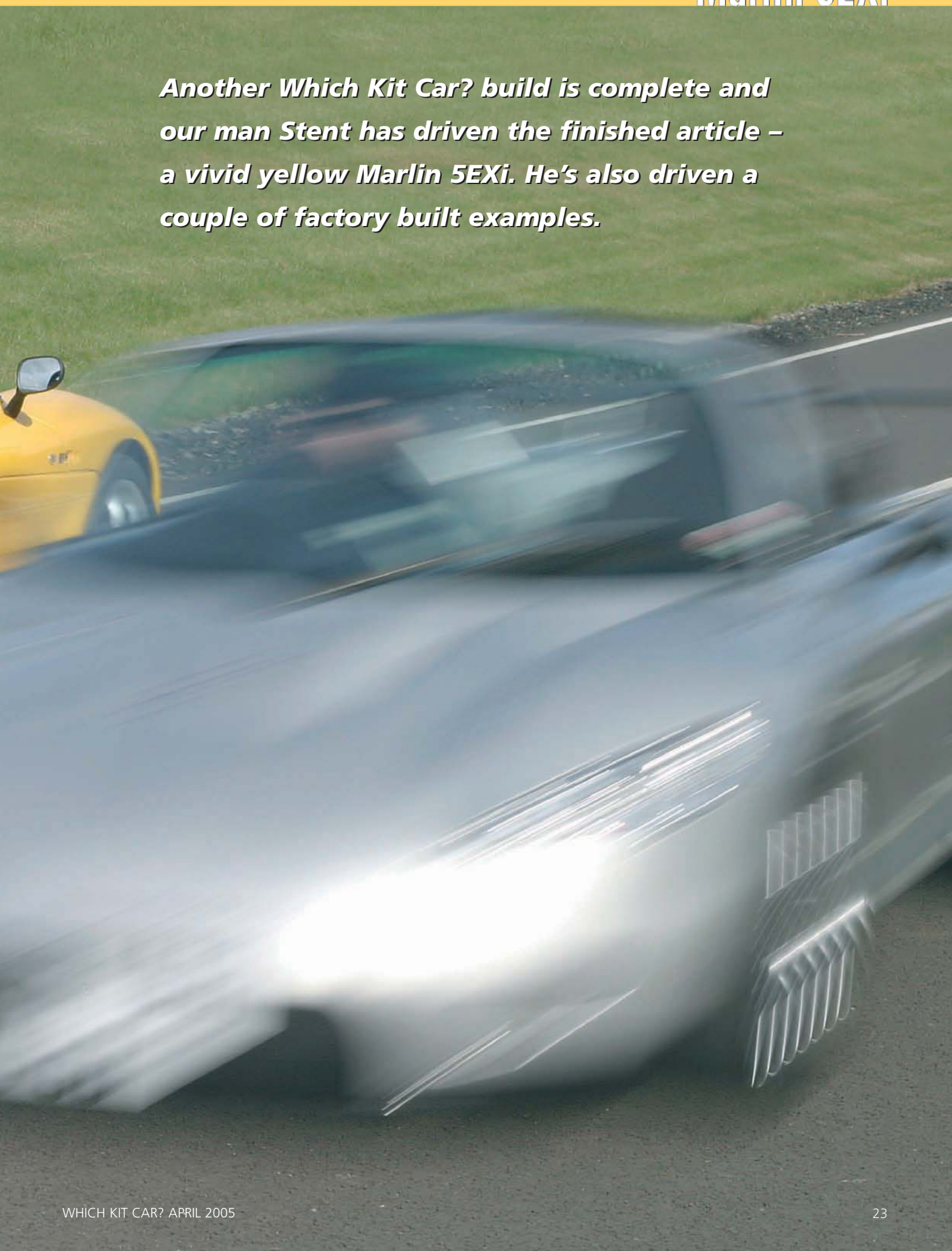
5EXi Beast

Another Which Kit Car? build is complete and our man Stent has driven the finished article – a vivid yellow Marlin 5EXi. He's also driven a couple of factory built examples.



