

## ***The Early Years***

Campbell Robert Bolwell, the Founder and Chairman of Bolwell Corporation, was born in May 1942 in Edenhope Victoria, the second of three sons, to James (Jim) and Lorna Bolwell. Winston, the oldest, was born in December 1940, and Graeme, the youngest, was born in August 1943. Together, the Bolwell Brothers were a formidable combination whose legacy has had a major impact upon the Australian automotive industry for over fifty years.

James Bolwell was a school head teacher, and Graeme's earliest memories are of his father as a school teacher at Mundoona, 17 miles north of Shepparton in Victoria – a single teacher school with about twenty-five students. "Dad would get out there on Monday morning and raise the flag and play God Save the Queen on his violin and we all had to sing along. It was a real, old style country school". The Bolwell family later moved to Pearcedale on Victoria's Mornington Peninsula in 1950 where Mr Bolwell bought a farm. His family background was in Horsham, wheat farming, and Mrs Bolwell had her roots in the Wimmera area – Graeme believes that his father wanted to get out of teaching and get back to the land. They stayed at Pearcedale for three years. Winston and Campbell had finished primary school and were catching the bus into Frankston High School, so Mrs Bolwell apparently made the decision that the family should move into Frankston. The Bolwell family moved into number 20 William Street in Frankston in 1953.

The Bolwell Brothers all went to Frankston High School, although Graeme recalls that Winston was amazingly good with his hands and would really have preferred to attend a Tech School. In fact Winston went on to become a secondary school metal-work teacher. Campbell failed year 12 at High School, preferring to spend all his time dreaming about cars and not going to school. He went into the Education Department for a couple of years and hated that. He then got a job at GJ Coles, first as a photographer as part of the in-house magazine, where, he says, "I saw so much of Lady Coles' corgis it drove me crazy". He didn't stay there long and was sent down to the floor as a trainee manager which he hated, but in those days £17 per week was a lot of money. Graeme struggled through High School and left to join the

Victoria Police as a Junior Police Trainee. Perhaps not surprisingly, Graeme transferred to the Transport Division after graduating as a Police Constable and ended up driving in the plain clothes wireless patrols.

Despite the differences in their schooling and early working life all three Bolwell Brothers grew up with a love of cars and their Frankston home was later to become the head office of Bolwell Cars, the precursor to the multi-million dollar, multi-national Bolwell Corporation.

It was also at Frankston that the Bolwell Brothers would meet a bunch of characters who would play important roles in the inception, development and growth of the Bolwell Corporation. Some of these individuals include Linley Hughes, Ross McConnell, Ron Davies, Brian Wilson and John Latham (plus many more of course).

## ***Backyard Specials***

Winston, as the oldest, was the first of the Bolwell Brothers to really get involved with cars, and especially sports cars and specials. He started off with Austin 7s and MGs. Campbell remembers him restoring a rare J3 MG that he bought, excluding the supercharger, for £90, and with which he won the Concours d'Elegance at Healesville run by the MG Car Club one year. Winston was helped in his sports car activities by having an understanding father, and also by having a large triple car garage/workshop in the back-yard. Ross McConnell, next door neighbour and later Bolwell employee, recalls that Mr Bolwell once made a fibreglass caravan to tow behind his Type 3 Volkswagen – he needed something light so he made up a steel or aluminium frame and cut-up and riveted on fibreglass panels. It was only basic but it did have independent suspension.

It wasn't long before William Street Frankston became one of the favoured hang-outs for the local petrol-heads.

Campbell's first car, which is now generally referred to as the Bolwell Mk1, started off life as a 1937 Ford V8 sedan that he had bought for £50 despite being only about 15 at the time. His introduction into sports cars came about when brother Graeme and his mate from school, Linley Hughes, decided to take half a day off from school and "borrow" the car. Campbell recalls that this was a bit strange because skipping school to play with his car was something he was more likely to do than Graeme, but he actually happened to be at school that day. Says Campbell, "They took it up in the local pine forest and proceeded to try to destroy it, or something. I came home from school and Graeme was there, not looking at me directly and I thought that something's going on here so I asked him what had happened. He replied that they'd had a bit of a prang so we went out to the shed to have a look at the car. I don't know what they did or how they managed to destroy every panel on the car, but they totally demolished my car".

"What that meant was that I was pushed into doing something about building my own sports car. So I took it up the bushes and undid the screws and heaved the

body off, so I had a chassis, motor, gearbox, diff - everything was there. And I had this dream – a dream about beating Austin Healeys. Austin Healeys were definitely the car to beat”.

Once the body was off Campbell made a light tubular frame and metal covering, basically to reduce its weight so it would beat an Austin Healey. The problem was that it had all the weight up the front with the huge side-valve V8 engine. It did have hydraulic brakes and that was something; in fact this was the first model with the hydraulic brakes. Campbell claims that it did 0 to 50 mph in about 8 seconds, which was about Healey time in those days. But it was a monster – it had a 7 ft 6 inches long bonnet and leather bonnet straps.

The original Ford three speed gearbox was replaced with an old Blitzwagen four speed crash gearbox that Campbell bought for £5 from a truck driver who lived across the road. He had an adapter made and had to double declutch where-ever he went, but it was a solid gearbox and it wasn't going to give out no matter what. The wheel base stayed the same, and Campbell retained the standard 16 inch wheels. He fitted two Singer bucket seats and a universal joint was incorporated into the steering mechanism to lower the steering wheel and provide a more sporty driving position. The end result was a sport car that looked enormous but which actually looked more impressive than it really was because it didn't have sufficient traction.

Campbell recalls, “I've got a photo somewhere of Graeme and I with a couple of chicks sitting in it – it was only built of two but we had four in it. It used to impress the women – you have no idea”. “The lesson I learnt was that light-weight and [proper](#) weight distribution was what it was all about”.

Campbell eventually sold his car for £100 to a friend of his who used to take it through the sand blocks down the Pines Estate in Frankston. Apparently he was racing his mate one day and the light-weight body of the car was ripped it off and that was the end of it – Campbell's pride and joy was scrapped.

It didn't take Campbell too long to incorporate his own sports car design theories into the Bolwell Mk2. Campbell was a huge fan of Colin Chapman and Lotus cars, and

was keen to put Chapman's principals of light-weight construction; weight distribution and traction into practice for himself. The Bolwell Mk2 was based on an MG J2 chassis and a side-valve Ford 10 engine and gearbox that Campbell moved right back so the driver was sitting almost between the back wheels. It had an MG radiator that was moved down and back so that it was actually behind the front axle. Suspension was standard MG but with the friction dampers taken off. It had 19 inch wheels at the back and cut down wire wheels about 13 or 14 inches on the front. The back wheels were disks and the car was instantly recognisable where-ever it went. The seats were bucket seats formed out of aluminium with a cushion on, and it had other parts from just about everything, including a Volkswagen horn.

Finally the day came when it was the time to fire up the engine. It was a Saturday morning and all the local petrol heads had congregated at the Bolwells' place. Someone suggested that Campbell should take the car for a drive, although Campbell was reluctant seeing that he was only 16 years old and still two years away from getting his driver's license. Other factors included the steering being temporarily held on by a single bolt; the body was a simple tubular frame; there were no seats; and the drive shaft was about an inch and a half away from the driver's leg. Plus there were no cycle guards so the driver's elbow was in danger of scraping against the rear wheel.

