



THE HOUSE OF HERON



The long and ongoing line of Heron cars, and many other projects besides, show that Ross Baker is one of those rare blokes who combine an engineering background, plenty of practical experience and winning ways at the wheel, with a flair for design. Mike McCarthy reports

There's a sense of anticipation among New Zealand's sports car enthusiasts because the word is out ... after what seems an age of waiting, the Heron MJ2+2 is *go!* After laying quiet for so long that many thought the project dead, the design is completed, the mock-ups finished, the moulds readied, the paperwork done and the business decisions taken. At last, production is imminent.

Like the successful Heron MJ1, now being revised and reborn, the MJ2+2 is a mid-engined coupe with a monocoque fibre-reinforced plastic body-chassis. The latest MJ1 adopts many of the mechanical elements of the MJ2+2, principally the ex-Telstar/626 drivetrain but remains a two-seater, whereas the newcomer adds two seats in the rear.

For anyone, anywhere, with an interest in specialist-built cars, a new Heron is an event. But in New Zealand, a new Heron commands extra attention simply because it marks yet another instance of Ross Baker's creative bent.

A broad range of projects attest to the fluent, almost intuitive design and engineering skills that Ross Baker brings to bear on the ventures he tackles. But it's not only for his efforts at the drawing board and work bench that Baker has won respect and wide acclaim. He's proved himself a pretty deft hand at the wheel, too.

Fresh from an engineering course at Tech College in 1959, Baker went into partnership with his brother Tony and opened Baker Bros auto repair shop in Rotorua, the town that Heron calls home. The business went well and Ross continued to study, gaining an automotive trade certificate in 1964 and a higher graded licence in 1967.

In 1970 he built a service station across the road from their workshop. Tony still ran the repair business and Ross manned the pumps. The oil company estimated he'd sell 45,000 litres of petrol monthly, but within six months the place was consistently doing 180,000 litres per month. He stayed at it until 1978 when he sold his shares to Tony and opened another workshop. There was bread and butter in repairs to Rotorua's taxi fleet, but the new place also enabled Ross to pursue his interests in special vehicles and other design projects. Over the years this led him to design and develop a variety of projects, sometimes for himself but often on commission for other companies. The credits list includes several different karts, loading ramps, turntables, industrial trucks, an invalids' carriage and, probably best known of all, a remarkably advanced orchard sprayer designed in 1980 for the NZ Fruit Federation.

Heron's current hive of activity includes a three-figure run of golf buggies. Initially, Baker was concerned only with the buggy's design, for a big name that until then had farmed out production to another company. But the high fliers crashed, leaving a viable design with the tooling and moulds, a swag of the complete but unassembled components, and a bookful of confirmed orders. So Baker took over the project, which is now doing very nicely thank you.

Meanwhile, from his teen years on, Ross Baker had a consuming interest in designing, building and driving fast cars. He began with a NZ made fibreglass Mistral-bodied sportster and saw several years service on the road, race tracks and hill climbs before being replaced by a hot sedan. That was followed in the mid '60s by the Heron Mk1, a space framed, mid-engined sports racer along the lines of



Intended as a full blown racer, Ford GT40 inspired Mk 3 (far left & centre) runs 327 Chevy Corvette, custom-made transaxle. Ross Baker (left), versatile builder of contemporary classics like MJ1 (below) re-released with 626/Telstar mechanicals



the Lotus 23B. Next came the Heron Mk2, a similar but more ambitious design drawn around the Chevrolet Corvair flat six engine and transaxle. However NZ's import restrictions thwarted that idea, so Baker went the V8 route, using a 2.5 litre Daimler in one car and a 289 Ford in another. Both were sold to help finance his growing interest in speedway racing, an area where he spent almost a decade and became very successful both as designer and driver.

Baker says speedway was very good to him and he enjoyed it. He got plenty of racing, several times a week, scoring a lot of wins and several championship titles, and made money from prizes, appearances and sponsorship. He became one of the country's leading lights in speedway sedans and in the Modified Sportsman class. Besides that, cars he'd designed and built won NZ championships for sports cars, speedway saloons and Modified Sportsman. And while all that was happening, Baker managed to build the odd special or three, including several V8 powered Escorts and a Jaguar based, space framed 'E type'.

