

Born on track

If it's 'purist performance' you're after, the Elise 111R is the car for you



THERE really isn't an elegant way to exit this vehicle. That's a big problem, seeing that there are likely to be a lot of people staring at you while you attempt it. Of course, what's drawn their attention is not your up-coming circus act, but rather the presence of a very striking little sports car.

The Lotus Elise was introduced to the world in 1995, but South Africans have had to bide their time to catch a glimpse of the car on local roads. Thankfully,

Lightweight, uncompromising frame

the wait ended a few months back, when Pearl Automotive was appointed the local distributor.

Founded by Colin Chapman in 1952, Lotus has always had one important goal in mind, ie to grow its reputation for producing fine performance and sportscars with exceptional handling characteristics. While highly responsive engines have

formed a large part of the equation, Lotus has earned much of its credentials through its expertise in mating these engines with the lightest possible chassis, as well as developing suspension technology that is so highly respected that many other leading motor manufacturers call for advice.

From the driver's seat of our Elise 111R test car, it's clearly a

machine born on the race track. Parts of the "skeleton" of the car lie exposed, in and around the footwells, as the highly rigid chassis is sheathed only in as much skin as is necessary for basic comfort and practicality. The epoxy-bonded aluminium tub chassis was developed by Lotus to provide a lightweight, uncompromising frame on which to base its new-generation sportscars.

The composite bucket seat is low-slung and surprisingly com-

fortable, cradling the driver as near to the floor as possible. The sill, over which the clambering in and out of the Elise takes place, lies snugly next to the driver's right elbow, and follows a steady inward curve towards the "box" housing the extruded aluminium pedals. What "real world" refinement there is in this road-ready track car is superbly executed, and there is a quality feel about the cabin. Alcantara lines most of the fascia. The neatly positioned climate controls have a solid feel, but the plastic housing for gearlever and handbrake appears a little delicate, and is the only item we could criticise.

Ahead of the small steering wheel are easy-to-read speed-

ometer and rev counter dials, the latter incorporating small digital read-outs for oil temperature, fuel and distance. Cabin storage space consists of a bare aluminium ridge running below the fascia and a cargo net positioned behind the seats.

The Elise is a long way from being a kit car on the inside, and even further removed from being a kit car on the outside. Designed and hand-built at the Lotus factory in Hethel, England, the second generation Elise's shell is an evolution of the original glass-reinforced plastic (GRP) bodywork, with a sharper, and arguably more aggressive, front end. Where the original model featured round headlights, the new car has long, narrow oval units, with two smaller ovals alongside them housing the indicator lights. Two small fog lights are positioned on the apexes of a large centre grille, with two extra deep air intakes on either side. As with the original model, the nose is broken towards the top by two budgie-like breathing

holes that exit at centre stage.

The smooth side profile can be broken by manually removing the canvas targa roof, but this by no means spoils the car's style. Through the eight-spoke alloy wheels, 16-inch at the front and 17 at the rear, huge 288 mm vented disc brakes are clearly visible.

Larger than on the previous model, the air intake positioned behind the doors house black plastic fins that guide air into the engine bay.

Gratefully breathing in that air is a transversely-mounted Toyota-sourced engine. In the 111R, the "hot" version of the range, this is the same unit that can be found in the current RunX RSi. Of course it's mid-mounted in the Elise, and enjoys not only the benefits of shifting significantly less weight, but also has a new race-oriented brain thanks to a Lotus-tuned engine management system. The four-cylinder, 1.8-litre, VVTL-i engine was chosen not only for its lightweight make-up, but also for its very

Yearning to return to its track roots

capable power and torque characteristics. Generating 141 kW at

7 800 r/min and 181 N.m of torque at 6 800 r/min, and coupled with the matching Toyota C64 six-speed gearbox, it is a perfect match for the nature of the Elise. Our test unit, tipping the scales at a mere 925 kilograms (including

holes that form exit-ducts for the front-mounted radiator. At the rear, another pair of small grilles flank two round Maranello-style rear lights on either side. Noticeable, too, is the huge metal air diffuser protruding from below the rear number plate, ever-so-slightly hiding the twin exhaust pipes

Highly rigid epoxy-bonded aluminium chassis carries the new Elise's glass-reinforced plastic body. Targa roof operation takes some practice, but allows wind in the hair thrills.



