

# LOTUS ELISE

**MODEL TESTED** 1.8i **LIST PRICE** £18,950

**TOP SPEED** 124mph **0-60MPH** 5.5sec

**60-0MPH** 3.0sec **30-70MPH** 5.8sec **MPG** 28.7

**YES PLEASE** Rule-changing ride, handling and steering, looks, aero management, driving position, compact proportions

**NO THANKS** Patchy build quality, gearchange, hood design

You will need to have read last week's cover story to know how we feel about the extraordinary Lotus Elise. It is, we are sure, a reference point in the history of the motor car. It encapsulates a blend of handling, performance, ride and refinement that is unique at its price. What you are looking at is the first affordable sports car we have driven that makes the once inimitable Caterham 7 feel second best.

Like most cars that come out of Hethel, the Elise is brimming with technical innovations. Yet as a finished product it is the compact proportions and featherlight kerb weight that grab the headlines.

At no time in the past three decades have Colin Chapman's original philosophies been so accurately reproduced. Which is why, despite its lowly £18,950 asking price and a 118bhp 1.8-litre Rover K-series engine and gearbox, lifted straight from the entry-level MGF, the mid-engined Elise is one of the most exciting sports cars of the decade.

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AUTOCAR  
**ROAD  
TEST**



## ● Handling & Ride

**Y**ou expect extraordinary things from the handling and ride of any new Lotus. It has, after all, set more new standards in this area than any other marque. But, even by the lofty standards that Lotus has set for itself with cars such as the Esprit and original Elan, the Elise is exceptional. It changes the way we will look at and judge the ride and handling of affordable sports cars forever.

There is much to be intrigued by within the bonded aluminium spaceframe chassis, not least the fact that it uses adhesive as a joining property rather than more conventional (and heavier) welding. The basic layout is double unequal length wishbones at each corner with an anti-roll bar only at the front. But, unlike previous

Lotuses, it uses monotube rather than twin dampers, again as a means of saving weight.

Initially, you'd be forgiven for thinking that Lotus lacked the guts to complement the Elise's pared-to-the-bone interior with a chassis set-up of equally aggressive focus. It feels too soft, too comfortable to begin with, to the extent that, unless you find a good road to drive on within the first few miles, you might begin to question the depth of commitment towards true driver appeal.

In the event, nothing could be further from the truth. The Elise hides its secrets under a veil of cool sophistication, but ultimately proves all the more engaging as a result. Go beyond the restrictions of urban roads, whose ruts and ripples it rides considerably more serenely than an MGF,

## SUSPENSION

Front double wishbones, coils over monotube dampers, anti-roll bar

Rear double wishbones, coils over monotube dampers

## STEERING

Type rack and pinion

Turns lock to lock 2.7

## WHEELS AND TYRES

Wheel size 5.5x15in (f), 7x16in (r)

Made of cast alloy

Tyres 185/55 VR15 (f), 205/50 VR16 (r)

Spare 115/70 R15 (optional)

and it reveals a degree of handling beyond anything we've experienced at this level.

The steering, a touch light at low speeds despite the lack of assistance, gains weight and feel with every inch of open road it covers, eventually displaying a delicacy and accuracy that makes even the Esprit's exquisite helm seem heavy-handed. Better



still, the moment you hit a mid-corner bump and the chassis sweeps it aside as if it never existed, leaving the body, wheels and tyres (185/55 VR15s front, 205/50 VR16s rear) to continue with the jobs for which they were intended, you realise why Lotus resisted the temptation to make the suspension stiffer.

Only then is it possible to appreciate the full breadth of this car's handling repertoire. Not only does it provide a richer seam of fun and involvement than the hitherto unrivalled Caterham 7, but it also combines this with a ride quality that many family cars would do well to emulate.

**Incredible. Lotus has torn up the rule book  
with this car's handling**



Even by Lotus's lofty standards, the Elise's blend of ride, handling and steering is exceptional

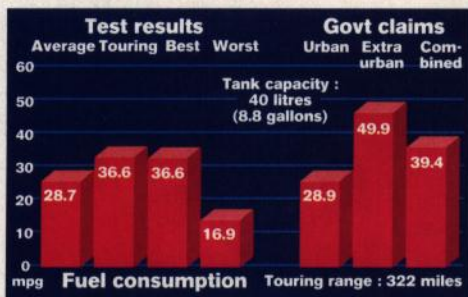


## ● Economy

**W**e drove the Elise as hard and as often as possible where conditions permitted, yet rarely did its fuel consumption drop much below the 30mpg mark on the public road. Its average return finally fell to 28.7mpg because of some unusually ferocious and lengthy track work.