"Mere technicalities" claimed Paul Morton, one of the gathered friends. He had dislocated his arm just two weeks before and his whole shoulder and arm was in a white cast, but that wasn't going to stop Paul on this day. Campbell explains, "It didn't have a gear shift or the throttle connected, but Paul said you could get a spanner and fix it onto the side of the gearbox to change the gears, and he would wedge his cast into the body frame and work the throttle with his other hand. Against my better judgment I was persuaded". "We thought that we'd better practice up in the back blocks of Frankston where the roads are made but there weren't too many houses, so off we go with Paul hanging off the side of the body. We were trying to synchronize the gear changes with the throttle and it wasn't working out too well because he was getting a bit excited and going a bit heavy on the accelerator. We came up Cliff Road and there was a sharp corner when it turned into William Street. I yelled out "Paul, we're going to turn right!" but no-one could

hear anything with the wind and the loud exhaust and he didn't ease off the throttle, and the car turned, and Paul didn't. I remember stopping and looking back and there was a white flash. I thought that he'd dislocated his arm again. But he got up, looking pretty sad and sorry for himself and we got the car home and in the garage before the cops came, and Paul went home around the corner. All the mates were wondering what we had done this time. Mr Morton, who was the chemist in Frankston, came around and gave me a bit of a roasting".

Campbell recalls, "The second car definitely went better than the Ford – it was exhilarating to drive because you were totally windblown, and petrol covered because it spat fuel everywhere – there was never an air cleaner on it. It weighed in at about 1,000 pounds (450 kilograms) and could accelerate at the same rate as the V8 car but with only a fraction of the horsepower. It was faster off the line with practically no wheel-spin, and it was much quicker through corners. Up to about 40 mph it was just like a little rocket ship, but then it would run out of puff".

Linley Hughes bought the Bolwell Mk2 for £100 and was able to register it after Campbell had failed. Linley recalls that maybe he had to put mud-flaps on the back – it had cycle guards all round. Linley in turn sold it 2 days before he went overseas in 1965. He remembers, with some embarrassment, "Just before I left they were having Friday night drinks after work at the Whitehorse Pub. I'd sold the car to someone at work or a friend of someone, and as I drove it into the car park the radiator fell out and I ran over it. And that's the last I ever saw of it, but I would love to find it".

## ***The Other Backyard Specials***

While Campbell was putting his mechanical theories and construction skills to the test, brothers Graeme and Winston became interested in the use of fibreglass as a suitable medium for creating lightweight bodies for sports cars.

The car that is now most commonly referred to as the Bolwell Mk3 belonged to younger brother Graeme. As an eighteen year old, and a Police cadet, Graeme had seen an MGA 1500 in a local car showroom. It was a bit battered but he thought that it looked quite presentable so, much to his father's disapproval, he took out a loan and bought it. He used to drive it to the Police training college in St Kilda Road. Graeme later did a car exchange with his dentist, a chap by the name of Bill Suhr, for a Jaguar/Healey special he'd been building. The Bolwell Brothers knew of the car and gave their seal of approval to Graeme and the deal was done.

The Jag/Healey special project started in 1960 when Bill Suhr bought a brand new Austin-Healey chassis from the local dealer in Frankston. He fitted Austin-Healey front suspension, rear axle, wire wheels, and had Dunlop SP racing tyres on it. It came with a hotted up Jaguar Mark VII engine and gearbox that had D type valves, cams and other go faster gear, and it performed very nicely. Bill Suhr had the car road registered (HHD-671) in 1961 and 1962, and had run the car at the Mt Martha Hill Climb, Geelong Sprints and at Phillip Island before deciding to move onto a new project.

Graeme remembers taking it down to Fishermans Bend one weekend to a drag meeting they used to hold down there and picked up three trophies that day; top speed of the meeting, fastest time of the day and something else. He still has the trophies at home somewhere. It would do a standing quarter mile in 13.9 seconds at 102 mph. By comparison, Linley Hughes claimed that in Campbell's MG special he could beat Graeme off the line but would soon run out of puff and only manage 19 seconds, which was still pretty quick.

Bill Suhr had fitted a fibreglass body on it from Bobby Wagg, who built fibreglass bodies in a Lotus 11 shape as a sideline to the plaster business he ran down in Dandenong Road. Graeme and Campbell would go cruising around the beach in the car and Campbell remembers the car as a real "chick magnet". He also recalls that it was the first car he was in that actually four wheel drifted.

The original fibreglass body was a bit heavy and was generally considered to be "ugly". Graeme didn't like it so eventually he put a body of his own design on it. This was to be the first fibreglass body built by Bolwell. He recalls that he started from scratch by making a centre bulkhead out of tubular steel and covering that in aluminium. He made the doors out of steel but used fibreglass for the bonnet and back panels. Graeme now concedes that as he was inexperienced in the use of fibreglass, he did it all the hard way by making the shape in plaster and chicken wire, getting that all smooth, then fibreglassing over it. The result was that the rough side of the glass was on the outside, which then had to be smoothed, filled and painted. Then he did the front in exactly the same way - it was a big lift up front a bit like the E-Types. As there was no mould at all, Graeme's first attempt at fibreglass car bodies was strictly a one-off. Graeme utilised the rear window from an FE Holden as his windscreen.

Graeme used the Jag/Healey special as a road car for a while, driving it to work, and with the occasional street drag up the main street of Frankston, before eventually advertising the car for sale in "Australian Motor Sports" magazine December 1963. The advertisement read "JAGUAR-HEALEY SPORTS – Jaguar 3.7 litre 2 OHC engine and gearbox. 260 bhp. Austin-Healey chassis and suspension (modified). Immaculate bright red fibreglass body resembles E-Type. New upholstery. 14.2 ¼ mile. 0-50 mph 5.2 sec. 20 mpg. Very reliable road car. £1,700".

The car was eventually traded in at Pitstop Motors in Frankston and bought by Rex Styles who worked as a salesman there. He used it as a road car and raced it in hillclimbs and other events as "The Elgaram". The history of the Elgaram is quite well documented and it is believed that the car is currently undergoing a restoration back to something close to its original Graeme Bolwell specification.

Not to be outdone by his youngest brother, Winston, who had an Austin-Healey 100/4, pulled the four cylinder engine out of it and put in a six cylinder Jaguar engine. Somewhat confusingly, this car is now often referred to as the Bolwell Mk3A, with Graeme's car being the Mk3B. Winston modified the front bulkhead and built a fibreglass front which made the car look a bit like a Ferrari or E-Type. He also hand-made an aluminium egg crate grill, a hard top, and a large flip-top petrol cap for the back shroud. Linley Hughes remembers Winston driving the car up to Longeranong where he was studying agriculture, and they would take their cars out to a little dirt race track near there and would go for a burn. Graeme claims that Winston's Jag/Healey never ever got anywhere near his, and reckons that it probably went better with the original four cylinder engine in it anyway.

As a young married man and father of two young children, Winston arranged to swap his special with his good friend Paul Morton for a Mini 850, believing the Mini to be a bit more sensible for a family man than the Jag/Healey.

Tragically, on 9<sup>th</sup> February 1969, while Winston, his wife Bev, and their two children were driving home, a coupe of drunks in a hotted up Holden with the police in pursuit went through a red traffic light and smashed into the Bolwell family's Mini. The Mini apparently spun around three times and ended up a considerable distance from the point of impact. Winston was critically injured and later died at the Alfred Hospital. Bev was in hospital for around six months, but fortunately neither of the children was old enough to remember anything much of that awful night. The drunks were apparently un-injured.

Winston is fondly remembered as probably the most conservative of the three Bolwell Brothers, but as someone with enormous creativity, energy and enthusiasm, and an amazing eye for detail and precision. Graeme and Campbell both consider him to have been a huge influence on their personal and automotive lives.

Paul Morton, who had swapped Winston's special for the Mini, took Winston's death very personally, and despite many offers over the years refused to part with Winston's car preferring to let it rust under a tarpaulin in his yard as something of a tribute to his friend. Even Graeme Bolwell's offer to buy the car was refused. The

car was, however, eventually moved and some restoration work done, although it is understood that the car is now quite different to the way that Winston had it configured.