Mid-mounted, Toyota sourced, VVTL-i engine provides high-rev boost for lightweight Elise.

CAR January 2006



Interior is neat and very well executed...a blend of "real world" function and race-car form.

Ready for combat

Impressions: Lotus Exige

Remember when Clark Kent ran into those 'phone booths to change into something a bit more appropriate for the battle at hand? His super powers were already there, but perhaps the jacket and tie weren't the most aerodynamic option available. Enter the Lotus Exige. Featuring the same power as the Elise 111R, but fresh from the 'phone booth and ready for combat.

Building on the track success of the first Exige model, Lotus has introduced its latest race-car-for-the-road to the South African market. Power output from the 1.8-litre VVTi engine remains the same 141 kW as in the Elise, but Lotus has boosted track performance through continued work on aerodynamics and weight savings. To this end, the Exige does away with the glamorous canvas targa roof and instead features a fixed roof that flows back and over the rear deck. An air scoop on top of the roof guides air into the engine bay.

Just as Mr Kent has his red cape for flying, so the Exige gains an impressive black wing that protrudes from the engine bay cover and has been set at an 11,5-degree angle – seen as the optimal compromise between drag and downforce. Further downforce, and indeed road presence, is provided by the deep front spoiler, which sits just 108 mm off the ground.



Already a great-handling car in Elise guise, Lotus has gone the extra mile to ensure that the Exige won't easily be caught on track by working with Yokohama to develop W-rated soft compound semi-slick tyres, supplied standard on purposeful-looking black lightweight cast alloy wheels.

The race-ready theme is continued on the inside, too, and new "ProBax" composite seats have been developed to give optimal posture positioning, as well as improved blood flow as the driver heads out for another lap. As in the Elise, the cabin is a combination of raw aluminium, Alcantara and plastic, with forged racing pedals and a small steering wheel. Air-conditioning, weighing in at only 15 kilograms, can be deleted from the spec list for further improved track focus.

On track, the Exige package comes alive in a display of hugely impressive grip, sharp steering, and a howling exhaust note as the tach needle happily spins to the plus side of 6 000 r/min.

At R499 000, the Lotus Exige makes no bones about the fact that it is a car with racing blood running through its veins, but Lotus is proud of the fact that owners of these cars are able to drive them to and from the track, too.

Depending on your needs and budget, there are two touring and two sports options available. Lean towards touring, and options such as airbags and drinkholders are included. Opting for the sports package opens up options that include adjustable suspension, full racing seats, even lighter wheels, and additional track control arms.

Rivals	Lotus Elise 111R	BMW Z4 3.0i	Porsche Boxster
price	R487 000	R470 000	R495 000
cyl/capac	4/1 796	6/2 979	6/2 687
power	141/7 800	170/5 900	176/6 400
torque	181/6 800	300/3 500	270/4 700
power/mass	164	121	131
engine revs/km	1 903	na	na
gears/drive	6/F	6/R	5/R
0-100 km/h	5,89	7,5	6,6
max speed	228	250	255
fuel index	10,82	11,2	12,22
boot space	80	208	192

Road and track

Pearl Automotive Group has priced the 111R into a fairly high segment. There are some who will see the Lotus as a fun weekend runabout, and will find the means to have one for just that reason, while there are other options that, although not as track-focused, offer wind in the hair exhilaration with slightly more everyday practicality.



BMW Z4 3.0i: A bigger engine, but also a bigger and heavier body, so slowest here. Also more of a road-going sportscar that has crisp handling and good luggage capacity. Controversial looks will turn heads.



Porsche Boxster: Widely regarded as the best all-round open-top sportscar on the market. Classic, rather than in your face, styling. Not far off the straight line pace of the Lotus, but not as focused.

30 kg of test equipment), but with the all-in mass boosted to more like 1 100 kg with two testers on board, was able to sprint from rest to 100 km/h in a fraction under six seconds, the magic mark being reached moments before the rev limiter, which intervenes at 8 500 r/min, asked nicely for third gear. A top speed of 228 km/h is more than should be required by anyone buying this car, but top-end cruising is simply not what the 111R is built for.