On the motorway at 80-85mph it returned between 31 and 33mpg, and over our touring route it turned in an excellent 36.6mpg. So, even with the tiny 40-litre (8.8-gallon) tank, a real world touring range of 300 miles is entirely feasible. That's nearly twice the distance that a Caterham 7 can put between most fills.

It proves once and for all the fuel economy benefits of a lightweight construction and good aerodynamics, although the Elise's relaxed gearing plays a vital role here, too.



Lightweight construction, fine aerodynamics make the Elise as economical as they come

Elise is not only more fun than its rivals, it uses less fuel, too ★★★★★



## ● Performance & Brakes

**D**on't be fooled into thinking the Elise lacks performance merely because it lacks power and torque alongside its rivals. True, its 16-valve 1.8-litre MGF engine may produce only 118bhp at 5500rpm and 122lb ft at 3000rpm, but then look at the weight it has to pull (just 723kg) and the 163bhp per tonne this unleashes and a brighter picture emerges.

Even so, the Elise never feels pulverising in a straight line, merely quick. Off the line there is virtually nothing that can stay with it over the first few yards because, being mid-engined, it generates terrific traction to help it rocket to 30mph in 1.8sec.

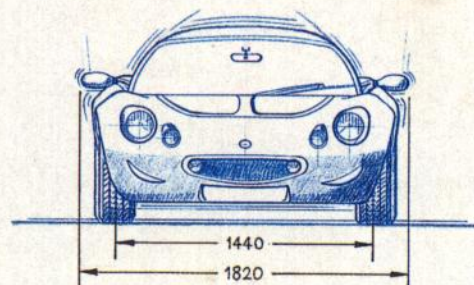
Once the rear Pirelli P-Zeros have bitten, it continues to pile on the acceleration vividly, reaching 60mph in 5.5sec and sprinting between 30-70mph in 5.8sec. But from here on up it never feels quite as vicious as it does during initial take-off. By 100mph (17.4sec) the serious acceleration has started to tail away, although it isn't until 120mph that the brick wall in its aerodynamics appears, eventually reaching a peak of 124mph with the roof off.

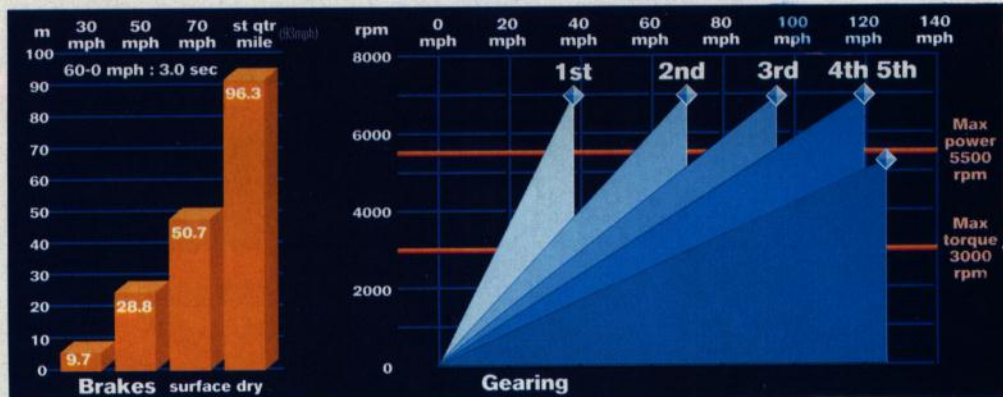
Being so light, the Elise survives with gearing that would smother a heavier car.

Hence the scant 8.3sec it takes to cover 50-70mph in top, despite stretching a refined 23.3mph from every 1000rpm.

It's a remarkably flexible performer, too. Of course, ultimately, the Elise will go faster if you wring the K-series out to 7000rpm in the lower gears, but perfectly rapid progress can still be maintained by changing up at 5000rpm and allowing the combination of torque and light weight to sweep you along.

