

Expert Guide: E28 5-Series

Old-fashioned style but a nicer way to travel than many brand new cars: the E28 is today's bargain BMW.





In many ways this guide to the E28 — the second generation 5-Series — is well timed for as I write this, it's 20 years to the month since production began. The E28 was the first of the modern generation BMWs and with it, BMW introduced its first proper rustproofing systems, the service interval indicator and brought in the economy-biased Bosch LE Jetronic as well as options like metric tyres and anti-lock brakes.

OK, these are all commonplace now but under the skin the E28 was a huge improvement over the E12 in quality and durability, reflected in the fact that while the E12 is now almost an extinct species, the E28 is still with us in large if ever-dwindling numbers.

HISTORY

Launched in July 1981, production of the E28 took over from the E12 at the Dingolfing factory in May with the first deliveries being in October for the British market.

Initially, the model range comprised of a 90 bhp carburettor 518, the fuel-injected 520i, 525i and the 528i plus a high-spec 528iSE. Although the engines were similar to the E12, the 520i used the Bosch

K-Jetronic fuel injection while the bigger sixes got LE Jetronic complete with over-run fuel cut-off. Five speed overdrive gearboxes were standard on all UK-spec cars except the 518.

Although the E28 looked like a restyled E12, the fact was that, windscreen apart, absolutely nothing was interchangeable and the two cars are totally different. The first change came in late 1982 when the 520i switched to LE Jetronic fuel injection. The economy-biased 525e was launched in May 1983, featuring a long-stroke, high-torque 2.7-litre version of the 520i engine, a four-speed overdrive automatic gearbox and a very tall final drive.

The four-speed ZF4HP 22 automatic gearbox fitted to the 525e was standardised on all automatics from October 1983.

To give the three-year-old car a minor facelift, the E28 was revamped in October 1984. Wider 195/70 tyres and plastic wheeltrims replaced the 175 tyres on steel-wheeled models and the front valance was made deeper and more rounded. Final drive ratios on the 520i and 525i were lowered in an attempt to improve performance, while to counter falling fuel octane ratings, the 525e's compression ratio was lowered.

January 1985 saw the 518 become the 518i by fitting the 318i's 105 bhp fuel-injected engine. Conceived in order to exploit the sub-1800cc company car tax bracket, the 518i became much more palatable than the old 90 bhp carburettor car and sold very well.

The final change came in November 1986 with the launch of the Lux versions. Replacing the SE option pack, the

Lux was available in all engine sizes and featured a sunroof, tinted glass, cross-spoke or metric alloys, front fog lamps, wool upholstery and rear headrests. In addition to this, most Lux cars had the three-spoke leather steering wheel, boot spoiler and metallic paint.

All good things come to an end though, and E28 production finished in early 1988 to make way for the new E34.

BUYING THEM

E28s are everywhere, from local car auctions to enthusiast cars advertised in the BMW club magazines to the 'bargain cars' section of the *Auto Trader*. BMW sold around 40,000 of these cars in the UK but the oldest cars are 20 years old and the newest 13. As a result, there are relatively few mint examples left although there are still thousands of good solid examples.

All are good cars but the 525e is the star. With a torquey engine and very high gearing, it's superb to drive and does well over 30 mpg. 518i cars are better than you'd think and the late Lux models are the ones to buy. >>

| | | | |
|---------------------------------|------------------|-------------|------------|
| Models | 518i, 520i, 528i | | |
| Produced | 1981-1987 | | |
| Engines | 1766cc four | 105 bhp | 107 lbf.ft |
| | 1990cc six | 125 bhp | 125 lbf.ft |
| | 2494cc six | 150 bhp | 158 lbf.ft |
| | 2693cc six | 129 bhp | 177 lbf.ft |
| | 2788cc six | 184 bhp | 177 lbf.ft |
| Performance | 0-60 mph | Max speed | |
| | 518i | 12.6 | 109 |
| | 520i | 11.4 (13.4) | 118 (114) |
| | 525i | 9.8 (11.9) | 125 (121) |
| | 525e | 12.2 | 114 |
| | 528i | 8.4 (10.8) | 134 (129) |
| <i>(automatics in brackets)</i> | | | |



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PHOTOGRAPHY: MICHAEL WHITSTONE

BODY

With cars this old, rust should be a major problem but the E28 lasted well. Look around the arches for developing surface rust plus the front doors where the seals attach. Many E28s leak water into the boot and although the boot floor doesn't rust, the metal where the seal fits does. In fact, most of these cars seem to have a permanently damp boot, caused by a combination of condensation and minor leaks which is easily improved by fitting a pair of new rubber tail light seals at £8 each, plus a new boot lid rubber seal and adjusting the lock carefully.