## ***Open for Business***

In June 1962 a small sign appeared next to the letter box at 20 William Street, Frankston. It read simply, "Bolwell Cars". Campbell Bolwell, aged twenty, was open for business; the ultimate aim for a young petrol head. Campbell's original intention was to go into business with elder brother Winston, who was a secondary school teacher at that stage but when Winston went to live in the country, got married, and started playing with boats and Tiger Moth aeroplanes, that plan fell apart so Campbell went out on his own. For the next six months he kept his job at Coles while saving money furiously and planning the ultimate sports car. Finally, in December 1962, Campbell sacked his boss and with start up working capital of £200, went out fully on his own as a sports car manufacturer.

Jim Bolwell, who had come through the depression, would have much preferred his middle son to have a more stable job in the public service like his brothers, but gave Campbell his full support in his new venture, even to the point of parking his beloved Mark 5 Jaguar in the driveway so that Campbell could use the backyard workshop for his business pursuits. Campbell's parents also subsidised his living expenses and most importantly, they paid the electricity bills. The standing joke was that whenever he was welding all the lights in the district of Frankston South would dim down and everyone would say "Campbell's welding jigs again".

Whilst going into his own business at age twenty may seem to have been a bit naïve, Campbell at least had a clear idea of some of what he needed to do in order to get things started the right way. The design work for his first Bolwell chassis was completed while he was working at Coles and still earning a salary. Campbell had no formal training in spaceframe design, but gained his initial understanding by talking to as many people as he could about the topic and from books including the car designers' bible, Costin & Phipps 1963, *Racing and Sports Car Chassis Design*, Robert Bentley, Inc. Campbell maintains even today that there are some basic fundamentals for anyone going into the sports car business, and that although things have changed since the 1960s, like the development of shock absorbers and such, the concepts of keeping the outside wheel vertical and bump steers and geometries

and toe ins and cambers and casters hasn't really changed all that much. "They've just been refined" says Campbell.

Campbell also took classes to learn how to nickel bronze weld the chassis, because there was no-one else to weld them. Campbell explained that he chose nickel-bronze welding (it was fairly new in those days for space frames and most people just used to oxy weld them) because with nickel bronze the temperature is not too high and if you did get a breakage it was usually away from the weld. If you tore it apart you would tear the metal, as the joins would just not let go. Campbell reckoned that it was superb stuff, and ideal for what he wanted to achieve with Bolwell sports cars. Graeme clearly remembers Campbell at this time spending hours down the back with chalk marks on the concrete floor in the shed, welding up space frames, brazing all the steel tubes together in a jig he'd made.

Campbell does concede that he was still building the moulds for the body of his car when he left Coles, although he would obviously have preferred to also have had that process completed while still earning a salary. Fibreglass was an exciting new material in those days, and it was starting to be used in boats and other products. As Campbell states in his book *Designer, Creator, Manager*, 1991, Longman Professional, 'I never really wanted to be involved with fibreglass reinforced plastics, but it became a matter of necessity. It was the only means available to me to supply complex, compound shapes at reasonable prices and low tooling costs. I was more at home with steel and aluminium, but I was dragged kicking and screaming into the age of plastics by economic necessity. I found that I had to use fibreglass more and more to achieve my design goals'. Older brother Winston was especially excited by it and thought that it had great possibilities for sports cars and had encouraged Campbell along that path. So Campbell spent many a night designing, refining, sanding, refilling and re-sanding plaster moulds for his new car, before eventually being able to pull off a half-decent set of moulds.

The other essential factor that Campbell tried to plan for was to have the right equipment. Fortunately, Campbell's father and the Bolwell Brothers had, over the previous eight or nine years, built up a reasonable collection of tools in the backyard

workshop, so Campbell's business got off to a good start from that perspective. Any other tools or equipment needed had to then be begged, borrowed or stolen.

Finally, Campbell finished his first body and chassis prototype and took out a quarter page advertisement in Sports Car World. The body/chassis unit was advertised at £169 and the first unit sold very quickly.

Bolwell Cars was Open for Business.

## ***Be The Fastest Man***

Bolwell Cars' original advertisement in Sports Car World led with the headline "be the fastest man..." and then in smaller type "on the road using a superbly built Bolwell body-chassis unit". Later advertising specifically identified the car as a Bolwell Mk4, and described it as "a lightweight sports racing car designed and constructed to cover a wide variety of needs. Whether you want a car for racing or for your own pleasure on the road – this is the car for you".

Campbell Bolwell had a very clear target market in mind when he designed his first production car, and when he designed his advertising for it. His potential customers included like minded motoring enthusiasts (ie petrol heads), with little money but with some mechanical knowledge and with unbridled enthusiasm. There is no doubt also that Campbell had in mind that he could perhaps emulate one of his idols, Colin Chapman of Lotus. Campbell subscribed to many of the Lotus ideals of low weight, and so on, and maybe naively believed that if he could build a half-decent car he would be able to sell it. Also, in the same way that Colin Chapman had built a few specials before launching his first production Lotus, Campbell did the same with the naming of his first production car the Mk 4.

Design influences for the Mk4 included the Elfin Streamliner, the Lotus 11, and the Maserati Birdcage, the latter so named because of its intricate tubular spaceframe chassis. The Bolwell spaceframe was unusual because traditionally there were three chassis compartments; the engine; the cockpit to the scuttle; and the cockpit to the back; and the suspension was hung off the back and the front. Bolwell only used two compartments, with the driver's feet pushed through the main bulkhead and the engine moved right back to the offside of the driver's legs to get better weight distribution, more like a rear engined car.

The Bolwell chassis was light, only about 50 pounds or so, and comprised of 1",  $\frac{3}{4}$ " and  $\frac{5}{8}$ " round and section mild steel tubing of 16 and 18 swg. The frames were built in a jig for accuracy and consistency, and finished in a hammertex grey coating. Body weight was minimized by the use of full aluminium floor panels, inner guards,

and cockpit sides and hinged dropdown doors. Fibreglass was used for the front and rear sections, which were hinged at the front and rear of the frame to allow maximum accessibility. Overall weight for the body-chassis unit was claimed to be "a mere 1½ cwt" with potential for a fully assembled car to weigh in at around 8½ cwt.

Constructing the fibreglass body was a new challenge for Campbell. He had previously learnt some metal working skills with his earlier specials and was quite comfortable working with metal, but fibreglass was still a new medium, and new techniques had to be tested, and refined. Much of the effort, locked away in the family garage, was simply trial and error, building a set of plaster moulds for the front and rear sections of the car. Campbell did have the nous to keep the design of the fibreglass panels reasonably straightforward so the moulds weren't overly complex. Younger brother Graeme was going through his Police training at this time, but he still managed to find some time to assist.

The chassis was designed to accommodate a range of stock component parts including:

- Triumph Herald front suspension (ie wishbones, anti-sway bar, brakes and wheels) which was quite popular in those days with Lotus and others. It had very good geometry and rack and pinion steering.
- Standard 10 brake and clutch hydraulic pedal unit, radiator and differential complete with rear brakes, used in conjunction with an A frame and two trailing links.
- Morris Minor petrol tank
- Fiat 1100 battery
- Cortina, Anglia and Falcon motor and gearbox units. Taller motors such as BMC, Peugeot, Simca, Hillman etc could be used with a bonnet bulge.

As such, the Bolwell Mk4 was designed entirely consistent with Campbell Bolwell's ideas in relation to low height and good aerodynamics, minimal weight, and balanced front-rear weight distribution.

The Bolwell Mk4 claimed to have an exceptionally low all round design, compared to other front engined cars. It stood just 24½" from the ground to the top of the

scuttle so it was quite extreme, and such is the passion of youth that Mk4 owners didn't seem to mind the cramped footwells and that the seats were inclined at a 45 degree angle. Stirling Moss was, after all, the hero at the time. Comparably speaking, the Bolwell was lower and sleeker and nastier than similar cars, and it had the high rear end on it. For improved aerodynamics it had the kamm tail, which was usually just dreamt about in those years.