## ● Technical Layout





Elise gets away with relatively tall gearing because it's so light. It's quick despite meagre outputs

## ENGINE

Layout	4 cyls in line, 1796cc
Max power	118bhp at 5500rpm
Max torque	122lb ft at 3000rpm
Specific output	66bhp per litre
Power to weight	163bhp per tonne
Torque to weight	169lb ft per tonne
Installation	transverse, mid, rear-wheel drive
Construction	aluminium alloy head and block
Bore/stroke	80.0/89.3mm
Valve gear	4 valves per cyl, dohc
Compression ratio	10.5:1
Ignition and fuel	MEMS electronic ignition, multi-point fuel injection

## GEARBOX

Type	five-speed manual
Ratios/mph per 1000rpm	
1st	3.17/5.6
2nd	1.84/9.7
3rd	1.31/13.6
4th	1.03/17.2
5th	0.76/23.3
Final drive ratio	3.94

## BRAKES

Front	282mm ventilated aluminium discs
Rear	282mm ventilated aluminium discs
Anti-lock	n/a

## MAXIMUM SPEEDS

5th gear	124mph/5300rpm
4th	120/7000
3rd	95/7000
2nd	68/7000
1st	39/7000

## ACCELERATION FROM REST

True mph	sec	speedo mph
30	1.8	32
40	2.8	42
50	4.0	53
60	5.5	64
70	7.6	74
80	9.8	84
90	12.8	94
100	17.4	105
110	24.6	115

## WEIGHT

Kerb weight	723kg
Distribution f/r	per cent 39/61
Max payload	252kg
Max towing weight	braked n/a

## ACCELERATION IN EACH GEAR

mph	5th	4th	3th	2nd
10-30	-	-	4.2	2.8
20-40	8.7	5.2	3.8	2.6
30-50	8.4	5.0	3.7	2.6
40-60	8.3	4.9	3.8	2.8
50-70	8.3	5.1	3.8	-
60-80	8.4	5.4	4.0	-
70-90	10.7	5.8	-	-
80-100	13.5	7.1	-	-
90-110	-	9.8	-	-

Standing quarter mile 14.4sec/93mph Standing kilometre 26.6sec/113mph  
30-70mph through the gears 5.8sec



Stack instrument display works brilliantly

There are two other benefits to driving it in this manner. First, you avoid having to use the disappointing cable-operated gearchange, whose shift quality is neither as precise nor as clean as we would have liked. Second, you keep the engine out of the band where it loses its refinement. Truth is, the K-series' installation in the Elise resists noise and vibration less doggedly than in the equivalent MGF. It's not an engine that sounds or feels as if it relishes hard work. Unlike the more powerful MGF VVC.



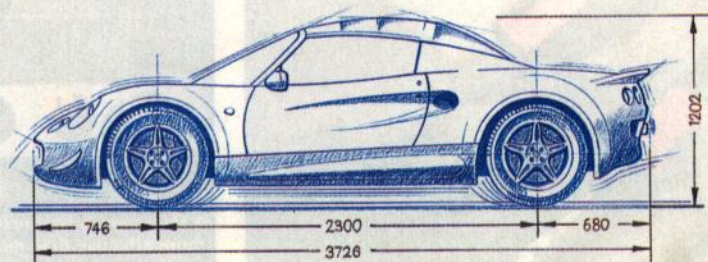
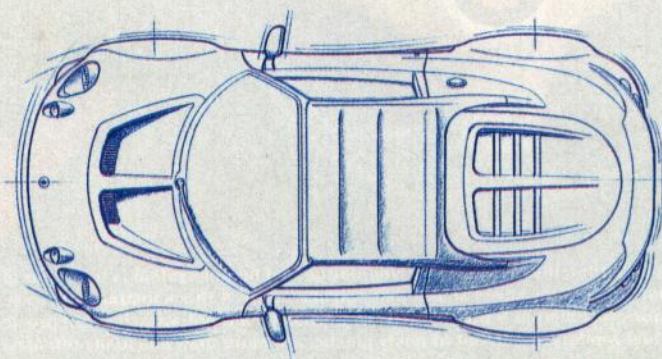
AUTOCAR road tests are conducted using Mobil Unleaded or Cleanburn Diesel Plus with additives to help keep engines cleaner

