of his engines exploded while he was bending over the highly revving engine. At the time we were building the "record breaker" he was still suffering from the injuries and loss of memory so the engine that we fitted for Baradine was not one of his best.

Jimmy and I by contrast decided to fit a full streamline shell to the otherwise standard 350cc Guilfoyle BSA. I designed the shell and we built the plug in Jim's Deepdene workshop using wooden lathes around plywood bulkheads. Charlie Rice made the fibreglass shell. The streamline shell was 13'6" (4.1 metres) long and had a detachable cockpit canopy that fitted over the rider's head and was held with Dzus fasteners. We had spring loaded panels in the sides of the body so that the rider could push them out to place his feet on the ground and hold the bike upright. The highly tuned BSA engines were prone to break crankpins, the 500 much more so than the 350. When that happened the engine would shed engine oil from the fractured crankcase. I was worried that if that happened on the streamliner, the engine oil would wash up over the windscreen and blot out visibility. So we cut a hole in the top of the canopy so that in the event of a visibility problem through the windscreen, the rider could raise his body and look through the hole in the canopy. That proved to be a very wise precaution. At that stage we'd not decided whether Jim or I would ride the bike at Baradine.

Eventually all was ready and we joined the contingent of BP contracted car and bike teams at Baradine in 1956. The first morning was a tragedy. One of the car drivers took off for a very early unscheduled morning practice run in an MG Special and was decapitated when he ran under a tractor that was crossing the road. It was a bad start.

The cross wind on the day of the timed runs was higher than we'd hoped , and we had a major stability issue with the Guilfoyle BSA streamliner. Jim did one run and came back all “white faced and ashen” to hand the riding over to me.

The problem was that the rear of the body was too heavy which firstly left insufficient weight on the front wheel, and secondly gave the bike too much polar inertia so that the bike would wind itself into a weaving motion that was almost impossible to control.

I was clocked at 126 mph in 3<sup>rd</sup> gear with the bike weaving so much that it was almost clipping both sides of the road. The weaving got worse when I closed the throttle and I was lucky to be able to bring the bike under control before running out of the end of the Baradine road.



Problems with the little 125 cc Bantam were different. The bike had to be push started but unless it was perfectly upright when the engine started I could not get it under control before running straight off the road. Eventually we solved this by having the “pusher” use a long forked stick over the rear fin so that he would not roll the body as he pushed . In that way the roll control was left totally to me and I had no further starting issues. We did have engine problems for the remainder of the trials and the best speed we achieved (from memory) was just over 100 mph. That was disappointing as the little Walsh Bantam would easily do that in unstreamlined road racing trim.

The positive thing from Baradine was that we came home without any serious injury, particularly from the unstable Guilfoyle streamliner. Apart from anything else there was no way that the rider could get out of the body without assistance once the cockpit canopy was fastened and the consequences of a crash didn't bear thinking about.

## ENGLAND: 1959

### and The Motor Cycle Magazine

By the end of 1958 I was being drawn by the lure of riding at the Isle of Man, and competing professionally in Europe for a couple of years in what was known as the Continental Circus. These were dangerous years on motor racing tracks around the world. Australia had already lost five of our top motor cycle racers in England and Europe over the previous five or six years. Undeterred by that, I was able to secure a two year "leave without pay" term from my work at the Aeronautical Research Laboratory (ARL) and my plan was to leave for England at the end of 1959 and return to ARL at the end of 1961.

I'd first met my then current girl friend Margaret George back in 1953 at the twenty first birthday party of my mate Bruce Cameron's sister. It was a chance meeting as I'd only returned from Woomera the day before, and Marg was there only through a last minute invitation from her friend Lois whose boyfriend was unable to attend. We met again only by chance on the tram ride from Preston to Melbourne city where I was on my way to ARL and Margaret was on her way to work at the Transport Board in North Melbourne. As it turned out she only lived a few blocks from where I lived with my parents. We'd partnered each other on and off over the years since then but neither of us had wanted to be tied down. Margaret was flying as an air hostess with Trans Australia Airlines in 1958 and was keen to travel overseas on money that she had saved. She had previously hitch hiked half way round Australia staying in YWCA hostels and had no problems accepting the rough with the smooth. So we decided early in 1959 to pool our resources, get married later in 1959 and do the England and Continental Circus racing thing together. Neither of us had any doubts that whatever turned up in Europe, we would cope.



Margaret had no interest in motor racing in any form but we had a lot of other common interests and we just got along really well together. Our plan was that Margaret would book a ship passage to England to leave shortly after we were married, and I'd finalise my race plans and then hopefully manage a flight to England in an Air Force aircraft via ARL and the aircraft firms that I would work for in England. Before Margaret left we bought a 10 acre property at Yarrambat, about 20 miles North of Melbourne, so that we'd have something away from the suburbs to come home to at the end of our European tour. We paid for that by installments for the whole time we were in Europe.

One of my Preston Motorcycle Club mates, Alan McBeath (the "trombonist" in our Preston Piss Pots jazz band) decided to travel to England by ship at the same time to try his hand at scramble and trials riding in England

Race money as always was a problem but I was assisted by a loan from George Lynn, the founder and editor of the Victorian Motor Cycle News. I'd known George well from around 1950 in my years as the Preston Motor Club's delegate on the ACUV which was the

controlling body for motor cycle sport in Victoria, and when I was joint Vice President of the ACUV from around 1956. I would attend, as would George, the monthly ACU meetings in Melbourne and after that retire to drink coffee in an old coffee shop in Russell street to talk all things motor bike. George and I got along really well, and the loan offer from George was merely on trust, to be repaid after I got back from Europe.... there was no paperwork. I was also assisted by Rob Beanham, the new proprietor of the Norton Agency in Melbourne. Rob offered by a complex arrangement to refund me the difference between the price that I paid him for two new Manx Nortons to be delivered in 1960, and the price that the Norton factory actually charged him. It was a generous offer and greatly appreciated.

Finally all fell into place. Two Manx Nortons were ordered, we were married on 21 August 1959, Margaret left for England by ship early in September taking my BSA B31 road bike with her on the ship as "luggage", and I left for England on a Royal Air Force aircraft later in September. The flight by air in a RAF Douglas DC4 was interesting. The DC4 was not a very fast aeroplane and we left Adelaide early in the morning to arrive at Darwin when all the locals were eating breakfast. We left Darwin and arrived at the RAF base in Singapore again just at local breakfast time. We did the same at Benghazi so that by the time we were into Europe we'd had at least four sets of breakfasts at various stop overs on the way. Total flying time was about 36 hours. We landed at an RAF station on the West coast of England and from there I traveled by train to London and then again by train to Guildford to meet up with a couple we'd known in Melbourne. These friends were about to leave to return to Australia and Marg and I had pre-arranged with them that we would take over their flat in Guildford when they left. So we now had a new home base in the lovely old Guildford town.

My work at ARL had led me to be accepted as an Associate Member of the Institution of Engineers Australia, and an Associate Fellow of the Royal Aeronautical Society. I opted to include these formal titles of AMIE (Aust) and AFRAeS in the letterheads that I would use in Europe to seek acceptance in race programs and in related correspondence seeking sponsorship from BP. I saw that as one way of being a little different and perhaps gaining attention in a tight competition market.

When I arrived in London I was met and interviewed by Harry Louis, the editor of "The Motor Cycle" magazine which led to a lead article in Sports News of The Motor Cycle headed "**Welcome Boffin**" ... *Aerodynamicist Trevor Pound over here from Australia for a Spell of Work and Racing*". Boffin was a slang word in England meaning someone engaged in research and development. As a professional engineer I was regarded as a "boffin" but the major interest of The Motor Cycle staff related to my riding experience on the Walsh Bantam. Two stroke technology was in its infancy in those days and the Walsh Bantam had made an enormous impression on two top UK Moto Guzzi riders, Bill Lomas and Dicky Dale, when they had visited Australia a few years previously. Additionally I had almost won the Victorian 125 cc TT at Victoria Park the previous year from Australia's top rider Bob Brown riding an MV Augusta which was a major achievement for a little 3 speed BSA Bantam two stroke. There is no doubt that Eric Walsh was a real pioneer in two stroke development. The introduction to the staff of The Motor Cycle, and particularly to its technical editor Vic Willoughby was to serve me well over the next two years.

My first serious task in England was to arrange interviews with the UK aircraft firms and Government Establishments that had offered me work before I left Australia. I opted to accept an offer as a wind tunnel engineer at the Royal Aircraft Establishment at Farnborough.

Farnborough was famous at the time for the annual Farnborough Air Show where almost every English and European aircraft firm had their products on display and where aircraft were flown by test pilots to their extreme limits. This period was pretty much the zenith of the UK aircraft industry and there was a lot of work available. A major factor in my choice to work at the RAE was my recognition that I would be able to get time off for my racing. I agreed to work there until around March/April 1961 when we would take off for the Continent and I would ride full time as a professional on the "Continental Circus"

I immediately joined the local Whitley motorbike club based at Guildford who met regularly in one of the local pubs. A number of those guys remained close friends for the whole time I was in England, and I went with them to a number of local trials and scrambles. One of the guys, Brian Kettle, lent me his Greeves to ride in one of the local trials while he rode his brother's bike.

Margaret duly arrived and I met her at Tillberry Dock. She lost no time in getting a secretarial job in Guildford with the firm that manufactured Dennis fire engines. That was an easy ride for her on a pushbike from our flat at the other end of Guildford. I was already working at the RAE and travelling from Guildford to Farnborough by train. After Marg arrived we had my road 350 BSA that Marg had bought from Australia as "luggage" and that was our transport while we hunted for a van that I could convert to carry two Manx Nortons and serve as living quarters for the two of us while we travelled England, Europe and Scandinavia. I rode the BSA every day through the winter from Guildford to Farnborough and by the time I got to Farnborough my hands were so frozen that I could hardly move my fingers. Black Ice was a hazard on most mornings. London was an easy train trip from Guildford and we spent a lot of time sightseeing there

Margaret had two old aunt's, both in their 90's who lived at Felixstowe on England's east coast. We decided to visit them one weekend on the BSA, with Marg on the pillion, which turned out to be not a very smart idea in pretty near mid winter. Felixstowe was about 250 km from Guildford and by the time we rode through rain and arrived at the home of the ancient Aunt's we were so frozen that we had to be assisted off the bike by the two old dears. Aunt Margaret was 94 years old and nearly blind and Aunt Maggie was 92 years old. Aunt Maggie showed us photos she had taken on her visit to Australia in the early 1930's after she had retired as school teacher in England. One of the photos was a half constructed Sydney Harbour bridge before the two halves were joined. Aunt Maggie, semi-senile, kept telling us (many times) that their original home was in Epsom and that on their property was the well and a spring "from which the original Epsom Salts were derived". We enjoyed our visit but were glad to get back to Guildford after another freezing ride back.

We were invited by Phil Irving at the end of 1959 to a party in Phil's London (Kensington) flat to celebrate Jack Brabham's first World Championship win. It was a proud night for us all. Phil was the designer of the Vincent motorcycle among many other things. I'd known Phil since the early 1950's when we were both members of the Technical Committee of the ACU of Victoria which was at that time the controlling body of motor cycle racing in Victoria. I'd moved on to become a joint Vice President of the ACUV. Phil would subsequently add to his fame by designing the Repco V8 engine that took Jack Brabham to further World Championships.

Through Phil, Margaret and I were invited to the annual dinner of the North London section Vincent Owners Club where I was billed as

guest speaker. The meeting was attended by 80 people and I was asked to present an award to the winner of the 1959 Road Trial Trophy

Margaret and I were invited to spend Christmas Day 1959 with the family of John Williams, the Superintendent of Aerodynamics at the RAE. John was very good to me over the whole period of my employment at the RAE. John used to deliver lectures at night to a variety of learned institutions in England and he liked to have me drive him in my van and assist with various aerodynamic demonstrations, particularly regarding "ground effect". It was through the generosity of John that I was able to "bank" my time earned at the RAE, and to later use that "banked" overtime when I took time off from work to race. We spent a lot of time in London over that Christmas period.

At the RAE I worked with Brian Moy who was a young RAE "professional" apprentice. Brian was a great guy and he introduced me to his flat mates and the suggestion was made that I could use an old stable at the back of the grounds containing their Farnborough flat to work on my van and my Nortons. It was an arrangement that suited me well because there were more facilities at Farnborough than at Guildford and Brian's mates, particularly Derek (Mac) McNeir were all very happy to provide very welcome assistance to me.

In the RAE wind tunnels we worked on the shape of the Concorde wings, the roll control of the Hawker Harrier "jump jet", research on ground effect and on hovercraft, wind tunnel tests on the intakes of the Victor "Vee" bomber and much more. The Hawker Harrier proved to be one of the most versatile combat aircraft ever and has currently been in service with the Royal Air Force for fifty years. The RAE also were operating at that time a "Fairey Delta" research aircraft which was developing and proof testing the "droop snoot" nose concept that was to be a feature of the Concorde supersonic jet. Delta wing aircraft like the Concorde need very high angles of attack to develop lift at take off and landing speeds and the droop snoot concept enabled the angle of the aircraft nose to be reduced so that the pilot/s could maintain a view of the runway. Another concept under test at that time was the Rolls Royce "Flying Bedstead" which was an airframe that did look like a four legged bedstead with a Rolls Royce vertical thrust engine at each corner, and which was designed to test control of vertical thrust engines if imbedded into a vertical take off aircraft. Short and vertical take off aircraft research was a priority at that time.

In due course I found a suitable second hand Ford Thames van and set about converting it. When finished it had a gas stove and cooker at the extreme end of the left hand side, and ahead of that a bench that could be used for food preparation or to sleep one person. Under that bench was storage for water, clothing and a variety of dehydrated food. On the other side of the cargo space was a fold down bench that could meet the bench on the other side to form a generous double bed space. Between these sides it had metal rails on the floor. The two Nortons were carried side by side on a sub frame that had roller wheels that fitted the rails on the floor. When we wished to stop and sleep, the bike frame could be rolled back slightly, then supported at the rear by an A frame on the ground, and then the van driven forward to draw the bikes almost totally out of the cargo space. We then threw a tarpaulin over the rear of the van to cover the bikes and the rest of the van to give us privacy to sleep or relax. The streamline shells were carried separately on a roof rack. It worked pretty well and we were happy with it for the two years that we had it. It was great when we had long waits for ferries and such, that we could simply open the rear doors of the van and make ourselves coffee or soup while we waited.

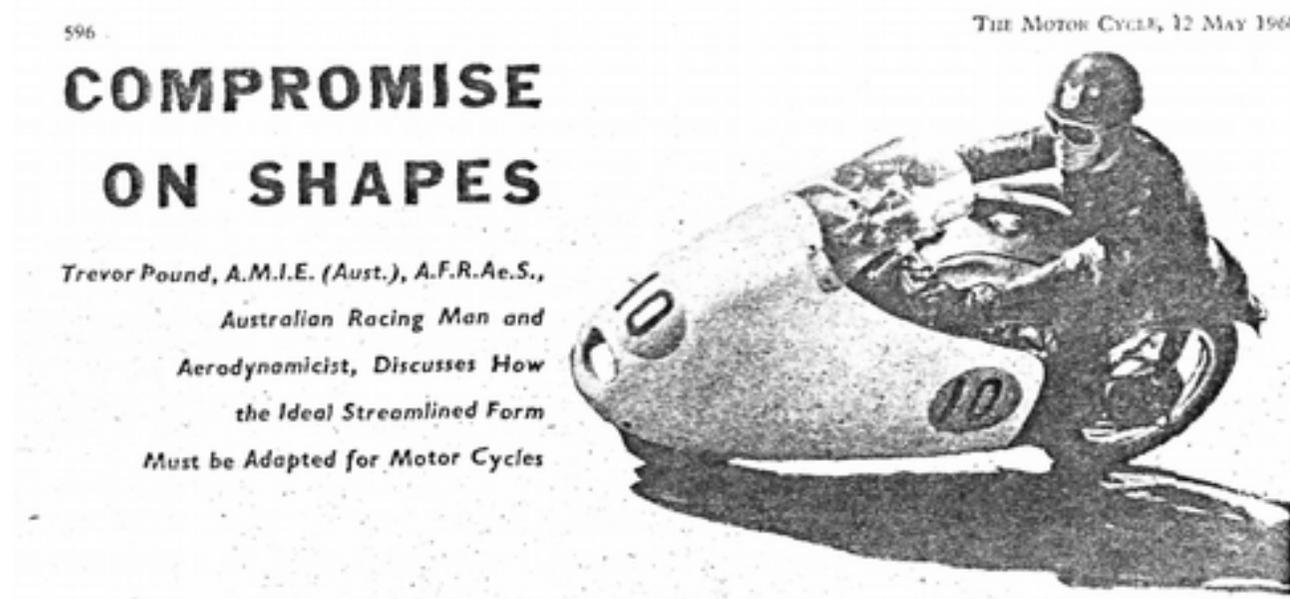


One of the flip sides with our van was that the interior was unlined. Marg and I used to travel a lot in England in the winter months and it could be freezing and wet as the condensation dripped from the walls and the roof. We camped out in the van on most weekends in sites through England and Wales, the Lake District and even in the snow on Dartmoor. We had a great down-filled double sleeping bag to combat the cold at night!

Early in 1960, Vic Willoughby the technical editor of the Motor Cycle magazine invited me to write a series of articles on streamlining for The Motor Cycle for which I would receive a reasonable payment. I got on really well with Vic and the money was good so I agreed. Vic was an excellent journalist and the plan was that I'd write the text and provide any technical sketches and diagrams, and Vic would jazz up the presentation by adding appropriate photos from The Motor Cycle archives.

The first of three articles appeared in the 11 February 1960 issue of the Motor Cycle titled "**Cheating the Wind**" by Trevor Pound A.M.I.E (Aust), AFRAeS. *The Australian Racing Man now working at the Royal Aircraft Establishment, Farnborough, unveils the whys and hows of streamlining*".

The second article titled "**Compromise on Shapes**" appeared in the 12 May 1960 issue, and the third titled "**Watching the Wool**", which looked at flow visualisation, appeared in the 10 November 1960 issue.



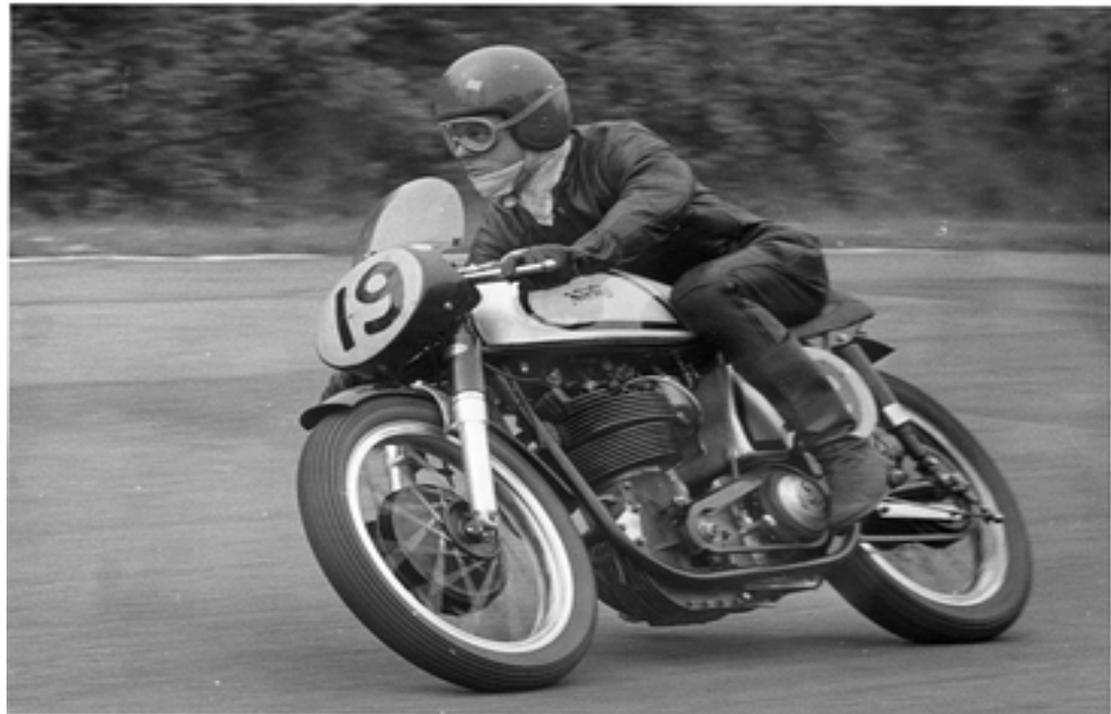
## THE ISLE OF MAN

and the Royal Aircraft Establishment

Eventually in 1960 my two new 1960 Manx Nortons were available for pickup from the Bracebridge Steet Norton works in Birmingham. The first of the UK Motorways were just being built and the M4 from London to Birmingham made that a fairly quick drive. I took the bikes immediately to the old stable behind Brian's flat at Farnborough to check them over and make the necessary adjustments to suit my riding position. One of my "mods" that shocked all my UK friends was to hit both sides of the new Manx fuel tanks with a mallet to make dents so that my thumbs would not get caught by the handlebar grips when the forks were on full lock. I liked to ride with my elbows in close to the tank and my wrists at a pretty relaxed angle and we'd found on the Guilfoyle "Manx" bikes that unless my elbows were out wider than I liked, my thumbs would get jammed against the tank on full lock. I preferred the dents in the tanks than bruised thumbs but it did shock the local lads. These were still very much austerity days in England not so long after the war and none of these guys had ever seen a new Manx Norton so it was easy to understand their shock/horror.

My first test ride was at Brands Hatch before I'd even fitted shells. I'd never previously ridden any Manx Norton prior to that, but I was immediately comfortable because the Guilfoyle BSA's that I ridden successfully in Australia over the past four or five years were all "Manx Norton" apart from their BSA Gold Star engines. I had never ever worked on a Manx Norton engine! I liked both bikes but I particularly loved the 500.

The arrangement for securing rides in both England and Europe was to survey the list of meetings that was published in The "Motor Cycle" and other magazines at the start of each season. Then write to each of the organisers with a list of competition results and other information likely to attract the interest of the promoters, and finally to seek advice on what "starting money" they would offer. Starting money was critical because that was the only way that travel expenses could be covered. Prize money was usually minimal and most awards were by way of trophies. Most events were National events but some like the Isle of



Man, the Dutch TT, Hockenheim (Spa), etc. were part of the World Championship series and were supported by all the competing works teams and riders. Most of the European races were very long, typically up to 200 km, with the Isle of Man being the longest at almost 300 km.

These were “cold war” years and our Australian Passports prohibited entry into the USSR, Poland, Czechoslovakia, Bulgaria, Romania, East Germany and a number of other countries. Yugoslavia was not at that stage prohibited but it remained a loose part of the communist “East Bloc” and needed to be entered under a lot of restrictions including strict control of money taken into and out of the country. I was travelling under a British “Official Passport” which included a statement that I was travelling under Official Business of an Australian Defence Department so I needed to be particularly careful in what was marginally an “enemy” country.