WKC? build

With the Watson-meister having completed his work and the Marlin *Which Kit Car?* 5EXi SVA'd and registered, we took up Marlin Cars' offer to give it a post-build check-up. This is a free service the company makes available to all customers and it isn't alone in this industry in offering such a service – I know the likes of DJ Sportscars and Ultima also offer it. The surprising part is that I also know that only a few customers actually take up this offer, which is silly, because the manufacturers know how their cars should go together, so getting them to cast their expert eye over your efforts (while potentially embarrassing) really makes sense.

And just to prove the point, it seems even our very own Watson can do things in a way which conflicts with that of the manufacturer. It turns out John had managed to fit the seat runners a different way to the factory (lifting the seats as a result), while his location of the steering column and gear-linkage also caused head scratching at the Marlin factory.

But the biggest value of a check-up is in setting the suspension. While useful guidance is given in the Marlin build notes, getting the set-up right on any mid-engined car is particularly critical, so you should make the most of this service, even if it means hiring a trailer to get the car there. No such problem for us, the 5EXi being easily driven to the company's Devon-based workshops from John's home in Cornwall.

Once sorted, it meant my visit was to Marlin's works, and not my usual jaunt down into the depths of Cornwall for a day with John – pity. Still, one advantage was the ability to drive not one, but three Marlin 5EXis back-to-back. It was a fascinating experience.

Of course, first up was our car. It looks great in its gelcoat yellow, while the special Rover BRM 16in alloys that came free with our upmarket donor car also work well – until you see the multi-spoke items on Marlin's demo cars. The thinner spokes certainly suit the 5EXi perfectly. The other two also feature terrific metallic paint jobs, as well as aggressive rear wings. Both will add significantly to your budget, but I'm not sure that either is vital. Without the rear wing, our car has a more er… subtle image.

The 5EXi is a tiny little thing, looking every bit the lightweight sportscar. I think the styling is convincing and will be enhanced further by the company's recently developed doors – the extra detailing/panel gaps on the sides of the car will give it an even greater production car finish.

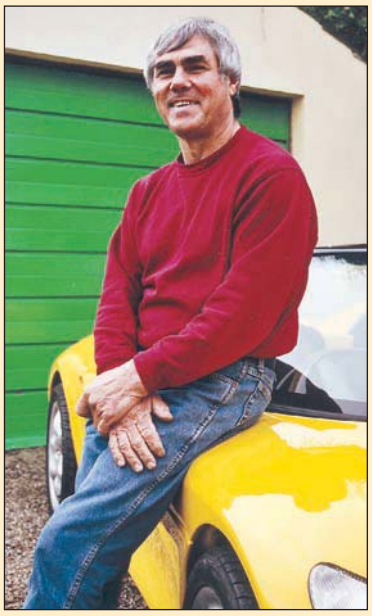
Clamshell front and rear panels are especially well located, largely thanks to Marlin's clever design which forces them into line with the main tub via self-locating lugs. Once open, they also give unrivalled access to all the grubby bits, making servicing and set-up even easier. I love the fact that the engine uses the original air-box and engine ECU etc, while it's also fully catalysed to comply with emissions.

In the cockpit everything is as per the factory cars. The dash and side panels have been painted, although a simple black gelcoat dash moulding would go some way to achieving the same effect. A customer's car in the workshop featured a flocked finish which was an interesting alternative. Marlin's own seats look well and are available in two different widths to suit varying sizes of back-side – our choice of a more generous fitting

The Which Kit Car? 5EXi will benefit from Marlin's free post-build check-up.

SUMMARY OF 5EXi BUILD

The Marlin 5EXi is the latest *WKC?* build to reach completion. Its builder John Watson takes a brief look back at the project as a whole.



THE MANUFACTURER

Marlin has been in the kit car business for a long time now and knows what it is all about. When I collected our kit, it was all laid out so that Marlin's Mark Matthews could talk me through the build – where necessary, using his demo car for reference.

During the build, advice was always at the end of a telephone if any queries arose, and the staff at Marlin were always prepared to spend the time necessary to give the help required. This sort of back-up is important to any builder whether first-time or more experienced.

THE KIT

Having previously seen the factory demo cars resplendent in their paint jobs, I had hoped that our build would also culminate in a suitably fitting colour, but being a Filby car, it just had to be yellow. To this end, the GRP body panels were supplied in yellow gel coat and this was to be the final colour, although some areas would later be painted metallic black provide a suitable contrast. The GRP was of good quality with a really dense colour – some coloured GRP tends to be a bit wishy-washy, but not the Marlin panels.