The performance figures were taken at the Millbrook Proving Ground with the odometer reading 1500 miles. AUTOCAR test results are protected by world copyright and may not be reproduced without the editor's written permission

A cracking performer. Pity about the gearchange and engine noise ★★★★★

Body 2dr roadster Cd n/a Front/rear tracks 1440/1453mm Turning circle 10.0m  
Min/max front leg room 1040/1145mm Max front head room 905mm

Interior width 1295/1275mm Boot width 640mm  
Boot height 500mm Boot length 210mm  
Loading height 960mm VDA boot volume n/a





Pared-to-the-bone cabin is a deliberate move to encourage serious drivers. Driving position is terrific but it's not easy to get in and out over the wide sills

## ● Comfort, Equipment & Safety

Entering or exiting the Elise is not an elegant act. Because the sills are so thick, you enter by treading on the seat or suspending yourself above it by holding on to the screen then letting go. Once ensconced, the effort is well worthwhile; the driving position is superb despite the fixed wheel and hard seats that could do with more thigh support. The top of the gear lever is but a nudge away from the wheel rim, and the closely stacked pedals are perfectly placed for heel and toeing.

This is a cabin that has been designed by serious drivers for serious drivers; the economy of movement required to change gear, steer or pedal is proof of that. As is the lack of buffeting in the cabin. With the windows down, motorway travel is more than acceptable; with them up the Elise is as refined and wind-free as a BMW Z3.

But there are flaws. Apart from the awkward entry and egress, the Elise we drove suffered from one too many irritating quality problems to emerge untainted as an overall everyday prospect. The hood blew off at speed and tore itself to pieces, the

passenger's window was starting to stick and the driver's window had already developed a rattle. All these problems, says Lotus, will be addressed on production cars. A decision was taken to make the Elise as simple as possible inside, hence the



1 Passenger's foot rest is not just beautiful; it's needed too 2 Ventilation and heater system is noisy but is more effective than most 3 Brilliant LCD display saves space, distinguishes dash 4 Stack instruments look great, dead easy to read. Engine goes to 7000rpm 5 Bank of ancillary switches are not attractive but are at least easy to identify 6 Huge window winders, made out of nasty plastic, are more than unusually offensive



Air pockets provide much-needed extra support



Elise's rear-mounted boot is surprisingly roomy

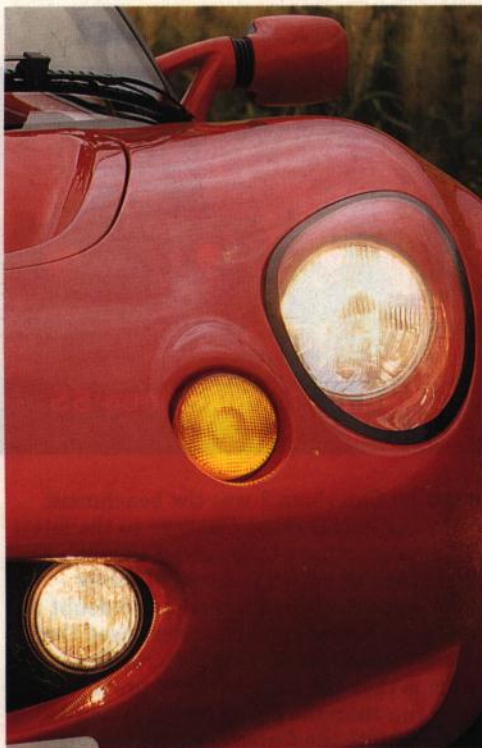
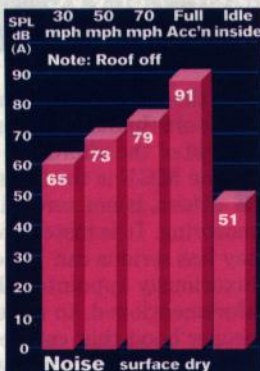
refreshing absence of trim and equipment. In front of the driver is a Stack instrument display featuring clear, conventional dials for speed and revs, with a digital display for things such as mileage and fuel level. To the right is a bank of switches for lights, foglights and hazards.

That's it. The rest is either bare aluminium or body-coloured composite panels.