After the publication of my first “streamlining” articles in The Motor Cycle, Vic Willoughby advised me that there had been a strong positive response from their readers and that The Motor Cycle would like me to write for the magazine again in 1961. He also told me that a guy called Cabby Cooper was looking to sponsor a rider in 1961 in exchange for the loan of a van that he could camp in for a couple of weeks in Europe. He told me that Cabby was a somewhat eccentric wealthy guy who had sponsored Ken Kavanaugh a couple of years previously. He agreed to set up a meeting between Cabby and me.

So I met Cabby at his fairly grand house called “The Elms” in Esher. When I arrived this fairly plump little guy in shorts and bare top was waddling round a huge front lawn pushing or rather chasing a lawnmower. That was Cabby. We got on well. Perhaps equally importantly I got on well with Cabby's wife Cis who saw herself as much more “up-market” than Cabby and was pleased that I was able to talk sensibly to their son who was shortly to start at Oxford University. Cabby owned a business called Eleanor Motors and his offer was that Eleanor Motors would buy two new Manx Nortons for 1961, Cabby would enter them as “Entrant” and after a short while I would buy them back from Cabby at the trade price that he had bought them for. The deal was that I would have to maintain the bikes but I could keep all oil company bonus money and prize money. His original idea of getting a loan of a van for a few weeks seemed to have slipped from sight and was not mentioned, although he did borrow my van to go to Spain later in 1961 - which I shall come to later. It seemed a fair offer to me as I had no other way of getting my hands on new Nortons for 1961, and this then would enable me at the end of the 1960 to send my 1960 bikes back to Australia where I could sell them for more than I'd paid and also more than I'd pay for the 1961 models. Money was tight and really critical.

At one stage during 1960, my mate “Mac” McNeir arranged for he and me to go sailing with his elder brother “Big Mac”. Big Mac was or had been a commando in the Royal Navy. The story as Mac told it to me, was that the Royal Navy were required to dispose of training sailing craft through public auction. Big Mac had become aware of a high level scam in the RN whereby those craft as they progressively became available were auctioned at short notice by public auction but at very remote locations. In that way the Admirals and other interested high level RN officers could take it in turns to purchase quality ex RN yachts at bargain based prices. Big Mac being an enterprising guy made it his business to find out where one such auction was to take place, and he duly out-bid a very surprised Admiral. In doing that Big Mac had done nothing illegal so the yacht was his ... but it did blow the lid off the RN scam.

So one day my mate Mac and I met up with Big Mac and we went to the Royal Portsmouth Yacht Club where his yacht was berthed. It was a beautiful all teak, canoe sterned, vessel about 30 ft in length with a long bowsprit built probably in the late 1920s or early 1930s. The plan was to leave early in the morning, head for the Isle of Wight and get back to Portsmouth before dark. It was a really beautiful boat and sailed very, very fast. All was well until around midday when the weather changed and brought very strong stormy offshore winds. We needed to get back to Portsmouth as quickly as possible but the high wind and waves were making this increasingly difficult. At one stage Mac asked me to try to hold the boat into the wind while Mac and Big Mac went forward, one out onto the bowsprit to change to a storm jib. I had a lot of trouble doing that and we nearly broached several times. By now it was getting dark and Mac was worried that the ferries plying between Portsmouth and the Isle of Wight would not see us in the storm. Portsmouth at that time still had a sort of barrage across the entry to the harbour, which I think originally was intended as a deterrent to submarines during the war. The effect for us was that it severely limited our angle of approach to the narrow entry. Twice we were on the correct approach line but had to go about in the storm when ferries were coming out of the harbour. Eventually we berthed in total darkness very late at night .... how Big Mac did that I'll never know. It was quite an adventure; and on a really lovely boat!

The first acceptance that I had for a Continental race meeting was for the "Gelleras Loppet" at Karlskogo in Sweden in May 1960. Margaret and I travelled across the Channel by ferry to meet up with my old friend Ray Ellis who was touring Europe and Scandinavia at the time on a Vespa scooter. All three of us then headed north through Belgium and then Western Germany to Denmark. We stayed several days in Copenhagen before catching a ferry to Sweden and then on to Karlskogo and my first professional "Circus" race.

To my surprise and certainly to the surprise of the other "pros" to whom I was completely unknown, I secured the fastest practice lap in drizzling rain. I was immediately approached by Peter Ferbrache, one of the hardened "Circus" riders who warned me that this track was very dangerous in the wet. I guess that was all part of the psychology of professional motor bike racing. Notwithstanding that I finished third to Ferbrache and Jim Redman in the 350 race and second to Ferbrache in heavy rain in the 500 cc event. Jim Redman went on to secure a works ride with Honda and win several world championships. It was an excellent start to my "Circus" racing and I have no doubt that the result assisted me in gaining improved starting money at subsequent events. Ferbrache was killed shortly after that at the Dutch TT.



My next "Circus" start was at Chimay in Belgium, where I gained a 6<sup>th</sup> place and from there I headed to the Isle of Man for the IOM TT races. The IOM took place over about a week for practice and a further week for conduct of the IOM series so we decided to leave our van with Margaret and Ray in France and for me to be met at the English side of the ferry by my friend Alan McBeath. Margaret and Ray went on to tour Germany and the Rhine country, and Alan and I travelled in Alan's van to the IOM.

The IOM TT races were an eye opener. We would ride our racing bikes on the road under police escort from Douglas, the main city on the IOM, to the pit area by the starting point of the IOM TT on Glencrutchery Road. The IOM course covers a distance of about 37 miles (about 60 km) a lap and both the Junior (350 cc) and the Senior TT (500 cc) were run over five laps for a race distance of about 300 km. The course winds continually through stone walled villages and at one point climbs to the bare and windy top of Mount Snaefell. For the newcomer it is an almost bewildering succession of blind bends, stone walls, and fog on Mt Snaefell. It's also disconcerting for newcomers when experienced riders like John Surtees coming blinding past when newcomers like me were slowing for what looked like a right angle corner with a stone wall at the end, but in fact is just a wiggle between the stone walls that can be taken almost flat out. I'll never forget John Surtees coming past me with the MV engine screaming and exhaust pipes showering sparks from rubbing on the road.

I described the TT course in a letter I wrote to Mum, Dad and brother Bill with accompanying photos (long since lost). This is what I wrote, but before reading it you need to know that a 500 Manx did about 80 mph (130 kph) in 1<sup>st</sup> gear, 110 mph (175 kph) in 2<sup>nd</sup> gear, 130 mph (210 kph) in 3<sup>rd</sup> gear, and around 145 mph (230 kph) in 4<sup>th</sup> gear.

*Photo 0: The start at Glencrutchery Road.*

*Photo 1: Bray Hill immediately after the start. This downhill is really steep but was resurfaced for this year and not too rough. My 500 was doing over 135 mph (about 220 kph) at the bottom and the whole suspension hit the stops at both ends and the front tyre tore grooves into the lower side of the fairing. After Bray Hill you go up another hill and then round a right hand bend at Quarter Bridge, round a blind left hander and then:*

*Photo 2: Braddon Bridge. In the second lap of my first practice I got confused on this bit and took the right hand fork instead of the left hand fork and I finished up with the front of the bike fairing stuck under a barrier rope.*

*Photo 3: Union Mills. This is a deceptive photo because you approach it around a sharp blind right hander and it takes quite a few laps before you can take Union flat out in 2<sup>nd</sup> gear because it is also blind from where you need to approach in the centre of the road.*



- Photo 4: *Ballacraigne. A 1<sup>st</sup> gear right hander approached along a winding undulating full bore stretch at about 130 mph (210 kph)*
- Photo 5: *Glen Helen, about 10 miles from the start. Again this is a deceptive photo; it's taken flat out in 1<sup>st</sup> gear. This is where Ron Miles crashed in the Junior TT*
- Photo 6: *13<sup>th</sup> Milestone or rather the approach to the 13<sup>th</sup> Milestone. This is where I crashed in the Junior TT. I hit the bank on the outside just before that cottage and slid around the next bend. All these photos are deceptive as the bends don't look sharp enough to fall off if you tried. Actually the 13<sup>th</sup> is approached at about 110 mph (175 kph).*
- Photo 7: *Kirkmichael is a lovely fast 1<sup>st</sup> gear sweep again with a full chat approach. This is a great part of the circuit as you weave at full noise through the streets of Kirkmichael with little brick cottages built right down to the edge of the road. Kirkmichael is a lovely little town.*
- Photo 8: *Ballough Bridge. This is a real hump. First gear (60 maybe 70 mph) approached at full bore and you really have to be on the right line here. The bike goes what feels like a couple of feet in the air, and again the suspension bottoms out at both ends when you hit the deck.*
- Photo 9: *Parliament Square. Approached from the road on the extreme right, 1<sup>st</sup> gear and very slippery .... greasy when it's wet; tar melts when the sun shines. Then around the next left hander also in 1<sup>st</sup> gear.*
- Photo 10: *Ramsay Hairpin. I'd never realized that it was a pretty as this photo shows, as I'd always been too busy hard on the brakes. This is the start of the "mountain section". You climb very steeply after the left hand Ramsay Hairpin up to Waterworks (1<sup>st</sup> gear right handers) and then on up to "The Gooseneck" another 1<sup>st</sup> gear hairpin but this time a right hander.*
- Photo 11: *Taken down from The Gooseneck over Ramsay Bay which is on the opposite side of the island to Douglas.*
- Photo 12: *"Guthries". Hughie Guthries memorial on the right. Still climbing very steeply.*
- Photo 13: *"The Bungalow. The approach to the bungalow is a series of blind sweeping right handers, and this is the area where the mist and fog can get really thick. In two of the practice periods I could see hardly anything and I just choofed along in 1<sup>st</sup> gear following the white lines.*
- Photo 14: *Windy Corner and well named! Just about the highest point on the circuit although the approach is slightly downhill. It's a 1<sup>st</sup> gear sweeping right hander. Incidentally all the gears I've quoted are what I used .... I reckon guys like Surtees who know the circuit well use top gear on some of these ... their speed though some of these blind sections is awesome.*
- Photo 15: *Creg-n-baa. a 1<sup>st</sup> gear right hander approached down hill at really high speed. From here you go down another full bore bit, round a brute of a left hander (Brandish - I hated that one!) and then full bore down towards*
- Photo 16: *Hillberry in the distance. Fast 3<sup>rd</sup> gear for me on the 500 and top on the 350. From here up towards Cronk-n-mona then on towards*
- Photo 17: *Sign Post, a 1<sup>st</sup> gear corner then on the Nursery Bends and*
- Photo 18: *The Nook which is a steep downhill 2<sup>nd</sup> gear approach to*
- Photo 19: *Governors Bridge, then down a very slippery adverse cambered left hander, up a steep hill then a sweeping 1<sup>st</sup> gear right hander onto the Glencrutchery Road and then on to start another 37 mile (60 km) lap.*

The official Australian 1960 IOM team had been nominated as Bob Brown, Tom Phillis and Ron Miles, all of whom knew the TT course much better than I did. As it happened Ron crashed in the Junior TT and had to withdraw from the Senior TT, and I was then nominated as the

third member of the official Oz team for the Senior. It is a sobering thought that by mid 1962 I was the only one of that 1960 TT squad still alive. Bob was killed later in 1960 at (I think) Solitude, Germany, Ron was killed in 1961 at the Ulster GP in Ireland, and Tom was killed in 1962 at the IOM after winning a 250 cc world Championship the year before. The fact that I survived was more due to good luck than good management, as I shall get to later.

Apart from being long races (300 km) which ran for a couple of hours, riding the IOM was hard physical work because of the number of times the bikes have to be picked up at high speed from almost down on the road on one side to the same on the other side. Few laymen appreciate that to do that the bike handlebars have to be thrown inwards, which would appear to turn the bike further into the turn, but which instead rotates the bike in roll in the opposite direction. It takes quite a bit of physical effort to do at high speed and fast enough to stay on line.

After a few all too short practice sessions I was lined up on for the start of the 1960 Junior TT on Wednesday 15 June. All was well for a few laps until I misjudged the direction of one of the blind bends approaching the "Thirteenth Milestone". At close to 180 kph I was heading for a grazing impact with a stone wall. I managed to throw the bike onto the road before hitting the wall and was left skidding down the road while the 350 Manx hit the wall and bounced off shedding bits of fibre glass fairing and other bits. Fortunately I missed hitting the wall but had shed a lot of skin. After I'd staggered back onto my feet an elderly lady leaned over the stone wall and asked me if I'd like a cup of tea!

I had just one day to get patched up and try to find a new fairing to fit to my 500 Manx for the Senior TT on Friday 17 June, as at that time I'd only had one fairing to fit both bikes. I was told that a firm at Peel on the other end of the Island were making new fairings so I hastened there on Thursday to buy one of the new lovely looking Peel fairings in a bright red colour. We got that all fitted up on the bike and I was ready, much bandaged, for the start of the Senior TT on "TT Friday". The Senior TT was a great disappointment for me as the gear lever on my 500 Manx broke on I think the second lap through what turned out to be a faulty production weld. I had no option but to lick my wounds and watch the rest of the race from the sidelines.

It was time to meet up with Margaret again and for us both to head back to work. I'd been able to cover the time for Karlskoga , Chimay and the IOM from the generous leave 4 week RAE leave entitlement plus extra leave collected through overtime. However whilst I would be able to race at the English race meetings including Brands Hatch and Mallory Park on weekends, I'd need more leave to cover time later in the year to go to Ireland where I'd nominated for the 1960 Ulster GP and the Leinster 200.

Fortunately a lot of overtime was available for me at the time at the RAE. Wind tunnels supported test models on pylons attached to a balance under the floor of the wind tunnel working section. Most wind tunnels, including the smaller tunnel at the RAE and the 9' x 7' tunnel I'd working in at ARL in Melbourne, pivoted the model on the top of the support pylon so that it was free in pitch. The rear of the model was then supported by another thin strut which allowed the pitch angle of the test model to be varied. The balance itself could be rotated in yaw, which then allowed the lift and drag forces and pitching moment on the test model to be measured through a range of yaw angles .

By contrast the RAE 11' x 9' tunnel had what was called a virtual centre balance. Instead of the top platform being mechanically fixed to

the lower part of the balance, it floated on a part-spherical well and was supported by high pressure air to form an air bearing. The centre of curvature of the part sphere was in the centre of the tunnel working section where the CG of the test model would be located.... hence the term "virtual centre" balance This meant that it was capable of measuring side force and rolling moment as well as lift, drag and pitching moment. It had the additional advantage that the test model could be attached rigidly to an upright pylon that itself could carry high pressure air into the test model. That facility was critical to tests being undertaken at that time on various methods of lift augmentation including jet flaps for enhancing the low speed lift of short take off and landing (STOL) aircraft. More particularly for me, it was critical to tests being undertaken to optimize the roll control of the vertical takeoff "Project P127" which came later to be known as the Hawker Harrier "jump jet". The prototype "Jump jet" was undertaking initial flight development trials at the time and the data from our 11 x 9 wind tunnel was critical and high priority.

And so it was that we were able to travel to Ireland for a couple of weeks in August 1960. The Ulster GP was run at Dunboyne just outside Belfast and the pit area was alongside a farm. Margaret and I had just camped our van when the next door farmer asked us if we'd like to camp on their farm and join them for meals. It was kind offer that we accepted. When we joined John Irvine and his wife for dinner the wall of their living room was almost covered by a huge portrait of the English Queen. The conversation very gradually got around to where we were married. When we said we were married in a Presbyterian church we were greeted like long lost brothers and sisters. We needed to carefully avoid letting on that we were both agnostic and had never been in any church since the day of our marriage. Sectarian violence was already festering in Northern Ireland and the farmer and his wife were clearly delighted that we were nominally on "their side" and their kindness and hospitality was overwhelming. While we were there the local policeman was called to the assistance of an elderly lady a few miles down the road, only to find that the house had been booby trapped and he was killed in the explosion.

I scored a fourth place in the Ulster Junior (350 cc) GP and shortly after the Senior GP event we were preparing for the trip to Southern Ireland for the Leinster 200 events. I completed writing my third "streamlining" article for The Motor Cycle when we were in Ulster. Before we left for Southern Ireland, John Irvine the friendly farmer tentatively asked if he and his wife could travel with us. It was clear that they had never ever crossed the North/ South border before, and doing so in convoy with us would be a big adventure for them.

We arrived outside Dublin for the Leinster 200 event. We stopped at a quiet petrol station and asked the way to somewhere we could camp for a while before race practice started. The owner of the station said that he'd be happy if we parked in an area alongside his garage, which we did. Northern Ireland was pretty depressed in those days and Marg and I were fascinated that in the several days that we camped by the garage, there was only a handful of customers for petrol or service. We spent some time exploring Dublin and the surrounding countryside.

I got a 3<sup>rd</sup> place at the Leinster 200 in the 350 cc event but remember little else other than the fact that there was a lot of rain and that at one point on the circuit my bikes were aqua-planing so badly it was difficult to hold them upright. I do remember that one of the competitors slipped off at that point and the bike caught fire. After a little more sight seeing, Marg and I headed back to Northern Ireland and caught the ferry back to England.

I don't recall the detail of most of the races I had that year in England. I do recall riding at Brands Hatch one Saturday and then driving overnight to another race meeting at Aintree the next day where I scored a 4th place. Marg drove most of the way to Aintree while I caught up

on some sleep on the bench in the cargo bay of the Thames van alongside the two bikes. That was memorable because Margaret picked up an Air Force guy who was hitch hiking in the rain, and who was totally unaware that I was asleep behind him in the cargo bay of the van. At one point I woke and leaned over into the front of the van and asked Margaret where we were. She said that the guy nearly jumped out of his skin!

I rode at Mallory Park shortly after we got back from Ireland after the Leinster 200 races.. Mallory Park was a short 1.3 mile (just over 2 km) circuit that the English riders knew like the back of their hand. The heats were run over 5 laps and each were over in just over 3 minutes. I was lucky to make the finals!

In the last week of August I travelled with Cabby Cooper to compete at Snetterton which was a 2  $\frac{3}{4}$  mile (4.4 km) circuit that used part of a war time airfield. I'd had a lot of experience riding airstrip circuits in Australia and I was very pleased in a field of the top UK riders to finish 4<sup>th</sup> in both 350 and 500 heats, and 4<sup>th</sup> in the 350 final. I got a very bad start in the 500 final but managed to get back to 8<sup>th</sup>. Cabby was delighted!

Snetterton also was memorable to me because Derek Minter hit a bank with his shoulder and hand, and only just managed to recover to keep going. He completed another 12 laps to win the race and then he fainted as soon as he got back to the pits. He seemed to have lost his little finger when he'd hit the bank. When the ambos looked hard, his finger had in fact been dislocated and was folded back under his palm which was why Derek had thought it had been knocked off. The medicos at the local hospital got the finger back into joint and put splints on to hold it, and Derek flew off to Italy the week after to compete at Monza.

The last race that I had in 1960 was in Lincolnshire in the North East of England for the 1960 Cadwell Park Championships. Cadwell Park was located around a pleasantly treed area with nice sweeps and small hills. It was a lovely little circuit. I got a 6<sup>th</sup> place in the 350 cc event but unfortunately I crashed on my 500 Manx and broke my right wrist. It was dark by the time I got out of hospital with a plastered wrist and Marg then had to drive the loaded van mostly in the rain all the way back to Guildford.

Since I was now assured of new Manx Nortons for 1961 by virtue of the deal with Cabby Cooper, I set about at the end of 1960 with the help of my Farnborough mates to arrange shipment of my two 1960 Nortons back to Australia for sale. One huge advantage in those days when most overseas travel was done by ship was that relatively bulky and heavy stuff like motorbikes could be shipped internationally for minimal cost if a paying ship passenger could be found to declare them as personal luggage. I sent my bikes to Jimmy Guilfoyle who agreed to either keep them or sell them for me. Both bikes had been incredibly reliable over the 1960 season. The only problem that I'd had over the whole 1960 season was one broken hairpin valve spring which on the Manx engines could be simply replaced without dismantling anything.

Margaret and I had booked a skiing holiday in the Cairngorm Mountains in Scotland over the Christmas period and I was hoping that my wrist would be out of plaster by then. We had both skied before in Australia but were well out of practice so we had booked ski lessons. It was around that time that Margaret announced that we had an unwelcome pregnancy to plan around. We decided to wait until after the skiing holiday to firm up on revised plans to 1961.

We traveled north via Edinburgh where we spent a few days, and we arrived at our booked hotel and ski lodge at Carrbridge, near Inverness at the top of Scotland just before Christmas day 1960 in light snow. On the way from England it had been increasingly hard to change gears on the Thames van. This was a problem that our friend Alan McBeath had also experienced with his Thames van. It was a result, as I recall, of a circlip holding the rear main bearing coming out of the circlip groove and allowing the rear main bearing to slide forward. I knew how to fix it but I was not looking forward to working under the van on the roadside in the snow. Nevertheless I did that on Christmas Eve in the main street of Carrbridge and the van was back in driveable condition by Christmas Day. It is a reflection on the UK motor industry that that same problem persisted on Thames vans for many years without as far as I know any remedial action by Ford.. We were subsequently to have the same problem when we bought a Thames van when we got back to Australia and I remember repairing that one by the roadside near Parramatta, outside Sydney.

Come Christmas Day we were surprised to find everyone in Scotland back at work. We'd not appreciated that Christmas Day was not a holiday in Scotland. The main holiday around that time in Scotland was New Years Day. We really enjoyed our ski holiday although the snow was harder and generally more icy than we'd been used to in Australia due to the very cold winds blowing in from the North Sea to the east of the Cairngorm Mountains.

We left Carrbridge to return to Guildford early on New Years day, in light snow and very cold conditions. The roads were icy and with a bank up of piled snow on each side. I was driving very cautiously but at one point the van slowly slid sideways on the ice and the left hand front corner hit the soft banked snow on the roadside. The van slowly turned through 180 degrees, hit the snow bank sideways and slowly rolled over off the road and landed upside down on its roof on a snow bank about 5 feet below the road level. Things were a bit of a mess in the back of the van but Marg and I were unhurt and we were able to climb out through the van doors. We were sitting in the snow by the roadside working out what to do next when a local guy came by. He offered to give us a lift to the next town but warned us that getting a tow truck would be very difficult as few Scots were sober on New Years Day after their New Years eve revels. However we did manage to find a tow truck to come and recover the van and somehow get it back onto the road. I guess he'd had a lot of experience! The van was almost undamaged, and it restarted OK so we able to head back to Guildford, and then back to work - me with the RAE and Marg with the Taxation Office in Guildford.