But the car that made everybody sit up and take notice was the Heron Mk3, an awesome sports racing coupe inspired by Ford's MkIV GT40. Baker's version was an epic project with many innovative answers; sheer enthusiasm substituted his comparative lack of experience and resources. Originally intended as a full blooded race car,

“The car that made everybody sit up and take notice was the Heron Mk3, an awesome sports racing coupé inspired by Ford's MkIV GT40.”

the Mk3 was converted for street use when rule changes ended the big banger era. The Mk3 – which Baker still owns and occasionally trots out for exhibitions – is based on a unitary punt type chassis fabricated from sheet metal and carrying unstressed fibreglass centre, nose and tail panels. A hairy chested 327 Chev Corvette engine delivers mega grunt and drives through a special transaxle that epitomises Baker's *can do* approach. Since there was no suitable transaxle readily available, they made one, complete with a custom casing and transfer gears, from a Howard rotary hoe (taking the drive from the clutch shaft to the input), a four speed gearset from the Ford Zephyr MkIV, a 1948 Ford V8 diff, and Zephyr MkIV half shafts. The rear hub carriers are specials, and the front end has fabricated wishbones locating ex-Hillman Super Minx upright, hubs and brakes.

With hindsight, it may have been as well that the big bore class was canned before the Mk3 ever really fired in anger. According to Baker, the race bred supercoupe goes, steers and handles very satisfactorily. But the brakes are a problem. Just marginal for the street, they're inadequate for racing. “Used hard, they soon go away.” Though it wouldn't have been difficult to adapt better brakes, Baker's attention had by then swung towards other projects. By the late '70s



HERON MJ1 KIWI CLASSIC

Ross Baker had shown us his remarkable GT40-style coupe, the MJ2+2 mock-up and plans, and the face-lifted MJ1 mock-up. Asked if there might be an MJ1 around the place, he steered us to Whakatane, on NZ's east coast, to meet local businessman Don Hague, MJ1 owner and enthusiast.

At that stage we still hadn't seen an MJ1 in the flesh but knew it by reputation and from photos. So we thought. However, nothing prepared us for the immaculate example that emerged from the Hague household's carpeted garage. The stunning red wedge had the sort of spotless sparkle that concurs winners are made of. Several hours later, when guiding the sleek bolide back to base, we understood Hague's enthusiasm for the car and knew why the MJ1 is held in the same sort of regard in NZ as, say, the Bolwell Nagari in Australia.

Don Hague's MJ1 is one of the last of the original 24 cars built before production ceased in 1985. Fiat's sporty 1.6 litre twin-cammer was specified for the early cars, but some later models have the two litre version from the 132 sedan. The engine sits ahead of the ex-Skoda five-speed transaxle. Five-speed? Early '80s Skodas had four-speeds surely. Yes, but late in the MJ1's life Ross Baker devised a five-speed conversion (with extended shafts and an extra gearset in the rear housing) long before Skoda went that way. Heron's five-speed system was retro-fitted to almost all the MJ1 four-speeders.

In its heyday, the two litre Fiat twin cam claimed some 83 kW maximum power, more than enough to ensure



Don Hague's Immaculate MJ1 is one of the last of the original run of 24 cars. Mid-mounted two litre Fiat twin-cam provides 85 kW, more than enough urge for 750 kg coupe

that the 750 kg coupe has the sort of punchy performance keeping with its style and image. It gets the car off the mark very smartly and quickly hustles through the gears. Given a squirt, its urgency is impressive, and that was obvious even though Hague's car was suffering occasional clutch slip when working very hard. Be assured that it gets a bit of a work-out too, because while Don Hague kept it absolutely spic and span in the garage, he doesn't baby it on the road. It's meant to be a driver's car, so he uses it that way – quickly, skillfully, extracting full enjoyment from its stirring performance and sure-footed dynamics. He has owned a string of sports cars – MGs, Rs and the like – and dreamed of owning a Porsche or Lotus or Ferrari. “But in my heart I knew we could never afford one of those. Then I saw the Heron, and liked what I saw ... not only the dramatic styling but also the advanced design, the completeness of the specification and the quality of construction. This bit of clutch slip aside, it hasn't given any trouble at all. Oh, expect the bigger rear tyres (235s instead of the original 205s) to just brush the heelarch on full bump; but I can't blame the car for that.”

Though Hague doesn't put a lot of kays on the clock, or take the car on gravel roads, he certainly doesn't spare the whip on the local bitumen, patchy as it is in places. Drawing attention to the body, he points out the conspicuous lack of cracks and crazings that other fibreglass bodies sometimes suffer in the windscreen corners and elsewhere. “As good as the day it was painted,” he says. The body's condition supports Baker's claim that some MJ1s have covered over 160,000 km to date, without any ageing of the monocoque. He adds that several of them have proved their crash safety the hard way, and that even extensive repairs pose no problems.

The MJ1 is as impressive on the inside as out. Though the windscreen and windows are shallow, the fields of view are better than expected. There's plenty of room in most directions except that the flat roof doesn't offer as much headroom as the very tall may need – the revised model's raised roof should solve that problem.