In addition to the more usual sports body-chassis unit, Bolwell also offered a GT body-chassis unit, which basically shared the same chassis as the sports model, but came with an entirely different rear fibreglass section which included an "armourfloat" windscreen and a large perspex rear window. The GT had hinged gull-wing type doors with fixed side windows. Manufacture of the doors was quite primitive, with the doors being cut out of the body/roof panel with a jig saw, and aluminium frames affixed to provide some strengthening. Graeme Bolwell recalls working on the bucks for the GT model whilst on leave from the Police Force. Linley Hughes also recalls helping out with the moulds for the GT and having to use plenty of pink filler to get the finish to Campbell's expectations.

At £169 for the Mk4 body/chassis unit, sales were quite brisk, but after a year or so, with the assistance of Jill White, an accountant who lived next door, Campbell realized that he was actually losing about £12 on each body/chassis unit. Realizing that poverty was a real possibility unless he could actually make money on his cars, Campbell commenced a review of the business. One outcome of that review was that the price was increased to £198, and £298 for the GT version. Another outcome was the introduction of a new lower cost, more labour efficient, unitary back-bone type chassis and a new version of the Mk4.

The new version became known as the Bolwell Mk4B. As well as changes to the chassis, the body work was slightly redesigned and some of the 'swoopiness' removed – many enthusiasts prefer the Mk4B's more refined lines. The interior was also redesigned. Advertisements claimed many other advantages with the unitary construction, including integrated footwells, transmission tunnel and fibreglass dash, increased cockpit room, higher torsional stiffness, and lower overall weight.

It wasn't at all surprising that there was considerable interest in racing the new light-weight Bolwell sports cars. John White, one of the founding members of the Bolwell Car Club, bought his Bolwell Mk4 GT in 1963, fitted it with a hot MGA 1600 engine and has many fond memories of club racing.

Bolwell Cars entered into a form of joint venture with racer Terry Scully who raced a Hillman powered Mk4 at Sandown and Calder Park. A Bolwell Mk4 featured on the cover of Australian Autosportsman magazine's April 1964 issue. Perhaps the most well known Mk4 was that raced by Peter Mahony (actually it was the same car that Terry Scully had raced). Peter had a Holden six cylinder engine fitted to the Bolwell, which required extra bracing to support the additional weight up front. When he advertised the Mk4 for sale in early 1968, Peter could claim that it was the most successful and reliable Division 2 car in Victoria, with three wins from its last four starts. It held the under 3000cc sports car records at the Templestowe and Lakeland hillclimbs. Top speed was claimed to be 133 mph with a standing quarter mile in 13.8 seconds. The advertised price was \$1,750. Peter actually bought back the Bolwell in the early 1990s and has since campaigned it very successfully in historic racing events with his son Stewart. The Mk4 has held lap records at Wakefield and Oran Parks, plus numerous trophies at various other events.

Bolwell Cars only made one factory built Mk4. Referred to as the Mk4C, it is definitely a one-off and is believed to be the last Mk4 ever made. In 1965, Winston Bolwell, so the story goes, had an accident in his Hillman Imp and in the absence of insurance cover decided to combine what was left of the Imp with some bits from a Mk4 out of the factory. The result was the Bolwell Mk4C, powered by a rear engined 875cc Hillman engine, with Hillman front and rear suspension, and running on 12" steel Imp wheels. Although it retained most of the Bolwell spaceframe chassis and aluminium floorpan, the body was narrowed by some 8" to suit the smaller Imp track. Winston apparently built the Mk4C, including building a brand new body, in an amazing time of two weeks, then apparently changed over the number plates and quite happily drove the car around for about a year without re-registering it. Since then the Mk4C has had a number of owners but has also had a successful racing record, holding the Class record at Rob Roy Hillclimb at one stage. The Mk4C is

currently owned by Bolwell Car Club member Paul Ewins who is in the process of a full restoration.

By the time that production stopped in 1965, Bolwell Cars had sold approximately 100 Mk4 body/chassis units, including 12 GT versions.

## ***The Bolwell Business Grows***

Campbell hadn't been in business very long when he was approached by one of his petrol head mates, Ron Davies, who said that he wanted to work with Campbell building sports cars. The story is that Campbell told Ron that he couldn't afford to pay him anything, to which Ron apparently responded that he work there for nothing; just for the experience. Campbell remembers that he did most of the welding of the chassis and that Ron did most of the fibreglass work, but that they both got sore wrists from pop riveting everything together with the old fashioned pop rivet pliers. Campbell comments that they didn't actually suffer from RSI because it hadn't been invented back then. It is understood that Ron was actually paid and stayed at Bolwell with Campbell for quite some time, and was best man at Campbell's wedding in January 1964. In fact, at the time of writing, Ron is back as an employee at Bolwell Corporation, and Campbell still claims him as one his best mates.

Whilst it was fine for Bolwell Cars to get started in the family garage, after a couple of years Campbell decided that he had outgrown the garage and should rent a factory of his own. He found what he first thought was a suitable place at the back of a builder's yard in Douglas Grove, Frankston. Rent was £5 per week. Campbell and Ron then set up shop in an old asbestos shed that apparently used to be a brick or tile kiln.

Bolwell Cars first commercial sale of a Mk4 was made from the old shed. Ron was working in the shed alone (Campbell was off somewhere sourcing parts or something) and a young bloke by the name of Brian Wilson came in. Campbell still remembers him as 'only two or three years older than me, not very tall but full of vim and vigor and confidence'. Funny how you remember some people sometimes. Ron thought that he should do the right thing and give the customer the sales spiel about the car, but Brian had made his mind up and knew that he wanted a Bolwell, and didn't need the sales talk. Brian paid his deposit and arrangements were made for him to collect his new Bolwell body/chassis unit.

Brian claimed that he would have the car finished in three weeks; a claim that was scoffed at by Ron and Campbell. But to their immense surprise, in two weeks Brian was back to proudly show off his Zephyr powered Bolwell Mk4. The fact that the Mk4 had been fitted with a larger 6 cylinder engine came as a bit of a surprise to Campbell as he had really designed the body and chassis around the Cortina 4 cylinder engine. Campbell liked the Cortina engine as it was reasonably light, and could be hotted up quite easily. Plus it could be mounted on a slight angle to fit under the bonnet without having to add a bonnet bulge. Campbell also liked the Simca engine, for the same reasons. With the larger and heavier six cylinder engine, Campbell had some concerns about the driver having a lump of hot cast iron sitting so close to their legs and feet. Plus there would be a need for some reinforcing of the chassis and suspension to cope with the extra weight, although Campbell was very confident in the strength of the nickel bronze welds he was using. Finally, the designer in Campbell felt that his design for the Mk4 was being compromised by the use of large bonnet bulges required to accommodate the Holden 6s. These factors had a clear bearing on future Bolwell models.

It is very much an understatement to say that Campbell was pleased with his first sale. He was euphoric! Here he was; a self employed businessman at age twenty, and he had just created a new design, produced it, and finally sold it. Did he actually make any money on his first sale? Probably not. But he had made a sale and the scene was set for bigger and better things.

It was around this time that Campbell gained a part-time employee, his next door neighbour Ross McConnell. Like the Bolwells, the McConnell family had moved to Frankston from the country, and Ross still remembers seeing the sports cars of Winston and his friends parked next door when he first arrived in the removal truck. Although some six years younger than Campbell, Ross very quickly befriended the Bolwell Brothers and used to spend a lot of time next door with "the big kids". When Campbell set up business Ross would help out after school sweeping floors, tidying up and so forth. It didn't really matter too much to Ross what he did, as long as he could be around the cars. Ross would later be a vital part of the growth of Bolwell Cars.

While Campbell was busy getting the manufacturing and sales aspects of his business underway, he admits that he really didn't have much of a clue business-wise. As Campbell jokes in his book 'I thought that Company was the reason you kept a dog; Ledgers were narrow horizontal surfaces you put things on for the purpose of collecting dust; and that Costing was a local Chinese supermarket. I didn't know nothin'. His next door neighbour, Jill White, who was a junior partner in a local accounting firm, came to his assistance. She advised him that he really needed to register the business and in the end she actually did that on his behalf. She also told Campbell that he needed to do his accounts and tax return every year, and she ended up doing the books for him – very much the old shoe box full of receipts type of thing. Basically, however, Campbell learned about business from the school of hard knocks.