A useful boot is located behind the engine. With the optional boot bag, there's enough space for one big squashy overnight bag.

The only question mark is over safety. There's no doubting the strength of the shell or the inherent security provided by the Elise's dynamics. But the lack of anti-lock brakes and an airbag goes down as a minus.

**Better to live with than you'd imagine, but safety credentials need improving** ★★



Driving lights are optional but composite bodywork and ultra-stiff aluminium chassis are standard

## ● Design & Engineering

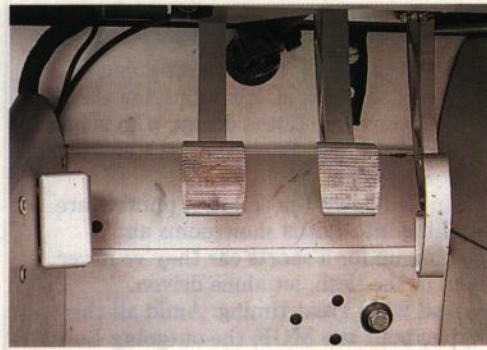
As a technological tour de force, the Elise is without equal. Many of its sub-£20,000 rivals have more complex equipment, some are faster and a couple are even lighter – but none is so innovative.

The composite bodywork, stiff chassis, double wishbone suspension and two-seat, mid-engined layout are, of course, nothing new to Lotus. It's their design and execution that break new ground.

Central to the Elise's elegantly simple design is the adoption of extruded aluminium technology from Denmark's Hydro Aluminium. Where, for three decades, all Lotus products have relied on a fabricated steel backbone chassis, the Elise is supported by a unique extruded and bonded aluminium perimeter structure. As well as helping Lotus to meet the 700kg weight target, this improves torsional stiffness and crash worthiness.

To reduce unsprung mass at the ends of the wishbones, the uprights are also fashioned from aluminium, as are the five-spoke wheels. And the aluminium metal matrix composite brake discs are the first fitted to a production car. Even the exquisite skeletal pedals are machined from custom-profiled alloy sections. Only the engine subframe, suspension mountings, wishbones, front anti-roll bar and rollover hoop are steel – the latter enforced by FIA competition rules.

Following the Renault Sport Spider into production, the Lotus is not the first alloy-framed sportster. But it exploits the technique to much better effect. At 930kg the screenless Renault is heavier than some steel-bodied hatchbacks and, compared with the Elise's flawless tub-like chassis, its crude welded beams look like domestic



Pedals, crafted from alloy, are perfectly placed



window frame offcuts. The chassis also dominates the spartan Lotus cockpit, where large expanses of anodised alloy are left untrimmed to delight enthusiasts.

Lotus used the Caterham (nee Lotus) 7 as its benchmark when developing the Elise, but its function-exposing interior design also owes much to a passion for exotic Italian motorbikes shared by stylist Julian Thomson and chassis designer Richard Rackham. Other than rubber mats, a heater and four tiny storage pouches, the geometric cockpit is totally driver orientated.

Externally the Elise is more conventional, clothed in just eight moulded composite panels – a fraction of the number required to build the ill-conceived Elan. Fit and finish is generally good, although the twin-ducted "bonnet" on our test car was misaligned.

Thomson's styling makes the most of the car's squat proportions (which are similar to those of Lancia's legendary Stratos) with a harmonious mix of flowing, muscular curves and functional cooling and ventilation ducts – upset only by the clumsy rear spoiler.

There are Ford GT40 overtones in the rear vents and twin, centrally mounted exhaust pipes while, up front, prominent round indicators, round headlights and a single oval air intake recall the Europa, Lotus's first mid-engined road car.

The only truly disappointing Elise feature is its fabric hood. Although commendably light and watertight, it takes several minutes to assemble, looks ugly and, in the case of our test car, disintegrates at speed.

**Full under-the-skin tech story, see p44-47, 3 July issue. Back copies on 01235 534323**

**Functional cabin, innovative technical touches and great looks define Elise** ★★★★★



Poorly designed hood stows behind the seats

## ● Market & Finance

"It's not selling them that's going to be the problem, it's supplying them." So says one Lotus dealer, who is now clean out of Elises until the end of next year.