The cabin continues the car's thoroughly 'professional' image. Comfortable and supportive, the deep buckets have two height/tilt positions and plenty of fore-aft travel. The pedals and wheel aren't adjustable, but their relation-

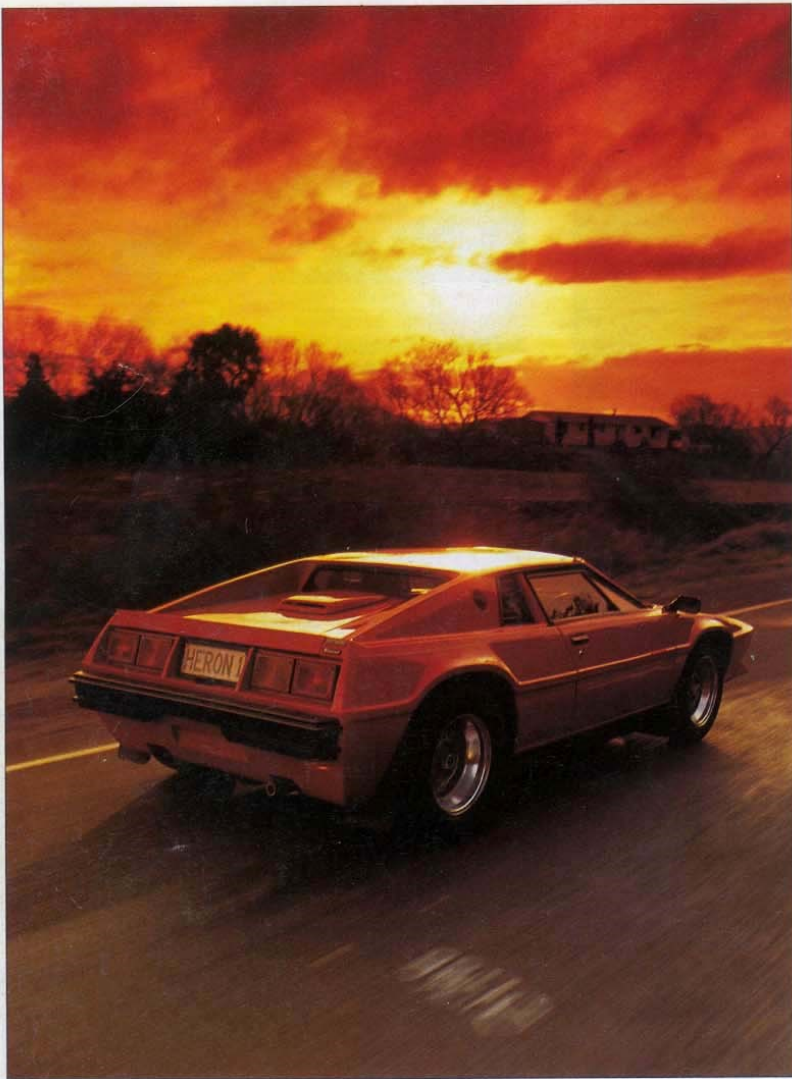
ship to the seat gives good driving position for short and tall alike. Cruising comfort is assured by having the door armrest and padded top of the broad centre tunnel at elbow height. The fascia is attractive with a Camira instrument panel looking like it's meant to be there. The full complement of minor controls is provided and, equally important, they're properly placed. From the heating/ventilation system to the door windows, to the inertia reel seat belts to sun visors and other such details, everything works as you'd expect in any modern big name factory car, without the quirks often found in small-time or enthusiast-built models.

That's also evident in the way the MJ1 drives. On the road the fibreglass body-chassis unit feels very taut, almost devoid of squeaks or rattles and showing little tendency to flex on bumpy surfaces. Rides well too, for though the Skoda based wishbone front suspension and semi-swing rear axles are quite firmly sprung and damped, they have enough absorbercy and travel to take most bumps in stride.

The steering's well weighted, has about three turns lock to lock and isn't plagued with kickback on rough roads. Early MJ1s had Skoda worm and nut steering but later versions, including this one, use Triumph 1360 rack and pinion. Brakes are amply powerful, with 10.5 inch discs at the front and 9.5 inch drums at rear. Though the original specification cited 13 inch front wheels and 14s rear, the later spec has 14s at both ends, with 6 and 7 inch rim widths respectively. In this case they're shod with 185/60 and 235/60 Yokohama 352s which give very good grip yet are fairly quiet and don't hurt the ride.

As with most other mid-engine designs, engine accessibility isn't terrific. The large rear hatch opens very wide but still doesn't expose much of the powerplant; just enough for the most basic checks and service. The open lid also reveals a reasonably large luggage boot, wide and quite deep, sitting over the 58 litre tank above the transaxle. The front boot might take a few soft goods but belongs mostly to the full size spare wheel.