Originally the business was registered as a trading name only, but later was converted to a proper company, Bolwell Cars Pty Ltd. A few years later, around 1969, a separate company, Bolwell Cars (Sales) Pty Ltd, was created because tax was paid on the last wholesale price so cars were sold from the manufacturing company to the sales company and tax was paid based on the wholesale price. This was the way that the whole automotive industry worked at the time so Bolwell wasn't doing anything new in this regard. So from being a 16 year old kid building cars in his father's garage, Campbell quite soon became the Managing Director of the Bolwell Group of Companies.

## ***Bolwell Cars On The Move***

Bolwell Cars moved into new premises in Milne Avenue Seaford in mid 1964. Campbell had quite quickly come to the conclusion that a battered old asbestos shed wasn't a professional place for Bolwell Cars to work from, and that he needed something better. Of course this posed a financial challenge for an up and coming young sports car manufacturer, especially considering that he had just married in January 1964, but Campbell's parents came to his assistance. Despite their initial reservations about him going into his own business, after two years and still surviving, Jim and Lorna Bolwell recognized not only their son's determination to succeed, but were also at least semi-convinced that there was some future potential in the Bolwell Cars business. As a consequence, they mortgaged their William Street home for £5,000 and lent it to Campbell to help with his business. The deal was that as long as Campbell paid the interest on the loan then everyone would be happy.

With the assistance of the loan from his parents, Campbell bought a block of land at number 4 Milne Avenue Seaford for £1,100, and built a 20' x 20' tin shed for around another £900. Campbell couldn't afford a concrete floor for the whole factory, so part of it stayed as sand, which was quite good for messy jobs like fibreglassing and could just be raked over from time to time. The factory was later extended to 60' x 20' but never had any toilets or washrooms – there weren't any female employees and there was an open paddock with a few trees which was quite adequate for the boys. The location suited the car business very well, as there were very few neighboring factories and the cars could be test driven around the block.

There was, however, something of a major problem when Bolwell Cars moved into the new Milne Avenue factory – there was no power. The factory was all wired up, and there was power to the pole outside, but Campbell's electrician had gone away for an illicit holiday with his girlfriend (which was very much a no-no in those days). Campbell was stuck, therefore, with having to build cars and run a business without any electricity. Not to be deterred, Campbell was assisted by one of his young workers by the name of Lindsay Sinclair in coming up with a temporary, albeit illegal solution involving a length of cable with some large spring clips at each end. By

connecting the cable between the factory and the power pole respectively, power could be connected to the factory. The plan was that if anything untoward appeared likely to happen then the cable could be yanked down and the power disconnected. So the cable and spring clamps were installed and the power was connected. For a long, nervous week, Bolwell Cars operated using stolen electricity, until the proverbial hit the fan and a State Electricity Commission truck pulled up the front of the factory. In a panic Lindsay yanked on the cable, disconnected the power, and fell on the floor swearing. Campbell, meanwhile, calmly went out to meet the SEC workers who really just wanted some fibreglass materials. Fortunately, for everyone's mental health as much as anything else, the power was properly connected soon after.

Ross McConnell, who used to sweep the floors after school at the old shed, eventually became a full time employee of Bolwell Cars at age sixteen. He didn't really know what he wanted to do after he left school so his parents sent him off to vocational guidance in the City to work out what he should be. They thought that possibly he should be a printer because a friend's son was a printer and that seemed like a good job. But Ross wasn't too keen on that idea so he got off the train at Seaford and went to see Campbell. He asked if he could work there and Campbell said 'right-oh' and that was that.

Bolwell Cars was reasonably well established by the time Ross started there in 1964 and production of the Mk4 was well underway. One of the many jobs that Ross remembers doing at Bolwell was assembling a Haflinger. The Haflinger was a small all terrain vehicle, with a small cabin for the driver and a small tray on the back. The job was to put the body on the chassis, which was supplied, and then assemble the tray and everything else. From time to time the Haflingers were taken for a "test drive" around the block. This was only a short-lived project for Bolwell Cars with only half a dozen or so Haflingers assembled.

In October 1964, Graeme Bolwell left the Victoria Police and joined his brother Campbell at Bolwell Cars.

Life in a small business at any time can have its challenges, and it was no different for Bolwell Cars. Working on cars was, of course, the main thing, but if something else came along Campbell would take it. So Bolwell Cars did some assembly work, and finished off car projects that other people had started. Graeme Bolwell remembers one job that nearly killed both him and Campbell. A friend of theirs had an apple orchard at Tyabb. He had a large fan sprayer for all the trees, but the pesticide tank was leaking. He asked Campbell if fibreglass would fix it and of course Campbell said yes; so the two brothers went down there armed with matt and resin and a tool kit. Of course someone had to get inside the tank and laminate a couple of layers of fibreglass all around the inside. Graeme recalls that the fumes were absolutely overpowering and he still believes that it was a wonder that they both got out of there alive. But, says Graeme, that's the sort of job that Campbell would take on – anything with fibreglass.

Some of the conditions at Bolwell Cars were, by necessity, fairly basic. For a long time there was only one drill and everyone had to share it, but when you are young and enthusiastic that was alright. The pay was pretty terrible but for young car enthusiasts your heart rules your head and that's what they did. Over time there were a considerable number of people who worked at Bolwell Cars – many of them were kids from around Frankston of a similar age who were sports car nuts and all wanted to work there. But there weren't very many who were long term employees.

Despite everyone's relative inexperience, and with so many people coming and going, some things at Bolwell Cars were actually somewhat organised. There was a system in place, for instance, with the chassis section and the fibreglass section rather than have one person running around trying to do everything. Campbell's basic theory was to get young people and train them and if they had certain skills then to capitalize on those skills. Ross McConnell remembers that Campbell was organizing everything so if he went out there wasn't a next in charge, and a lot of the young guys there were a bit irresponsible and would do things that Campbell wouldn't be too impressed about. But in the end they were all car nuts. Graeme recalls, for instance, that Doug Taylor had a little bug-eye Sprite and Ross Elliot had a Mini Cooper, and everyone would wait for him to arrive at work every day because he'd come down the street and do a hand brake turn and park against the gutter

perfectly every time, ready to go of a night time. Sometimes they used to race their cars around the factory and in winter the ground outside would be all chopped up. These days you'd say it was all pretty irresponsible, but ultimately that was part of the price to be paid for hiring all young blokes.

Graeme recalls that Campbell soon got to be very good at operating on a shoe string budget and if he hadn't been able to do so then the business would never have worked.

As Bolwell Cars started to build up some momentum, Campbell realized that he still didn't seem to actually be making any money. He was simply running the business on cash flow - if there was money in the bank he could spend it, but if not he couldn't spend it and what-ever it was he needed would simply have to wait. Not a great way to run a business if you can avoid it.

Fortuitously, at just that moment in time, Brian Wilson (of the Zephyr powered Mk4) dropped into the factory one Saturday morning. Brian was working for Repco, as a bit of a troubleshooter whereby Repco would send him into their factories that were under-performing and he would do what was necessary to get them performing satisfactorily. Campbell told Brian that he didn't seem to be making any money, so Brian asked to have a look at the balance sheet and financial statements. Campbell recalls that from a drawer somewhere under all the dust he dragged out a balance sheet about 18 months old. It had been done by Jill White who was the accountant who lived next door. Brian apparently said, "Not the old one, I want to see last month's", to which Campbell replied that it hadn't been done yet – the financial stuff only gets done for the tax return each year.