Up and down the country, punters are walking into Lotus showrooms and signing up for a sports car they've never seen in the flesh, let alone driven.

And what great timing. Amid all the hype about the MGF, the outgoing Lotus Elan is experiencing a rebirth, fuelling interest in the Elise. Used Elan prices are up – as much as £2000 more than trade for the right cars – as people latch on to the little car's heritage and, more important, quality.

But the Elise is a better car than the Elan. Dial in that keen £18,950 list price and anyone who buys one will be sitting on a goldmine. At least for the next two years, used ones will continue to make more money than new list.

As for financing an Elise, yes, you can have a PCP, but a dealer we spoke to reckons 99 per cent of buyers are walking in with the folding.

**A goldmine. Likely to be worth more used than new for some time ★★★★★**



## ● The Shopping List



**Caterham 1.6 six-speed SS**  
£17,039

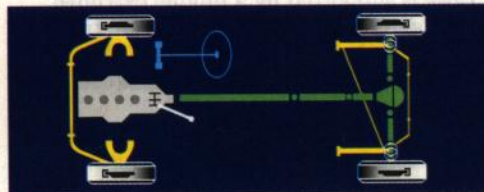


**MGF 1.8i VVC**  
£18,795

The Caterham 7 was the benchmark car in this class. Changes to the latest version have taken away as much as they've added in terms of driver appeal, although there is no doubt it now rides better and is more civilised than at any time in its 35-year history. The key thing is that the Elise actually provides more fun than the Seven over a favourite road, despite the Caterham's lower weight and, in 138bhp Supersport guise, markedly superior performance through the gears. For the first time the Seven feels slightly old in the light of the Elise. But there are still plenty of people around here who love it.

### DIMENSIONS

Length	3380mm	Width	1580mm	Front track	1270mm
Wheelbase	2250mm	Height	1093mm	Rear track	1320mm
Weight distribution	front/rear 45/55				
Capacity	1589cc				
Power	138bhp/7000rpm				
Torque	115lb ft/5000rpm				
Max speed	115mph				
0-60mph	6.0sec				
30-70mph through gears	5.7sec				
Standing quarter mile	14.7sec				
30-50mph in fourth	4.4sec				
50-70mph in top	6.8sec				
Mpg overall/touring	27.6/31.1				
Mph/1000rpm in top	18.0				
Kerb weight	554kg				
Date tested	25.10.95				

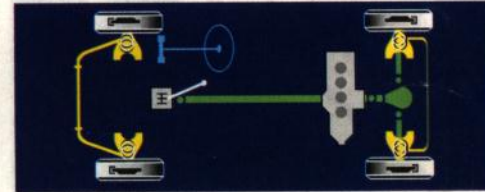


**Until the Elise came along, this was the car that defined pure driver appeal ★★★★★**

If the Elise, Caterham 7 and Renault Sport Spider represent the most focused end of the affordable sports car spectrum, the MGF is the flip side. This, unlike the others, is not zero frills, maximum fun motoring. It is instead a softer, some might say less serious car. Inside, it is far more luxuriously appointed than any of the aforementioned, to the extent that it has a proper hood that can be raised in seconds; it even has electric windows. Yet the MGF VVC should not be ignored by petrol heads. For most it is still a cracking drive. Just don't expect it to even approach replicating the talents of the Elise on the road.

### DIMENSIONS

Length	3914mm	Width	1780mm	Front track	1400mm
Wheelbase	2375mm	Height	1260mm	Rear track	1410mm
Weight distribution	front/rear 45/55				
Capacity	1796cc				
Power	143bhp/7000rpm				
Torque	128lb ft/4500rpm				
Max speed	131mph				
0-60mph	7.6sec				
30-70mph through gears	n/a				
Standing quarter mile	n/a				
30-50mph in fourth	n/a				
50-70mph in fifth	n/a				
Mpg overall/touring	n/a				
Mph/1000rpm in top	20.7				
Kerb weight	1121kg				
Date tested	4.10.95				



**More compromised than Elise, Seven and Spider but a better everyday car ★★★★★**

## ● The Others

Genuine rivals for the Elise are few and far between beyond the ones already mentioned.

On one hand there are cars such as the Westfield SEiGHT and Ginetta G27, both of which are big on thrills but short on the Elise's polished composure and refinement. Nor are they as much fun or as well built as a Caterham 7.

