

## 318is Racers

We try proper budget BMW racing in the shape of the BMWRDC's 318is series



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**The car in question is an E36 318is Coupe, and you can pick up any number of them in running condition for well under £1000**

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**A**t least twice now we have reported on the E30 race series that started off as the Seloc series. Racing with 318i and 320i cars meant for cheap racing but the thing is, E30's are starting to wane in numbers, while too many are getting rusty and have the strength of a chocolate digestive. The E36 is the next logical choice, and sensing that they were missing out on a popular series with big membership, the BMW Racing Drivers Club which runs the Kumho series has started up a new budget series for the E36.

The thing is, you don't need to spend massive sums of money to go racing, and a car in a series like this is probably cheaper than many track day heroes.

**Above:** Coil-over sprung white car has the edge on handling.

**Top right:** Wheels are limited to 15s. These OZ rims are wider than standard BMW items at £115.

**Right:** Adjustable rear suspension links are permitted to allow accurate set-up.

**Below:** Cage and strut brace ties it all together.



The car in question is an E36 318is Coupe, and you can pick up any number of them in running condition for well under £1000. The seats will make for a good bonfire and you might need to put some elbow grease into smartening up the bodywork but the basics will be there. The cars don't tend to corrode significantly and damaged panels are quickly and cheaply replaced.

As for the engine, the M42/M44 unit is quite a strong one and it gives around 136 bhp which is enough to ensure the engine won't be too much for the chassis. Buy a half-decent 'is' for around a grand, do all the work yourself and you should be up and racing for £3000 with a suitable bolt-in Safety Devices' cage, seat and fire extinguisher.

Today we're at a Bedford Autodrome track day testing a couple of freshly built cars. The track day is an evening BMW Car Club event organised by Neil McDonald of Automac who brought us two cars and it's run by Club MSV. MotorSport Vision's in-house track day company which hosts track days at all five MSV circuits.

They also run ARDS tests on most events for anyone interested in getting a race licence so you could get yourself licensed up and shake your new car down all in one day - you can find details of all their events on the website at visit [www.clubmsv.co.uk](http://www.clubmsv.co.uk) or by calling 0870 850 5114. Bedford Autodrome bent over backwards to help us with our photos for this feature so big thanks are due to them.



The regulations mean that the cars remain next to standard. Apart from the exhaust system from the manifold back, there is nothing you are allowed to do to get more power

But back to the cars. The engines on these have to remain standard to ensure a level playing field, not that there is much you can do with a 318i engine anyway. During the course of a top-end overhaul you could give the head a skim to raise the compression ratio a touch, but it won't give you a noticeable advantage. However it's worth taking the front of the engine off and replacing the timing chain and three sprockets - the work might cost you under £200 in bits but will give the engine more of a fighting chance - or you can just take the view that good used engines are a couple of hundred quid and just replace them as and when needed.

The M42 engine as used in the E36 318i was pretty much the same as its predecessor in the E30 generation.

**Above: Everett feels right at home as soon as he hears the word 'budget'....**

Differences are in the manifolding, the rear sump bulge and the replacement of the troublesome lower chain idler gear with a nylon-lined slipper rail.

The E30 engine does have thicker-stemmed valves and double valve springs, so using an E30 cylinder head might have some advantage at higher revs and although the head castings are the same, you need to be absolutely sure it's allowed within the regulations.

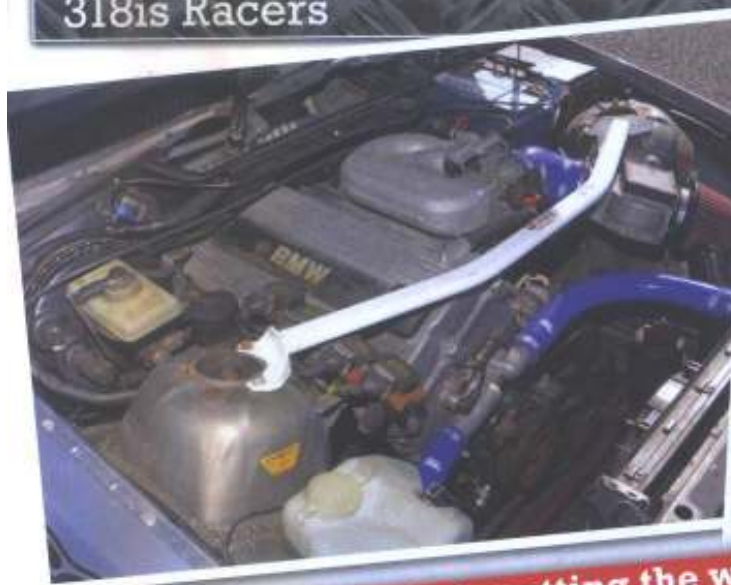
The M44 was the 1.9-litre version which apart from having a longer stroke also had a different management system with a MAF as opposed to the old air-flow meter and a cylinder head with roller rockers replacing the big hydraulic bucket tappets. It gives a bit more power but not enough to fret about. Standard figures are 140 bhp at 6000 rpm for the 1.8 with 129 lbf.ft of torque

at 4500 rpm, and the 1.9 does the same power, but the torque is 132 lbf.ft at 4300 so it's got a bit more pull.