Door bottoms are normally fine, as are front wings but check the wings where they bolt to the inners on really old cars — normally, a rusty wing is the result of a badly fitted replacement. Structurally the E28 is excellent but do give the rear jacking points a good prod. Generally, the E28 was far better built than a comparable 3-Series and it's a case of using your own judgement as to whether the car's sound or not.

INTERIOR

The E28 interior was very robust and we've seen plenty of cars with 180,000 miles which still have a very smart interior. The driver's seat always wears first though and any fraying is obvious. Cars with cloth door trim inserts can have a problem with the cloth shrinking and coming away from the surrounds but you can easily take it apart and retrim it.

Replacement seat covers are still available from BMW although still a lot pricier than a good second-hand seat. The electric sunroof on the E28 never seems to fail although most need a good oiling to work smoothly. The manual sunroof handle is well known for breaking, although these are plentiful new or used. The problem is that the roof mechanism becomes stiff through lack of lubrication, at which point it's easy to put too much sideways load on the alloy handle and it breaks off.

Check the heater on all cars except the 518i as they use an electronic heater valve that can gum up and fail. Details of how to fix it were in our December issue, and a new valve isn't extortionate. All cars used the service indicator (SI) system and although you might not care if it doesn't work, the NiCad batteries used will eventually leak and ruin the instrument circuit board — faulty gauges are usually a result of this.

ENGINE

BMW engines last almost forever if maintained but few E28s are given the maintenance they deserve. The strongest units



ALTHOUGH THE E28 LOOKED LIKE A RESTYLED E12, NOTHING WAS INTERCHANGEABLE AND THE TWO CARS ARE TOTALLY DIFFERENT

are the 518i, 525i and 528i with their chain-driven cams. Provided the anti-freeze is changed once every year or two and the oil every 6000 miles there isn't a problem. The trouble comes when the anti-freeze is left to stew for years — it corrodes the waterways in the cylinder head and the gasket fails.

The 520i and 525e units are similar but both use a belt-driven cam. The belt and tensioner must be changed at 30,000 miles but of course, few ever are. The other bogey with the M20 engine is the cracked cylinder head where oil and water mix and you must avoid any car that does this. Pressurising in the cooling system is normally due to a failing head gasket or a badly corroded head.

The viscous cooling fan couplings are now becoming a problem and a well known source of overheating problems. When the engine is good and hot, the fan coupling should virtually lock up and make the loud droning noise — as soon as the engine cools off, the fan declutches. If you're buying an E28 as a long-term proposition then a set of new coolant hoses is a very good idea.

As far as the injection system goes, it all works well in old age but there are a few pointers. Firstly, the metal fuel pipes under the car can rust badly and eventually leak, while many misfires or general performance woes can be traced to a failing air flow meter.

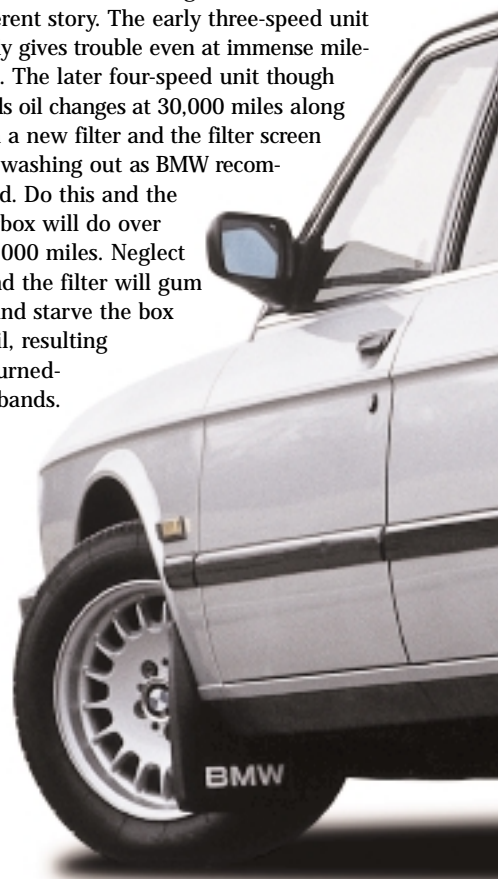
Sluggish manual 520is can be suffering from a failed distributor advance and the only cure is a good used or new unit. Cars that pink badly under load can be afflicted

this way too as the advance-retard mechanism can play up, although the vacuum retard isn't used on the automatic models.