On the other hand, you could look

towards the more conventional market, to cars such as the Mazda MX-5, Fiat Barchetta and perhaps even the Alfa Spider. None of these is anything like as involving as the Elise to drive, but then neither do they aim to be. The Mazda, along with the MGF, remains one of the most practical, affordable small sports cars but lacks the performance of its rivals these days. The Barchetta is more engaging visually but,

The small print © Autocar 1996. Further information on the Elise is available from Group Lotus Ltd, Hethel, Norwich, Norfolk NR14 8EZ. Tel: 01953 608000. The cost per mile figure is calculated over three years.

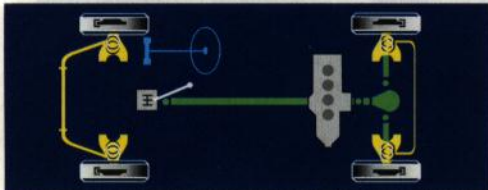


**Renault Sport Spider**  
£26,000 (est)

**O**f all these cars, the outrageous-looking Spider has the potential to be the most exciting. With a 150bhp Clio Williams engine, a Spiders from Mars appearance and a chassis that owes more than a little to single-seater technology, it should, theoretically, offer the purest driving experience on four wheels. Let in the end it is too heavy to take on the Elise over good roads. Renault claimed it would weigh 790kg originally but this has expanded to a ridiculous 930kg. It will also prove very expensive next to the Elise when it goes on sale in January for "around £26,000".

#### DIMENSIONS

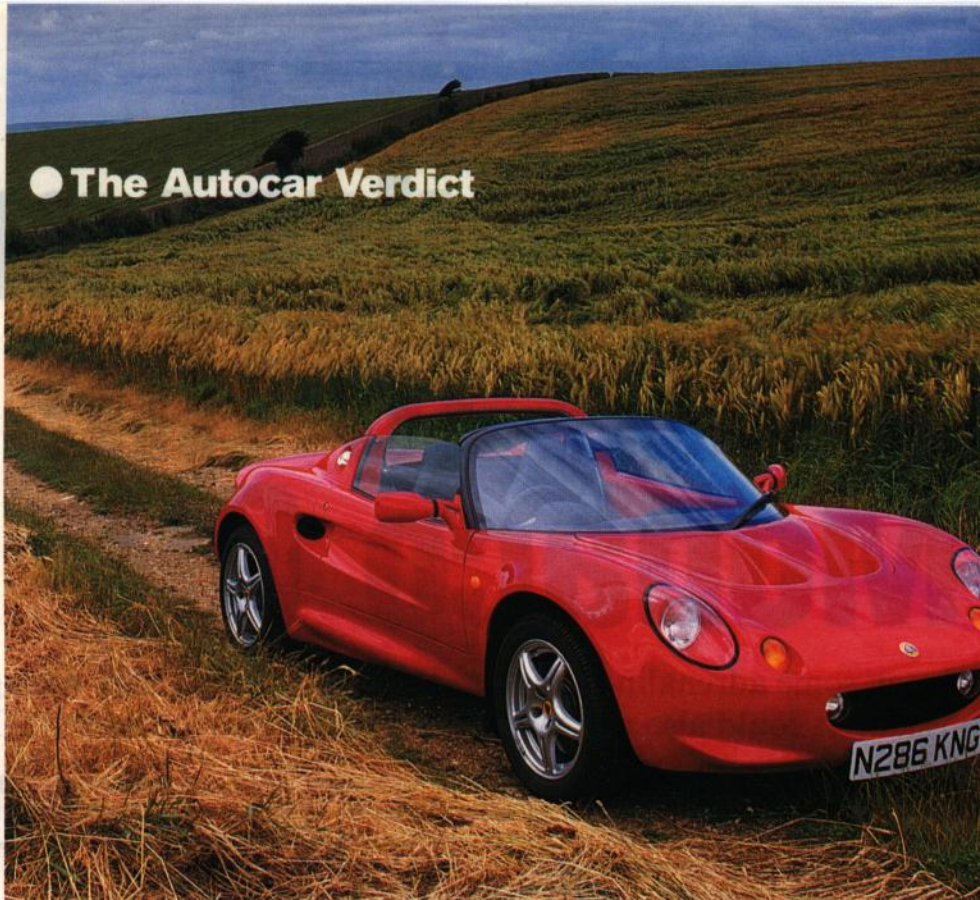
Length	3810mm	Width	1830mm	Front track	1520mm
Wheelbase	2350mm	Height	1280mm	Rear track	1525mm
Weight distribution	front/rear	n/a			
Capacity			1998cc		
Power			150bhp/6000rpm		
Torque			137lb ft/5400rpm		
Max speed (claimed)			131mph		
0-60mph (claimed)			6.5sec		
30-70mph through gears			n/a		
Standing quarter mile			n/a		
30-50mph in fourth			n/a		
50-70mph in fifth			n/a		
Mpg overall/touring			n/a		
Mph/1000rpm in top			n/a		
Kerb weight (claimed)			930kg		
ate tested			n/a		