The spaceframe and all the attendant suspension and steering parts were supplied in a grey powder coat. All the necessary items for the build were in the kit and just required the addition of a suitable donor car. A number of extras were available including the special seats, the rigid foam for the floor panels and the weather gear etc.

THE BUILD MANUAL

I say manual, but there was not the usual folder containing instructions, photos and diagrams. Marlin chose to put all the photos on a CD and supplement this with a printed build sequence.

This works quite well and, as Marlin's Terry Matthews said: "It at least dragged me into the 20th century, causing me to acquire a computer!" I still feel, however, there is room for the more traditional build manual. Now this is purely a personal thing but I prefer to be able to flick through the pages of a manual for quick reference. OK, OK, I know I'm a bit of a dinosaur and I'm sure that many other builders will prefer the computer approach – each to his own.

THE BUILD

Because of Marlin's extensive knowledge and experience, I fully expected the 5EXi to be a relatively straightforward build, and I was not mistaken in this, as the kit was well engineering and all fitted together as intended.

A range of Rover 200 and 400 donors can be used for the 5EXi, although ours was in fact based on an accident damaged 218BRM, having an 1800cc VVC engine, plus a close ratio gearbox. This donor also boasted a suitable set of alloy wheels with very useable tyres.

The GRP panels are straightforward to fit and they soon transform a rolling chassis into a car. Whilst fit of the panels is acceptable in the coloured gel coat, it could be improved if a little more fettling was possible, as when preparing for a painted finish. One always has to take extra care when rubbing down the gel so as not to rub through to the underlying fibreglass. This applies, of course, to all coloured GRP cars, not just the 5EXi.

I did tend to go my own way somewhat on the car's interior fittings and arranged the seat mounting height and the steering wheel and column pretty much to suit what I felt was Mr. Average. Once a number of other people had sat in the car, however, it was obvious that I had not built in enough variables to suit other drivers. To this end, the underside of the dash moulding was cut away slightly to allow the Rover column to be raised and lowered as required and a 13in diameter steering wheel fitted, giving a better view of the dash instruments.

For the trial fitting of the seats, I used wooden battens to set the runners on to achieve the desired height. Once this was determined, the wood was discarded and the seat mounting brackets modified to suit and then drilled to permit different seat heights to be selected. I should mention here that Marlin does not advocate the use of wood for the final seat mounting and my use was only for height determination. There is plenty of scope for interior finish, and on our car we opted for the semi-stripped look – ie some carpet and some bare aluminium.

OTHERS' REACTIONS

All who saw the car and spoke to me were intrigued and wanted to know more. The more knowledgeable were very interested in the mid-engine layout and liked the idea of a road legal track car. Some expressed surprise that the car had no doors and felt that this feature might limit its appeal, but they were reassured when I pointed out that doors could be specified if required – as a retro-fit option, too.

CONCLUSION

A very clever concept making use of a donor car usually overlooked and culminating in a very capable track car that's also very road friendly thanks to its Rover mechanicals.

FOOTNOTE – NO WELDING NECESSARY!

Marlin would like us to make clear that no welding is needed in the build of a 5EXi. In our build, we opted to modify the pedals by welding them without making it clear that they can either be used in standard form, or that Marlin offers to modify them for just £25. Similarly, we welded our steering column. This is an option, but pinning and bolting is just as effective. Since many kit car builders are unhappy about welding at home, it's important for us to state that it is not a skill needed to build a 5EXi.

WKC? build

Stent also sampled two other 5EXis on his visit. This 1800cc car is set up like a track day machine; Interior retains donor dials.

Stripped-for-action interior is roomy. Seats in our car were set a little too high.

suits me perfectly!

Marlin has altered John's installation of the seat runners and, although not as per the factory cars, it means the seats are now lower than they were. In the other two cars the seat is down even further, and that improves the driving position markedly – here, in the *WKC?* car, it's still a fraction too high, lifting my knees just too close to the steering wheel.

The company has also had a go at the steering column, removing the spacers John fitted in order to lower the column and making some tweaks to the underside of the dash moulding so that the column is now higher. This works well and, once again, it's particularly successful in the other cars, where the driving position is nigh-on perfect.