The regulations mean that the cars remain next to standard. Apart from the exhaust system from the manifold back, there is nothing you are allowed to do to get more power and the BMW Racing Drivers Club holds spare ECU's to swap from car to car although though how that works on EWS-equipped cars with coded keys we're not sure. The standard five-speed box and original open differential must be used as well. Suspension is of course upgraded - a standard showroom-spec set-up would be pretty useless - so you can either upgrade to Bilstein B6s and Eibach springs as used on the grey car here, or swap it all for a coil-over kit.

You're allowed to use adjustable rear suspension links to get the geometry right, and you'd use E30 front wishbones which are the same as the E36 items but without the rubber-bushed balljoints. Using M3 E30 wishbone rear bushes to locate the wishbone better and give a bit more caster would be a great idea. The standard anti-roll bars are great for the road, but useless for a racer. The Eibach kit is what you need with massively thicker bars to really tie it down and Automac can supply all the parts you need.

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**The rest of the battle is getting the weight down to the minimum 1050 kg which is measured after the race with a fully kitted-out driver**



Brakes must remain standard as far as disc sizes and callipers go, but that's no big deal because they're up to the performance anyway. You can of course use grooved or drilled discs and uprated pads such as the EBC Yellows, braided hoses and high performance fluid. Most Coupes came with ABS but this is something you can get rid of if you prefer.

As for wheels, you're restricted to 15 inch rims which is hardly as most Coupes came with at least four of them. You're allowed up to 8 inches width but as you are restricted to a tyre

width of 225 mm, there's not that much point when the standard 7x15 inch alloy wheel is going to do the job. The white car here has some wider offset 8 inch wide OZ Racing wheels which are a lot more than the £50 you'd pay for a set of standard 7x15 rims - if your Coupe came on the 16 inch wheels then you will need to downsize to 15s. The tyres are the Kumho Ecsta VT00 K9A which are mandatory.

The rest of the battle is getting the weight down to the minimum 1050 kg which is measured after the race with a fully kitted-out driver. All the interior

**Top left: Despite both being 1.8-litre M42s, the grey car feels slightly stronger.**

**Below: Setting a tidy original interior will help pay for the Sparco wheel and seat.**

**Far right: In racing trim, the Coupes race at a minimum weight of 1050 kg.**

trim comes out, and a car with no sunroof is the one to have. The sound deadening is pulled out and the anti-drumming material chiselled off, plus you can remove the bonnet and boot reinforcing innards although that won't save you much weight. As they come, the 318is Coupe weighs 1235 kg so it wouldn't take much to get down to 1050 kg and just turfing out the interior would be good for a big chunk of that.

Now to give these things a try. I've done a few track days in my 318Ti Compact which is pretty much the same thing as an 'is' and is 35 kg lighter. Bedford is a nice flat and twisty circuit with plenty of run off so what's the score?

Neil and I set off around Bedford with me in the white 'coil-over' car in the lead, and it doesn't take long to draw away from Neil in the grey car running Bilstein B8 shocks and Eibach Pro kit springs. It's not because of any amazing driver skills on my part, but because the coil-over car handles so well - it's almost impossible to put a foot wrong. Swapping over to the grey car reveals a car which is undersprung - the Pro kit is great for the road but on track the Coupe sits up too high at the back and rolls like a ferry. That's a shame because although they are both 1.8-litre cars, the grey car has the stronger engine. With a set of coil-overs it would be a stunning race and track car. The Kumho tyres give an awful lot of dry grip, probably too much for the Bilstein/Eibach set up. The Sparco steering wheel is just the job, and standard E36 instruments are just fine.

Like most circuits, Bedford has a



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council-set noise limit to appease the local residents. The white car just about passes the static noise test with 67 decibels at 4000 rpm, but we realise it might not pass the drive past. So the toolboxes are rifled through and eventually we manage to hastily fabricate a flanking plate for the end of the tailpipe. It's certainly quiet, but feels a bit flat. Feeling brave, we stab a few holes in the end with a screwdriver to let some more gases out but after a lap, hot exhaust gases blow it off and we're black-flagged for noise at a 93 db drive past.

So it's back to the grey car, but after a few laps the handling starts to feel odd and we discover that the nearside rear lip mount (the supposedly great E46 M3 Convertible type) has totally failed.

With both cars out of action, it's time to load up and drive home. It's been interesting though – both the Automac cars were well prepared but it's been a sharp learning curve with the obvious



need for coil-over suspension being a priority. You could get some stiffer coils but Bilstein's aren't adjustable and for a race car it's a hiding to nothing when coil-over kits are so cheap nowadays. What is apparent though is that the Kumho Class D deserves to be very popular because it's proper racing on a budget.

Thanks are due to Automac for supplying the two 318is cars tested here – contact them on 0644 268 6522 or [www.automac.co.uk](http://www.automac.co.uk).

### TECH SPEC

#### ENGINE

Standard M42 1800 or M44 1900 engines. No modifications allowed other than alternative air filter and exhaust system

#### TRANSMISSION

Standard ZF five-speed close ratio gearbox and standard open 318is final drive

#### BRAKES

Standard calipers but with upgraded pads, discs (standard size), fluid and brake lines

#### SUSPENSION

Standard suspension with upgraded springs and dampers (coil-overs allowed), adjustable rear arms, upgraded bushes and top mounts

#### WHEELS & TYRES

15 inch alloys with Kumho Ecsta V700 XSA tyres

#### BODY

Standard shell with all steel panels, lightened bumper and boot, single wiper

#### INTERIOR

Full safety equipment including bolt-in roll cage, racing seat and harnesses, fire extinguisher and battery cut-off

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