





LOTUS

2011 Lotus Elise

Briefing

Introduction



LOTUS

Affects	Issued By	Approved by	17.4.75 Cancels and replaces issue dated
LOTUS CARS	A. C. RUDD	A.C.B. CHAPMAN	Page ONE

1). A Lotus
Provides its owner with prestigious efficient transport. Prestige is given by exclusivity and racing heritage. The designer gives it efficiency by light weight, effective use of economic material and the maximum return for fuel burned in the engine and in cornering power.

2). Where a Lotus manufactured part is not essential to meet (1) use a mass produced part from the motor industry.

3). Engines and other high investment assemblies to have a basic design life of 8 - 10 years, which must include in-built capacity to accept legal and performance up-dates.

4). Lotus peculiar chassis and suspension assemblies with high cost in development - time or facilities to have a design life of 10,000 units and be concurrently used in several models.

5). Mould tool life and body process techniques to be exploited to ensure exclusivity is maintained by trend setting styling and structural changes every 4,000 units.

6). The most elegantly effective and traditionally Lotus solution is the one with the least number of parts, effectively deployed. This criteria is to be applied by section leaders and managers at every stage of the design and drawing approval procedure.

7). Only the Product Policy Committee may authorise a change in the visual standard, appearance and colour once approved.

YES

1) A Lotus provides its owner with prestigious efficient transport. Prestige is given by exclusivity and racing heritage. The designer gives it efficiency by light weight effective use of economic material and the maximum return for fuel burned in the engine and in cornering power.

Tony Rudd – Director of Lotus Engineering, 17 April 1975

This document was relevant then and is even more relevant today

The Elise – a brief history



Since its launch in 1996, the Lotus Elise has been the most commercially successful Lotus of all time

Nearly 30,000 Elise models built (excluding Exige, Europa, 2-Eleven and 3rd party cars)

Over 33% of the whole of Lotus production in over 61 years

Lotus small platform accounts for over 42% of all Lotus cars (excluding 3rd party cars)

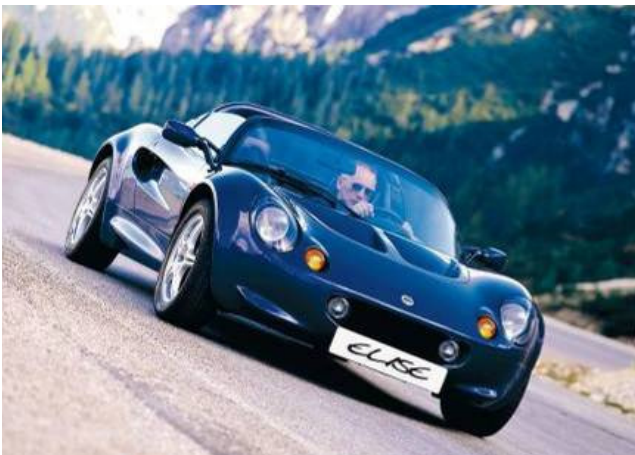
Pioneered new technology and new thinking including:

- Bonded and extruded aluminium chassis
- Composite crash structure
- Low volume high quality manufacturing processes
- Enabled other premier niche vehicles to exist – Opel Speedster / Vauxhall VX220, AML Vanquish, Tesla Roadster, Lotus Exige, Lotus Elise 340R, Lotus Europa, Lotus 2-Eleven, Lotus Evora
- Re-awakened a new generation of drivers to performance through light weight

ELISE

ELISE

ELISE



Vehicle Headlines



- **World Leading Fuel Economy and Emissions**

Fuel consumption in mpg (l/100km):

- Urban 34 (8.3)
- Extra Urban 56.1 (5.0)
- Combined 45 (6.3)
- CO₂ emissions 149 g/km

- **Excellent Performance**

- Max. speed 127 mph (204 km/h)
- 0-60 mph 6.0 seconds
- 0 – 100 km/h 6.5 seconds

- All new high efficiency engine – 200cc smaller than outgoing model
- New evolution body design and new all in one integrated headlights
- Vehicle warranty increased from 2 years to 3 years and 36,000 miles (60,000 km)
- Weight: 876 kg