## THE CONTINENTAL CIRCUS

and Cabby Cooper

Margaret's "little bundle" had survived a multitude of her tumbles on the Scottish ski slopes and then a car roll over so it seemed that he or she was proving to be bullet proof. We now needed to seriously assess our options for a revised schedule for this 1961 season. Eventually we decided to work with Margaret's suggestion which was that she would book a passage on a ship for Australia leaving Naples in Italy in May so that she could have our new infant at home with her parents, that we would attend what races we could before then, hopefully at Pau in the south of France, and then make our way to Naples via Switzerland, Venice, Florence and Rome. I could then continue with my planned racing program and meet her back in Australia later in the year. (Knowing the risks we ran, Margaret had always ensured that she held enough money of her own to pay her fare back to Australia. She also knew for certain that if the worst happened to me, she was assured of support by both her family and mine.)

One of the jobs that I had at the RAE at that time was to design and specify a "moving ground" for the 9' x 11' wind tunnel so that the ground plane underneath a test aircraft could be moved at the same velocity as the wind tunnel airstream. This was very important in studying ground effect, and most importantly on the design of various devices to augment low speed lift for short take off and landing (STOL) aircraft. One of the few moving ground rigs in Europe was at Stuttgart University where it was used mainly for auto testing. I'd already visited Stuttgart and a number of transmission belt manufacturers and was well advanced with my design. One feature of my design was arrays of small holes connected to several internal chambers so that the air pressure under the belt could be locally raised or lowered depending on what uplifts or downloads were being imposed on the test side by the system under test. I needed to complete all that and get the drawings and details into the RAE workshops, which I did, before I left the RAE.

I also had to start work on the series of technical articles that I had agreed with Vic Willoughly to write for The Motor Cycle that year. The first of those was published by The Motor Cycle on 21 December 1961 and was titled "*Peeping into Ports. Secrets of internal airflow laid bare: energy losses explained: front brake cooling*" by Trevor Pound A.M.I.E.(Aust), A.F.R.Ae.S. The second titled "*More about Breathing*" was published on 28 December, and the third titled "*The Plenum Chamber*" was published in the The Motor Cycle on 4 January 1962. That third article explained the benefit of properly directing air into a sealed chamber upstream of the engine carburettors. That principle was used many years later on sports and racing bikes when it was called an "air box".



Jimmy Guilfoyle was never one for prompt payment of bills and by early 1961 I was getting increasingly concerned at having received no payment from him for my 1960 bikes.. So I wrote to Mum and asked her to drive to Deepdene and talk to Jim. Mum was an attractive, petite lady just five feet tall with a soft voice .. but very determined. She would have left Jim quite amicably but she had his cheque for both my bikes in her purse. Our mother was quite a lady!

My entry for Pau in early 1961 was accepted, the offered starting money was reasonable, and at last the Nortons and all our gear was loaded into our van. We spring cleaned our Guildford flat in preparation for leaving it for the last time. We

opted to sleep in our sleeping bag for our last night in the flat so that cleaned sheets would not be soiled. What we had not realized or counted on was that our down filled double sleeping bag had been hit with battery acid when the van had lain upside down in Scotland, and we had not used it since. We saw nothing amiss when we climbed into it, but later in the night we woke with feathers everywhere after the weakened bag had come apart. Spending half the night removing feathers from almost everywhere in our bedroom was certainly not a welcome task.

We had booked a flight across the Channel in one of the newly operating Bristol Freighter air services which would easily accept our loaded van and eventually we drove onto the aircraft, crossed into France, and headed for Pau. Pau was a large town in the extreme south of France, just north of the Pyrene Mountains that separated France from Spain. The race circuit was a sort of "round the houses" layout about 3 km a lap in length. The race meeting was combined car and motor bike meeting and Jack Brabham and Jim Clark were among the car entries. The car practice and the bike races were on one day, and the final Pau GP races for the cars was on the following day. The cars were run over 100 laps, about 300 km, but I don't remember the length of the bike races.

I was having problems at Pau with the right wrist that I'd broken at Cadwell Park. I had very limited movement and I could not fully open the throttle twist grip in one motion. It took a bit of tricky movement across a couple of fingers to get the throttle wide open without releasing the twistgrip at any point. But it was OK on a pretty flat circuit like Pau and I was pleased to finish 3<sup>rd</sup> in both the 350 cc and the 500 cc motorcycle events. That was a great start to the 1961 season. Jack Brabham in his Cooper Bristol made the fastest practice time with Jim Clark second in the car races, and Jack won the Pau GP on the next day.

Marg and I left Pau for the start of a short holiday together before she was due to leave from Naples by sea on the "FairSky". We travelled from Pau to Geneva (Switzerland) then Lausanne and then spent time in the lovely valley near Lucerne with its historic enclosed bridge. Our stays at Lucerne and Innsbruck were the favourite parts of our journey. From Lucerne we travelled to Venice via Liechtenstein and the Dolomite Mountains, and from there to Naples via Pisa, Florence, Senna and Rome, camping at stops along the way. Parting at Naples was not a happy day for Marg nor me, but one consolation for Margaret was that she was suffering badly from cystitis at the time and getting medical treatment on the FairSky was to be a relief. About three weeks later she was welcomed at Station Pier in Melbourne by two sets of very loving future grand parents.

I had decided by then not to contest the 1961 IOM TT races but to concentrate instead on events in Europe. My next race was an event at Genoa in Italy, not too far east of Monaco. It was a race that took in part of the lido along the sea shore of Genoa. I think the event was called the "Circuit del Lido". Ken Dobson, one of my old Preston clubmates had flown in from England to meet me in Genoa and travel with me for a while. I've no recollection whatever of my race results at Genoa although Press reports wrote that I was lying 4<sup>th</sup> and about to pass into 3<sup>rd</sup> place when "a spark plug failed". I don't remember that! After the Genoa races Ken and I travelled to Milan where signs advertising the "Milan Fair" were everywhere. We eventually set up camp in my van in the parking area of the Fair.

The Milan Fair was an eye opener. We saw motor bikes and products that we had never seen before. Apart from those Italian bikes that

were well known like Motor Guzzi, and Ducatti, there were scores of products from smaller Italian bike manufacturers. I was particularly attracted to a little Rumi scooter and a lovely 250 cc single cylinder Aermacchi circuit racing bike. I think Ken Dobson bought one of those Aermacchi's before he went back to Australia.

I was entered for a race meeting at Litteral in Yugoslavia and that was the next stop, this time with my friend Brian Moy from the RAE for company.. I'd been warned by the security officers at the RAE to avoid all the Eastern bloc countries but prize money for the Litteral races was good, I'd been offered good starting money, and the timing suited me. Litteral was just on the East side of the Italian-Yugoslavian border not far from the holiday town of Rijeka and is in what is now called Croatia. The circuit was very hilly and that was the first time that I experienced real problems with the right wrist that I'd broken at Cadwell Park. At one point the track had a very sharp 1<sup>st</sup> gear right hand bend followed by a steep uphill exit. Manx Nortons had a a very high 1<sup>st</sup> gear and on corners like this it necessary to feed in engine revs and slip the clutch to keep the bike accelerating. I was not initially able to twist the throttle twist grip far enough and fast enough to do that, and at least once in practice I stalled the bike on the exit to that corner. Fortunately the race regulations for practice were loose enough that I was push started by spectators to enable me to restart up the exit hill apparently without securing any pre-race penalty. I must have sorted out a better wrist action by the end of practice because I won the main 500 cc event in a very good time.



The problem with winning money in Yugoslavia at that time was that it was against the law to take out of the country more money than you came in with, and even if you could the Dinah had very little value in the West. So we filled up with as much fuel as we could and bought as many necessities as we could but we still had Dinahs to burn. I'd been told that it was possible to illegally sell Dinahs at highly reduced rates to foreign visitors at the popular tourist town of Rijeka, and in spite of the huge personal risk, that is what I did. In retrospect it was a really stupid thing to do and I was lucky not to be arrested. But come the day before we were due to leave we still had surplus Dinahs so we booked into the most expensive hotel in the town. We had a huge marble floored suite that had a balcony overlooking the Adriatic sea, and at dinner in the evening we had a gypsy band standing by our table and playing for us. It was a massive contrast to the rest of our Circus life!

I had entered for Magny-Cours in France in late June and that was our next stop. The 350 and 500 cc races were both to be run over 50 laps which was probably around 250 km each. The weather on race day was quite hot and I remember standing on the starting grid, rocking the bikes back and forth on melting tar that was sticking to my boots and the bike tyres. According to media reports I scored a second place at Magny-Cours but I don't remember on which bike.

Somewhere around that time I also raced at Chimay where I scored a 3d place and at the Austrian GP at Salzburg where I got 4<sup>th</sup> in the 500 cc event.



Salzburg was memorable because the circuit ran off concrete motorways onto the linking cobblestoned exits from the concrete roads. Cobble-stones when wet were diabolical on a motorbike!

It was at Salzburg that I had my first and only engine failure on the 1961 Manxs. Norton had introduced "Dykes" piston rings for 1961, and at Salzburg the Dykes rings failed on my 350 Manx in practice. Starting money at all these events depended on actually starting in the nominated races. Without starting money for at least two bikes we could not cover expenses so it was critical that I "started" in both races in spite of a damaged engine on my 350. So that I could "start" in the 350 cc event I knocked the points of the spark plug together so that the engine could not fire, and I took out one side of the joining link on the rear chain so that the chain would come off as I push started the bike off the grid. As it happened the rear chain hung together for much longer than I had expected and I was totally knackered by the time that it eventually fell to the ground! But I had started and then could get on with riding the 500 a little later in the day. Then I had to rebuild the 350 Manx engine which was a job that I'd never done before!

The Dutch TT at Assen on 24 June was my next event and this time I had my friend Mac from the RAE for company. A major memory of Assen was waking up from our camp in the pits in race morning to find

the total area around the whole circuit alive with spectators. It was race crowd far greater than I had ever seen in my life. All the top riders, Hailwood, Hartle, McIntyre, Reed and Hocking were competing. I was pleased to get 8<sup>th</sup> in the 500 cc event and 10<sup>th</sup> in the 350 cc event.

I also had a great race at Mettet in Belgium and got one win and a 2<sup>nd</sup> place but I don't remember the date.



Immediately after Mettet, Mac and I left for Finland where I had secured a ride at Helsinki. The ferry trips between Sweden and Finland gave us some well earned time to relax a bit.

Helsinki was a bit of a surprise on the first practice lap because at one point the bitumen surface changed to gravel and then back to bitumen a bit later. My bikes were so loose on the gravel that I bought a different set of front tyres for both bikes to make control a little easier. At Helsinki we competed for the first time that I could remember with Russian riders mounted on Czechoslovakian JAWA bikes. I recall nothing of my placings at Helsinki but I presume the promoters were happy as I was invited on the spot to another race meetingS in Finland later in the year.



On 2 July I competed at the Belgian GP at Frankorchamps in what was one of my most memorable races of the season. The 500 cc race was run over a length of 211 km. There were 29 competitors including international stars John Hartle, Bob McIntyre, Phil Reed, Mike Hailwood, Hugh Anderson, and Gary Hocking on the 4 cylinder MV Augusta. I was to finish in an equal 8<sup>th</sup> place and I was delighted with that being near the top of all the private entrants.

The week after the Belgian GP I competed with my friend Ron Miles at Adriatic GP at Preluk in Yugoslavia. The Preluk circuit was between the towns of Opatija and Jadrana and part of the circuit ran along an unprotected cliff edge overlooking the Adriatic sea. Although that was quite dangerous, we didn't think much about that in those days.

In the main race I got a really bad start. Push starting a 500 Manx Norton with a high compression engine and an 80 mph first gear was quite demanding. The trick was to pull the engine back off compression before the start, and then run like mad with the clutch in when the flag dropped, hit the side of the seat with your backside just when you dropped the clutch, and NEVER use any throttle until the engine fired. Then you had to pull in the clutch to allow the engine to rev, and then throw yourself over the seat and then you were away! Misjudge any of those and the engine would backfire, and you had to stop, drag the engine back off compression, and start all over again!

After the bad start in the 500 race I was not quite able to catch Ron who won the event and I was 2<sup>nd</sup>. But I did achieve a new lap record with a lap speed of 136 kph. It was at Opatija that I received news that Margaret had given birth without difficulty to our son John on 9 July.

My next race was at the Circuite de Vitesse at Vesoul (France) in early August. Vesoul was just west of Basle on the intersection of the Swiss and German borders. Cabby Cooper had flown over from England to join me. The 350 and 500 cc races were both to be run over a length of slightly over 100 km. I was lying 4<sup>th</sup> about ¾ way through the 350 cc race when I crashed through a straw barrier and hit a steel post. According to a media report my bike fell on top of me. I remember little else apart from being strapped onto the external litter of a helicopter and with severe pain in my left arm. I partially woke on an operating table in the Vesoul hospital and then remembered little more for the next couple of days. It appeared that I had sustained severe internal injuries including a ruptured spleen, and that the doctors at Vesoul had called in a specialist from Strasbourg by helicopter for an emergency operation. I was extremely lucky. Apart from the IOM I don't remember medical helicopters at any of the other circuits I'd ridden on. Without rapid helicopter transit to and from two hospitals it is certain that I would not have survived.

Ron Miles stayed with me in France after I was injured at Vesoul. There was no real need for him to stay with me as he had his own time demands re getting back to Ireland in time for the Ulster GP ... but he did, and I have always been grateful for that. It was Ron who was able to talk to my wife Margaret who at that stage was back in Australia with a young baby, and to keep her informed of my progress in hospital. Marg has often said over the years how grateful she was for the really kind way that Ron talked to her at that stage..... she said that his opening remarks were that "Trevor has had an accident but he is OK", and then he settled her down by providing details and assurances. He was one of my best mates and a really lovely guy.

When I awoke in hospital and had wounds dressed for the first time after the operation I was astounded to find that I had large stainless steel clips right down my stomach and abdomen. I thought I looked like Frankenstein's Monster. Part of my amazement was because I thought I had only injured my left arm.

I was still pretty groggy by the time I was released from the hospital at Vesoul. Cabby had suggested that I stay with Cis and he to convalesce at Esher as soon as I got back to England. Ron stayed with me until I was just fit enough to leave the Vesoul hospital and it was his suggestion that we drive in convoy back the English Channel where I would head back to England to convalesce, and he would head to Belfast in Ireland. I was grateful for that, as I was not in good shape for a long drive. Our separation at the Channel was the last time I saw him. I was devastated when I heard of his death in Ireland.

After a couple of weeks of convalescence, firstly in Cabby and Cis Copper's "mansion" at Esher, and then at Farnborough, I worked with my Farnborough friends to prepare my Nortons and bulky personal gear including Avon tyres ready to go to Australia by ship on the Southern Cross in mid September as the personal luggage of Ross Piranni, a fellow Aussie that I'd met in England in 1960.

By then my employers at the ARL in Melbourne were making noises about me getting home as soon as possible as they had a major anti-submarine project that needed all available experienced effort.

An article in Sports News in the 24 August 1961 issue of The Motor Cycle reported that *“one of the most popular and likeable ambassadors Australia ever sent to Britain, Trevor Pound, was flying home next Monday to Melbourne and the son he has not yet seen.”* I was chuffed with that!

So it was that I flew home on a Royal Air Force aircraft, landed at Parafield Airfield in South Australia, and then caught a train from Adelaide to Melbourne to be met at Spencer Street Station by my family and friends. It was great to be with Margaret and family again and to see my son John for the first time.

## HOME AGAIN: 1962

and Philip Island, Bathurst and Lakeside

One of the first acts after I returned home was to sell my 350 Manx to Ron Matthews, one of my mates from the Preston motor bike club. I hated doing that because racing with just one 500 cc bike was like racing with one hand behind your back. You'd sit around until three quarters of the way through a race program while guys with 350's were getting familiar with the track. However I really had no option. I needed to settle some debts and get things moving on the new house that Marg and I wanted to build on our 10 acre country block.

We spoke to a variety of house builders and I prepared drawings for the house that we wished to have built. Because Marg and I had opted for a very simple family only wedding before we'd left in 1959, Margaret's father Duncan wished to help us with funds that he said he'd otherwise have spent on a less simple wedding than the one we'd opted for in 1959. Those additional funds from Duncan, in lieu of big wedding in '59, were a huge help to Marg and me in getting the house that we wanted.

The "new" project at ARL was one of the largest undertakings ever undertaken by the Defence Science and Technology Organisation (DSTO) and was a very high priority. It involved the design and development of a radically new anti-submarine missile system which was to go onto a new RAN Frigate fleet. The system was called IKARA. What was new with IKARA was a missile that could carry a self homing torpedo and could be directed in flight after it was launched as new submarine "fix" information was received. I was involved in the wind tunnel testing of the missile and the torpedo parachute release system, and then later in analogue simulation of the system.

With the house plans and the IKARA work falling into place I could prepare for the race meeting at Philip Island on New Years Day 1962. Someone, and I regret that I've no idea who, offered to lend me a 350 Manx to ride at Philip Island and for a while thereafter. Practice at Philip Island was the first time that I had even sat on a race bike since my near fatal crash at Vesoul a few months earlier. But things fell quickly into place and I was pleased to score a 3<sup>rd</sup> place on my borrowed bike behind Tom Phillis, the current 125 cc World Champion on a Manx Norton, and Kel Carruthers on a 1960 ex works four cylinder Honda.

The Senior GP was definitely the race of the day. This is what Motor Cycle News reported: *Trevor Pound led the way on the first lap with Ken Rumble, Tom Phillis, Jack Ahearn and Ike Chenall all on 500 Manx Nortons breathing down each others necks.. On the second lap Phillis passed Pound and Rumble to snatch a narrow lead and the gap to the fourth rider widened considerably. For the next six laps the three leaders circulated in such close company that it was difficult to separate them in riding ability or lap times, all three being credited with a 2m 14s lap of the 3 mile circuit, two seconds faster than Tom's old lap record. Rumble hung on for few more laps and gradually dropped back to finish third to Phillis and Pound.* It was good result for my first race back in Australia just months after a major crash in France.

The 250 cc ex works Honda that the Honda Motor Company had given to Jack Carruthers to prepare for Kel was far cry from anything else competing in Australia at the time. It was faster than a 350 cc Manx Norton and on tight circuits it was a match for the 500 Nortons. Kel was to dominate 250 cc and 350 cc races in Oz on that Honda for the next 4 or 5 years.

At Bathurst at Easter '62 Kel and I continued our duel in the NSW Junior TT but the Honda was too quick for my borrowed Norton on the long Bathurst track. Nevertheless I was only 10 seconds behind Kel at the finish to gain 2<sup>nd</sup> place and I was pleased with that. I was not so pleased in the NSW Senior TT when I ran out of fuel well into the race and when well in the lead. I guess I was just trying to do too many things at once that day and I forgot to top up the fuel tank. I did have the consolation of setting a new Bathurst motor bike lap record at 2 m 48s

The Editor of Motor Cycle News invited me to write my impressions of my 83 mph (133 kph) record lap, and this is what I wrote and what was published in MCN.

*“ The Mt Panorama track at Bathurst is possibly one of the best road racing tracks in the world. At 4 miles (6.5 km) to a lap it would be regarded by current standards as pretty much ideal in length. With a climb of about 600 ft to the top of the mountain sections, including some fairly stiff gradients and then a long down hill Con-rod straight, you needed a lot of power to make the most of it.*

*My impressions of lapping Bathurst at 83 mph must start with the bike. At Bathurst my 1961 model Norton pulled a 4 to 1 top gear, and 7300 rpm down Con-rod straight gave it a maximum speed of about 145 mph ( 235 kph) with a dolphin fairing. The 4 speed box then gave ratios of 7.1, 5.3, 4.4 and 4.0. Maximum speed in the gears was about 81 mph (130 kph) in 1<sup>st</sup>, 109 (174 kph) in 2<sup>nd</sup>, and 132 (211 kph) in 3<sup>rd</sup>. The motor is fairly tractable but the torque didn't really come in until about 5000 rpm. With all stops out you have to slip the clutch a bit if the revs drop below this and you've run out of lower gears.*

*Now for a lap of the track. From the start in Pit Straight brake hard and drop back into 1<sup>st</sup> gear for the left hand Hell Corner. I don't take Hell Corner well. I tend to drop in a little early and then have to shut off slightly on the exit so that I don't run out of road. Up the Mountain Straight, into 2<sup>nd</sup> about at the end of the pits, over the crest of the hill about 200 ft above the pit straight, in 3<sup>rd</sup> gear now, and approach the sweeping right hander of Quarry Bend at about 120 mph (195 kph). This for me is one of the most difficult bends at Bathurst. I'd like to drop back to 2<sup>nd</sup> and stay on the power all the way up the very steep slope to the cutting, but I can't do that without running out of road on the outside. Unless Quarry is taken really well in 2<sup>nd</sup> to keep the revs up, there is no power left for the following steep climb up the cutting ... so you must change back to 1<sup>st</sup>. On a Norton you can't do that down change in mid corner on a right hand corner because the footrest and gear lever are scraping on the road and you can't get your foot under the gear lever to hook it up. So for me it's back to 1<sup>st</sup> before I enter Quarry, around Quarry at about 7000 rpm and then change into 2<sup>nd</sup> half way up the hill, keep well to the right and then throw over hard and take the sweeping left hander at full bore in 2<sup>nd</sup> gear.*

*We are now heeled well over at about 95 mph (150 kph) and heading for the outside of the track, and approaching the very sharp, steeply inclined left hander at the Cutting. A lot of riders swing into the Cutting much too early and have to shut off a bit on the way out; which is*

*disastrous on a steep climb like this. I try to finish up running parallel with the edge of the road on my way out of the fast right hander approaching the Cutting, brake hard and then go right up to the big tree which overhangs the outside of the road. Then throw the bike hard left and on full power to keep "on the megaphone" around the bend and up the hill. If I can get around the Cutting at about 60 (100 kph) I'm happy and I don't have to touch the clutch. Slower than that and a quick grab of the clutch is necessary to keep the engine on power.*

*Swing back into the centre of the road, into 2<sup>nd</sup> and full bore around the next right hander, still climbing and now about 500 ft above the starting straight. The next right hander is more difficult because of a severe bump on the inside and I shut off a whisker before taking it in 2<sup>nd</sup>. I'm always too busy watching the little white fence between me and the sharp drop over the edge to look at the rev counter but the engine is pulling pretty hard. Then we reach the crest of the hill, 600 ft above the Pit straight, and swing around the left hander with speed approaching 100 mph (160 kph). Out to the edge of the track and quickly approach the Hollow - a fast left hander. I have to shut off slightly here because of a nasty bump on the inside, and then take it full bore in 2<sup>nd</sup>. (3<sup>rd</sup> on the 350 Manx) . I have to lean well in over the bike here to stop the footrest hitting the bumpy road.*

*Straighten up and approach the hump that obscures the McPhillamy Park bend. From the outside of the road I try to cross about ¼ way in which brings me on line for McPhillamy. I ease off a little before dropping into McPhillamy and again have to lean well in to try to keep the left footrest from hitting the road over the bumps. I come out of McPhillamy at about 6800 rpm in 2<sup>nd</sup>, and then drop into 3<sup>rd</sup> on the approach to Skyline.*

*I always feel confident and fast over Skyline and through the Esses. I approach Skyline, a blind right hand sweep from about the centre of the track, head straight for the inside bank and change back to 2<sup>nd</sup> to go over the crest of Skyline at about 6000 rpm and around 90 mph (about 150 kph) . This line keeps me dead straight while I'm "airborne" and then I can brake hard and change back to 1<sup>st</sup> while I'm still running straight, and before I enter the first left hand bend of The Esses from well on the outside with the cliff edge on my right. This brings me nearly parallel with the outside of the road between the first and second Ess and I can apply a quick squirt of power before dropping into the second Ess, the sharp right hander.*

*The following left hander with the adverse cambered dip is the hardest bend, but the trick is to approach it from the extreme right, do most of the turning early, and take the dip nearly upright - hence the very wide approach on the second of the Esses, and then another quick squirt of power before the left hander. As soon as the dip is cleared and you are lined up to clear the low safety fence it's full bore around the next right hander (quite a physical effort here to pick the bike up from laid down on one side to back over onto the other before you the bumpy patch) then into 2<sup>nd</sup> and full bore through the next left hander. I brake for the next sharp right hand bend approaching Forests Elbow and usually hook back into 1<sup>st</sup> before banking into the corner. This corner is really a bit quick for 1<sup>st</sup> gear on a 4 speed Manx, but the alternative is to take it in 2<sup>nd</sup> and then try to dig your toe between the gear lever and the road when banked fully over to get back to 1<sup>st</sup> before entering the left hand Forests Elbow. Using 1<sup>st</sup> gear on the right hander I can keep well over to the right and apply power down the steep slope and then brake hard for Forests Elbow.*

*You must be careful not to drop into Forests Elbow too early as it is a long 180 degree bend that drops away down hill. If you enter at the right place you can heel well over and accelerate all the way round the bend. The acceleration down this steep slope is pretty rapid but the following left hand sweep is no trouble and it's full bore all the way down Con Rod straight. Actually the 1.25 mile (2 km) Con-rod straight is not much of a rest because the three big rises (about 300-400 metres apart) obscure the down hill track and you have to be very careful at around 150 mph in case a slower rider being lapped is on your line. This is real hazard at Bathurst.*

*Over the last hump, airborne for a moment, and then focus on the 100 yard markers rushing up pretty quickly, then at about 250 yards sit straight up and brake hard for Castrol Corner. I usually let my knees stick well out sideways past the edge of the shell to breakup the airflow and get a bit more drag in the initial stages of braking. Ease off the brakes a little, down into 1<sup>st</sup>, keep well over to the right and then heel over into the left hand Castrol Corner. Once around it's flat out up the finishing straight, into 2<sup>nd</sup> before the starting grid and off on another lap."*

The next time that Kel and I met was at Lakeside in Queensland in May 62. I had again been lent a 350 Manx and I had my own 500. I liked Lakeside which was a sweeping, undulating 1.5 mile (2.4 km) circuit. Kel and I battled for the whole of the Junior GP which Kel won on the 250 Honda by just a few metres. I won the Senior GP from Kel and in the process established a new Lakeside lap record at 66.8 seconds which was more than 4 seconds better than the old record. I also won the "A" grade scratch race.