And there you have it, the definitive MJ1; well designed, well built and well mannered, a distinctively wrapped package that can hold its own with 'factory' cars. A contemporary classic at its best. *



(and patented) out of his experience with the mobile crop sprayer. Instead of bonding metal plates, plugs or bobbins behind or through the 'glass panel where bolt holes are required, Baker's method was to embed stainless steel mesh between the laminates of 'glass. One or more layers of mesh can be used depending on the application. The mesh is a woven variety with 10 strands per inch. Each layer of mesh becomes part of the laminate; the glass fibres are worked through the mesh so it's locked in every direction. Since the mesh is flexible it 'works' with the laminate in the event of panel flex and, being stainless, it is immune to corrosion.

Once the body-chassis unit was developed to his satisfaction, Baker displayed the sleek coupe, known as the MJ1, at the 1983 Auckland Motor Show. From that one showing there were more than 350 serious enquiries about the Heron and 28 firm orders. Realising he couldn't handle production on that scale, Baker sought a manufacturing company to produce the car. Eventually the deal was done and he signed over two thirds of his interests in the venture. But a year or so and 24 MJ1s later, the manufacturer was battling for the capability and resources to continue.

By then Baker had the MJ2+2 design well underway and realised that its manufacture would be completely beyond the associate company. As a prelude to reorganising the whole approach, he bought back the moulds and rights to the MJ1 and stopped production.

That was several years ago. Since then, Baker has been busy readying a facelifted version of the MJ1 and taking the MJ2+2 from paper to 'glass, Kevlar and metal. The design side of the business comes from Heron Developments which is shared by Ross and wife Beverley. Production is the province of Heron Manufacturing where he co-directs with associate Robert Maunsell.

The first fruit of Heron's fresh start is the golf buggy. With that up and running in regular production, attention is turning to the revised MJ1. Easily identified externally by its raised and rounder roof line, the new version differs internal-

ly in using a Telstar dash panel and, mechanically, in adopting the same Telstar/626 drivetrain and strut rear suspension as the MJ2+2. As before, the MJ1 will be offered in easily assembled kit form for the buyer to build. But MJ2+2 buyers supply (or arrange) the necessary donor parts to Heron and get a turn-key car ready to drive away.

Though the 2+2 naturally includes many lessons from the MJ1, it isn't simply an adaption of the old design. New throughout, the 2+2's design has been carefully considered, including 'foreign' registration requirements, because the car has definite export potential. Sitting on the same 2286 mm wheelbase as the MJ1, the 2+2 finds more cabin length with room for two kiddy seats because the pedals are further forward and (since the transverse powerplant is shorter than the old 1's longitudinal layout), the rear bulkhead further back. The front bay houses the radiator, battery, spare wheel and some luggage space which is supplemented by another cargo compartment at the tail. Strut front suspension is from Corolla. Sourced from Telstar/626 are the steering, pedals, handbrake, wiring loom, windscreen wiper assembly, front seats, facia and instruments, heating/demisting system, door hardware and window winders. Windscreen is Cordia.

With structural integrity and crash safety very much in mind, the polyester fibreglass chassis body unit's side sills,



626/Telstar drivetrain allows extra seating in MJ2+2. Car is all new incorporating many innovative answers, as well as lessons learnt from MJ1. Crash safety and structural integrity considerations are evident in design and construction



centre tunnel, front cross member, doors and suspension towers are reinforced with Kevlar materials. A 12 mm Kevlar spare wheel which transfers the impact to the 6 mm thick header where it's divided in two with one length going across the car while the other traces the roof profile all the way back to the taillights. A steel roll bar reinforces the pillars to satisfy mounting requirements for the inertia safety belts and anti-burst door latches.

The first 500 mm of the new monocoque body is made of 3 mm 'glass to take the initial impact. The next contact is a 6 mm 'glass spare wheel which transfers the impact to the 6 mm thick box section centre tunnel that spans the full length of the floor to the 12 mm plywood/fibreglass engine bay bulkhead. Also tied into the rear bulkhead are the 150 mm box section sills between the front and rear wheelarches. The whole thing looks impressive and thoroughly professional in attention to design, detail and quality.

As if the golf buggy, MJ1 and MJ2+2 weren't enough to go on with, Heron also has a neo-classic pre-war sports roadster kit car underway, and a relatively economical sportster with aluminium monocoque chassis and mounted 3.5 Rover V8. This pet project is intended for either open events or (with sufficient support) as a one day sports racing class. But that's another story ... and another project from a versatile talent.