TRANSMISSION

The manual gearboxes go on forever and rarely display bad syncromesh wear. The gearshift can become sloppy on badly-driven cars but BMW clutches do last a long time.

With the automatic gearboxes there's a different story. The early three-speed unit rarely gives trouble even at immense mileages. The later four-speed unit though needs oil changes at 30,000 miles along with a new filter and the filter screen pan washing out as BMW recommend. Do this and the gearbox will do over 200,000 miles. Neglect it and the filter will gum up and starve the box of oil, resulting in burned-out bands.





Seat trim apart, interiors are bulletproof. Trip computer was optional on 525i upwards.



Four-speed ZF automatic gearboxes on later cars need regular fluid changes for long life.

The automatics have a separate gear-box oil cooler in the bottom of the radiator and when the radiator silts up after huge mileage then the gearbox will tend to run hot. The transmission dipstick should be checked with the engine running and the fluid should be pale red. If it's brown it needs changing immediately. >>





Check the anti-freeze: neglect this and you'll have a cracked head sooner than you think.



Other problems include sticking in first gear for a mile or so which is due to a faulty governor, failing to engage reverse after a long run or failing to disengage from drive unless revved which is usually due to a sticking valve. Reconditioned gearboxes are big money and the best option is a £150 used replacement. Be aware though that the 525e gearbox is unique to that car, so any replacement must come from exactly the same model.

As far as the rest of the transmission goes, we're talking high mileage and old age. Propshaft front couplings are quite easy to replace but avoid really cheap aftermarket ones. E28 differentials never seem to wear out and neither do the driveshafts. Noisy wheel bearings are fairly common now and the front ones are a complete hub but only cost around £50 a corner.

BRAKES, STEERING AND SUSPENSION

The normal suspension weak points are knackered rear axle beam bushes which just aren't a DIY job and worn shock absorbers which are. The E28 relies heavily on good dampers and regardless of whether they leak or not, most cars will need at least a pair of front ones by now.

Don't fret though as Bilstein provide front inserts for £34 each through Euro Car parts while German and Swedish sell Boge shocks for about the same. Any clonks or knocks from the front end are likely to be a worn steering joint and the E28 has quite a few of them.

E28s have two types of braking systems — a conventional vacuum servo type for the 518, 520i and 525e and a hydraulic



servo system from the 7-Series for the bigger-engined cars. Both systems are reliable but watch for sticking front callipers. This manifests itself with an appalling juddering through the steering shortly after braking and can sometimes be cured by squirting some WD40 behind the piston dust seals and exercising the piston with big grips.

Many 528is had ABS and this should work properly. The warning light should go straight out once the engine fires and most faults are cured by cleaning the serrated sensor rings on the front hubs. If it's not working then you won't get an MoT.

Steering judder under braking is a common fault caused by warped discs, a knackered steering joint or bush or even a steering box that needs adjusting.

RUNNING THEM

The BMW Four-Plus scheme is fine for nice examples but you can save lots of cash by using aftermarket parts. Just stick to the known brands — how about £20 each for Ate brake discs or £25 for a rear exhaust box?

We'd still take the car to a dealer or a very well regarded specialist for a cam belt change and those rear axle bushes are impossible without the special tool but a £70 job under the Four-Plus scheme.

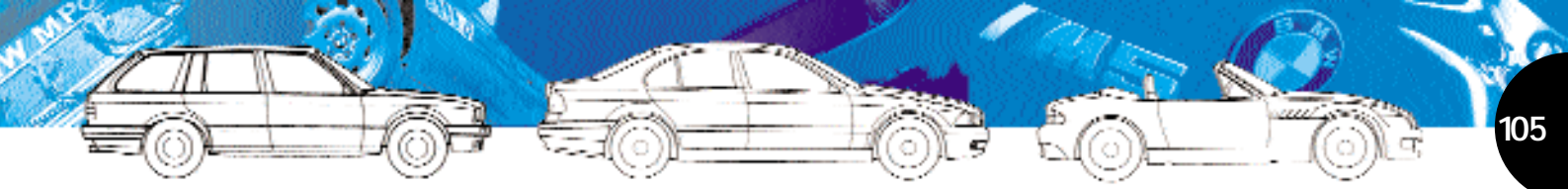
Buy a good, well-maintained E28, buy your parts wisely and it could be the cheapest car you've ever owned. BMW main dealer parts prices for the E28 are often very reasonable compared to many bread and butter modern cars. ○



IT'S MINE

John Lomas is a retired British Coal manager who has owned this pristine 1986 528iSE automatic since it was 15 months old. John is also an instructor for the Institute of Advanced Motorists and has taken the mileage of this Polaris Silver car from 19,000 to just over 110,000, during which time the car has proved mostly reliable.