I won the coveted Harvey Wiltshire Classic at Darley on the Queens Birthday weekend in June on my 500 Manx but I've no recollection of results from most other races in 1962.

What was memorable was travelling to Bunbury in West Australia for the Australian TT on Boxing Day 26 December 1962 and then returning immediately after the Bunbury races to race at Winton in Victoria on New Years Day 1963. I had my 500 Manx and a promise of a ride on Harry Gibson's 350 Manx when we got to Bunbury. It was not really such a smart idea bearing in mind that the trip involved around 8000 km travel mostly over corrugated unmade roads in my well used 1948 Holden car of suspect reliability! With two mates, one of whom turned out not to be able to manage driving the very nervous and super light handling of the Holden with a laden trailer, Paul Reed and I virtually drove non stop both ways. The engine boiled so much that we had to carry the Holden bonnet on the trailer for most of the trip, we went through about half a dozen trailer tyres, and at almost every stop we had to push start the car and trailer. At one stage on the Nullabour plain there was no water for about 1200 km.

As it turned out the practice on Harry Gibson's 350 Manx went well, but it struck a problem before the race and it had to be scratched, and I was so tired that the best I could manage in the Australian Senior TT was 5<sup>th</sup> place. Immediately after the Bunbury races on Thursday, we loaded up and headed off on Friday for another grueling drive to make Winton in the north of Victoria in time for practice for the Victorian TT on New Years Day. We really were crazy!

In parallel with all that Marg and I had finalised the plans for our new house on our Yarrambat property and the house was finished just prior to Christmas Day 1962. It was ranch style home clad with oiled Western Red cedar, with full length windows along the North side facing the Kinglake mountains.

The house was in fact lucky to survive until that Christmas because just after oiling the redwood exterior of the house, one of the painters threw a cigarette butt out of the window of his car as they left, and that started a local bush fire. Fortunately a neighbour saw the flames, called in the local CFS and the fire was put out before it reached the house still wet with oil.

The house had a great view of the mountains and we loved it. One of the house features was windows that covered almost the entire north wall which faced the mountains. With fluorescent lighting in the house at night, it was an irresistible attraction to the large Bogong moths that bred in the mountains and they would home in from the mountains at light speed and smash into the windows with volleys of loud crashes.

## NEW INTERESTS

1963 -1965

In 1963 the Royal Australian Air Force (RAAF) were looking at options for a new "jet trainer" aircraft. One of the potential suppliers was the Government Aircraft Factory (GAF) at Fishermans Bend who had a jet trainer design on their drawing boards. One of the stipulated RAAF requirements was that the aircraft needed to have acceptable spin characteristics because spin recovery was an essential element of flying training. In a spin the ailerons that normally controlled the aircraft roll were ineffective because the wing was stalled. The typical spin recovery technique was stick forward to drop the nose and then apply opposite rudder. However there was potential problem with "modern" aircraft which had a much higher ratio of roll inertia to pitch inertia than had earlier aircraft. It was known that unless carefully sorted out, these aircraft could enter a highly oscillatory spiral dive that was difficult to differentiate from a spin, but the recovery action was very different.

ARL was charged with looking at the problem through tests on a large scale dynamic model of the GAF jet trainer design. Similar work had been done in England and in 1964 I travelled again to Farnborough to review their experience prior to undertaking a program of our own. The trip to England was again in a Royal Air Force aircraft, but this time in the new De Havilland COMET, the first all-jet commercial aircraft and whose rate of climb astounded me. Shortly after that several COMET aircraft disappeared in flight through a problem which turned out to be explosive de-compression of the cabin due to fatigue caused by the repeated pressurising and depressurising of the cabin. When I returned to ARL we built a large 1/5 scale model of the GAF aircraft with controllable ailerons, elevator and rudder. Radio control in those days was still in a pretty primitive stage so our model was restricted to simple two step control. The plan was to pre-set the controls to drive the aircraft into a stall and spin, drop the model from a helicopter, and then to initiate a single step control via radio to elevators and rudder to put them into the normal spin recovery mode and then film the recovery or otherwise that followed. We fitted a recovery parachute into the top canopy of the model that could be activated via radio by a compressed gas from an on board gas cylinder. The long cable from the test model to the helicopter was attached to the helicopter via what was called a bomb slip that could be activated from on board the helicopter.

Our first trial was at Avalon just south of Melbourne using a hired commercial helicopter. I went with the helicopter pilot and we took off OK and then lifted the test model off the ground. When we at about 1000 ft of altitude the helicopter hit winds that caused the test model to sway on the attachment line, and to affect the control of the helicopter. The pilot got into a panic (at least as I saw it) and demanded that I immediately trigger the bomb slip and release the cable. From my viewpoint that was disaster as the ground crew were not ready, so I hesitated. I thought the pilot was going to hit me! So the bomb slip was triggered, the test model plunged to ground and buried itself about 3 ft into the Avalon clay. It was a total disaster. Shortly after that the RAAF decided to buy the Italian Macchi jet trainer.

The IKARA anti submarine project had by then entered a new stage with a United Kingdom decision to purchase the system for the Royal Navy. I'd moved from wind tunnel engineering into work on a very complex analogue computer simulation of the total IKARA system. That computer complex took up two whole walls and centre consoles in a large room about 40 ft long and 20 feet wide. It was capable of simulating every aspect of the missile launch from a slewing launcher on a moving ship deck to total missile in-flight guidance to the point of release of the homing torpedo.

One of my contributions to the IKARA design was a unique clamshell parachute housing. A torpedo, whilst stable under water, had the same tendency to swap ends in air as the “full bin” motor bike streamlining that I described earlier. The problem for IKARA was that after release from the IKARA missile, the tail parachute attached to the rear of the torpedo had only fractions of a second to be deployed before the torpedo would have yawed sufficiently to be damaged by the impact of the shock load of the parachute opening. Wind tunnel tests had confirmed that the normal method of deploying a small pilot chute to drag out the main 'chute was hopelessly slow. My “clamshell” parapack was a device that totally enclosed the main parachute and was hinged behind the main 'chute, so that when released at the front, both halves of the clamshell flew apart allowing the 'chute to be instantly deployed in a short enough time to prevent the torpedo yawing significantly. That pack was used on all variants of IKARA. The simulation activities comprised a very busy work program and a steep learning curve for me.

Margaret and I were busy on “the farm”. We'd bought poddy calves that Marg was bucket feeding, and we'd had a new dam excavated. Our second son Graeme was born on 23 May 1963. After a couple of years that led every day to Margaret driving Graeme to kindergarten at Diamond Creek about 15 km to the south east of our place, and driving John to primary school at Hurstbridge about 10 km north of Diamond creek. We had pretty rough cars in those early days. I had a 1948 FX Holden that I used to tow my bike trailer. Brother Bill had bored it out to 1/4” overbore and fitted Velocette motor bike pistons, plus a hot cam and triple carbs. It went like a shell but the brakes and handing were terrible. Marg drove a variety of not so new cars in order from Morris Minor (awful), Mini (not so flash), Fiat 1100 (nice until I left the handbrake off one day and it ran out of carport, down the hill and into a tree), Renault Dauphine (lovely), and then a Renault R8. We loved the R8.



The land was pretty bare and we had a lot of work to do in planting trees. I bought a kerosine powered Fordson tractor to assist with some of the hard work.

I bought a little Suzuki trail bike and used that on a variety of cross country trail rides organised by the Preston motor bike club. Slot cars racing also was a rage at that time, and after the general meetings of the Preston motor bike club, a group of us would go to a local slot car track with our specially “tuned” slot cars. The owner of the track would then close the doors of his shop at around 11 pm, pull out his own cars and we would seriously race until about 1 a.m.

I was offered a 350 Manx from one of my friends in West Australia for the Easter Bathurst Junior TT but unfortunately it didn't arrive in time for the start of the event. For the Senior TT I decided to run with “full bin” streamlining. I was on pole for the start of the Senior TT, but when the flag dropped my engine refused to fire and it was more than a minute later that I was able to get going, far behind the rest of the race field. I was able to get past most of the field but couldn't do better than 5<sup>th</sup> by the end of the race. In the process my bike was clocked at 153 mph down Con Rod straight.

After Bathurst Marg and I went with Ron Mathews, who had bought my 1960 350 Manx, to Lakeside. Ron and I both crashed and we both broke our collarbones. We spent most of race day in a Queensland hospital. Marg had to arrange loading of our bikes at the track, and then drive both Ron and me, and our bikes, back to Melbourne. She had never driven a car with trailer before.

1963 and 1964 were not a good competition years for me! That may not have been surprising as I was the Secretary and Life Member of the PMCC at the time with responsibility for organising race meetings at Darley and Victoria Park, Ballarat as well as some scramble events. Victoria Park was a very difficult race to organise as it needed many, many volunteers to staff the various (and sometimes quite dangerous) corners of the track. I remember at the last Victoria Park race meeting having officials chasing me for direction re some crisis when I was lined up on my 500 Manx on the grid for the main race. In reality I was trying to do too much at once.

I did score a lot of places including 3<sup>rd</sup> in the Junior TT and 2<sup>nd</sup> in the main Unlimited event at Bathurst at Easter '64, but no race wins. I guess that after a decade and a half of single minded dedication to motor bike racing, I was finding that other interests were starting to intrude. At Bathurst 1965 I announced my retirement. I sold my 1961 500 Manx Norton with much regret. I genuinely loved that bike. It had not had one mechanical problem in all the time that I'd ridden it since I bought it in England in 1961 and raced half way round Europe, Scandinavia and Australia.



That should have been my last race but as it happened my brother Bill was racing at Winton in 1966 and I went along for the ride. One thing led to another and Bill offered me his 350 Manx to ride in the 350 event, where I was placed 2<sup>nd</sup>. Kel Carruthers also offered me a test ride on the ex-works 250 cc Honda on which he had dominated 250 cc and 350 cc racing in Australia for the past six years. The instruction from Kel was to limit revs to 16,000 as the bike by then was "getting a bit old" ... but it was still a great test ride. Bill offered me a ride on his 500 Manx in the main race which I was glad to accept! Unfortunately the engine seized coming into the Winton Esses and I crashed in a big way! I was transported by ambulance to the Preston and Northcote Community Hospital (PANCH) just north of Melbourne for treatment of abrasions and injury to my right elbow.

Bill advised me later that a circlip on his Norton's piston had broken and the bits had been picked up and seized the oil pump ... hence the engine lock up and my hospitalisation.

Margaret told me years later that that day was the closest she'd come to divorcing me. I think she was half serious! Whilst the prognosis from PANCH at the time was that my elbow was not broken, that proved in subsequent years not to be the case. The impact had in fact split the end of my elbow cap bone in two and the detached halves progressively broke into splinters that worked into the area around the Ulnar nerve ("funny bone") in my right arm, and also locked my arm so that it would not completely straighten nor take a high "push" load. That effectively was the real end of my motorbike racing.

## CANBERRA

### Soccer and the rally Renaults

My work on IKARA for the Royal Navy led in 1967 to a promotion to work in Department of Defence Canberra in a small group managing Naval Projects. Marg and I were in the process of arranging the sale of our farm and the move to Canberra when we were devastated by news that Mum had terminal stomach cancer, and Marg's father Duncan had terminal lung cancer. I immediately arranged to defer our move to Canberra for twelve months.

Duncan died in July '67 with typical fortitude after a stay in the Peter McCallum cancer clinic. Mum died in February '68. Mum was a typical stoic to the end. She arranged a time of the day that she would like visitors, and had a single camp bed placed in the lounge room of their house in Preston so that she would not receive visitors in her bedroom. Every day, she would get up from her bed before her nominated visitors time, get tidy, apply discrete makeup and slip into the bed in the lounge room, chat away brightly to her many visitors for the allotted hour, and then after they left she would virtually collapse. Marg and I stayed with Marg's mother after Duncan died, and then we moved in with Dad after Mum died to help him settle down. He was devastated and never really recovered from the loss of Mum. This was not a happy period for any of us.

We spent the last half of 1968 on regular visits to Canberra to take part in Government land auctions. In 1968 I bought my first ever new car. A BMW 2000 sedan. BMW was not a name known at that stage to most Australians and mine was, I think, the first BMW 2000 sold in Victoria. I knew the brand well from the lovely pre-war BMW coupe, and also through the BMW motorcycle range. There were no speed limits on Australian roads at that time and the BMW was quite happy at 100 mph (160 kph) most of the way to and from Canberra. Finally we bought a large block in the new Canberra suburb of Macquarie in the new district of Belconnen which was just being developed. Marg and I sold our little farm at Yarrambat and moved to Canberra in December 1968 to take up my new job with the Defence Department.

I had in mind doing a bit of rallying in Canberra, and before we left Melbourne Bill had modified our Renault R8 with four AMAL motor bike carburettors and other gear to suit it for rallying. I joined the Renault car club shortly after we arrived in Canberra.

The work on the UK IKARA project involved on-going liaison work with various British government and Royal Navy officers and there were regular cocktail parties to entertain visitors either organised by the British High Commission or the Australian Government. I didn't mind these much but they were not Margaret's cup of tea.... she hated making small talk to strangers. After each of these functions we'd go to our car and spend about ½ an hour scraping ice off the windows and windscreen so that I could see to drive.

I remember one day we were entertaining all the international visitors at a Commonwealth Heads of Government meeting (CHOGHAM) at a barbeque at a lovely rural location near Queenbeyan just outside Canberra. Half way through the afternoon, one of the African leaders approached me and asked very quietly, "where were all the guards"? Sometimes we forget how lucky we are to live in Australia.

Margaret and I both loved Canberra and the climate suited us. We could drive in a couple of hours to Thredbo to ski, we could bush walk in the mountains just west of Belconnen, and we could swim and sail at Batemans Bay a few hours east of Canberra, and we could sail on Lake Burley Griffin in Canberra about ½ hour drive from our house. At that time I had a Mirror Dinghy sailing boat, and I taught both John and Graeme to sail in the Mirror.

One day John came home from School with a note inviting any parents interested in setting up a soccer club in Belconnen to attend the school after hours for a meeting. Soccer was well established in the older areas of Canberra but Belconnen was brand new. We were interested because we were not keen on the rugby that was played in Canberra, nor the Aussie Rules, so I went to the inaugural meeting. There were just six of us! Undeterred by the small turn-out we formed a Committee and developed a plan of action. We would walk every street in the then five suburbs of Belconnen, and we would talk to parents and canvas interest and form a list of interested players. That took weeks but eventually we had more than enough interested kids to form teams from Under 7 to Under 12. We registered the Belconnen Junior Soccer Club with the appropriate authority, including our team colours of teal blue and white. I took on the role of sourcing team kit, originally in a simple form of teal blue tee shirts and white shorts.

Our new house was suitable for entertaining quite a few people and we ran several functions there and elsewhere to raise money. We started training, I was team manager of what would be our Under 9 team that included John, and eventually the Belconnen Junior Soccer Club was ready to take part in the 1970 Canberra wide junior soccer competition. My Under 9 team had 15 keen kids and I decided from the outset that I would play them all at every match, with kids taking turns to play just half a match to form our 11 player squads. The kids were quite happy with that. I quickly learned that as long as the “ground rules” were spelled out and adhered to, the kids would go along. That was not the case with many parents. As the playing season progressed and our team was doing very well, I was put under pressure to play only the best players. I wouldn't do that so I was doubly pleased that our Under 9 team won the first premiership for the Belconnen Junior Soccer Club.

Another lesson that I learned over the years that I managed junior soccer teams, was that if the kids were told that “the Umpire was the boss and we had to do what he said”, the kids would invariably go along with that. Not so many parents! I was often embarrassed by my kids readily accepting umpire decisions while their parents wanted to fight with the umpire. When I moved on from junior soccer, the club had a membership of well over 1000 kids. The Belconnen Soccer Club is now a major sporting club in Canberra and I'm pleased that the original six founding members including me are acknowledged on a plaque in the entry to the large Belconnen Soccer Club club rooms.

Our new house had a very large rumpus room. At one stage Bill bought the whole track and equipment from a slot car track that was closing down in Melbourne. We installed it, less a couple of long straight sections, in the rumpus room. It took up the entire room and there was barely enough room on one side to stand with the slot car controllers. After a couple of years we donated the whole system to a local charity group.

I loved rally driving in Canberra. There are huge tracts of pine forests around Canberra and the local rallies all had road sections joining into long forest sections. The forest sections could be quite demanding and in one rally my navigator and I thought that we had to sweep right

at a forest road junction. At the last minute my navigator called LEFT and we swung into the sharper left turn with too much speed. The forest roads were fairly regularly graded for fire access and there was always a pile of dirt on the outer edges of the tracks. When I realised that we were going to slide sideways into the dirt bank, it was certain that we would roll over and down a very steep heavily treed slope. I figured that it would be better to straighten up and drive over the edge and take our chances. So that's what I did and we shot over the edge of the road upright but in mid air. By a totally unbelievable bit of luck the Renault landed about 20 ft below the road on the root mass of a large pine tree that had been blown over, and Richard and I were able to crawl out unhurt.

The final demise of the little R8 came in a subsequent rally when we heard a sharp crack that sounded like a rifle shot but we couldn't feel anything amiss so we kept going. What had happened was that I had run over a bent up length of construction steel reinforcing rod on a forest track and it had flicked up behind the rear wheels and gone through the inner mudguard. Then it had hit the edge of the oil filter on the rear engine and broke the oil seal so we lost oil.. On the next big hill climb the engine seized and we had to be towed home. Another big and never to be forgotten lesson! When pushing hard you don't look often enough at gauges. Fit warning lights! Every race car that I've owned since then has had bright warning lights.

My job in Canberra was the first totally desk bound job that I had ever had, and I found that I need more exercise apart from the 5 km runs that I did every day at lunch time. So I enrolled for a 2 year panel beating course at the TAFE just opposite my work place. I followed that with a year of spray painting and colour matching. All of which proved totally compatible with rally driving!

After the R8 I bought a nice little Renault 1300 cc R8 Gordini. The R8 Gordini was produced by Renault as a rally car. They had a totally different cylinder head to the standard R8. It had short pushrods and hemi combustion chambers, a good camshaft and twin DCOE carburettors and were real flyers. R8 Gordinis had won a lot of National rallies in those years in cars prepared by Bruce Collier and driven by Colin Bond. My problem was that I loved the car too much and I couldn't take beating it to death over the stones and rough stuff in our rallies. So I bought another standard R8 and set about converting it to take a 1600 cc Renault R1600 engine, and hand welding all the body seams. The R1600 engine was direct production development of the R8 Gordini configuration - it was a lovely engine. That was great little car. I was never a great rally driver but I did enjoy it.

Around that time the motor sport clubs in Canberra were offered land near the Fairburn airport by the Government for construction of a combined motor sport facility, and I was elected by the Renault Car Club as their representative on a combined club Committee to design a layout for what could be built on the offered land. The venture was doomed from the start because it was a Government requirement that the eventual facility would cater for all the local motorsport categories. The need to cater for drag racing on the same site as circuit racing and moto cross turned out to be totally unrealistic on the site that was offered and the project eventually came unstuck. Some years later a part of the site was setup by the Canberra Motor Cycle club for moto cross and trials initially under the name of Karma Gutza Park, but later changed to Fairburn Park.

Canberra had, and I guess still still has, a system of compulsory vehicle inspection every year at Government test stations. My R8 rally cars all had full harness seat belts that were attached at the rear to strong points on the rear parcel shelf. However, because the cars had 4

doors they were regarded by the Rego authorities as cars for four passengers, and they decreed that full harness belts would impede access of the rear passengers. So every year, for each of my R8 Renaults, in spite of the fact that they never ever carried rear passengers, I had to remove the driver and passenger seat belts and go through the inspection process with no seat seats. The cars then complied with the "Rules" because Renault R8 cars were produced in years prior to the mandatory introduction of seat belts which meant they could be registered without seat belts. The logic of all that always continued to puzzle me!