With independent suspension front and rear, featuring unequal-length wishbones and gas-filled dampers, this is a car yearning to return to its track roots – or at least a clear section of twisty road. While the springing is set up for maximum rigidity, it still takes sharp bumps in its stride without upsetting the balance. Steering is



Top: Six-speed gearbox has short throws with reassuring "click" as each gear is engaged. **Middle:** Climate controls have solid, quality feel. **Bottom:** Rear dominated by Maranello-style lights and huge diffuser.

pinpoint, and leaves the driver with the simple task of choosing exactly where in the corner to place the car, while the firm chassis never feels as though it's taking any strain whatsoever. In the spirit of the sportscar, no traction control is provided, but a clear head and only a vague grasp of the laws of physics should be able to avert any drama. ABS-modulated brakes capable of bringing the Elise to a stop from 100 km/h in just 2,7 seconds help, too. The clutch has



Likes and dislikes

DESIGN

- ✓ Great sports car looks
- ✓ Designed around impressive chassis
- ✗ Not very easy to get in and out of

POWERTRAIN

- ✓ Impressive kick past 6 000 r/min
- ✓ Racecar-like gear changes
- ✓ Able to cruise in traffic
- ✗ Slightly hard clutch pedal

COMFORT AND FEATURES

- ✓ Very comfortable once you're in
- ✓ Small boot can hold overnight bag
- ✗ Mini skirts not recommended
- ✗ Not much practical interior storage space

PERFORMANCE AND BRAKING

- ✓ Great feel from low seating position
- ✓ Lots of throttle response
- ✓ Fantastic sound once past 6 000 r/min
- ✓ Very impressive brakes

FUEL ECONOMY

- ✓ Very good considering the fact that enthusiastic driving is encouraged

RIDE AND HANDLING

- ✓ Go-kart like handling
- ✓ Firm ride handles bumps well
- ✓ Pin point steering

VALUE FOR MONEY

- ✓ Track car for the road
- ✗ Up against some big names
- ✗ Not as accessible as in its home market

NOTEBOOK



Interaction satisfaction – MM



A high-performance skateboard – JB

heavier action than expected, but gearshifts are short and precise, with close ratios and a race car-like click assuring you're safely in gear. Keeping the revs in the fun zone above 6 000 r/min not only allows instant throttle response and exceptional corner exit speeds, but provides a thrilling soundtrack to accompany the experience – made better with the roof stowed away in the small boot provided behind the engine bay.

Test summary

If it's driving in the "purist form" that you're after, then Lotus has a vehicle for you. What bells and whistles there are, are well executed and of high quality, and all the performance promises are more than delivered on.

Pricing on the local market places the 111R in some fairly distinguished company, particularly of the Stuttgart variety, but the decision needs to be made whether you are looking for a track day car that is capable enough on open public roads, or whether you want an open road sportscar that you'd only occasionally use on the track.

Lotus Elise 111R

SPECIFICATIONS

Cylinders four in-line, transverse
 Fuel supply electronic multipoint injection
 Bore/stroke 82/85 mm
 Cubic capacity 1 796 cm³
 Compression ratio 11,5 to 1
 Valve gear d-o-h-c, four valves per cylinder
 Ignition Toyota Direct injection system
 Main bearings five
 Fuel requirement 95 unleaded
ENGINE OUTPUT:
 Max power ISO (kW) 141
 Power peak (r/min) 7 800
 Max usable r/min 8 500
 Max torque (N.m) 181
 Torque peak (r/min) 6 800
TRANSMISSION:
 Forward speeds six
 Low gear 3,116 to 1
 2nd gear 2,050 to 1
 3rd gear 1,481 to 1
 4th gear 1,166 to 1
 5th gear 0,916 to 1
 Top gear 0,815 to 1
 Reverse gear 3,250 to 1
 Final drive 4,529 to 1
 Drive wheels rear

WHEELS AND TYRES:

Road wheels front 5,5 x 16", rear 7,5 x 17"
 Tyre make Bridgestone Potenza RE040
 Tyre size front 175/55 R16, rear 225/45 R17
 Tyre pressures (front) 180 kPa
 Tyre pressures (rear) 200 kPa
 Spare liquid tyre sealant

BRAKES:

Front 282 mm ventilated disc
 Rear 282 mm ventilated disc
 Hydraulics ABS

STEERING:

Type rack and pinion
 Lock to lock 2,8 turns

SUSPENSION

Front independent, unequal length, wishbones, coil springs, gas shock absorbers, anti-roll bar
 Rear independent, unequal length wishbones, coil springs, gas shock absorbers

CAPACITIES:

Seating 2
 Fuel tank 43,5 litres
 Boot space 80 dm³

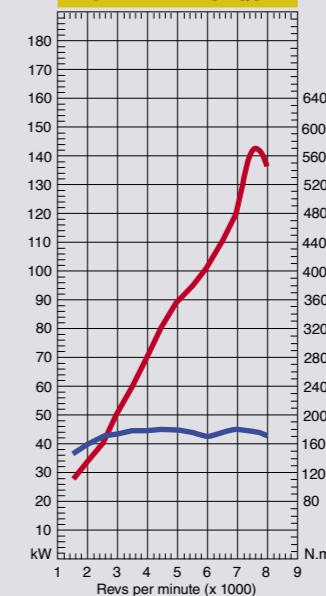
WARRANTY AND SERVICE INTERVALS:

1 year/unlimited mileage
 Service every 15 000 km

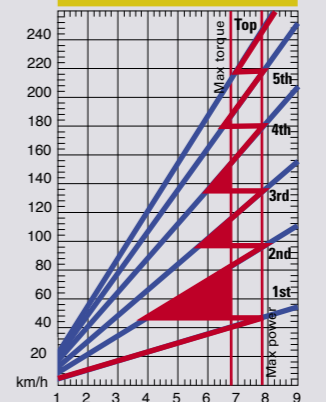
TEST CAR FROM:

Pearl Automotive Group

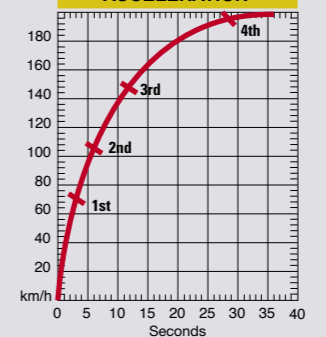
POWER AND TORQUE



ENGINE SPEED



ACCELERATION



TEST RESULTS

MAXIMUM SPEED (km/h):
 True speed 228 at 7 230 r/min top gear
 Speedometer reading 240
 (Average of runs both ways on a level road)

Calibration: 60 80 100 120
 True speed: 57 75 94 114
 Odometer error 1,0 per cent over

ACCELERATION (seconds):

0-60 2,93
 0-80 4,39
 0-100 5,89
 0-120 8,15
 1 km sprint 25,88
 Terminal speed 196,9km/h

OVERTAKING ACCELERATION (seconds):

	3rd	4th	5th	Top
40-60	2,29	3,12	4,40	5,02
60-80	2,28	2,95	4,17	4,86
80-100	2,38	2,98	4,20	4,95
100-120	2,31	3,25	4,44	5,60
120-140	2,40	3,74	5,03	6,18

FUEL CONSUMPTION (litres/100 km):

*Fuel index 10,82 litres/100 km
 9,2 km/litre
 Estimated tank range 400 km
 (*Calculated overall consumption)

BRAKING TEST:

From 100 km/h
 Best stop 2,70
 Worst stop 2,97
 Average of 10 stops 2,75
 (Measured in seconds with stops from true speeds at 30-second intervals on a good bitumenised surface.)

GEARED SPEEDS (km/h) estimated:

Low gear	46*	70
2nd gear	98*	107
3rd gear	135*	148
4th gear	180*	196
5th gear	219*	238
Top gear	246*	268

(Calculated at engine power peak* – 7 800 r/min and at max. usable r/min – 8 500 r/min.)

INTERIOR NOISE LEVELS (db, A-weighted):

	Mech	Road
Idling	46	–
60	69	–
80	72	74
100	74	77
120	77	79

PERFORMANCE FACTORS:

Power/mass net (W/kg) 152
 km/h per 1 000 r/min (top) 31,54
 Mass as tested (kg) 925

(Calculated on "mass as tested", gross frontal area, gearing and ISO power output)

TEST CONDITIONS:

Weather partly cloudy, warm, no wind
 Fuel used 95 unleaded
 Test car's odometer 7 040