**This should be the car to worry the Elise. In the event, it doesn't get close ★★★**

being front-wheel drive, has neither the handling prowess nor the delicacy to stand court next to the Lotus. Were the Alfa Spider a little cheaper and sharper to drive, it might attract the odd potential Elise customer, but as it stands we don't see many people struggling to make a decision between the two. Slick as it may seem in isolation, the Alfa, along with most of these cars, is aiming in a very different direction.

## ● The Autocar Verdict



**I**t took a while to realise exactly what Lotus has achieved with the Elise. Because, for all its looks and paper potential, this isn't a car that smacks you between the eyes as being something special right away. In fact, you're more likely to be mildly disappointed by it on a 10-mile test drive around a not particularly interesting block.

But then this is critical to the Elise's genius. Like the McLaren F1, this is a car that gradually reveals itself, delivering deeper and more sophisticated talents than any we've driven at the price, but only once you've fully learnt and understood what Lotus is aiming at with it. Then, with every extra mile travelled over good, empty roads, the significance and magnitude of the achievement grows.

This is not a replacement for the Lotus or Caterham 7. Truth is, it's not a replacement for any car. The Elise looks forwards, not backwards. Which is precisely what a new small sports car from Lotus should do, unlike the front-wheel-drive Elan, which, in light of the Elise, now seems somewhat misguided by comparison.

In several areas the Elise sets new standards of dynamic ability among affordable sports cars: its ride, handling, economy and performance are all of a quality that hasn't been realised collectively by a car of this type previously. Yet the truly ground-breaking aspect about Elise is that it combines all these vital sports car assets with such refinement that driving it over long distances every day on motorways is a perfectly reasonable proposition.

Before the Elise we didn't think it possible that a car could provide markedly more fun, thrills or entertainment than a Caterham 7 over a great road. The Elise's outrageous achievement is not only to succeed in this but also to provide the comfort and refinement so essential for those occasions, far greater in number, when the road will prove very far from great.

The only thing that stands between the Elise and its place in history is if Lotus fails to right its niggling detail quality problems. Scrappy build quality has meant too many Lotuses have failed to realise their potential in the past. It would be tragic for the Elise, the best of the lot, to go the same way.

## ● What it costs

List price	£18,950
Total as tested	£18,950

#### EQUIPMENT

(bold type denotes options fitted to test car)

Automatic transmission	-
Metallic paint	optional
Seatbelt pre-tensioners	-
Alarm with immobiliser	●
Electrically adjustable mirrors	-
Heated seats	-
Electric windows	-
RDS radio/cassette	radio kit optional
Traction control	-
Leather upholstery	optional
Anti-lock brakes	-
Driver's seat lumbar adjustment	●
Adjustable steering column	-
Boot bag	optional
Trip computer	-
● standard - not available	

#### INSURANCE GROUP 15 (est)

**WARRANTY** 12 months/unlimited mileage, 8 years chassis and paint

#### SERVICING

Major 27,000 miles  
Interim 9000 miles

#### PARTS PRICES

Oil filter	n/a
Air filter	n/a
Brake pads front/rear	n/a
Exhaust (excluding cat)	n/a
Door mirror glass	n/a
Tyre (each, typical)	£105 (f), £125 (r)
Windscreen	n/a
Headlamp unit	£67.61
Front wing	n/a
Rear bumper	n/a

Rewrites the book on driver appeal