I'd been having on-going problems with my right elbow as a result of my bike crash at Winton in 1966. Bone chips had worked their way around my ulnar nerve and anything that touched my elbow was like an electric shock. I was fortunate in being referred by our Canberra GP to a great surgeon in Sydney. He removed the bone chips but also trans-located my ulner nerve from the outside of my elbow to the inside. He was concerned that the normal location of the nerve was likely to have a progressive block in blood supply as my elbow collapsed further, and that would eventually restrict movement of my right hand. The outcome of that operation was great. I still can't straighten my right arm, but apart from that I've never had any further problems.

John and Graeme had by then both learned to ride on my little Suzuki trail bike. One day Graeme, who was still quite young, fell over on the bike and the hot exhaust pipe fell onto his leg. He had a very bad burn but would not admit to it hurting much in case he was not allowed to ride the Suzi again. I bought a Bultaco Sherpa trial bike and we all joined the Canberra motor bike club. Suzuki had just brought out a new RL 250 trial bike so I bought three of those from Melbourne so that we could all compete together. We rode in many observed trials in Canberra and across New South Wales over the next couple of years, and the kids won several Junior trophies. The RL250 was not a great trials bike and we progressively modified the frames of John and Graeme's bikes to shorten the wheelbase, increase the ground clearance, and change the steering head angle. Years later the same bikes were used, with varying success, to round up sheep and cattle on our property in the Adelaide hills.

One of my friends had a ski boat and we went with them many times to Lake Burrinjuck near Yass in New South Wales. John and Graeme, but particularly Graeme, became very keen on water skiing so after a while I bought a Swiftcraft Stiletto ski boat with a 130 hp outboard engine. I bought the boat on a freezing winter morning from a guy in Eucumbine in the Snowy Mountains. The edge of Lake Eucumbine when I tested the boat was covered in snow and there was ice around the edges of the lake. The water was so flat and calm that that there was very little impression of speed from the boat. I liked the Stiletto and was reasonably happy to drive it for the kids to water ski, but I never took to the water skiing.

My friend Mac from Farnborough in England had a job that brought him to Australia a fair bit at that time. His wife Pat told him once that every time he came to see me in Australia he came home either badly sunburned from water skiing or gravel rashed from falling off our trials bikes. But we are still friends!

## **GALADRIEL** and the Australian "A" class catamaran championships

In July 1973, Dad was killed in a road accident. It was a silly accident really. Dad was on his way to a Saturday afternoon Bowls tournament and was not wearing a seat belt. He was an old time truck driver and he had some sort of hang up about seat belts. His car was struck at a minor street intersection by another car entering on his left. It did not appear to be a heavy impact but was enough for the driver's door of Dad's Holden to fly open, and Dad fell out and hit his head on the road. Had he been wearing his seat belt he probably would not have been injured at all. It was very sad. Dad had been very good to Bill and me and when I look back we probably did not appreciate enough all that he did for us, including the lead in to all the mechanical skills that stayed with Bill and me all our lives.

By that time, John and Graeme had both learned to sail on our Mirror dinghy but were soon looking for something more exciting than that. Our first update was to a 12 ft Hawk Surf Cat. The Hawk could sail with two crew, three at a stretch and was our first experience of sailing using trapeze harnesses. We sailed it at Lake Burley Griffin in Canberra and also in the surf at Batemans Bay in New South Wales.

We quickly supplemented that with a 14 ft Windrush catamaran and sailed both in the surf at a few locations in NSW. Sailing a catamaran with one hull flying and one or two crew on trapezes was pretty exciting stuff for all of us. Many times we'd dip the nose of the Windrush into the water and the sudden "stop" would send Graeme on the trapeze flying right around the mast to hit the water on the lee side of the boat.

I was keen from there to build a 16 ft Mosquito that we could sail competitively either solo or with a crew of two. However John was keen that we should build a couple of "A" class catamarans that were sailed solo. The international "A" class cats at that stage were the fastest sailing boat that could be had. It was development class that had no rules except that the total length had to be 18 ft, no more than 7'6" wide, and carry no more than 150 square feet of sail. We decided to build two so we could both sail for about a year with the cat crews in Canberra and then compete with them in the Australian "A" class catamaran championships at Blair Gowrie on Victoria's Port Philip Bay.

We built the first catamaran in our rumpus room. The technique for building the hulls was one that came to be called "tortured ply". A flat jig was built that conformed exactly to the designed top face of the catamaran hull. In our case 18 ft long by just 1 foot wide. Two separate halves of the hull were then cut from a lightweight marine plywood like Gaboon, each about 2mm thick. These were then stitched together with copper wire and forced down flush with the top of the deck jig with timber spreaders to hold the sides apart and up against the jig sides, and a timber transom fitted across the aft end. Then all the seams were filled with resin impregnated glass fibre. Foam bulkheads were then glued in, plus strong cross bulkheads to carry the two 3" diameter aluminium tubes that would form the cross beams, and other strong points to carry the mast shrouds. Finally a 3mm thick deck from Gaboon ply was glued and nailed with bronze nails to the hull sides and covered with FG tape. Although formed totally from two dimensional plywood sheets, the resulting hull was very much three dimensional.

Finally my cat was finished. Hull painted black with gold metal flakes and a red sail on a 30 ft mast. I called it Galadriel from the "Lord of

the Rings” book that I'd just finished reading. It was lovely boat. In my first trial of Galadriel in Lake Burley Griffin I didn't leave enough room at one stage to go about . What happened then was the boat had the wind behind it and before I could catch it the boom went right out, the wind caught the big sail on its 30 ft mast and lifted the rear of the boat and the rudder clear out of the water. So totally out of control Galadriel and I flew up over the sand on the edge of the lake much to the amusement of people on the shore. Pretty embarrassing really!

Progress on the second boat was slow and it was clear that we'd never get it finished in time for the sailing season that we needed before the Australian Championships. So we cut our losses and bought a second hand “A” class called Scorpion that John would sail.

The year was 1975 and the first oil crisis had hit every one. The big impact in America was on V8 cars and their price hit rock bottom. My brother Bill was travelling back and forth to the USA and we had the opportunity to import cheap V8 sports cars. Mustangs, Corvettes, Firebirds, etc. We could register LHD cars in Canberra and I finished up with a LHD V8 Chev Camero push button convertible. I'd never been an American car fan but that Camero was pretty nice and I got to really like it.

However what I really wanted was one of the big USA vans to use as a tow vehicle. I liked the Chrysler van range because unlike the Chevs and Fords the Chryslers had the front wheels in front of the doors and from my viewpoint had a better weight distribution. So Bill bought me one of the mid length Chrysler vans, with 318 Cubic inch V8 engine, Torque Flyte auto, air conditioning etc, and mag wheels. It was just over 6 ft wide inside the cabin and we could sleep crosswise in it. I repainted it white with bright orange graphics on both sides and across the bonnet. Not content with that Bill built me up a 360 ci motor with Edelbrock manifold, four barrel Holleys, and a hot Crane cam. The van went like a rocket although you couldn't change up from 2<sup>nd</sup> gear until speed was around 60 mph ... who cared! It would do over 100 mph. We could drive to the Snowy Mountains in no time flat, sleep comfortably in the van and then ski until it was time to come home.

I built a two tier rack for a trailer so that we could carry one catamaran above the other to wherever we wanted to sail. So when it was time to head off to Blair Gowrie in Victoria were all ready with the cats loaded onto the trailer. However on the day before we were due to leave the Chrysler developed a brake problem. There was no way that I could fix it or get it fixed in time, so I decided to tow the trailer and the two cats to Victoria with my BMW 2000 instead of the Chrysler. All was well until on a long down hill stretch on the south side of YASS the trailer got out of control and we could feel and hear the trailer and the car tyres screeching as the trailer went from half way across one side of the road to half way across the other. Eventually after more kms than I care to think about, I got it under control. That was the closest that I'd ever been in my life to a very nasty high speed rollover.

We did get to Blair Gowrie after a much subdued drive, and we joined the “A” class crews in boat preparation and trials. Finally John and I launched into the Championship series. An “A” class cat is a single handed boat that is very difficult to handle particularly when first heading off shore. There is a relatively huge sail that needs to be controlled with the boom sheets. At the same time the lee side centre board and the rudder have to be dropped as soon as the water is deep enough, and you have to be ready to swing out quickly on the trapeze to stop the cat over turning. But once under way and hanging out on the trapeze with one hull flying, one hand on the rudder and the other handling the main

sheet, there is nothing like it! John did better in the Championship on Scorpion than I did on Galadriel, but we did finish in the 1978 Australian "A" Class catamaran Championships. On the fastest sailing category in the world. That was quite an achievement for us both.

In July 1978 our family was booked into a ski lodge at Bogong in Victoria for long weekend. John Rogers, one of my mates from Victoria was a member of the ski club that owned the lodge and he'd booked us all in as a present. On the day before we were due to leave Canberra, we received advice that Marg's Mum had died in Bendigo. The funeral was to be in Bendigo in 4 days time. Marg suggested that she drive immediately to Bendigo in the BMW, while Graeme, John and I went on with our ski holiday in the Dodge van and then we drive to Bendigo in time for her Mum's funeral. That's what we did. On the day before the funeral we checked what time on the following morning the roads from the ski lodge would be open and we were ready early next morning to head off on the 200 km drive to Bendigo. Unfortunately on the next morning there had been very heavy snow fall during the night and the snow plough was snowed in and we were all stuck. By the time the snow plough was dug out and the road opened it was clear that we'd be very lucky to make Bendigo in time for the funeral so it would need to be very fast run. It was! The Dodge was running at close to 100 mph (160kph) on the back roads for much of the trip. We arrived at Bendigo just in time for the funeral but with no time to change our gear. The Dodge still had 6" inches of packed snow on the roof when we arrived. But we did make it.

My mate John and his girl friend Michelle were both killed a couple of years later in a multiple car crash on ice on a highway in Switzerland during a skiing holiday. We were very fond of them both, and we named our new little border collie pup "Mish" in memory of them both.

## ADELAIDE

the Advanced Engineering Laboratory and Hillberry farm

Late in 1978 I was given an opportunity to take up a position as group leader of a design group at the Advanced Engineering Laboratory (AEL) at Salisbury, South Australia. The group was called Airborne Structures and Instrumentation (ASI). I had worked closely with the AEL engineers on the Canberra management of several of their projects and they seemed very keen for me to join them. It was an ideal opportunity for me to get back into design work which was my real interest. We did have some problems in coming to a decision because Graeme had just started as a panel beating apprentice at Hall, near Canberra, and John had little interest in moving from Canberra. When I raised these issues with AEL, they offered that if I would come to AEL they provide apprenticeships to John and Graeme subject to them both passing the entry requirements for AEL apprenticeships. It was a very generous offer as the AEL apprenticeships were world class.

We visited AEL early in 1979 so that I could assess the ASI position and so that John and Graeme could sit for entry tests to AEL apprenticeships. I was happy with what was being offered for me, John was offered an Apprenticeship in Electronics, and Graeme was offered an apprenticeship in aircraft Metal Fabrication. However when we returned to Canberra, the boys decided to turn down the AEL apprenticeships and stay in Canberra. That was big problem for Marg and me. At that stage John was 18 years old, unemployed and not living at home and Graeme was 16 years old with friends that he could stay with. The professional opportunity for me was unique and unlikely to arrive again. We felt that the boys were simply being difficult, which was pretty much the way they were most of the time at that stage. Marg and I then made the decision to move to South Australia initially without John and Graeme; they could follow later if they wished. It was big decision and whether in retrospect it was the right one we have often debated. It certainly was right for Marg and me.

So I accepted the AEL position and Marg and I and bought a 100 acre grazing property in the Adelaide hills just east of AEL. The property was called "Steep Acres" and it had an old 1860 vintage stone house plus a huge machinery shed and a separate hay shed. It had irrigation pipes fed from two separate deep well bores; one located at 480 ft below ground level and the other at about 400 ft. Both powered by 3 phase 20 hp submerged axial pumps. It had a creek running through the bottom of the property and also a frontage onto the Little Para River. A major attraction for us with this property was the large lock up machinery shed because I needed to house a complete workshop including lathe, bench drills, bench grinders, welding gear and other equipment, as well as a Renault R8 rally car, an 1968 BMW 2000, a 1928 Dodge sedan, 3 boats, three motor bikes and a V8 Dodge van . The house had been unoccupied for almost a year when we bought it, and the first night that Marg and I slept there we were kept awake by the crashing of rats as they fought in the underground cellar



and everywhere else in the house. I moved immediately into the “new” house but Marg went back to stay in Canberra until she sold our Canberra house. We bought poddy heifers just as we had many years previously at Yarrambat, and we set about establishing a small breeding herd of beef cattle. We changed the name of the property to “Hillberry” after one of my favorite sections of the Isle of Man TT course, and we registered our primary production business as “Hillberry Produce”

We ran a herd of about 20 cross breed cows and an A grade Murray Grey bull and our breeding of yearling calves proved to be fairly trouble free over the twenty years that we lived there. One problem that we did have was associated with the extreme bush fire hazard of this region. What that meant was that we had to graze our pastures hard in the Spring so that we kept down the fuel load on the paddocks during Summer. The flip side of that was that we had to buy quality hay and hand feed our herd right through the summer months.



What we did not know at the time was that within a few years I would have almost full time work contracts in Sydney that would keep me away from Hillberry for most of nearly two years. So the bulk of the work in running our property was done cheerfully by Margaret. We bought a 4WD Italian “hill tractor” that had widely spaced dual wheels at the back: all of which essential on our VERY hilly property. When we bought “Hillberry” it was infested with Wild Artichoke that had really aggressive thorns. Margaret spent most days mixing up herbicide to kill the Wild Artichoke and filling the spray tank on the back of the tractor, then driving the tractor along one of the winding tracks to a safe parking spot. Then she had to leave the tractor running to power the spray pump while she dragged over 100 metres of spray line downhill to where she could access the Artichoke and often wild blackberry and spray them until they were under control. She also fed the cows that she loved, and she once told me that it was “the best time of her life..... beating office work every time!

One unexpected job she had was after we'd decided to have the property “Supered” to improve the pasture growth. This involved having the super phosphate delivered by road trucks to Butterworth Station which was about 20km from where we lived. Butterworth Station had an airstrip that the crop dusting aircraft could land on, and the Super could then be transferred from the bulk truck into the aircraft (maybe about 1 tonne at a time.... don't remember) and then spread in different flights over the course of the day. When the day came to spread the Super, the crop duster guy contacted Margaret and told her that she would have to fly with him to show him the boundaries of our land. She was OK with that as she had done a bit of flying in small aircraft when she'd worked with TAA on regional routes. What she did not know was that the “airstrip” of Butterworth Station was different to anything she had previously seen! The “airstrip” was on the top of a steep hill and was just a relatively straight track bulldozed down through the trees. So the plane was loaded at the top of the hill, then took off down a steep downhill

track, and then each time it returned for a fresh load of Super it had to fly into the steep side of the hill until it could taxi uphill to meet the Super truck at the top of the hill. This was REALLY hazardous flying! But undaunted, Marg flew with the crop duster guy all day until all sections of our hilly 100 acre property were "supered".

Shortly after we moved to "Hillberry" Graeme decided to join us in SA and we travelled to Canberra to pick him up. AEL were happy to re-offer him a metal fabrication apprenticeship and in due course he was awarded top apprentice in metal working. John also joined us after a while and set about doing an adult Matriculation course. He received exceptionally high marks in that and was accepted into an Adelaide University engineering course. He never completed the engineering course.

The ASI group at AEL had many small projects under way in support of the RAAF and we were working closely with RAAF personnel and ARDU, the Air Force Research and Development Unit. The group had a number of problematic projects on its hands. One was a program to improve the life of the Tee lugs that held bombs onto the wings of the F111 aircraft, and another was a cluster bomb project that was designed to attack parked enemy aircraft on runways or revetments. The small cluster bomblets were intended to widely disperse after release from their canister, but in the full scale development trials in drops from RAAF aircraft they were not dispersing as much as ground trials had predicted. Eventually miniature cameras were designed and made in the AEL workshops for fitment into a group of dummy cluster bomblets and air trials with those enabled the dispersion problem to be identified and remedied. This system never went into service.

Mark Wilksch, one of the young engineers working for me in ASI had a keen interest in racing car design and he had developed a mechanical model to plot suspension movements. Mark went on to work in the UK for the Arrow F1 racing team.

Two fairly quick promotions followed for me and by 1984 I was Superintendent of the Trials and Technical Support (TTS) division of AEL with a staff of 350 personnel. TTS were responsible for operation of the Woomera rocket range, computer aided design and fabrication, quality assurance, and environmental engineering. It was as Superintendent TTS that I was nominated to head a review group that was to assess issues between engineers and scientists in relation to development of a new type of submarine towed array. Anyone familiar with the book "The Hunt for Red October" will be familiar with the role of "towed arrays". Ships and submarines use various sorts of active and passive sonar to assess threats and targets. Towed arrays are very long streamers towed, generally behind submarines, that carry arrays of hydrophones. By mounting hydrophones at discrete intervals along a very long streamer it is possible through advanced signal processing not only to identify the unique signature of threats and targets, but also the direction of that input. It is the latter feature that is the major attribute of a towed array streamer.

Leisure time in Sydney had allowed some sailing with friends in Sydney Harbour and I started to look around for a medium sized boat that Marg and I could sleep in. After looking at a range of catamarans and Trimarans, I bought a lovely 7.2 metres trimaran in Brisbane, and John and I towed "Scarecrow" back to Adelaide.



In 1986 I was approached by a major South Australian firm of consulting and project engineers with an offer to work for them. I'd had no thoughts of moving from AEL at that stage but I did accept an invitation to lunch to discuss the offer. Remuneration was not an issue, the salary was very good, but I had concerns about the "matrix management" structure of the firm. In the end I rejected the offer but enough seeds had been sown in my mind to prompt me later in 1986 to resign from AEL and work to set up a small engineering consulting business of my own. Marg and I set the business up as a business partnership registered as ENGMAN Engineering.

One of my friends had recently completed a course and qualified as a Land Broker. He advised us that although our 100 acre "Hillberry" property was covered by a single land title, the fact that the title included six separate and clearly defined parcels of land meant that, under South Australian law, each of those parcels of land could be granted a separate Land Title and was able to be sold separately. This situation had apparently come about because in early years the Little Para River on the boundary of our land was accessed down two marked tracks by stock being mustered in winter between Adelaide and Gawler. Anyway, my friend offered to do the necessary paperwork and in due course we had six separate titles.

We still had a bit of work to do to re-arrange the boundaries of some of these titles to clear the underground irrigation systems that had been installed without any regard to the boundaries on the individual land parcels, but by 1992 we were in a position to sell individual land titles whenever we wished to do so. Marg and I had enjoyed developing this property and we loved our cattle, but the flip side was the fire risk in this very hilly area, and we knew that if a fire started downhill of our house and our stockyards, we would have very little chance of saving either the house or our cattle, particularly since our old house had huge pine trees alongside it.

We had already had a couple of bush fire scares. On one occasion a fire was deliberately started on the roadside in front of our house and in front of the only exit from our house to the road. Fortunately Marg saw the guy light the fire and was able to quickly call me in from another paddock so we were able to maintain some control until CFS units arrived. It took three CFS units to bring the fire under control and by that time it had destroyed a paddock of new almond trees that we had planted and all the above ground irrigation system that fed the almond grove. We had two other fires started in the summer months by lightning and one of those needed water bombing. So the idea of moving to a flatter area and a house with no overhanging trees was starting to have a lot of appeal, especially to Margaret.



## ENGMAN ENGINEERING

and Formula Vee racing

I was fortunate to be introduced by Bernie Rush, the Superintendent of AEL's Mechanical Engineering Division, to the Management of Plessey Australia in Sydney. Plessey at that time had a development contract for a towed array system that was being developed for the Royal Australian Navy.

Plessey were keen to engage ENGMAN under contract and I worked for them for about 3 months in Salisbury before they asked me in 1988 to come to Sydney for about six months. In the end the six month contract was extended to almost two years during which I returned home to "Hillberry" for weekends a couple of times a month. I offered John an opportunity to come to Sydney and work with me and he was happy to do that. Margaret had always been independent and she bore the brunt of management of Hillberry Produce for all the time that I was away. That included weed control and hand feeding cattle with lucerne hay over the summer months. Bales of lucerne hay are very heavy and she did a bit of damage to her back, which fortunately came good in later years. She was able to come to Sydney and later to Canberra in the winter months when we had plenty of feed on our pastures.



While I was travelling back and forth to Sydney we decided to buy a 40 acre property on the side of one of the Murray lower lakes, just upstream on the Finnis river from Clayton. We also named that property "Hillberry". The land had been part of a cattle grazing property and it was totally devoid of trees. We set about a major tree planting program on the property, and with the assistance from Trees for Life and contracted work by the SA Department of Woods and Forests we established about 30,000 native trees including river red gums along the lake edge. Margaret again did much of the tree planting, but this time on much better soil than we had had at One Tree Hill!

We built a large machinery shed and we commissioned construction of a new house. I joined the Clayton Bay Boat Club with the object of sailing Scarecrow from there. The house was completed in October 1991, but for a variety of reasons it was almost ten years before we finally moved in. I did in fact sail Scarecrow from Clayton but I sold the boat in 2003 to assist to

finance an SA race field of the new Formula Vee 1600 cars.

At the end of 1989 there were problems with the Plessey development contract and the contract was cancelled after a report by a DSTO working party. However there were a number of mitigating circumstances and John McGibbon, the only engineer on the DSTO assessment party, issued an "exception report" in support of Plessey. Some of the issues went back to the issues between engineers and scientists on this project back in 1985. In particular the acoustic performance specification was not such that an unambiguous acceptance test could be defined. I also had many concerns and I also wrote a report listing my concerns including the fact that the DSTO proposal to take the development work back into DSTO was contrary to Government Industry policy at the time.

In the end, the development program was not in fact handed back to DSTO but placed under the management of the Defence Acquisition and Logistics Organisation (ALO) who as it turned out had read both John McGibbon's report and mine. So just prior to Christmas 1989, when I was about to return from Sydney to Adelaide, I received an invitation from ALO to join them in Canberra under contract for an initial period of six months which subsequently was extended to almost two years. So again, Marg managed most of the work on Hillberry Produce for the time that I was away.

While I was working in Canberra over this period I bought a new Drew Price Arrow go-kart with a 100 cc Yamaha engine, and I joined the Canberra Go Kart Club. The Canberra club had a really nice kart track not far from where I was living and part of the deal in joining the club was issue of a set of keys to gain access to the track at any time a member wished. It was convenient for me to go there on weekends and sometimes after work. I'd always liked go karts, but the real hassle for me was push starting a fixed gear kart on my own and then scrambling aboard when the engine started. Sometimes on weekends there were kids who had been in minor trouble with the law and were doing Community Service maintaining the track and surrounds. Those weekends were great for me as I always then had someone to assist me to start. I took two DPE karts back to Adelaide with me when I left Canberra. If go karts had been available then with electric start, I may well have gone down a different future path to the one that I eventually did.