Design - The theme is purity



- Designed by Lotus Design
- An evolution of the iconic Elise design with a pure contemporary twist
- Retaining the Elise character and style, whilst offering a more planted, purposeful stance
- Fresh sculptured front, including a new bumper, front clam and access panel
- Twin-spine engine cover and more aggressive diffuser tightly wrapped by an elegant new bumper design that now includes the rear licence plate.
- Elise signature elements refined to give a crisper, more dynamic look
- High quality design detailing



Technical Overview - Body

New body design using high quality lightweight composite panels

- 254 new parts released by this project

More new panels than carry over including:

- New Headlights
- Front Bumper
- Front Clam
- Front Access Panel
- Front Grilles
- Radiator Exit Grilles
- Side Indicators
- Engine Cover



Technical Overview - Body



- Improved aerodynamics with a reduction in Cd by 4%, resulting in better fuel economy
- Cooling apertures finished with a new lightweight aluminium mesh
- The rear boot is now opened from the cockpit rather than via a separate key operation.
- New headlamp units with distinctively sculptured LED indicators and Day Time Running Lamps (DRL)



Technical Overview - Chassis

World's first bonded and extruded Aluminium chassis

Lightweight (68 kg) and strong

Aluminium tub and door beams create safety cell

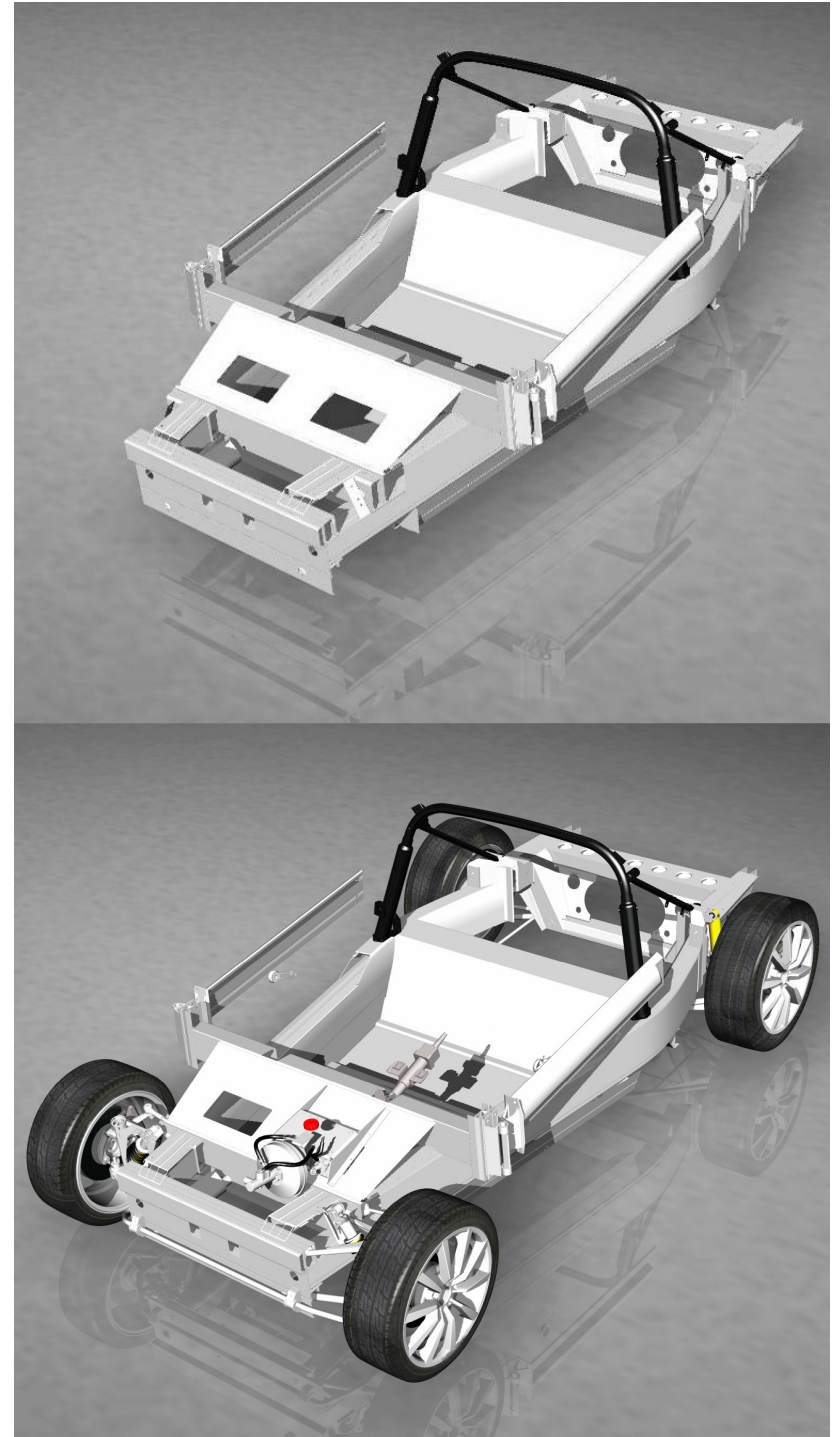
Stiff (10,800 Nm / degree)