Brian then passed onto Campbell some important facts about business life; including the advice that he really needed to do his financials every month or he would never know where he stood financially. Campbell claims that he immediately took this advice to heart and from that time on every month he did his own rudimentary balance sheets and profit and loss statements. As a result he started to have a much better idea as to what was going on financially in the business and at some stage he started to make a little bit of money, mainly through controlling his cash flow much

better but also by applying some price adjustments. In retrospect, Campbell believes that Brian was probably the first person with a business brain around the business.

### ***It Only Looks Expensive – Mk5***

Bolwell Cars demonstrated that it had made the transition from a backyard business to a serious specialist vehicle manufacturer with the release of the Bolwell Mk5. Although sales of the open top Mk4 were still going well, Campbell Bolwell wanted to move forward by putting into place some new design and manufacturing concepts, new marketing ideas, and so on. He achieved this with his Mk5 model, which cost £330 for the body-chassis kit, and which was variously advertised as "It only looks expensive", "...this car does not cost £3,441!" and "A device for making dreams come true".

One of the prime motivators behind the Mk5 was that the design purist in Campbell always had difficulty with the concept of owners fitting a large, heavy 6 cylinder engine in a car that had been designed for a light-weight 4. Not only did this potentially upset the balance of the chassis and suspension, it also necessitated ungainly and sometimes ugly bonnet bulges.

The pragmatist in Campbell (and perhaps the marketeer in him as well) also realized the opportunities of appealing directly to the 6 cylinder Holden owner. In fact, Campbell has jokingly referred to the target market for the Bolwell Mk5 as "sports car enthusiasts and owners of rusty Holdens".

Let's just pause a moment to try to put this last comment into context. "Australia's Own Car", the 48-215 Holden (usually referred to as the FX) first rolled off the production line just before Christmas in 1948. In 1953 the FX Holden was slightly updated to become the FJ, and by the time the FJ ended production in 1956 Holden had sold approximately 300,000 FX/FJ Holdens with the now legendary "grey" motor. By 1962, up the EJ model, close to 1,000,000 Holdens had been built with the "grey" motor. The new EH Holden was released in 1963 and featured the new "red" motors, in 149 and 179 configurations. So by the time that Bolwell released the Mk5, there were over a million suitable Holden "grey" engines out there somewhere

and the FX/FJ models that Bolwell suggested as being suitable donor vehicles were likely to be at least 10 years old and therefore quite affordable.

The Mk5 chassis was therefore designed to suit Holden engines and suspension with much of the other componentary in the Mk5 also sourced from Holdens. With such widespread availability of second hand Holden engines and other parts, Bolwell Cars was able to target a much wider audience for the Mk5 model. To some extent this offset the price increase from £198 for the Mk4 to £330 for the Mk5, although both models were offered as quite distinct choices to prospective Bolwell owners for a considerable period of time (the Mk4 was not pensioned off until 1965 after selling some 100 units).

One of the original design concepts for the Bolwell Mk5 was that it should have a simpler body design that would reduce the number of compound curves and would thus be easier and cheaper to manufacture. Cheaper to manufacture therefore hopefully offers the ability to offer the car to market at a cheaper price.

Early advertisements for the Mk5 described it as "stylish but functional. A practical road car with aerodynamics and a futuristic body design. Yet is still affords a spacious interior." The sides were essentially flat, but with a distinctive sharp style-line running full length along the body over enclosed wheel arches. That style-line feature was retained in subsequent Bolwell models, including the 2008 Nagari. The rear featured a large bulbous type rear window which bore similarities to the Jensen Interceptor of the time.

Edsel is not normally a name that one associates with sports cars but Campbell Bolwell concedes that the original design of the Mk5 was "terrible", and that the Mk5 was his Edsel. In fact it was so terrible that after selling around a dozen or so of the original design he largely redesigned the body and offered owners the opportunity to return their cars to the Bolwell factory and have the new body fitted as a replacement to the original "terrible" design. Most owners took Bolwell up on the offer, although Campbell believes that there still may be one or two of the original bodied Mk5s out there somewhere. The new body design retained the large rear window (subsequently described as offering "panoramic visibility") but the overall

design was more in tune with the swoopy profile of the earlier Mk4 models, with the front being much smoother and very definitely influenced by the popular Jaguar E-Type.

The Bolwell Mk5 is also significant in the history of Bolwell in that it is the first model in which all the Bolwell Brothers were "officially" involved. Manufacture of the Mk5 had commenced in 1964 but Graeme joined Bolwell Cars as an employee in October 1964 and worked on this and the Mk4B. After Campbell redesigned the Mk5 body, he turned to elder brother Winston who was working as a technical school teacher at the time. Winston actually made the moulds and buck for the new body in his garage before they were shipped to the Bolwell Factory in Milne Avenue for manufacture.

The chassis was described in the Bolwell brochure as "a backbone back-bone type unitary constructed chassis made from rustproof, light gauge spot welded panels". Graeme Bolwell recalls, "The chassis was steel plate, like the Mk4B, but with a bit of tube in it to pick up the suspension. It was spot welded and we used to cut, bend and fold it all in the factory." The chassis incorporated the footwells, front and rear inner guards, transmission tunnel, luggage compartment, cockpit sides and floor. In keeping with Campbell's sports car design theories, the chassis was designed so that the engine was mounted well back from the front cross member in order to improve front/rear weight distribution.

Brackets and mounting points were provided for other components including Holden engine and gearbox, tail-shaft (which required shortening), rear suspension (with some leaves removed), front suspension (without coils and steering), wheels and tyres, radiator, battery, electrical components including voltage regulator, switches, interior light, instruments, fuel tank and so on. FX and FJ Holdens were considered to be most suitable donors, although the hydraulic pedal unit from an FE or FC Holden was recommended. Basically the only non-Holden components used were a modified Morris Minor rack and pinion steering set-up and front coils from a Standard 10 or Austin A30 (or similar) to replace the standard Holden coils. Bucket seats from a range of vehicles, including Austin Sprite or Hillman Imp could be used.

The Mk5 body was fibreglass, with thickness ranging between 1/8" and 3/8" depending on the stress of the area. Dashboard and all inner stress members were bonded into the body. In a change from the originally advertised "aerodynamic and futuristic" body design, the Bolwell brochures described the revised body as, "a strikingly individual and glamorous shape. Notice the smooth sleek lines of this thoroughbred. A car that would surely would not look out of place in any surroundings". The glamorous aspect was picked up some of the Bolwell Mk5 advertising, which featured Graeme Bolwell dressed to the nines in suit and bow tie with an elegant young lady by the name of Helen Plimmon photographed at night outside the movie theatre in Frankston with a stunning red Mk5 Bolwell.

Doors on the Mk5 were a real issue. Both Campbell and Graeme have commented on the amount of time it took to get the doors on this and other Bolwell models (including the 2008 Nagari) designed and working properly. With the Mk5, the body came out of the mould and the door shapes were literally cut out with a jig saw. Door jams and weather strips were then fitted, along with inner panels for each door, and the track for the sliding windows. Bolwell supplied the door hinges but the locks and catches were left up to the owner (Mini was a popular choice or MGA).

A glass windscreen was supplied, along with the large perspex rear window. Both front and rear windows were mounted in rubber sealing strips. The front bonnet section included headlight receptacles along with moulded acrylic headlight covers, and hinged forward for engine access. Attention to detail extended to the provision of depressions in the centre panel of the moulded fibreglass dash to take four standard 2" ancillary gauges.

All up, a completed Mk5 was estimated to weigh approximately 12½ cwt and to have a top speed of around 125 mph depending on engine tune and rear axle ratio. Performance and handling was largely up to the skills, and budget, of the owner. Certainly there was no shortage of "hot up" parts available for early model Holdens, including extractors and sports exhaust systems, carburettors, modified heads, and so on, and there were plenty of workshops around to modify or tune your engine if you couldn't do it yourself.

