ART & ENGINEERING

These are the current cars for sale. Both are distinctive, high quality builds to a good specification and for sale at very competitive prices.

Everybody who has seen Chris Snell's work has been hugely impressed at the quality of manufacture and execution but Chris is not only a car builder, he's the designer too, and not just of cars. Ian Hyne admires the talents of a man who has a great deal to offer his fellow car builders.

I first met Chris Snell at the Newark show where his Honda Blackbird powered Sylva Striker caused a major stir due to the sheer excellence of its complex design, superb manufacture and faultless execution quite apart from the inventiveness of the unique alterations necessary to cope with the disability he suffered as a result of breaking his neck in a motorcycle accident. But of course, the Striker was the result of a great deal of experimentation and experience gained during the construction of a series of cars initially aimed at hillclimbing.

The first was a Group 4, Triumph Dolomite 2-litre, 16-valve Sprint but just as good design and engineering comes with experience, so does driving and this car was written off in an accident at Harewood hillclimb.

To replace it, Chris thought about a Mk2 Escort. He had thought about kits but had always found he couldn't get into them. However, a call to the ever-helpful Jeremy Phillips at Sylva found a man who enjoyed one-off work and was keen to help. Jeremy cut the side out of the body and his welder, Mark did everything else to Chris' design including using the Dolomite's engine, automatic gearbox and axle. Chris then read an article on bike-engined cars and decided on major modifications. The Dolomite engine went into a TR7 that's still going strong and beating V8s while its replacement was a Honda Blackbird. Chris undertook the work himself moving the engine right back into the tunnel that was big enough due to modifications to accommodate the Dolomite's automatic box. Auto wasn't an option with the bike engine so Chris used a Kliktronic gearchange system with his own modification to cut the ignition with a micro-switch for the down changes. He made his own electric reverse using a wheelchair motor, fitted a Quaife LSD to the Dolomite axle, fitted Cosworth rear brakes, and adapted the Dolomite axle to a Ford PCD pattern to match the front end. The final embellishment was a fly-off handbrake before he got to work on the hand controls.

In building and modifying the Striker, Chris learned an awful lot, read widely to teach himself an awful lot more and gradually got the idea for some-

thing altogether more exotic. The result was that the car was stripped of its special controls and sold to a chap who is still hammering it round Scotland.

The replacement was to be a Westfield as Chris liked the Westfield body shape and he knew a few of the Westfield racers and hillclimbers and fancied competing against them. However, in the end, all he bought from Westfield was a body after which the rest of the car is entirely of his own design and execution using a wide range of parts culled from his many motorsport contacts spread throughout the country. He's an extremely likeable bloke who forges friendships easily and gives as much as he receives.

So, what lurks beneath the dazzling red body? From the outset the car was conceived as a twin-engined, four-wheel drive machine with one engine driving each axle. When Z Cars did this with their record-breaking car, both engines were at the front and required the assistance of Motec to design the sensors and accompanying electronics to co-ordinate the performance of each engine so as to make the car corner, grip and handle as well as being meteoric in a straight line. It was an expensive exercise well beyond Chris' financial means but he didn't need it. His car had the engines mounted centrally in the chassis to give the car perfect balance.

The chassis is in 18 gauge, square-section, Tig-welded steel tube and weighs just 50 kgs. The chassis has a flat floor with a single cut out to allow the seat to be low-slung as so often, the seats sit on chassis members forcing tall drivers to peer over the screen rather than through it. In addition, getting the driver's weight down low helps the general dynamics.

The front suspension uses rose-jointed double wishbones clamping aluminium uprights modified to accept Lobro joints for the four-wheel drive. Horizontal, north / south mounted Penske coilspring damper units are operated by a push-rod and a bell-crank, the special parts coming from the storeroom of Jim Lea Racing.

Steering is by a Titan quick-rack with Chris' own aluminium tube, brass-bushed column with a twin UJ coupling. The wiring to operate the quick-shift runs down the centre of the column tube which Chris reck-

Above: Chris Snell can be justifiably proud of his design, engineering and manufacturing talents which are available to manufacturers and individuals.

Above right: All the bodywork is easily and quickly detached for total access to the impressive mechanical installation.

Right: The front suspension is indicative of Chris' ambitious design, engineering and execution. Even the wing brackets are works of art.

Above: The rear suspension is equally novel and at Harewood hillclimb, attracted the impressed attention of Alan Staniforth.

Above: The engine sits almost alongside the driver for optimum weight distribution. In the absence of a door, Chris has fitted a swing-up frame.

Left: The controls are impressive with a clutch pedal, pull / push brake and throttle and an electronic change down that also blips the throttle.

ons is a better system than coiled wires which are susceptible to damage. The brakes are Formula Ford 290 mm discs operated by twin master-cylinders and a balance bar.