Composite crash structure (3 times more energy absorbing than equivalent steel structure)

Double wishbone suspension all round

Lightweight steel rear subframe

Manufactured by Lotus Lightweight Structures



The Driving Experience

Superb driver feedback

Powerful servo assisted brakes with excellent feel

Track developed ABS and LTC

Non power-assisted steering

The driving position:

Perfectly positioned pedals and steering wheel

Comfortable and supportive seats with ProBax technology

Like all Lotus cars, the driver becomes part of the car rather than being just a passenger.

A Lotus driving experience!



Engine Details



Engine Designation: 1ZR-FAE

1598cc In-line 4-cylinder 16 valve DOHC with Dual-VVT-i and Valvematic

Bore 80.5 mm

Stroke 78.5 mm

Compression Ratio 10.7:1

Weight 122kg

Manufactured in Deeside (North Wales) by Toyota

Lotus designed and developed T6 Engine Management System with a unique Lotus electronic specification
(Same hardware as used in the Lotus Evora)

Maximum Power: 134 hp @ 6700rpm (136 ps, 100kW)

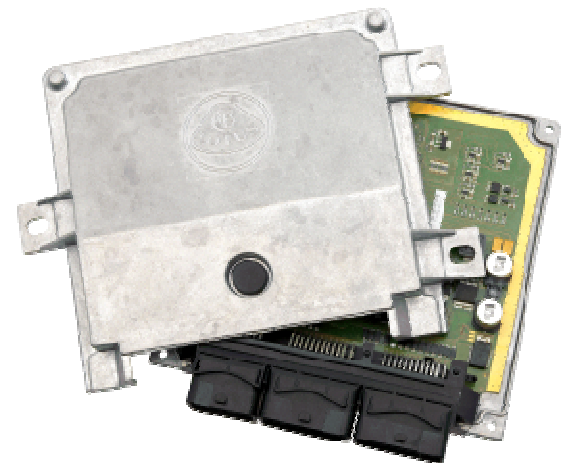
Maximum Torque: 118 lbft @ 4300rpm (160 Nm)