The effort needed to actually take a Bolwell Mk5 body-chassis kit and turn it into a "high speed and practical road car" should not be underestimated, and was never really a task for the feint hearted. Still, Bolwell advertising for the Mk5 suggested that a complete Mk5 could be built for an all up cost of around £500, and went on to suggest that this would produce a car with a resale value far in excess of this.

After purchasing his Bolwell kit and a suitable donor Holden, the owner/builder faced quite a challenge in dismantling the old car; refurbishing various components; adapting or manufacturing mounting brackets; modifying and installing the wiring loom and instrumentation; fitting the windscreen and large rear window without scratching them; installing door catches and locks; sourcing and fitting carpets, seats and roof lining; and much, much more. Of course the really keen owners could make even more work for themselves by changing the polarity of the electricals; fitting a newer disk brake Holden front end; changing to side-draught SU carburettors; using after market (eg Smiths) gauges instead of the standard Holden units; including universal joints in the steering column for a better driving position; and so on. On top of all this there was still the challenge of getting a Roadworthy Certificate, and arranging registration and insurance.

If you couldn't do it yourself, Bolwell advertised, "Drive in your old model Holden and we will construct your finished car using your components - £650 tax paid." At one stage Bolwell also offered "a complete finished car registered and ready to drive away – P.O.A." but this was problematic and reasonably short-lived exercise as a result of Bolwell Cars fighting a losing battle with the Australian Taxation Office. The ATO wanted to collect Sales Tax on what was in effect (with no disrespect intended) a kit car made from secondhand components, at new car rates. This added substantially to the cost of the completed car, which Campbell decided was unsustainable (although obviously if someone was prepared to pay the price then Bowell would do it).

In addition to the basic Mk5 body-chassis kit for £330 (\$660 after the introduction of decimal currency in February 1966), Bolwell cars also offered a wide range of extra products and services to prospective Bolwell owners which meant that they could order their Bolwell Mk5 in basically any state between the basic kit and a fully

assembled car. Options included an "A" bracket to give more positive location of the rear axle (\$20.00), tinted rear window (\$4.00), full carpeting and vinyl trim (\$44.00), hood-lining (\$30.00), roll bar fitted (\$13.00), teardrop bonnet bulge (\$12.00), full exterior spray painting (\$70.00), complete wiring (\$35.00), 15" wood rimmed steering wheel (\$34.00), reconditioned FJ motor with gearbox and shortened tail shaft (\$176.00), supply and fit floor change to gearbox (\$20.00), supply and fit four Dunlop B7 tyres and tubes (\$78.00) or Pirelli Cinturato (\$109.00), special strengthened chassis (\$40.00) and so much more.

A further sign of the maturity of Bolwell Cars was the ability to offer payment terms to purchasers of the Mk5. For the standard body-chassis unit costing £330 (\$660) the purchaser would pay a non-refundable deposit of £30 (\$60) when placing the order, a further £150 (\$300) on collecting the kit from the factory, and then repay the balance at £10 (\$20) per month. There were variations to these arrangements if the customer also chose from the range of optional extras and accessories offered with their basic body-chassis kit. Credit terms were offered through Opel Credits, which was a separate company set up specifically by Campbell for this purpose. Over a period of several years Campbell believes that he financed some thirty or forty cars through Opel Credits, and that in some years it almost seemed that he made more money on interest from offering credit terms on cars than he did on selling the cars themselves. Having a policeman for a good friend certainly helped keep bad debts to a minimum, but in the end Campbell decided that he preferred to concentrate on building cars rather than worrying about the paperwork involved in running a credit business and closed down Opel Credits.

Between its introduction in 1964 and its demise, Bolwell sold around 75 of the Mk5 model and provided sufficient profits to fund the development of future models of Bolwell Cars.

## ***The Missing Link – SR6***

The notion of Bolwell Cars entering into motor racing started to become a more serious proposition during production of the Bolwells Mk4. The interest in motor racing was spurred on by achievements by club racers in their Mk4s, and most particularly the success of Terry Scully in the "factory" Mk4 racer and later Peter Mahoney in the Holden engined Mk4. The outcome was the one and only Bolwell SR6.

Graeme Bolwell recalls, "The SR6 wasn't just a one-off but it was really intended to be our introduction into sports car racing, because some of the guys had done very well in their Mk4s. In that era Elfin cars were pretty big and were winning nearly every race. If you wanted to go racing you would seriously consider an Elfin. Every time you bought 'Racing Car News' magazine or whatever you'd see photos of Elfins and occasionally you would see a Mk4. To be competitive in the sports racing class you really had to be mid-engined. We thought, probably fairly ambitiously, that Bolwell could build a very competitive sports race car".

Fortuitously, at the same time that the Bolwell Brothers were considering building a sports race car, they were approached by Alan Newton from Yallourn, in Victoria's Gippsland area. Alan had achieved considerable success in racing a Jowlett-Holden in various hill climbs and other races around Melbourne, and originally approached Bolwell with a Mk4 in mind as a race car, potentially as a suitable body-chassis for his proven and successful Repco-Holden race engine. However one thing led to another and the discussion turned to mid-engined race cars.

Campbell takes up the story, "We wanted and had planned to do a mid-engined car. I had drawn up designs for it, and it was extremely radical – very, very low, small wheels, ultra light. If you thought the Mk4 was low this was lower. The idea was great aerodynamics, small frontal area, light-weight construction, even weight distribution, light unsprung weight; hence the smaller wider wheels, etc. On the basis of those drawings, Alan Newton decided that he wanted one and put down a deposit. In the end, for all sorts of reasons, we didn't end up building that car. We gave some consideration to doing something like the Lotus 30 monocoque racer, but

there were reports of the Lotus 30s breaking so we decided to try something else. After talking to Graeme about it, we decided just to start with a Mk4 and chop and channel the body, shorten the Mk4 front, and extend the Mk4 back section to go over the rear engine and put a little windscreen around it. We did a few sketches and showed the revised drawings to Alan and he was still happy, and that's how the Bolwell SR6 was born."

"We had decided that it wasn't going to be worth the effort tooling up for the SR6. It was always a racing car so it wasn't as if there was a big market out there and we were probably never going to make buckets of money out of it. The exposure that it would have bought us would have been great and we wanted it to look good. This thing was going to go out on the race track with our name on it and people would take photos of it and we wanted it to look good, and not just like a backyarder. As a purist, I had designed the Bolwell Mk6 but what turned out as the SR6 was quite different to what I had originally designed".

Graeme continues, "The SR6 ended up as a tubular space frame chassis bronzed together, with an aluminum floor and aluminium sides. It was unique because we built it to take a big six cylinder engine mated to a transaxle so it needed a completely new chassis. Campbell was really the chassis man. As far as the suspension, we were all intrigued with Lotus racing type suspension; things like roll centres, negative cambers and casters, unequal wishbones and all that sort of thing so Campbell would probably have drawn up the arcs and all that stuff and we would have used the Triumph Herald stub axles, and things like that. I modified the Mk4 body for the moulds, and there is a fair bit of influence from the Lotus 23 in the revised body design. We tried to get away with as little mould making as possible, mainly because we had already taken a deposit on the first car and we needed to get that car finished. So we shortened up a Mk4 front and used that, and made up the special chassis. That was quite an expensive exercise that one".

And that, as they say, was that. The SR6 was only ever conceived as a body chassis unit, but it took a huge length of time to be completed; so much so that by the time it was delivered to Alan Newton in 1969 work had well and truly commenced on the Bolwell Mk7. With its stopping and starting, design and redesign, and overall lack of

continuity and focus, it is difficult to imagine that the SR6 project was in any way profitable for Bolwell Cars. Due to cost and complexity, the SR6 never made it into production.

But the story of the SR6 is intriguing and it doesn't really just stop when the body/chassis left the Bolwell factory.