Before this, John owned one of the first X-registered E28 528is and prior to that a 1977 528. The one hiccup with this car came at 40,000 miles when the gearbox started to make a strange noise — this was sorted out but unfortunately not under warranty. John has no plans to ever sell this car, which he values at £1500. "Another one-year-old 528i would be £25,000 and it's just not worth changing it!" he says.



WHAT TO PAY

£3000 This is now absolute top dollar for a non 'M' E28 and for that you want an absolutely mint 528iSE with leather, around 60,000 miles and loads of history. These cars just don't sell like they used to and if you're lucky you may even get a car like this for £1500. Beats a rattling 180,000-mile Mondeo doesn't it?

£2000 This is still quite strong money for an E28 as you can even buy a sound E34 5-Series for this cash now. Look for a really nice low mileage 525e Lux with all the extras and history. Buy a spotless example and maintain it to the book and you'll have a car for the next ten years.

£1000 It's surprising just how much car you can get for a grand with the BMW badge on. For this much we're looking at late E-registered Lux cars or older but superb 528is. At this level you're still into very clean machinery with lots of life left and we'd look out for a nice 518i Lux. It's not an M5 but surprisingly lively, very economical and plenty of goodies. Or you can have a rusty Cavalier...

WHERE TO BUY

The E28 is still a common car, although good ones are getting rarer and rarer as the value continues to fall. The DVLA reckons there are over 28,000 E28s registered on UK roads, with 4700 525e's surviving.

We found a couple of cars for sale which have now been sold but provide a useful illustration of what's out there. Car one was a 1988 E-registered 518i Lux in Dolphin Grey with cross-spoke alloys and 90,000 genuine miles. In lovely condition, it was up on a forecourt for £995 which is almost bicycle money. An F-registered Alpine White 525e was clearly one of the very last E28s. In immaculate condition with just 46,000 miles it was well worth £1650 of anyone's money. 520is are the most common model and sell better than the thirstier 528is which struggle to find new homes these days.

PARTS

| | MAIN DEALER | MAIL ORDER |
|---------------------------|-------------|------------|
| Front brake pads | £47 | £24 |
| Front brake disc (pair) | £80 | £47 |
| Front damper (pair, Boge) | £141 | £75 |
| Rear axle beam bushes | £59 | £24 |
| Radiator | £276 | £163 |

Parts prices include VAT and are based on a 1988 520i.

SERVICING

| | MAIN DEALER | SPECIALIST |
|--------------|-------------|------------|
| Oil Service | £79 | £45 |
| Inspection 1 | £149 | £125 |
| Inspection 2 | £199 | £150 |
| New clutch | £299 | £235 |
| Rear exhaust | £199 | £90 |

All E28 cars are eligible for the BMW Four Plus scheme. Thanks to Scotthall Winchester (01962 866866) for the parts prices and Bridgegate BMW (01246 208681) for service prices.

INSURING THEM

What kills the E28 for younger buyers is the insurance, and many a young blade who fancies shutting down his mate's Escort in a 528i will be startled at the cost of cover. We spoke to Mansfield Insurance Services (01623 660800) about what it would cost for a 29-year-old landscape gardener from North Oxford to insure a 1987 525e Lux worth £1000, third party fire and theft. He's got five years' no claims but three points for speeding two years ago. The car is parked off the road and does 10,000 miles a year. Result? £350 with £100 excess.

ORIGINAL PRICES

| | |
|--------|---------|
| 518i | £10,495 |
| 520i | £13,075 |
| 525e | £13,995 |
| 525i | £15,635 |
| 528i | £17,735 |
| 528iSE | £19,480 |

Recommended on the road prices from 1986

VERDICT

The E28 is often regarded as a banger and while many are in a parlous state, plenty are still worth owning. An E28 is old-fashioned style for sure but if you can live with that they do provide top quality motoring.

As with any older lower value car, you must buy on condition rather than year or model but once you've bought one, keeping an E28 in prime condition is not expensive at all.

The cars are now cheap enough to buy a model with extras such as electric windows and a sunroof. If possible, look for a car with history and periods of long ownership and you'll bag a car which although old now is still very superior to many brand new cars.