One of the outcomes of the ALO management was the setting up of several independent organisations to verify the mechanical and acoustic performance of the array streamer against agreed acceptance criteria. One of those was a mechanical test facility at St Marys NSW, and the other was an acoustic test facility in South Australia managed by the AEL Environmental Engineering Group and with acoustic analysis undertaken by VIPAC Pty Ltd.

In about 1990, the AEL Environmental Engineering Group was being transferred from AEL to Department of Army at Port Wakefield and were unable to continue with the acoustic testing. I had been involved in writing both the test specification and the contract with VIPAC and I was quite familiar with the operation of the facility so I was requested by AOL to return to Adelaide and manage those tests. When the ownership of the mechanical and acoustic test facilities was transferred from the Commonwealth to Industry, I was contracted to write an operations manual for the acoustic test facilities. After all operations had been transferred to Thales Australia I was asked by them to manage the acoustic test facility on their behalf. I would manage the logistics and organise the test teams, and Thales would do the acoustic analysis. By that time the industry emphasis had moved from defence towed arrays to the development of towed arrays for seismic exploration ships.

I worked under various contracts for Thales Australia, and Sercel Australia right up until 2007.

I'd developed an interest in Formula Vee racing when I saw them on display at a Sydney Motor Show in the mid 1980's. Vees had the great advantage to me of having electric starters after my frustrations with push starting my DPE kart! I bought my first Formula Vee racing car in Adelaide in 1991 and I joined the Formula Vee Association of SA. My first car was not too flash but I did win the SA Formula Vee Hillclimb Championship in it at Collingrove in, I think, 1992. My next car was an NG ELFIN that I bought from Keith Poole and which at that time held the lap record at Adelaide International Raceway (AIR). That was a really good car and I competed at Mallala, Philip Island, Winton Sandown, Calder, Amaroo Park (NSW) and Lakeside (Queensland).



In 1992 the Formula Vee Association of Australia was in disarray. There were disputes between NSW and Victoria, and the Victorian Association was refusing to pay outstanding affiliation fees. John Keefe, the then CEO of CAMS, had had to be drawn in several times to adjudicate in the on-going dispute, and when he resigned he had briefed Ed Ritchie, the in-coming CEO of CAMS, that "Formula Vee was in a mess". I was advised of all that directly by Ed Ritchie. I offered, as a sort of independent from South Australia, to stand for the position of FVAA National Administrator and I was subsequently elected. Disputes were settled, I had an excellent relationship with Ed Ritchie, and I held the position for three years until the end of 1996 over a period of relative calm. I would have been re-elected after three years had I chosen to stand again. I was acting pretty much as a national technical director over that period and I wrote and distributed with the agreement of CAMS a Technical Manual that defined precisely how the various FV rules in the CAMS would be, and must be, validated. That overcome the history of disputes that had previously arisen through each State Technical Director having different interpretations on how to measure and validate various Rules, and which had led on several occasions to long delays in issue of awards from the National Challenges.

I was keen at that stage to build my own car so I purchased a Sabre kit from Borland Racing Developments. That was the start of a long association with Mike Borland. When I'd finished the car I offered it to Trent Ulmer to drive while he and his father Gerry were completing a new Scorpion II Formula Vee. Trent competed in my Sabre at the 1997 Formula Vee Nationals at Baskerville in Tasmania.



At the end of 1998 I had an additional personal incentive to work towards an update of the Formula Vee category. I had put considerable effort into the organisation and promotion of the 1998 Formula Vee Nationals at Mallala. We had promoted the event as one which would provide close and exciting racing and we achieved reasonable media coverage. In the event the 1998 Nationals provided nothing of the sort. Frank Haire's car so far out performed all other FV1200 cars that he led easily from the start and he finished about a quarter of a lap in front of the nearest challengers.

CAMS issued a "white paper" titled "Towards 2000" in 1999. That paper proposed among other things the abolishment of Formula Vee and its replacement by a more up to date category. The Formula Vee Association again went into disarray with wild suggestions including taking legal action against CAMS. Paul Venables was the FVAA National Administrator at that time, which was a couple of years after I had left the post. I had a good relationship with Ed Ritchie, the CEO of CAMS, and Paul and I set up a meeting with Ed Ritchie and Tim Schenken to suggest that we believed we could update the FV image with more up to date technology (current Mexican production twin port 1600 cc engine, disc brakes, rack and pinion steering, etc) but we needed to know what CAMS really wanted. The idea of an update to the VW1600 engine had originally been suggested to me at Mallala at the 1998 FV Nationals by Jason and David Cutts, well before we knew anything of the CAMS Towards 2000 white paper.

We were told by Tim Schenken that CAMS were looking for an update that would bridge the performance gap a little between Formula Vee and Formula Ford, and that other potential categories were options that CAMS would assess. We had a feeling at that meeting that Tim was leaning towards a new category, perhaps based around Toyota. We knew that NSW were broadly in favour of an update to the VW 1600 engine, so I met with the Committee of the FVANSW in Sydney to rough out options for the way ahead. We were mostly in agreement except

that NSW wanted to use the old 28 PCI carb from the VW1200 cars, whereas SA wanted to use the 34 PICT carb that came standard with the VW1600 engine. SA also wanted to use a better camshaft (Engel W110) to meet the stated CAMS requirement of enhanced performance..... but on the whole we were working together constructively. Paul and I had also briefed the CAMS Australian Motor Racing Commission (AMRC) who were supportive of what we proposed.

The State FV Associations again went ballistic and succeeded in replacing Paul Venables with a new Administrator that aimed to sue CAMS. Things were going nowhere.

Then I had a 'phone call from within the AMRC suggesting that between NSW and SA we prepare a Business Plan for a new category based on our proposals and with a new management structure. We did that under a joint NSW / SA Commercial-in-Confidence business plan for "Formula First". Canada were already running a FV1600 category using the VW 1600 engine with an Engel W110 camshaft and we talked to their guys. I also talked to a couple of guys in the USA that were keen to get our Formula First proposal off the ground in the USA. One of those was Jim Schings of JS Racing. The USA guys built a test car using the W110 cam and that was the start of Formula First in the USA. We had a nice logo on our Formula First Business Plan and the US asked if they could use that, which was OK with us so that's what they did.

Our Commercial-in Confidence business plan went to the AMRC, but we believe was eventually leaked within CAMS to the FVAA who were still going ballistic. The hero at that time was Ray Filleti in NSW who at his own expense modified his Formula Vee to fit disc brakes and a VW 1600 engine. Ray offered anyone who wished to test drive his car to do so and that offer was accepted by many drivers. That in fact was the genesis of Formula Vee 1600. Not in its final form but at least to demonstrate the viability of the concept. In spite of that, there was no support in the FVAA national association nor in most of the States for an update aimed to meet the CAMS requirement arising from Towards 2000.

The only solution was to bi-laterally introduce FV1600 into NSW and SA ignoring the FVAA and the other States, and that's what we did, knowing that CAMS via the AMRC were supportive of the update. That action was only possible because Formula Libre was a legitimate CAMS category at that stage, and the new cars sneaked in as Formula Libre. The new category had the total support of the members of FVANSW, but was totally rejected by the FVASA. The solution in SA in 2002 was to break from the FVASA and to form a new association; initially as the Entry Level Formula Car Club (ELF) with later name change to the Open-wheel Racing Car Club (ORCC), with a prime objective to facilitate the introduction of FV1600 in South Australia, but also to provide a focus group in South Australia for other open-wheel categories including Formula Ford. ORCC has proven to be a very successful club and at the time of writing had around 70 members.

The new FV1600 had many features, apart from use of the then current production Mexican VW1600 twin port engine, that made it an attractive option and assisted to gain CAMS support. The addition of third tier chassis rails was made mandatory as a safety feature, as was kevlar reinforcement of the body panels on each side of the driver cockpit. Front and rear disc brakes were mandatory, and steering racks were optional. No modification of the standard VW1600 engine, manifold or carburettor was permitted which in one stroke eliminated a performance parity issue that had plagued FV1200 for years. Another major feature of FV1600 was mandatory use of the standard VW 1500 gear box and

its internal ratios. That eliminated the problem of FV1200 that allowed changes of internal ratios and final drive ratio. The latter required FV1200 teams to carry separate “short” and “long” gearboxes to suit different circuits. For FV1600, we specified just one gear box with standard ratios for all circuits.

The challenge for ELF/ORCC was then to quickly get enough FV1600 cars onto the SA grids to form a viable field. We decided that all SA FV1600 cars would have contemporary bodies and for our updated NG Elfin cars we bought Alder bodies from Queensland. Through ENGMAN Engineering I stepped in to update the first SA FV1600 for Trent Ulmer, and to sponsor and offer long term no interest loans and other support to drivers who wanted to update. We set up an assembly facility for FV1600 engines in the workshop of Marion Motors and we very quickly had six FV1600 cars with drivers all ready to compete at Mallala and in NSW.



FV1600 has since proved to be a very successful racing car category, with high numbers of entries in all States. A measure of the success of the category has been the release in May 2010 of new Sabre 2 cars by Borland Racing Developments. Borland are best known for their Championship winning Formula Ford cars, and their new Sabre 2 cars embrace the latest technology from their Formula Ford Spectrum cars. In its first race at Sandown in May 2010 the new Sabre 2 won four races out of four starts and set a new Sandown Formula Vee lap record. The “flip side” for FV1600 has been that the category has since become comparatively expensive and grown away from the relatively simple concept that we had initially envisaged.



## PROJECT FV2000

and a world study trip for our winners

Early in 1999 most tertiary institutions in Australia received an invitation from the Re-engineering Australia Forum to participate in a national engineering innovation competition (NEIC) with an incentive of provision of license free CATIA advanced engineering software to the participating institutions and a \$100,000 prize of a world study tour to the competition winning team. ENGMAN Engineering was approached by Barbara Rossowski, a teacher from one of the SA colleges to assist in working up an SA response to the NEIC. I'd met Barbara previously when I'd assisted her with a small project at her college.

Paul Venables and I, faced in parallel with this with a response to the CAMS Towards 2000 white paper, saw the NEIC as an ideal opportunity to build a development program around concepts that could relate to a major update to Formula Vee, and that that would result in favourable publicity for Formula Vee in the up coming negotiation with CAMS.. Our challenge was to align that plan with "national engineering innovation" when Formula Vee could hardly be classed as innovative engineering. But we thought we could see a way through that.

The formal guidelines for the NEIC specified four essential elements:-

- (1) Bringing together tertiary institutions capabilities in engineering, business and marketing to develop a product that is world leading in it's application.
- (2) E-business technology .... using web technology to bring together skills and capabilities of people separated by distance.
- (3) Adopting a regional centre or country town such that e-business technology can be used to overcome the "tyranny of distance" felt by regional centres.
- (4) Participating educational institutions must adopt a commercial organisation or partner to help develop its innovative project.

Barbara Rossowski had a lot of contacts with the Directors of several of the major South Australian colleges and with Barbara, I met with Maureen Morton, the Director of Regency Technical and Further Education (TAFE). With encouragement from Maureen I subsequently met with the Head of the Engineering Faculty of Adelaide University and the Head of the Industrial Design Faculty of the University of SA. I also met with the Engineering Faculty of the University of Whyalla since it seemed to me that the inclusion of Whyalla as a regional partner would meet one of the essential elements of the NEIC.

Following several meetings we decided to enter the NEIC with a collaborative educational project which would aim to stimulate student interest through a project with a motor sport theme, subject to the project being undertaken within normal course curricula and being funded by commercial sponsorship without impact current educational budgets. Formula Vee was an affordable platform around which to base an enhanced design concept for a project to be titled FV2000. I was appointed as the project coordinator.

Since we expected to have commercial sponsorship it was essential that the program have a level of independent oversight. Accordingly a Board comprising senior staff from all participating institutions was constituted and incorporated as IDRC Inc (Innovative Design and Research Concepts) to oversight the FV2000 project, and a management committee including representatives from industry and academia was appointed to coordinate the program. Paul Venables and I were on that committee and I was appointed as the Secretary.

When I had a medical examination for renewal of my CAMS competition license in mid 1999, it was discovered that I had prostate cancer. I opted for a radical prostatectomy and that operation was done by Dr Bolt in Adelaide. The positive outcome of the operation was that the cancer had not invaded lymph cells, but the negative outcome was that the cancer had extended outside the prostate capsule, and that I could expect ongoing future problems. After the operation I had a succession of hormone implants to provide time for some internal healing prior to radiation treatment. I had no problems with the radiation treatment and none of this had much impact on my FV2000 work program. However my PSA readings did continue to slowly rise after the radiation treatment so I went onto an ongoing program of hormone implants every three months.

Work on the FV2000 project commenced in May 1999 involving students from the University of Adelaide, University of South Australia (City West and Whyalla Campus), the Regency Institute of TAFE (Regency campus and Elizabeth Campus). The Spencer Institute of TAFE (Whyalla campus) joined the program in January to commence fabrication of a display vehicle, with assistance from ENGMAN Engineering, as part of a pre-vocational training program.

The FV2000 project was officially launched by the South Australian Minister for Education and Training on 6 October 1999.

The specification to be addressed by the FV2000 project team was:

- To design and fabricate as far as possible an innovative display concept vehicle based loosely around the characteristics of the Formula Vee race car category
- To adopt a design theme of “enhanced race driver safety”. Students to interactively assess the ways in which they would address this theme and incorporate innovative ideas into their design.
- To develop a Project Plan, in consultation with commercial advisers, through a process of video conferencing and design review and agree between the various members of the FV2000 project team the way in which specific design and fabrication objectives would be met.
- To develop a marketing strategy, in consultation with commercial advisers, to assist to attract commercial sponsorship.

It was agreed that:

- Graphic art students at the Elizabeth campus would address promotional graphics, team logos and marketing aids.
- Mechanical engineering students at Adelaide University to carry responsibility for chassis design including features of the engine mounting to enhance driver safety.
- Industrial design students from Uni SA to address body styling concepts and advanced prototype manufacture.
- Mechanical engineering students at Regency TAFE and the Whyalla campus of Uni SA to address side impact structures and energy absorbing nose structures.
- Mechanical engineering students of Adelaide Uni to undertake assessment of aerodynamic drag of concept side impact pods and the front suspension system.
- Pre-vocational trainees from Spencer TAFE at Whyalla and the Reynella Enterprise and Youth Centre to assemble an engine under supervision, and to fabricate a chassis and assemble the display car.
- System integration to be undertaken through interactive student design review.

We achieved sponsorship from:

- Silicon Graphics
- ROH wheels Australia
- ENGMAN Engineering
- Employment SA
- SANTOS
- BHP
- Dunlop
- Power Solutions DTD
- Onkaparinga Council
- Exhaust Technologies
- DTD Tooling
- SA Centre for Manufacturing
- Dassault Systemes



One outcome of that sponsorship was donation by the FV2000 project of six Silicon Graphics 320 workstations to the participating tertiary institutions, all pre-loaded with CATIA advanced CAD software

In December 2000 our students made a presentation to the judges of the NEIC. It that stage the FV2000 project had:-

- linked forty students and trainees across widely separated educational institutions in South Australia under a common project;
- provided advanced state of art hardware and software to the participating universities and colleges;
- given students experience in working as an integrated design team using modern design tools and e-communication technologies, and ;
- given trainees from disadvantaged areas experience in working as part of total project team.

We were advised in March 2001 that the FV2000 project had been selected on a short list of finalists in the 2000 National Engineering Innovation Competition, and that the final winner would be announced at a major function in the Hyatt Hotel in Melbourne on 14 May 2001.

**At the Hyatt function in May our FV2000 project was announced as the winning entry and I accepted that award on behalf of our delighted student teams.**



## Winners offer to share the spoils



THE designers of a racing car that won Australia's richest contest for engineering students have offered to share the \$100,000 prize with the other finalists.

Students from seven South Australian tertiary institutions teamed up to design the Formula Vee car.

Project co-ordinator Trevor Pound said the team, which won the National Engineering Innovation Competition, wanted to share the prize, which includes an overseas study tour, with the three other finalists.

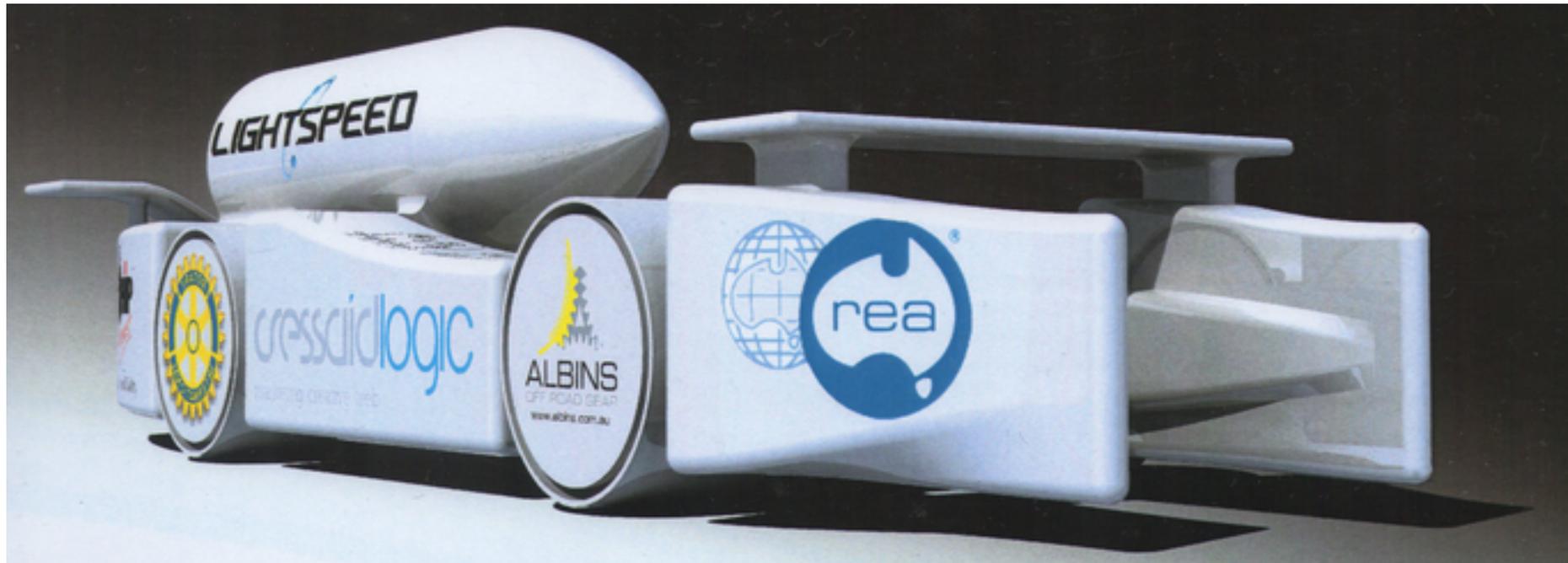
They were two teams from Royal Melbourne Institute of Technology and one from the University of NSW.

"We would like to involve students from the other university institutions that were finalists in the competition to take part in our study tour prize, so they can also experience innovation first hand," said Mr

Twelve of our students and two teachers including Wayne Pannowitch subsequently went on a round the world study tour, arranged by the Re-Engineering Australia Forum, as part of the prize. Our student group visited some of the world's best engineering and design companies. They spent five days in Paris during which they toured Dassault Systemes and Dassault Aviation. From France they went to Washington DC to tour the Smithsonian Institute, then to Detroit where they met the Advanced Technology Manager from Daimler Chrysler. Then across to Seattle to tour the Boeing empire, then on to Palm Springs in California to attend the US CATIA Operator's Exchange conference. Lastly they explored Disneyland before returning to Australia.

The Re-engineering Australia Foundation ([www.rea.org.au](http://www.rea.org.au)) has since gone on to expand on the success of the FV2000 project. It is currently running an "F1 in Schools - Australia" program to further stimulate engineering and innovation through the appeal of motor racing. Just as our FV2000 project did. The international "F1 in schools" program is run for students from grades 5-12, with 31 countries competing around the world. Each team creates a miniature CO2 powered Formula 1 car by using a 3-dimensional CAD program, and is raced down a 20 metre track aiming for record speeds. The world contest has been won 3 times by Australian students.

[www.F1inschools.org.au](http://www.F1inschools.org.au)



## FORMULA FORD

and the ENGMAN race teams



I fell in love in 2000 with a beautiful 1964 ELFIN Mono Formula 2 historic racing car. It had a dry sumped 1500 cc Ford engine with twin Weber DCOE carburetors and a five speed gear box. There was little difference in the early 60's between the chassis and bodies of Formula 1 and Formula 2 cars. F1 cars had purpose built engines, whereas F2 cars had to have an engine from a production road car but there was no limit to the modifications that could be carried out on the engine. I subsequently bought the car and raced it for the first time at the historic race meeting at Phillip Island in March 2001 and I won the handicap event. The first time that I raced it at Mallala it broke a crankshaft and there was little left of the engine apart from the head and the carburetors. I rebuilt it with the aid of Kerry Serandis, Pitstop services, and it was ready again later in 2001. It was beautiful car to look at and to drive, with a top speed of around 250 kph.

When I applied to CAMS for the annual renewal of my competition license in 2002, the application was refused on the basis that I was "partaking of a prohibited substance" in violation of the CAMS anti drug policy. It turned out that the prohibited substance was the estrogen in the hormone implants that were required to inhibit the growth of my prostate cancer. My urologist advised CAMS that the implant was simply a

method of chemical castration to minimise the progress of the prostate cancer. Not good enough for CAMS! So I volunteered to undergo surgical castration. CAMS then were prepared to renew my competition licence on that basis. So the deed was done and I've been happy with that.

A Formula Ford crashed into my ELFIN at a wet race meeting at Mallala and tore out the right rear suspension of my car. I had to make special jigs to rebuild the suspension but I was able to race it again shortly after. One outcome of all the work that we had done in defining the specification of the Formula Vee 1600 cars, was to make us very safety conscious. It was clear to me that the lovely looking ELFIN Mono came nowhere near meeting the safety standards that were expected of contemporary race cars. The chassis had no protection above the sides of the alloy tub, the roll bar was inadequate, and I had a 30 litre fuel tank sitting over the top of my knees. If I rolled over in the Mono I'd probably die.... just as many race drivers did in these cars in the 50's and 60's.



So I decided that a race at Mallala in the Mono in 2005 would be my last drive in the car. At that stage I was 75 years old and it seemed a good time to make that my last competitive race drive. I sold the car the following year with only a few regrets.