Once home, Alan started the hard work of transforming the Bolwell body and chassis into a race car, and to make things just a little more challenging, under the class in which he was intending to race, the car had to be road registerable as well. According to a newspaper report at the time, Alan's budget totaled around \$4,000. As previously mentioned, Alan already had a fully race prepared 2.6 litre Holden "grey" engine, to which he fitted a modified Volkswagen gearbox. Alan then had magnesium alloy wheels made at a cost of around \$100 each; six inches wide on the front and nine inches wide on the rear. Disk brakes were fitted on all four wheels. The SR6 was first raced in November 1989 and with its grey motor achieved best lap times of 52.2 seconds at Calder and 2 minutes 11 seconds at the Phillip Island circuit. The car was subsequently fitted with a Hewland Mk V transaxle (the VW box couldn't handle the power) and a 192 ci Holden "red" motor with triple 45DCOE Weber carburetors. Further modifications included a change to a Hewland FT200 transaxle, Brabham suspension, and so on. The original Bolwell fibreglass body was modified in 1970 to accommodate wider front wheels, and unfortunately some of the reasonably distinctive Bolwell front end appearance was lost in the fibreglasser's attempt to apply a bit of a US "Can-Am" look. Alan raced the SR6 32 times with an overall best of 48.7 seconds at Calder.

John White, a previous Bolwell Mk4B GT owner and a founding member of the Bolwell Car Club, purchased the SR6 in July 1974, and set about making his own modifications and enhancements to the car. Some of these changes including fitting Spitfire front uprights to the front and Renmax uprights to the rear of the car (these were effectively copies of Lotus 23 uprights); Bowin one piece magnesium alloy wheels which were 10" x 13" at the front and 14" x 13" at the rear; adjustable suspension: Armstrong shockers; AR Girling racing brake calipers; and more. When John originally purchased the car it was fitted with a dry-sumped 202 ci motor but

the oil scavenger pump was not adequate and John blew a piston during a race at Calder. That motor was replaced with a 192 ci unit producing some 210 bhp, but John continued to have persistent gearbox issues until he diagnosed a gearbox alignment problem that once corrected transformed the car into a much more consistent (and less expensive) performer. Wider rear guards were needed to suit the new wide wheels, and the bodywork was modified to suit the then trend towards wedge shaped racers. John raced the SR6 a total of 30 times with best times of 47.9 seconds at Calder, 35.6 seconds at Morwell and 2 minutes 3 seconds at Phillip Island.

The SR6 was then campaigned by Daryl Singleton and later Greg Findlater, both from Queensland. A report in 'Racing Car News' magazine in July 1978 describes the SR6 coming 9<sup>th</sup> in the third round of the Australian Sports Car Championship at Amaroo Park in NSW. The SR6 was driven by Matt Pintar and was competing against the Bolwell Nagaris of Ross Bond (race winner and series leader), John Gourlay and Alan Edwards. In 1990 the SR6 raced at the Adelaide Grand Prix Historics. In the early 1990s the car was acquired by Ken Messenger from South Australia, who achieved a top speed of 251 kmh at Phillip Island but unfortunately later had a nasty accident in the car. More recently the SR6 has been campaigned at Mallala and other South Australian tracks by Trevor Lambert, who was a most welcome visitor at the Phillip Island Historics in March 2007 and later at the Grand Prix at Albert Park, Melbourne. Most recent news about the SR6 is that it hit a wall at Mallala in June 2007 and is currently under restoration to its former glory.

### ***Graeme's International Interlude***

Graeme Bolwell and his mate Colin Taylor left Australia for England in March 1966, intent on a working holiday/adventure. When you talked about fibreglass sports cars in those days there were two big names – Lotus and the Chev Corvette. Their plan was to go to England and visit Lotus to have a good look around. If they could talk their way into a job at Lotus that would have been great, but if not the Aussie adventurers would have been happy to just drive buses and have a holiday. Then when they had seen enough of England, they thought that they wouldn't mind going over to America and having a look at the Corvette.

Although he had been working with Campbell for two or three years, at that stage Graeme was technically an employee with no financial involvement in the Company; he was single and he had no real ties to keep him in Australia. By then, Bolwell Cars had released the Bolwell Mk4, Mk4B, Mk5 and the Mk6, and the Mk7 mockup shape was about 70% complete – a plaster mould tucked in the corner of the factory. So even from the business perspective, it was a pretty reasonable time to travel. Fares were reasonably cheap, round £150.00 each, so the adventurers booked their passage on the Greek boat the Analese [??] and left home in March 1966, arriving in London some five weeks later.

After spending the first night in London, Graeme recalls, "The very next day we went to Australia House to enquire about finding a job but we didn't get much help there so the day after we took our suitcases and jumped on a train to Cheshunt, just north of London, where the Lotus factory was. We got there about 7.30 at night and decided we'd better find somewhere to sleep so we went into a hotel called the Pink Cow. We were much tanned, having just come through the Caribbean, so we stood out a bit and our accents helped too. Anyway we got to the hotel and asked if they had a room for the night and they didn't, which was a bit of a let down. Fortunately the bloke standing next to us introduced himself as George and said "You've come to work at Lotus have you?" so we said yes – and he said "Well I work there and I spray the green pin stripes down the side of the Lotus Cortinas". He said, "Come home with me and I'll put you up for the night and come down to Lotus in the

morning and see this bloke", and he gave us a name. Next morning we went and saw the chap at Lotus and we were both hired, earning £11.05 per week".

Graeme and Colin started at Lotus assembling Formula 2 racing cars. Their job was to go down to the store and get a whole lot of bits and put them all on the chassis. If they were lucky they sometimes got to go out to one of the race tracks where the cars were tested. Other current models at that time included the Elan and the twin cam Lotus Cortina. As it turned out the development section was run by John Joyce, an Aussie, and when he heard that Graeme and Colin were there they were transferred into the development section where they worked on the Lotus Europa, and built the second prototype.

Graeme recalls, "Their fibreglass work was done from specialized mouldings and it was phenomenal – no paint, just pre gel coat and it was just so smooth – I couldn't get over it. It was just beautiful. I went there hoping that I would learn a bit about fibreglass, and after working with it at Lotus I realized that at Bolwell we were doing things the hard way. When you look at a Lotus it's a lot more professional. I'd write a letter each week telling Campbell and the others back home what was happening. It was just phenomenal and I learnt so much and I brought so much back".

Graeme also thought that the Lotus chassis were amazing – it was very clever and as we now know it formed the basis for later Bolwell chassis. But, as Graeme recalls (in confidence of course), "We actually broke one - we broke a Europa". "We used to take the Lotus out to the Motor Industry Research Association – MIRA - test track somewhere. There were a whole lot of different manufacturers and they were in like horse stables. You'd walk along there and they didn't like you looking at all the new models from all the manufacturers". "We took the Lotus out there and they had a cobblestone track because there were still cobblestone streets in some parts of Europe and we broke the back suspension mounts there. So we had to go back to the drawing board on that one".

By August 1966, the adventurers had been at Lotus for five months and decided that it was time to go home. This time, however, they caught a plane home, and never made it to see the Corvettes.

When Graeme came back to Australia in about August 1966, the Mk7 moulds were finished and Campbell was starting to build a factory Mk7. The Mk7 had a red Holden 179 motor and a Triumph 4 speed gearbox mated to it – Holden didn't have a 4 speed gearbox then – with Holden front suspension, rear axle and nice mag wheels. Although Graeme had a swag of knowledge and ideas from his time at Lotus, and plans for doing things much better and easier, the brothers decided that the Mk7 project was too far advanced to make any significant design or production changes. Instead, those ideas would be an integral part of the next model of Bolwell. So the Mk7 stayed basically the same as Campbell had designed it and not much of the knowledge and technology that Graeme had learnt overseas was ever incorporated into the Mk7.

Graeme finished off building the Mk7 protoytp; painted it white, did the interior trim, and got the car ready for the road.

[\(This excerpt is from Tony Shaw's history of the Bolwell Company. For more information please contact Bolwell Corporation on +61 \(0\)3 8586 5500.\)](#)