The controls are a work of art. Chris has pretty good power in his left leg so the pedal box carries a clutch although it is fitted with a spring arrangement to get his foot off the pedal. Thereafter he has a push / pull combined brake and throttle which works brilliantly due to the designer's skill in manufacture and his experience in using it. The only flaw is the system's inability to blip the throttle on down changes, the push / pull brake and throttle being incapable of simultaneous operation. It's either doing one or the other. But Chris isn't easily defeated in his aims and the long aluminium switch fitted to the left spoke of the wheel solves the problem. It's an electronic system of Chris' own design and manufacture and when he's braking with his right hand, he just hits the switch with his left thumb and the system blips the throttle and downshifts. What's more, far from being a second best system which overcomes an operational shortcoming, it's quicker than any manual change and a match for any sequential bike change.

To get in, Chris has made a swing-up frame that, when closed, makes a contribution to chassis stiffness. He just swings it up, removes the wheel and swings himself aboard.

The rear suspension uses Reynard uprights machined to accept the necessary steel and chrome-moly bearings. Again rose-jointed double wishbones operate Penske dampers mounted north / south above the differential via push-rods and bell-cranks. The dampers are off a Formula Ford and not totally perfect for the car but adjusted to fully soft, current experience is that they work fine.

The car was always conceived as twin-engined and naturally, Chris went for two 180 bhp Suzuki Hayabusa units positioned in the chassis to give 50/50 weight dis-

tribution with Chris aboard. With light weight in mind, the last thing Chris wanted was a pair of socking great Sierra differentials so he went looking and came up with the differential units from a small Subaru Justy 4x4. They have a 3.67:1 ratio, are small, light and with a very light output flange. They are also cheap – Chris bought five for just £100. They're open diffs which Chris reckons contribute to the car's excellent turn in. The wheels and tyres are 8" x 13" Image rims fitted with 7 x 21 front and 8 x 22 rear slicks.

Chris didn't compete in the car with two engines but after a year of testing and development, he removed the front engine which is the current specification. In this form, side to side balance with him on board is perfect with a 45F 55R split of the 490 kgs.

As far as competition goes, Chris has spent three years competing in the Westfield Speed Championship. In 03, he used his Striker in Class H for non-Westfields. It was very much a learning year and he learned a hell of a lot as in 2004, he was second in class and also took an award for the best prepared car at Harewood. This year he has been using the new car and is putting in some good times as once again, he gathers experience and expertise in driving it. Competition has certainly proved the engineering and when a chap of the calibre of Alan Staniforth comes over to take a close look at the design of the car, you know it's right. Mind you, Chris didn't need anyone to tell him that and he's now thinking of fresh challenges. Following our meeting, he was shortly going for assessment to see if he could get a race licence as he fancies some circuit racing too.

Overall, I was hugely impressed with this car but more so with the ambitious design and the effectiveness of the finished car. Then there's quality of design manufacture and finish that would put more than a few manufacturers to shame as well as Chris' sheer problem solving efficiency and his refusal to be daunted by the scale of the task he'd set himself. The exhaust design, the electrics, the complexity of synchronising the hand controls operating twin engines, the suspension design and the dynamic theory he needed to absorb in order to do it, not to mention the manual skill involved in manufacturing the self designed components. I tell you, there's very little that's disabled about Chris Snell.

However, due to his physical limitations, Chris doesn't have a regular 9 to 5 but that doesn't mean he's not fully occupied. What does he do?

Well, for a start, he buys and sells Westfields, picking really well built but more basic and affordable cars which he gives the Snell treatment before selling them on for very modest profit. On the day of my visit he had two cars; a red Pinto powered car on twin 40s and a yellow twin 40 fed John Wilcox crossflow powered car, both beautifully turned out and for sale at £7,900 and £8,000 respectively. The adverts for the cars appear in the classified section.

That aside, Chris has a very well equipped workshop with Mig, Tig and gas welding facilities, a lathe, pillar drill and milling machine so there's little he can't make and what he can't do himself, he can get done. He exercises his talents on a range of cars brought to him by people he's met through motorsport but if you have a mechanical problem or something you can envisage but are unable to make, you can always give him a ring and his prices are extremely competitive. Chris is happy to hear from anybody, manufacturer or private individual, and will always go well out of his way to help.

Above left: This second mechanical sculpture has movement to enhance its visual appeal. If you want unique motorsport trophies, give Chris a call.

Above right: This motorcycle trophy is an artistic and desireable trophy creatively made from discarded engine components.

Left:This shot from Chris' album shows the car under construction in its initial twin-engined form. It's a complicated beast.

Another side line is trophies and mechanical ornaments. Chris has a binful of discarded engine parts and components on which he has exercised the lighter side of his creative intellect to make a range of unusual pieces much admired by friends and visitors. In respect of trophies for motorsport events and championships, they're of far greater lasting pleasure than plastic pots with stick-on plaques and of far more personal value due to the work that goes into them. On the day, Chris had a man he'd made who is playing a drum. The arms move round on a bearing and the piston that makes the drum can spin round to provide oddments storage or even an ashtray. Another is the motorcycle on its raised stand. Quite a few of the components are from distinguished sources like Jack Frost in Leeds who make the big power and record breaking bike engines. So, if you're a club secretary charged with providing trophies for club events, Chris is well worth a call and again, his prices are very competitive.

I take my hat off to him.

FURTHER INFO:

Chris Snell

Tel: 01924 892014
Mob: 07949 647864
e-mail:
chris@snell7790.freeserve.c.uk