My interests are in engineering and innovation, and I really had little enthusiasm for the pedantic adherence in historic car racing, as opposed I might add to historic motor bike racing, to the fine detail of what was raced forty or fifty years previously. My interests were much more closely aligned to contemporary motor racing, and that was what our Open-wheel Racing Car Club (ORCC) was providing. I'd been the Secretary of ORCC since I'd been instrumental in forming the club in 2002, and I really enjoyed the enthusiasm of the young guys and girls that were members of the club. The club was maintaining an annual membership of between 60 and 70 members with a good split between Formula Ford and Formula Vee drivers with a few drivers of F3 and other open wheel categories. In essence the club was doing all the things that I'd hoped that it might do when we formed it.



It seemed like a good time for me to buy and maintain a Formula Ford and get one of my young ORCC mates to drive it. So I bought a 1999 Spectrum Formula Ford from Melbourne. The car came with good current engine dyno readings and a MoTec data logger with Pro upgrades. With Trent

Ulmer as driver we raced that with reasonable success at Mallala, Winton, Sandown, Philip Island and Eastern Creek. The Eastern Creek race meeting in 2005 was a support category to the new A1 GP series, and all races were started from a rolling start which was new to most Formula Ford drivers. Trent had qualified mid field but in the rolling start at close to 160 kph he was hit from the rear by a following car and sent spinning down the track and narrowly avoiding being hit by following cars. He had the distinction at the end of the meeting in being awarded the Hard Charger award for the most places made up between qualifying and the end of the last race.

At the Eastern Creek A1GP meeting I started to lean towards updating to the then new national category Formula Fords with a twin cam Fiesta engine which was to be introduced from 1 January 2006. I bought a 2001 Van Diemen RF01 car from England, less engine, and I bought a new national spec Fiesta engine in mid 2006, with the intention of converting the RF01 to national spec and competing in the Australian Formula Ford Championship (AFFC) in 2007.

Borland Racing Developments (BRD) suggested to me later in 2006 that I reconsider updating the Van Diemen RF01 and instead consider leasing a 2006 Spectrum 011 from them for the AFFC series in 2007. That would provide me with a very competitive car, with ratios for every Australian race track. BRD would install my new engine into the car as part of the deal. The offer was generous and the deal was that I collect the car, ready to run, just before Christmas 2006. My plan at that stage was to have Mark Foster drive the RF01 in State series events in 2007, while Trent Ulmer, Gerry Ulmer and I ran as many of the 2007 AFFC events as we could afford.

I ran the RF01 with a Kent (State spec) engine and with Trent as driver at Philip Island at the Island Magic race meeting in November 2006. It was a memorable race meeting because during the Saturday race, another driver spun in front of Trent on the very fast Turn 1 at Philip Island, and then rolled back into Trent and left my car stranded across the top of the concrete ripple strip on the exit of the turn. At that stage the track marshals and race officials would have been expected to red flag the race field because my car was stuck on the race line on the blind exit of a 230 kph bend. For whatever reason they failed to do that. So one half a minute later the whole race field were faced with a blocked track on the exit to Turn 1. Many cars ran off the track and were damaged and two cars hit my "parked" car. When my car came back on a tow truck it had both front suspensions ripped off, one rear suspension ripped off and the back torn out of the gearbox.

While Gerry Ulmer and I were assessing the damage to my car, the team manager of Minda Motorsport approached us and said that if we wished to try to have the car running again by the next day, they had all the necessary replacement parts, and they would lend us a mechanic to assist us. So that's what we did. One of Minda's mechanics lived about 50 km from Philip Island and we went there late at night to press wheel bearings into uprights. We were ready for racing on Sunday and we raced without further incident. Cooperation like that is why I love the motor racing guys.

I collected the 2006 Spectrum 011 from BRD just before Christmas 2006. I loved the car! I'd had Motec pro logging in my 1999 Spectrum and it was an absolute delight to



go back to Motec data logging after messing about with firstly the Pi system that came with the RF01, and later updating that in the RF01 to a MyChron 3 system.

One down side for me was that I had to sell both my road bike and my HONDA S2000 sports car to fund a reliable tow car for the Formula Ford championship series. Having said that I've been happy with the turbo charged Pajero diesel that I bought new as a tow car for my 2 tonne Formula Ford race trailer

I had entered, with Trent Ulmer as driver, for the 2007 Australian Formula Ford Championship series.

The first event was as a support category to the V8 Supercar round at the Clipsal 500 circuit in the Adelaide parklands in March 2007. We took the car to Winton in January 2007 to complete setups and to allow Trent to get used to the car. One complication was that the AFFC Regulations had been changed at the end of 2006 to allow use of 6" wide wheels at the front and 7" wide wheels at the rear. So the first tests for us, and for BRD and other teams, was to sort out changes to the setups from 2006 as a result of the wider wheels.

Our initial tests at Winton were disappointing for Trent as he had trouble achieving the same lap times in the national spec car as he had on my 1999 Spectrum in spite of the extra speed of the 2006 car. We travelled to Winton three times for practice and setup sessions before we were ready for the Clipsal 500 event.

The Clipsal 500 event on 3 March 2007 in the Adelaide street circuit was run in blistering heat, made worse by being almost totally surrounded by concrete barricades. Trent was 11<sup>th</sup> fastest in the 2<sup>nd</sup> practice session and qualified mid field in 13<sup>th</sup> position. We were happy with that on our first time out in a new car. Trent lost time in Race 1 through running wide to avoid a car that had spun in front of him, but nevertheless got back to mid field by the end of the race, and we were confident of being able to make up ground in race 2. Unfortunately a power module in the ignition circuit failed when



Trent on the starting line for race 2, so that was a DNF and a big disappointment for us. Trent, starting from rear of field in race 3 was hampered from the start by cars crashing and spinning in front of him. On the plus side Trent managed to complete the whole meeting with only a scratch on one nose cone, and at a meeting that was demolishing several cars a day, that was a major achievement. Without the failure of the power module in the second race I'm confident that Trent would have finished well up at the end of the meeting ... but that's motor racing.

Our next 2007 AFFC start was at Winton on 20 May 2007. Trent was 5<sup>th</sup> fastest in the wet in the first practice and he qualified 9<sup>th</sup> in spite of a gear shift problem, which we fixed in time for the first race. He was 6<sup>th</sup> in race 1, 8<sup>th</sup> in race 2 and 9<sup>th</sup> in race 3 which was an excellent result for us, running against well funded national teams.

Eastern Creek on 11 June was our next 2007 AFFC event. We had problems all weekend with a power-on understeer issue that we were unable to remedy. We were disappointed to be well back in the field all weekend. By that time we had exhausted our limited budget for the 2007 AFFC series and I sold the car shortly after that, to concentrate on the 2008 SA State series in my 2001 RF01 Van Diemen.

I was appointed in 2007 as the South Australian representative on the Formula Ford of Australia (FFA) national committee. I had held the FFA in high regard for many years and in fact the business plan we had provided to the Australian Motor Sport Commission for Formula First in 2001 was based largely on the FFA management model. I'd also known Margaret Hardy, the Administrator of Formula Ford Australia, since the days of my administration of the Formula Vee Association in the early 1990's, and I regarded her as the best category manager that CAMS had. So it was with some dismay that I encountered within the FFA national committee a degree of antagonism towards Margaret that arose in total because of unwillingness of the majority of the committee members to acknowledge that the new Formula Ford Fiesta category was a reality that needed to be addressed at state as well as national championship level. There was no evidence whatever in my view to support the majority committee view that Margaret had any conflict of interest between her roles as administrator of the FFA, and her role with Australian Formula Ford Management P/L in management of the national "Fiesta" category. I was even more dismayed when Margaret was dismissed from the administration of the FFA through a series of actions by the committee that I was on record as not supporting. In reality the FFA lost its way in 2008 and 2009 and got itself offside with CAMS, the Victorian race series and almost certainly the AMRC through its actions in trying to prevent the Victorian race series from allowing Fiesta cars into the Vic series in 2009, just as they had run in SA since 2006. An FFA proposal in 2009 to limit the FFA to just Kent cars and historic cars was doomed to failure, and it was with considerable relief to me that that proposition was abandoned in 2010. We now need to wait and see how the FFA will fare over the coming years under a new administrator whom we all wish well. I intended to continue to represent our South Australian members.



Marty Forgan, one of my ORCC mates, converted the data logger on my RF01 from the UK Pi system that had been delivered with the car, to a better AIM Mychron 3 data logger so we then had reasonable data logging for the first time. I offered Daniel Ramerman, a young superkart driver, the drive in the RF01 for 2008. The deal was that I would prepare and maintain the car, and the Ramermans would pay entry fees and running expenses, plus payment for all race damage.

By the end of 2007 I was tiring very quickly, due we suspected to the Androcur drug that I was taking to suppress my prostate cancer. Tiredness and lack of energy is a well known side effect of Androcur. The reality was that I would not have been able to continue with my race program without the support of my race team, mainly through Mark Foster and Geoff Fussell who effectively did all the real race day work. That left me mainly as an advisor and doing the light work like data analysis. So Daniel had his first ever Formula Ford drive in the first round of the 2008 South Australian State Championship in March 2008. If it had not been for an unfortunate spin in this first round, Daniel would have secured the 2008 State Championship .... as it was he finished in a close 2<sup>nd</sup> place. Daniel successfully raced international 250 cc Superkart as well as Formula Ford in 2008, and at the end of the season he was awarded the CAMS 2008 SA “Future Star” award.

I decided to assist Daniel into national series Formula Ford for 2009, and in October 2008 I bought a 2007 Spectrum 011b that I knew fairly well having competed against it in 2007. I asked Mark Foster to drive it at the final Mallala round to 2008 while Daniel ran the last 2008 SA State Championship round in the RF01. . We were plagued with a mysterious engine cut out all weekend on the Spectrum which we eventually traced to the way in which the previous owner of the car had earthed the main loom to the engine block. Daniel Ramerman then drove the car in the first two Mallala rounds for 2009, as well as an April 09 Philip Island race meeting. The Philip Island meeting was a wash out and the last race was cancelled through rain and poor visibility. Daniel scored five 2<sup>nd</sup> places in the Formula Ford (Fiesta) races at both Mallala rounds but by then John Ramerman and Daniel had exhausted their 2009 budget and I had to look for a new driver.

Fortunately, shortly after Mallala round two in May 2009, Michael O'Donnell approached me for a Formula Ford test drive. I'd known Michael and his family very well since I'd built their first Formula Vee 1600 race car in 2003. Mike had won the SA Formula Vee State Championship in 2007 and 2008, and in 2008 he'd been awarded CAMS SA & NT “Race Driver of the Year”.

It was an ideal opportunity for both of us, and I was happy to nominate Mike as the driver of my Spectrum Formula Ford at least for 2009 and 2010 and probably beyond. Mike designed a new colour scheme for my car, and he and his uncle David rubbed the original fibre glass back, undercoated it and Mike arranged for a paint firm to paint the car for us free of charge. The car looks great.

We had some problems in 44 degree weather at the end of 2009 when the engine on our car momentarily cut out several times on the exit to Mallala turn 2. After a lot of detailed analysis of the Motec data logged records, going



back to every hot day that we'd run the car, we identified a consistent pattern of low fuel pressure on very hot days on the entry and exit to turn two. Following discussion with Borland Racing Developments a fuel system mod kit was developed and fitted by BRD and we have had no further problems after that. Up to then Mike had scored a couple of pole positions and a number of 2<sup>nd</sup> places in the SA 2009 "Duratec Challenge" series.

Updates to the brake system have worked well and the car handling has been progressively fine tuned to the point where Michael has no issues at all at Mallala, and was happy at a test drive at Winton apart from a minor power-down issue.

The team, which now included Mike's father Kevin , had done well to that point in 2010. At Mallala round 2 in May 2010, Mike won two out of four of the Formula Ford races including the major last race which left us in equal first place on point scores in the 2010 "Duratec Challenge" series. We were confident of further improving from there.

We went to Winton again for a practice day at the end of July 2010. We had a lot of rain and the track was wet all day but Mike enjoyed the day and said that he had learned a lot about Formula Ford car control. Our team all enjoyed the trip and felt that the 10 hour drive each way to Winton was well worth while.

At Mallala Round 3 on 21-22 August Mike scored three 2<sup>nd</sup> places but unfortunately had a front axle problem while leading the main Formula Ford race and was forced to retire. Positives out of the weekend were that Mike did personal best lap times of 1:11.2 twice in the races, and that the car felt really good and consistent. We gained a lot from the wet day testing at Winton and recent shock absorber refinements . The next event was Philip Island on 25-26 September in Round 6 of the Victorian State series and we are all looking forward to that.

Unfortunately before Philip Island I had to go into hospital for major open-chest surgery to remove an orange sized (90 mm) growth that had developed between my lungs. The good news was that the growth was removed OK and turned out not to be malignant. The bad news was that being sawn down the centre and having my ribs wired back together again needed a relatively long recovery time so I was unable to travel with my team to Philip Island or to Mallala Round 4 on 30 October.

We ended the year after very close racing at Mallala Round 4 with a second place to Roger l'Ansen in the 2010 "Duratec Challenge". We had become close friends over the past couple of years with the l'Ansen family and I was pleased that Roger had finished the year with a well deserved win. By this time the Duratec engine of my Spectrum car had done 4 years hard work and we figured it would be good to have it refreshed before the next race season. It is a tribute to the quality of the Ford Fiesta engine that in all that time we had not had any mechanical issues with the engine. By the end of 2010 we were still achieving the same maximum speeds at Mallala as we had when I bought the car two years earlier, and our lap times were continuing to improve.

By end November we had the engine out and ready to be freighted to Melbourne for rebuild and dyno check ready for Round 1 of the 2011 South Australian State Championship series on 18 February 2011.

**CAMS JUNIOR DEVELOPMENT PROGRAM**  
&  
the Circuit Excel Project

In mid 2010 the Open -wheel Racing Car Club (ORCC) had been invited to provide expert race drivers to assist to train a selected group of very young junior drivers in skills appropriate to circuit racing. To their considerable credit most of the top ORCC race drivers agreed to participate in this program to train groups of youngsters in four sessions at the Tailem Bend Motorsport Park spaced about four weeks apart. As part of that program the Open-wheel Racing Car Club and several members bought a small fleet of cheap Hyundai Excel cars to provide on loan to the JDP program to assist to get it under way.



My contribution was a silver three door Excel coupe that I bought on eBay in July 2010 with no thought at that stage other than to assist the JDP program and the trainee kids. However by chance, just after buying the Excel, we were at Winton Raceway in Victoria with my Formula Ford and were pitted alongside Craig Hardiman from Bendigo who was practicing in his Hyundai Excel in readiness for a 6 hour enduro event at Philip Island in August that year. Geoff Fussell and I were very impressed with the way his little Excel handled the Winton track in the wet, and it instantly occurred to me that here would be a way for me to get back into circuit competition. I was no-where near fit enough to handle the high “g” sustained loads of Formula Ford, but a small sedan? I liked the idea. My last race drive was in 2005 in my Elfin Mono historic Formula 2 when I was 75 years old, and by mid 2010 I was getting itchy feet for some circuit drives again.



So with assistance from my ORCC mates Daniel and Kevin Westcott, we set about converting the little silver Excel to circuit sprint form. One incentive was the existence of “Rally Excel” as a current CAMS category and the availability through the Rally Excel Forum of good advice and Excel conversion parts. We had by this time become increasingly impressed by the performance and reliability of these little cars. They had a reputation within the Rally Excel community as being pretty bulletproof.

We installed a full roll cage, race seat, heavy duty rear sway bar, Koni shock absorber updates, and a full suspension upgrade with race brake pads into the car. By the last session of the 2010 JDP in November 2010 we could demonstrate the silver car as a practical demonstration of one option for an economical way into circuit motor sport for the JDP kids and their families, and we gave a presentation and cost breakdown for a progressive implementation package that was very well received.

I had had enough experience in working with CAMS over the years to be well aware that at senior management level within CAMS there was no real interest in supporting even more race categories than already existed in CAMS.... in effect CAMS wanted a new race category like a hole in the head. So attempting to start one to meet a need for a more affordable “entry level” category was going to be quite a challenge and would demand handling with care. On the positive side for “Excel” we had the fact that “rally Excel” was already a category within the CAMS Manual, so provided we could find a way to “convert” Rally Excel” cars to a viable circuit racing format, we should be able to introduce a new entry level category under the umbrella of the existing Rally Excel category without a need to generate a brand new (and largely unwanted by CAMS) additional category. That was to be our challenge, and what we would focus on.

By September 2010 I had been under medical observation for almost 12 months because of a growth in my chest that been progressively increasing in size. By September it was the size of an orange (over 90 mm in diameter) and the doctors were concerned that it that it was likely to be malignant and had to be examined and if possible removed. This would be a major operation involving open chest surgery and cutting through my ribs and wiring them back together again after the growth was removed. **Drastic but necessary** and I readily agreed for the operation to proceed, As it turned out the growth proved to be an enlarged thymus gland that proved to be nonmalignant.

So most of the work on my silver car was done at that time by my mates Daniel and Kevin while I was either in hospital for the open chest surgery or during my two month long recovery from that. On the last evening at home before I went to hospital I made a spur of the moment decision to buy a blue twin cam Excel Rally car that had been advertised at a good price in the Excel Rally Forum. That proved to be a very wise decision as I wanted two cars so that I could compete with my good friends, and there was no way we could have built this car for anywhere near the purchase price. It had a welded-in full roll cage, and good race seats and suspension package. Fortunately for me, Ken l'Ansen offered to collect the car from Horsham for me while I was laid up.

So by early December we were ready with two cars in circuit sprint form to test at Winton raceway on 10 December 2010.



Both had full roll cages, updated exhaust and suspension, race seats, and race brake pads.

The plan was that Daniel and Kevin Westcott would drive the silver car and Asher Johnston and I would drive the blue car. Choice of tyres was an issue for us as was the choice of wheel size. In the end we opted to go to Winton with four sets of wheels and tyres for evaluation in our first serious tests of our "circuit sprint" Hyundai Excel cars to determine whether the concept of a "circuit excel" category was indeed viable. Our test tyres included some donated tyre brands but also 205/60/13 Silverstone semi slicks on 13" alloy rims, and 185/55/14 Silverstone semi slicks on 14" alloy rims. The 13" wheels and tyres were included because I did not know at that stage how strict CAMS would be in requiring absolute compliance with the Rally Excel regulations that specified 13" wheels and tyres.

Just before we were due to leave for Winton, near Benalla in Victoria, New South Wales and Victoria experienced unseasonal torrential rain and wide areas of major flooding including all around the Benalla area. Also at that time Daniel Westcott was unable through work issues to come with us, but Ken l'Ansen from Berri agreed to accompany us. The day before we planned to leave for Winton we were being warned of flood dangers in getting from South Australia to Winton but our joint assessment was that with two 4WD tow vehicles and a choice of routes, our risk of failure was pretty low. Decision taken! We left at 0730 on Thursday 9 December.

As it turned out we only had a couple of kilometers of road under low water to deal with, and we arrived at Winton Raceway at 0730 on Friday morning after an overnight stay at Benalla. Kevin and Asher did the first test runs in the silver and blue cars respectively. In spite of a few issues we all managed to drive and to resolve our preferred wheel and tyre options on these cars. Asher was able in the blue car to get down to very competitive times with both the 13" and 14" semi slick tyres and we were pleased with that because we still have a bit of work to do on that car including the update to Koni shocks and other suspension mods.

I was pleased to be strapping up for my first "race" car drive since 2005. Hardly in the same adrenalin category as my previous Elfin Mono Formula 2, but much more suited to an 80 year old who was slowing down a bit. It was more than 15 years since I'd driven at Winton, and never before on the Winton "long circuit."

We planned to have a team of three Excels ready for a 6 hour Enduro event at Mallala in May 2011, and hopefully by then to have an opportunity to test the Federal RSR tyres that had been recommended to me by several drivers in the Queensland "Track Attack" series.

Asher Johnston agreed to team with me in the blue car, and the plan was for Daniel and Kevin Westcott to drive the silver car. We hadn't yet decided a team for the third car, although I did have a third car ready to convert.

The new Excel "Track Attack" series in Queensland was attracting very large entries and there was just a possibility that we could get a similar series running in South Australia if we proceeded with caution. The Mallala promoter Clem Smith had already privately advised me that



he would like to see that.

The engine for my Spectrum Formula Ford was being re-built in Melbourne and we expected to have that back early in the New Year. The first round of the 2011 South Australian State series was scheduled at Mallala on 19 February and we looked forward to that, particularly because we had several new Formula Ford/Formula Ford 1600 cars in SA that would be running in 2011 and we expected competition to be good.

But even better, we had just received confirmation that Formula Ford was an invited category to the 2011 Clipsal 500 event in the Adelaide Parklands and that was one event that we certainly would not want to miss. The last time my team ran there was in 2007 in our first ever Australian Formula Ford Championship race, and we now had much more experience and a car that was much better setup. **Year 2011 was looking good!**



## 2011 - 2015: the highs and lows

On 22 January 2011 Asher tested the blue car in "race" trim with lower springs, Koni shocks and semi slick tyres in order to establish a realistic race lap time at Mallala for Hyundai Excel cars in circuit race form. By then we had also been able to acquire a several sets of 15" rims and some Federal RSR tyres from our friends in Bendigo, and both Asher and Mark were able to test them and conclude that although the Federal RSR tyres were about ½ second a lap slower around Mallala than the Silverstone semi-slick tyres, they were preferred by both drivers as being more predictable on their limit particularly in the high speed turn 1. So a submission was made to the CAMS SA Motor Racing Advisory Panel to endorse the nomination of 15 " wheels and Federal RSR tyres as control tyres for the Rally Excel cars that we planned to enter in 2011 as a form of Tarmac Rally cars. We were assisted in gaining MRAP approval by the fact that Rally Excel cars competing in Tarmac Rally events had already gained CAMS approval to run 15" wheels and tyres in SA because of a shortage of 13" wheel and tyres suitable for tarmac racing.

Through another stroke of good fortune for our Excel planning, the guest speaker who had been invited by the SCCSA to speak to SA competition drivers early in 2011, had had a last minute prior engagement, and I was invited to speak in his place about the progress we were making towards possible introduction of Circuit Excel race category. There was a lot of support from attendees and I was advised by the SCCSA Competition Committee that provided we could muster sufficient cars for a viable race field, any cars logged booked as Rally Excel and meeting other mandatory CAMS requirements for circuit racing, would be welcome to enter Mallala events from as early as May 2011. **The challenge was ON.**

Mike had an easy Formula Ford win in the first round of the 2011 SA State series at Mallala on 19 February. We were very happy with the car and we hoped that the next race at the Clipsal 500 race meeting in the Adelaide Parklands in March would be a highlight of the year for us. It proved to be far otherwise.

We were very pleased with practice and qualifying at the Clipsal but there were big crashes on the first lap of Race 2 including one involving the race leaders and in one of them Mike had to pull to one side to avoid the crashed cars and then wait until all the field had formed up behind the safety car.