Elsewhere it's good to see the original Rover instrumentation, column stalks and even the heater controls. Left in the donor's fake wood finish, the latter look a little incongruous in their new environment and I'd be tempted to spray the small panel in a matt black finish or a metallic grey matching the rest of the interior.

Even items such as the Rover handbrake are retained, and it all adds to the sense of a production car level of finish. John didn't fit any carpet on the floor of our car, preferring to leave those tricky foam inserts visible in-between the chassis rails. Down in the footwell there's plenty of space between the pedals, and the cockpit feels generally roomy.

The 1800cc VVC engine starts on the button before settling into a well-muffled thrum. It's never that vocal, even when exercised, and its quiet demeanour is a real bonus for relaxed progress through town and when making smooth open-road trips. Hit the motorways and the noise is left behind you, which, when allied to the buffet-free cockpit (thanks to the curved screen), makes this a great continent bashing tool.

Less pleasing is the dragging clutch pedal. As the day progresses I get more used to it, but it's not nice and isn't a feature of the two factory cars. According to the factory, it's something that can be easily sorted by altering the angle of one of the brackets in the engine bay.

The gearshift is also a bit tight, although the changes are easy enough to select and, once again, I get used to it as the day wears on. John has apparently located the linkage in such a way that it's introduced the drag – once again, it's not evident on either of the other cars.

On the road, the car rides well and the spaceframe structure feels utterly rigid and flex-free. The suspension is also extremely supple and there's not a creak or rattle anywhere – both are typical Watson build traits that add enormously to the sense of quality in all the cars he's built over the years. But as with previous Marlin 5EXis I've driven, the steering is uncomfortably light until you get used to it.

1.8-litre VVC engine in our 5EXi feels less urgent than non-VVC of orange car; Wood trim from Rover donor looks out of place.

As we make our way out to the photo location there's no doubt that this is an impressive package that's at the top end of this industry. The structure is superb, the level of finish well up to the mark, while the suspension works well and the overall sense of quality is very high – it's a proper car.

One feature that is unique to our 5EXi is the installation of the donor's ABS braking system. It's ironic that just days after driving the Dax Tojeiro (and suggesting that ABS will be a feature we'll see more in the future) I find myself experiencing it in another kit car. In the Marlin it works extremely well – the brakes are hugely responsive and when you really get brutal with the set-up you can hear the ABS doing its stuff. In a light car like the Marlin, having this set-up is a great confidence booster which will, I'm sure, really come into its own in the wet.

But it's not all perfect. The ride is great, but the handling balance isn't quite where it ought to be – it's good, but occasionally you get the sense that the back of the car isn't working in perfect harmony with the front. It's a mid-engined trait I've come across several times before in other cars within the industry and it means you're never 100 per cent confident with the car when pushing really hard. The steering also feels a tad lifeless – it turns in fine, but not with the level of feel you might expect. And there's always that clutch action (which makes life more tricky), and the gear change is in the back of your mind.

So when I step out of our car and into the orange car, I'm interested to see how it feels. Marlin's Mark Matthews prefers this to his silver car, but he's a racer at heart and admits the set-up is a bit firm. And he's not wrong. The car is immediately more jiggly up front and you can see the front of the bodywork moving about over the bumps. Remarkably, the steering is even lighter, although it does seem to turn in with more eagerness and feel.

Of course, the clutch is much better and the gear change is also a big improvement, but the throttle pedal has almost no weight to it, making this a more difficult car to navigate over uneven roads – your foot tending to jolt on the pedal.

While the *WKC?* car has the more powerful VVC variant, the orange car's standard 1.8-litre unit feels far more urgent. This car has genuine pace and is always on the go – it's a terrific unit.

But while there are improvements to certain areas of the orange car's performance, in some ways the yellow car is the better road package, with a more sophisticated ride. To be honest, when I get out of this second car I'm a little frustrated, since neither it or our own car have delivered at all levels. So it's onwards to the silver car – the same car I drove the last time I was down with Marlin.

Silver car feels the most 'complete' of all three to drive. Other two need tweaking.

Powered by a little 1.6-litre Rover K-Series engine delivering around 110bhp, it's the baby of the bunch. But as soon as I'm in this car I know it's got the edge. This car feels perfect. The ride is absolutely spot-on in terms of compliance for the road and feedback to the driver. More importantly, the handling is a dream – totally predictable. The steering is still light, but this time it has good feel and the car responds instantly and predictably to inputs. Into a corner and the balance front to back is also sorted; there's no other word for it.

Grip levels are extremely high, with no real understeer or oversteer in normal fast road driving conditions. The brakes, too, have plenty of bite and scrub off speed very effectively and with more feel than the ABS on our car. That said, in the wet I suspect ours would have a distinct advantage. Elsewhere, the gearshift is one of the sweetest I've ever come across in a mid-engined car and even the little 1.6-litre engine can be fully exploited, such is the confidence you have in the rest of the package – give me this car with the standard 1800 unit and I'd be in heaven.

So it is with some relief that I park up at Marlin's factory. Here is the car that tells me what the 5EXi is all about and just how great it can be. It's also an abject lesson in how tiny tweaks can make the world of difference with a car like this. Go 97 per cent of the way and you're only scratching the surface of its true potential.

So what lessons can be learnt from these cars? The absolutely critical factor is wheel and tyre choice. Our car runs 16in rims with 205 section Dunlop rubber, and the extra width on the tyre certainly plays its part is neutering the immediacy on our car in the corners. By contrast, the orange car also has 16in rims but with narrower 195x45 Avons which, when allied to the stiffer ride, also throw the feel of the car. So it's the smaller 15in alloys and higher side profile 195x50 tyres on the silver car that really work. In this case they are Toyo Proxes T1-S units and, if you are building a 5EXi, this is what you should fit. Ignore the larger rims and wider rubber and you will reap huge dividends.

Clearly, the spring and damper rates are also critical, as are tyre pressures and, while copying the settings from the silver car onto your own car is a good starting point, simple trial and error along your favourite stretch of road is where the fine-tuning is likely to occur. But finally, some of it is just that this car has done more miles. The brakes are bedded in and the gear linkage has freed up.

The bottom line is that the silver 5EXi is a cracker and shows just what the concept is all about, while the other two will get there with further tweaking, since all the parts of the puzzle are in place, but just not in the correct positions.

John Watson will have summed up his build experiences elsewhere in this article, but from my perspective there are also features worth highlighting. I particularly like the comprehensive use of the donor car from the complete engine and its ancillaries to small items such as the steering column, heater unit and its controls. As a builder at home, that would give me great confidence (as well as helping to keep costs down) since I'm not having to scavenge from endless different sources.

The quality of the body mouldings looks high, which not only means I can avoid the expense of a paintjob, but also that fit and finish will be good. The chassis and its suspension components are also well put together and I've always been impressed by Marlin's attention to detail when it comes to areas such as the laser cut aluminium panelling.

From a driver's perspective the cockpit is excellent, feeling spacious and well laid out, as well as almost completely devoid of any wind buffeting – the latter should not be overlooked if you want to travel longer distances at motorways speeds. I also really appreciate that nothing seems to rattle or shake on any of these three cars.

In terms of actual driving, I think I've already summed up the silver car's strengths. In brief, it works perfectly, and you can't ask for more than that, can you? I know, too, that we're going to be even more pleased with the *WKC?* 5EXi when it's moved on a stage or two thanks to Mark Matthews' immense skills. Peter Filby will be next to drive it, and I look forward to his comments.

For more information on the 5EXi contact *Marlin Cars, Mill Street, Crediton, Devon EX17 1EZ. Tel: 01363 773772.*

LINKS

www.marlincars.co.uk

Letter sent into Which Kit Magazine ref April 2005 edition on the 5EXi.

MARLIN MENAGERIE

IAN STENT'S DRIVE OF YOUR Marlin 5Exi compared to some other factory cars made fascinating reading. On paper, your car, with its 1.-8litre VAC engine, would be the obvious choice. But on the road, he favoured one of the lesser powered machines.

It goes to prove that final set-up of suspension (and even tyre pressures) can make a reward difference and that no kit car owner should overlook the finite details of their car's build. If only all manufacturers, like Marlin, offered a free set-up service.
Peter Charles
Via e-mail.