When the field was clear by lap 4 Mike was lining up to re-pass our mate Matt Roesler when the car in front of Matt hit Samantha Reid's rear wheel and flew into the air at about 190 kph. Matt swerved and braked hard to avoid the flying car just as Mike was about to pass. Mike had no-where to go and hit Matt's car hard. Matt went backwards into the concrete wall, again at about 190 kph and our car went into the concrete wall on the opposite side of the track.

Matt spent the night in hospital with concussion but was at the track the next day and evidently in good spirits but with sore shoulders and a headache. My car lost lost one corner



and some bodywork but Matt's was not in great shape with quite a bit of damage. It was not a good start to the year, but at least it was good news in that no-one was seriously hurt... cars can always be fixed.

Some welcome news for us was that the SA race promoters continued to show interest in our low budget Circuit Excel cars. Also welcome was an invitation from the MGF drivers for Circuit Excel to compete with them in a combined field. We were very happy with that invitation as the two categories are clearly complimentary.

We also were fortunate to receive support from CAZNET Solutions who designed and setup an excellent web site for Circuit Excel at [www.circuitexcelsa.com.au](http://www.circuitexcelsa.com.au)

I was honoured in February to be presented at the 2011 CAMS Dinner with a CAMS Service Star award for "exemplary service to CAMS and to motor sport". I know that there are others probably more deserving of that award than I, but I was proud to receive the award in the presence of all my motor sport friends.

Following further successful tests of some Circuit Excel cars we had agreed a specification for the category with CAMS and the promoters, based on the CAMS Rally Excel category with minor changes to wheels and tyres to better suit circuit racing. We were confident that the cars would be able to run Mallala lap times in the low 1 minute 30's

Mark Foster and I had recognised by then that control of body roll would be critical to this new Circuit Excel category because with vigorous race driving we were wearing the front tyres well down the side walls, and way past where it was safe to do so. However, there was a limit to how far the front main springs could be stiffened on Excel struts without the springs coming loose in the struts on full droop. After consultation with King springs I arranged to have special front springs manufactured to the maximum stiffness that would just **NOT** come loose in the strut, and we fitted those springs in the front struts of Mark's car in time for R2 of the SA State series in June. However it was clear to both of us that this was not the way to go in the long term because the cost of the strong springs, plus the cost of the Koni shocks turned out to be more expensive than buying coil-over shocks in the first place..... which was exactly why the Rally Excel guys had modified the Rally Excel Rules in 2010 to allow coil-overs,

By Round 2 of the 2011 SA State series on 4-5 June we had repaired our Formula Ford, as had Matt Roesler, and we had seven Circuit Excel cars Log Booked and ready to run. The race days were fine and the racing was good with no major incidents. Asher Johnston and Mark Foster at that stage were the fastest of the Circuit Excel field. Both were very experienced drivers from Formula Vee and Formula Ford. We also had three cars from D&D mechanical at Goolwa including two driven by Danny Maul and Dean Maul-Dunn, both with Improved Production experience.



Mike won the Formula Ford challenge events. Circuit Excel wins were shared by Mark Foster and Asher Johnston. It was a good start for our new low budget race category.

The 3<sup>rd</sup> round is the 2011 SA race series was run on 28 August. Mike O'Donnell accepted a drive in Daniel Westcott's Circuit Excel and he drove that in addition to our Formula Ford . Mike again won all the Fomula Ford events, followed by Matt Roesler.

Circuit Excel racing at R3 was excellent with Mark Foster winning all R3 events and establishing a new Circuit Excel lap record of 1:30.94

At a personel level, 2011 R3 was memorable for all the wrong reasons! I had worked with Mike at Mallala on Saturday night to correct a minor brake problem on my Spectrum FFord, and I then stayed Saturday night with my friends the Westcotts near Two Wells. On Sunday morning I was seriously ill with what turned out to be acute septicemia. Wendy and Kevin Westcott drove me back to Finniss on Saturday night and what followed after that was four weeks in hospital for removal of part of my lower bowel and treatment of the septicemia. As it happened I was very fortunate to survive the first couple of weeks.



Marg had moved in with our son Graeme near Nuriootpa in the Barossa Valley for the whole time that I was being treated in hospital, and Graeme somehow managed to get her to see me in hospital on almost every day of my 4 week hospital stay. We then were forced to realize that at our advanced age and my state of health, we needed to re-locate from the Finniss River to where we were closer to family support. That was something that we needed to work on!

In the meantime my race teams worked on without me for almost the rest of the year. Which went to prove that I was nowhere near as indispensible as I thought I was!

Asher Johnston was working hard to gain a place in one of the USA NASCAR teams and 2011 R3 was to be his last Circuit Excel drive for some time. He suggested that for R4 I offer the drive in his Excel to Shaun Pannowitch, a young Superkart driver that we knew well. Shaun was happy to accept the offer and was happy to drive with our team into 2012, and I was happy to be working again with Shaune's father Wayne who was a close mate since we had worked together on the FV2000 project 10 years previously.

**Great news from Asher in August.** He had been offered a NASCAR race drive at the Dillon Raceway in South Carolina on 19 th October. Asher had been a test and race driver in our Circuit Excel series since its inception, and we we were delighted that he had been offered this excellent NASCAR opportunity.

**Fast forward:** Asher scored a brilliant 3rd place at Dillon on 19 October 2011 through a great drive at competitive times in his first ever NASCAR race and he earned well deserved accolades from the Dillon race commentators. He will be back! Well done Ash!

At R4, the black Excel developed a gearbox problem in qualifying, and rather than leave Shaun without his first Circuit Excel drive, Mark Foster very generously offered Shaun his own car. Danny Maul won all four Circuit Excel races but Shaun did well by the end of the day to take a 2nd and 3<sup>rd</sup> place in Mark's car in his first ever Circuit Excel race meeting

Mike went on to win all Formula Ford events at R4, and at the year end to take the 2011 SA Fomula Ford Challenge trophy. Daniel Westcott won the FV1600 Championship, and my young friend Ben Forgan, who had raced my Formula Ford in 2008 and this year raced a Borland Sabre 2 Formula Vee, was awarded the CAMS SA "2011 Race Driver of the Year", and Luke Fraser who had run Formula Vee 1200 and Circuit Excel in 2011, won the "2011 CAMS Future Star" award. Well done guys!



Luke Fraser subsequently decided partly on the basis of the additional racing experience gained in Circuit Excel that it was time for him to move on from Formula Vee 1200, and I was happy to assist the family in selecting a Spectrum Formula Ford for him to run in 2012. year. All those things were a great end to the 2011 year. And I survived the septicemia in spite of some very real scares during the first few weeks ... and I came good from the lower bowel operation. I'm just quite a bit slower now than I was at the start of the year, but at 81 years old I was not complaining!

Margaret and I entered a contract in December to have a new house built at Greenock, in the Barossa Valley near where our son Graeme lived, and we planned to move into that around mid 2012. We then had the huge challenge of clearing out our workshop at Finnis and preparing the 40 acre lakeside property for sale. Again, I was assisted in that task byt my many mates.

Round 1 of the 2012 SA State series started well for Mike who took pole position in qualifying with a time of 1:12.4. Mike further improved his times in Race 1 but was taken out near the end of the race by a young national driver who couldn't stop for the Northern hairpin and he hit our car hard, and damaged the geabox and the right side pod and radiator. That was the end if the first round for our Spectrum, and we had a big repair job to do prior to R2 on 2<sup>nd</sup> and 3<sup>rd</sup> of June.

Mark Foster qualified on pole in the Circuit Excel field with Danny Maul in No 2 spot on the grid, and Shaun Pannowitch drove my yellow car "Tweety"

Our turbo Excel project had started around Mid 2011 when Marg and I did a flying trip to NSW via Wagga to collect an interesting car that had been offered on EBay. Progress had been slow for the periods that I had been ill in 2011, but by early 2012 I started to look seriously at it again, and in particular to try to resolve a problem of engine hesitation as the turbo came onto full boost. D&D at Goolwa eventually solved the latter problem for us, and the next step in the project was to install into the turbo car all of the Circuit Excel suspension components that we had removed from Tweety to install the coil over shocks. We installed a Velo driver race seat at the same time, and also performance brake rotors and 15" wheels and Federal RSR race wheels. This was a really nice car.



By May 2012 the car, by now termed the "rocket ship" by the D&D guys, was ready for me to test at the next available "Modern ! Regularity" event at Mallala. In fact, my test session in the Modern Regularity event in the "rocket ship" turned out to be a minor disaster. A coolant hose came off and the engine seized, so I was nearly back to base one, with a need to fit a replacement engine! But the car was fun to drive... even if a bit of handful!

We had the car running again with a fresh engine within a month. **Thank you D&D!**

In May.2012, Circuit Excel was invited for the first time as a category within the Collingrove hillclimb series. We ran a number of junior drivers in Excels at the Come and Try day prior to Winter Cup, and several cars at Wintercup 1 the following day. That was Shaun's first drive ever at a hillclimb event. We all enjoyed the day, and agreed to go back again.

Fast forward and Danny went on to win the inaugural Circuit Excel State hillclimb championship and also to win the coveted Wintercup hillclimb award for 2011. Well done Danny!

Round 2 of the 2012 State series was run at Mallala on 2<sup>nd</sup> and 3<sup>rd</sup> June. Unfortunately the meeting was cancelled around noon on Saturday 2<sup>nd</sup> after one of the Improved Production drivers was killed in a tragic accident on the back straight.

Simon Hodge in a Mygale took pole position in Formula Ford and Formula Ford 1600 qualifying, with Mike O'Donnell in my Spectrum in 2<sup>nd</sup> spot. Mike had a couple of spins in the first race which left him finishing 5<sup>th</sup> in the Formula Ford field. It was not our best day! Luke Fraser did well to win the event.

We were pleased with a great turn out of eleven Circuit Excel cars including three new cars including one driven by Anthony Rugolo our first 14 year old driver. Anthony is a very experienced Junior Superkart driver and we were pleased to have him join us. Mark Foster won the first race with Shaun Pannowitch 2<sup>nd</sup>.



Matthew Parker's new car also looked great, and Matt did well to finish 5<sup>th</sup> in good time in his first outing in the car.



I was personally delighted that our budget level Circuit Excel category, just twelve months old, was proving to be so popular with drivers and spectators alike. We were particularly grateful for the strong support from the SA race promoters, and the CAMS Scrutineers particularly scrutineers Alan Pickstock

and Fred Severin.

It also was pleasing that we are getting more Formula Ford cars into the 2011-2012 SA race fields, but a bit more work was needed to get more Formula Ford 1600 cars back onto the track.

The final round of the 2012 State series was held at Mallala on 17 November 2012; this would define the State Champions for both Formula Ford and Circuit Excel., as well as most other SA race categories. By that time Mike O'Donnell had decided to retire from motor racing at the end of the 2012 season, and this was to be his last drive in my Spectrum Formula Ford. We decided between us to sell the car after this event. As it happened Mike was hit by another car in the first race and the car had sufficient damage that we could not run the final races, so he was in effect out of contention for the 2012 SA Formula Ford Championship.

We had better luck in the 2012 SA Circuit Excel Championship where the results were so close that the Championship was decided in Shaun Pannowitch's favour only at the end of the last race. Shaun was driving our yellow ENGMAN Engineering Excel #9 "Tweety". It was an excellent result for our team, and I was pleased to accept the 2012 SA Circuit Excel Championship award on Shaun's behalf at the promoter's award night on Tuesday 27 November 2012.



The Circuit Excel category is now fully integrated into both the South Australian circuit racing series, and the South Australian hill climb series. Danny Maul has won the SA Circuit Excel hillclimb series and he now holds the Circuit Excel hillclimb record at Collingrove.

The CEASA membership was growing every month and was approaching 40 at the end of 2012, we had many new Circuit Excel cars under construction and we were looking for at least a 12 -13 car race field in 2013. All this was an excellent result for our brand new "budget" race category that was less than two years old at that stage. Even more significant was the fact that Circuit Excel, initiated in SA in 2011, was now gaining prominence in all States.



Margaret and I had moved into our new house at Greenock in mid 2012, and by the end of the year we had had a three bay garage and workshop built the rear of the property with a wide drive running along the north side of the block to give access to the garage on the rear boundary. This allowed us to have a large sunroom at the rear of the house and that proved to be wonderful asset particularly during the Winter months. One of my first projects in my new workshop was to build a new Circuit Excel race car, and to look for a young driver to sponsor.

Shaun Pannowitch's elder brother Ryan was now showing interest in the category, Wayne Pannowitch agreed to supply a white donor Excel, and we stitched up a deal for Ryan to drive the car as soon as I could finish it

By 2013 Circuit Excel was running under various names in at least four Australian States but unfortunately under different regulations in each State, and the CAMS AMRC were under pressure to bring about some form of rationalisation for Circuit Excel within CAMS Category 3E "Series Production Cars". This turned out to be a slow and tedious process, that continued into mid 2014.

Within South Australia the category was popular with drivers and spectators alike as the racing was always competitive and close and it was clear that this was indeed an excellent entry category for drivers wishing to enter circuit racing under controlled CAMS regulations. Race numbers continued to grow and Circuit Excel was becoming the fastest growing circuit racing category in the State.

Engineering students within TAFE SA were developing a strong interest in the category and by the end of 2013 the students had built a Circuit Excel based around our 2012 State Championship car (Tweety) as part of their practical studies.

The TAFE SA management saw value in using the car and the motor sport theme for promotion of both TAFE SA and the engineering skills involved in building and maintaining the car, as well as enhancing the attraction of engineering to the younger demographic. By the end of 2013, TAFE SA management had agreed to sponsor a car prepared by students for the full 2014 SA race season, and managed by TAFE SA Course Coordinator Wayne Pannowitch.

The car and the TAFE SA team were ready by Round 1 of the 2014 race season and the car driven by Asher Johnston was immediately competitive and served as a role model for other SA drivers, particularly since Asher was ready and willing to provide advice and guidance to new entrants to the category.



I had decided that on my new Circuit Excel I would try stiffening both the front and rear main springs on the CEIKA coil-overs, and I ordered new coil-overs with slightly stiffer main springs than we had used on Tweety. The new car was ready in time for Ryan to drive it at Round 2 of the 2014 State series in May, and it looked good in the new PRT race livery. Unfortunately 2014 R2, with 16 cars and some new drivers, turned out to be a bit of a bash and crash event, and many cars including Ryan's finished up with more crash damage in that single event than we had sustained in the last two years.

In July 2014 CAMS issued the new **national** Circuit Excel Rules as a sub-category to CAMS Group 3-E Series Production Cars; these, with minor variations, were essentially the same Rules that SA had initiated in 2011. Circuit Excels in all States were required to comply with those Rules. **The way was now clear for serious competition between Circuit Excel drivers in all Australian States.** Nationally there are now around 200 log-booked Circuit Excel race cars, and in several States it now had the largest race field.

By the end of 2014 I had decided to build another Circuit Excel and to sponsor Susan Quigley as its driver. Susan was an old friend, originally out of Speedway, who I had assisted into Formula Vee 1600 many years previously. I had the feeling that Susan was tiring of her FV1600 and that she might like to join her friends in Circuit Excel; and she jumped at my offer..

My friends at D&D Goolwa offered me a really nice yellow donor Excel at an attractive price that I could not refuse. And so it was that I began work on what was initially to become "Tweety II".



Things seldom work out as planned, and I had only just finished stripping the car of redundant road stuff when I injured my back, and work on Tweety II came to a reluctant halt.



At the start of the 2015 SA Racing Season, Circuit Excel had made the front page of the state racing program as a result of the growing popularity of the category.

One consequence of the issue by CAMS of national regulations for Circuit Excel was a requirement for a national management structure for the category, and so delegates from each State were appointed to the national Circuit Excel Management Committee (CEMC). That process initially went off the rails when several States wanted the Rules for the current year (2015) to be amended without recognition that many other States were already committed to the published Rules.

By early 2015 the CEMC was back on track, a Chairman had been elected, and constructive discussions were under way between the various States. One consequence of the latter was that SA was invited immediately to join with Victoria at a race meeting at Philip Island in June. Our PRT team jumped at the opportunity and immediately made all necessary booking and entry arrangements. We were all familiar with the circuit: Asher and I through Formula Ford and earlier, and Shaun and Ryan through Super Kart racing there. PRT participation also ensured that other SA teams would join us. This would be a great opportunity to really test SA cars and drivers against drivers from another State.

We were not sure at the time of my back injury just what the problem was, but as time went on it became clear that it was much more serious than we had hoped. Eventually it was confirmed that my old prostate cancer issue had re-emerged as bone cancer, but thankfully at an early stage. Whilst this was really serious, it was a probability that Marg and I had lived with for around 10 years, and I had in fact done much better than we had both expected in 1999. However the immediate problem for me was that I was now committed to assessment by a cancer specialist in Adelaide, and the date of that assessment would preclude me from travelling to PI with our team. Marg and I decided then to move from Greenock to Marion which was closer to my oncologist at the Tennison Centre in Adelaide South.

We currently overlook a lovely parkland setting in the Sturt RSL Retirement Village in Marion. We are alongside the Sturt River Linear Park and we have lovely long walks both upstream to the Warriparinga wetlands, and downstream to the Oaklands Park wetlands. We also are in the centre of the Historic Marion Village and the really lovely group of Little Marion sculptures. We love it!

Because injury to my back was preventing me from doing further work on my race car, I decided to sub-let the remaining work on Tweety II to my good friends at D&D Goolwa so that we could have the car ready for Susan to race around mid year. Tweety II would turn out to be my last race car, but race it we would!

Susan was keen to have the car livery in graphics to match her “Quigley Motorsport Imports” business, Asher agreed to design the livery for us, and D&D agreed to finish off the car for us and to get it log booked. Thanks everyone!.



The car in QMI Livery, was ready in time to be set up for 2015 Round 2, and Susan entered R2 in May with 22 other Circuit Excels. Ryan was unable to enter through work commitment but my car 39 was driven by Asher's mate Shaun Richardson from QLD who had dropped by on his way to the USA re his NASCAR commitments. This was the largest Circuit Excel race field that we had had to date, and was a remarkable achievement for a category that had not existed just three years before. Susan qualified in 11<sup>th</sup> position with a best lap of 1:31 and we were very happy with that in a car that she had never raced before. Shaun Richardson also did really well in a car that he also had never driven before.

The flip side of such a large field with many new new drivers and cars, was that many cars were quite badly damaged at 2015 Round 2, including our two ENGMAN Engineering cars driven by Shaun and Susan. On the positive side for team PRT, Shaun Richardson in car 39 had finished intact, as had Asher Johnson.

Whilst Asher had won 3 out of 4 of the Round 2 races, and established a new Mallala Circuit Excel lap record of 1:28.8068, he was unable to catch young gun Scott Stephenson in Race 4 who had beaten Asher off the line and driven brilliantly to hold off Asher for all of Race 4. It was really great race! The other young gun who drove brilliantly at R2 was Josh Hoare who scored a 3<sup>rd</sup> place with lap times in the 1:29s. Well done guys!

It turned out that the damage to Susan's car, and to a slightly lesser extent to Shaun's, was far more extensive than anything we had previously experienced in Circuit Excel, and it was problematic for a while that we would be able to get them back into racing for some time. As it happened, the repair and restoration that was required came about at a time that suited the TAFE SA panel beating course curriculum and staff. Students at that stage of their training were required to demonstrate a range of skills on “real jobs”. Repair of two seriously damaged competition cars had a number of attractions including the facts that parts would be supplied at no cost to TAFE SA, and there were no potential insurance implications. And so it was, through some quite fortuitous timing, that both cars seemed likely to be able to be repaired by the TAFE SA crash repair students, in time for both Susan and Shaun to prepare to enter for Round 3 of the 2015 SA State series in August 2015. Time would tell!

The Philip Island event on 13 June had been arranged as part of a PIARC sprint event. Entrants from SA included Asher Johnston, Shaun Pannowitch, John McGarrie, and Martyn Butler. As it happened Shaun was ill at the time of the meeting but we planned to still take two cars, and that Susan would drive Shaun's car on the day if she felt up to it. Once again it seemed destined that I was not to make Philip Island! The last time I'd planned to go there with my Formula Ford I'd been prevented by need for open chest surgery to remove an enlarged thymus gland; this time I had to attend an examination re bone cancer ..... so once again my “team” travelled to PI without me!

Asher encountered a gearbox problem during the Philip Island practice session, and it was only through a superhuman effort by the PRT team assisted by Martyn Butler that they were able to replace the gearbox in time for Asher to make qualifying. But he did JUST make it and he qualified on Pole with John Mcgarrie in 5<sup>th</sup> spot and Martyn Butler in 11<sup>th</sup>.

Asher won all three Circuit Excels events convincingly with John Mcgarrie 2<sup>nd</sup> in the second race. Great racing and all our guys had a great time at PI and all thanked the Vics for their hospitality.

However we did learn some lessons. The main one was that our cars (certainly Asher's) were down on speed in comparison with many of the Victorian cars.

We need to work on this, although I'm personally not clear on what we need to do. Certainly the only high km Excels engines that I have had rebuilt to specification have not been any better after the rebuild.

Back in SA we now needed to prepare for Round 3 of the SA State series in August. The TAFE SA crash repair students had worked wonders with the seriously damaged cars of Shaun's and Susan, and both were ready by mid July.



It seemed that the TAFE SA crash repair program had worked well for both students and staff. It had not impacted on the TAFE SA cash budget, there were no potential liability issues, and the students had clearly benefited from having successfully completed two really major repair jobs, as well as enjoying the work.

We need now to do some minor detail work, re-work the livery on both cars, and Shaun and Susan's cars will both be ready for R3 in August 2015. Additionally, the CEASA has attracted still more members and more competition-ready race cars, including those of several new promising 14 year olds. The progress of these juniors will be good to watch, and we wish them well.

Margaret and I will be working next Sunday with local community groups and the Marion Council to plant 7000 seedlings around the Oaklands Park wetlands. We will enjoy that, and the reminder to us of the 20,000 native trees that we planted with the assistance of SA Woods and Forests and Trees for Life at our last 40 acre lakeside property at Finniss. We were sad to leave that lovely property but all good things come to an end in time.

The establishment of Circuit Excel had been a priority project for our ENGMAN Engineering partnership ever since we outlined the concept to Darren Mattiske's JDP kids and their parents in June 2010. The category has succeeded beyond our expectations, and it should continue to develop for as long as there are sufficient Hyundai Excel donor cars; we are indeed fortunate that Hyundai imported over 300,000 of these great little cars into Australia.

**So now seems a good time for Margaret and I to end this story, which really is a tale of constructive contributions in so many ways by a raft of different people across the country in active support of their chosen life styles.**

**Ours is not a moral tale, we have simply done what we wanted to do for the 60 or so years of our marriage partnership, with mutual respect of our individual foibles. Life has been good to us!**

**Have fun!**

*Margaret & Trevor Pound*

Marion SA, July 2015