Homologated to "Euro5" emission standards

Rev Limiter

Continuous 6800rpm

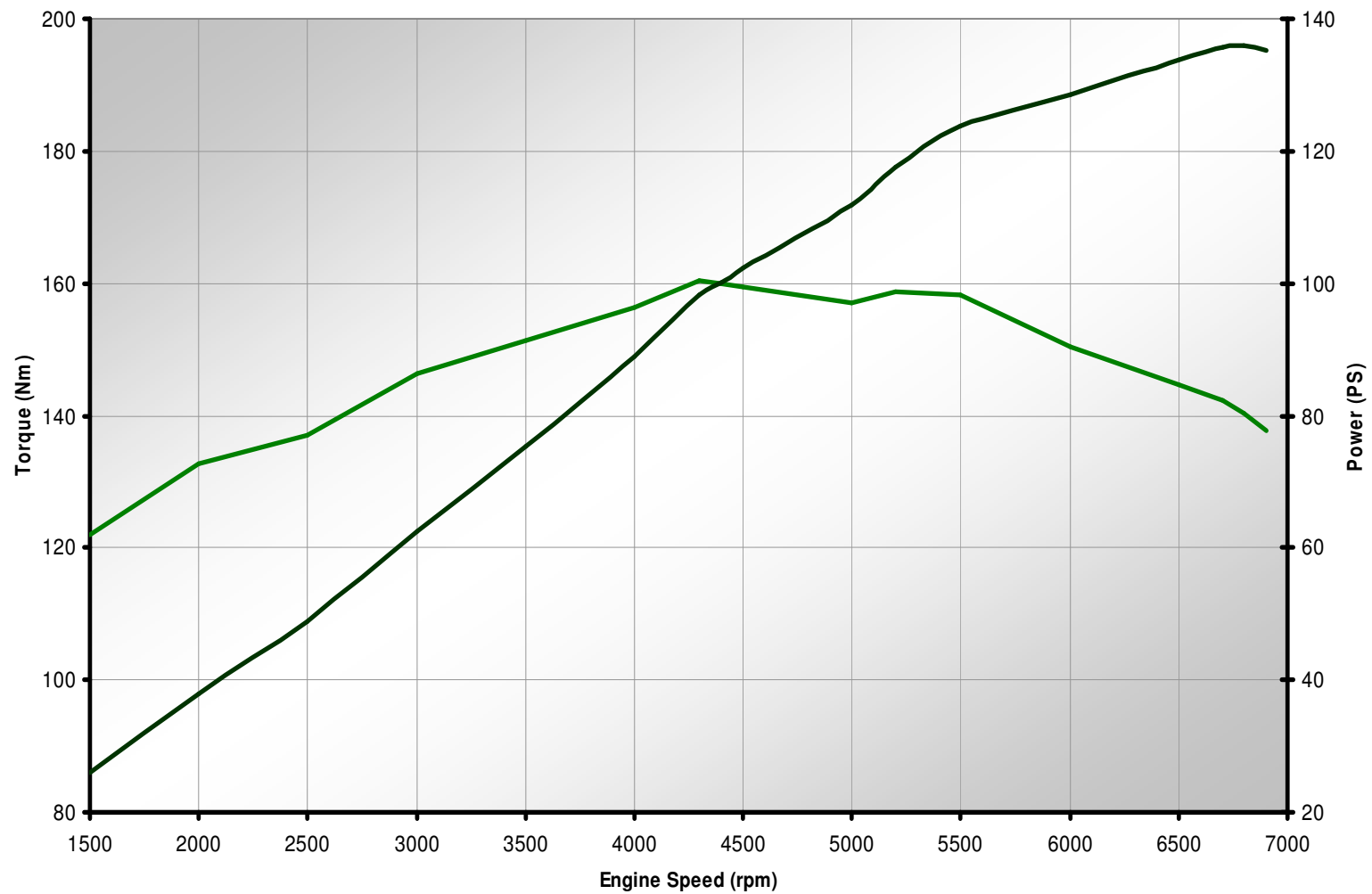
Intermittent 7000rpm



Powertrain Performance



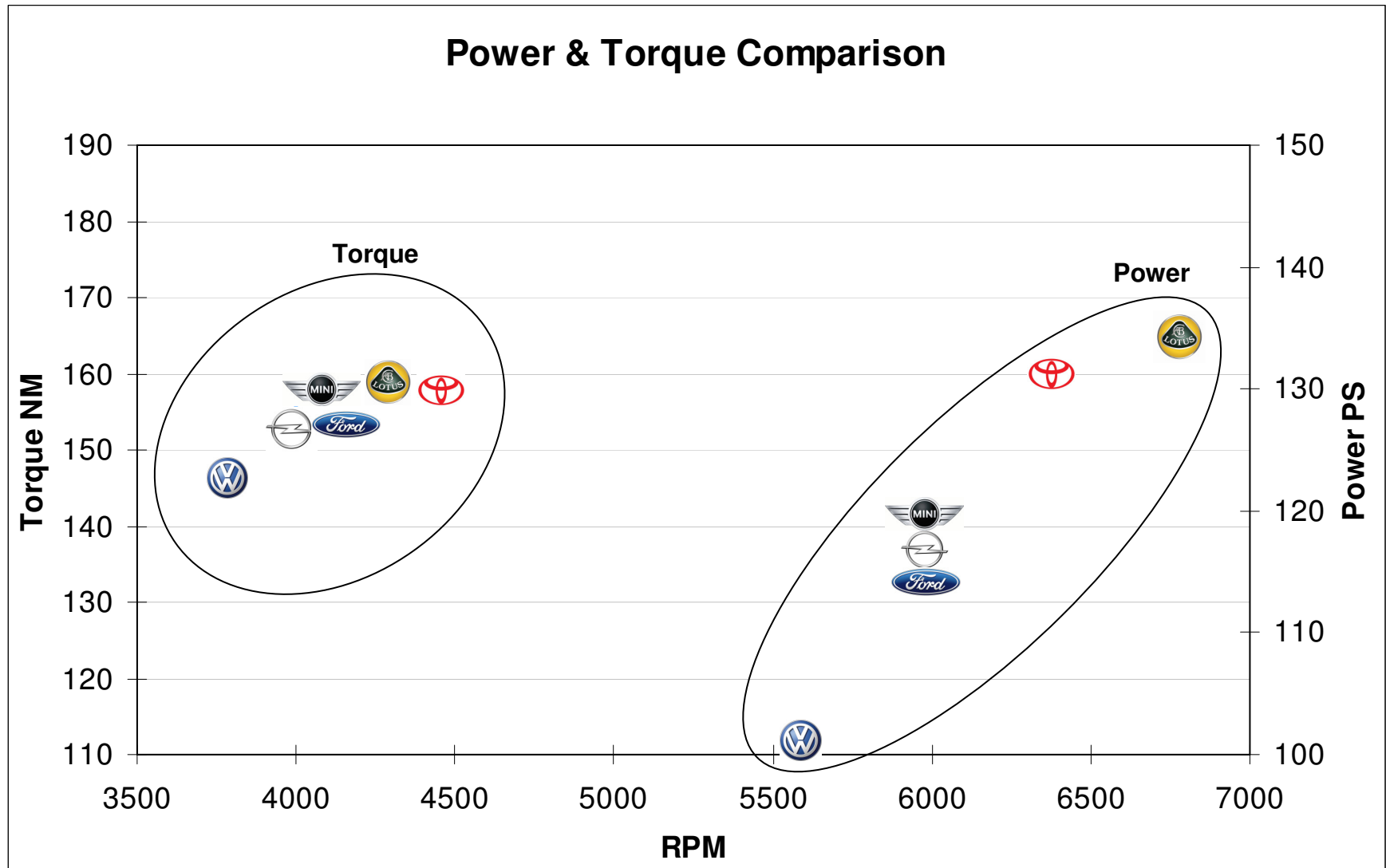
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Leading Power and Torque (1.6 litres)



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Engine Details



Technologies

Valvematic

- Unique Toyota system controlling inlet valve lift to improve efficiency through reducing “throttling losses”
 - More effective combustion process gives lower emissions
 - Reduced pumping losses increase fuel efficiency
 - Higher inlet valve lift gives increased power
 - Reduced air intake delay provides better engine response
 - Electronically controlled by the Lotus T6 engine management system
-
- Dual VVT-i = Dual Variable Valve Timing (phasing) on both intake and exhaust camshafts enabling optimised power, torque and economy through the engine operating range.
 - ACIS = Acoustic Control Induction System, enabling optimised power and torque delivery through the engine operating range via a variable length induction system.
 - DIS = Direct Ignition System

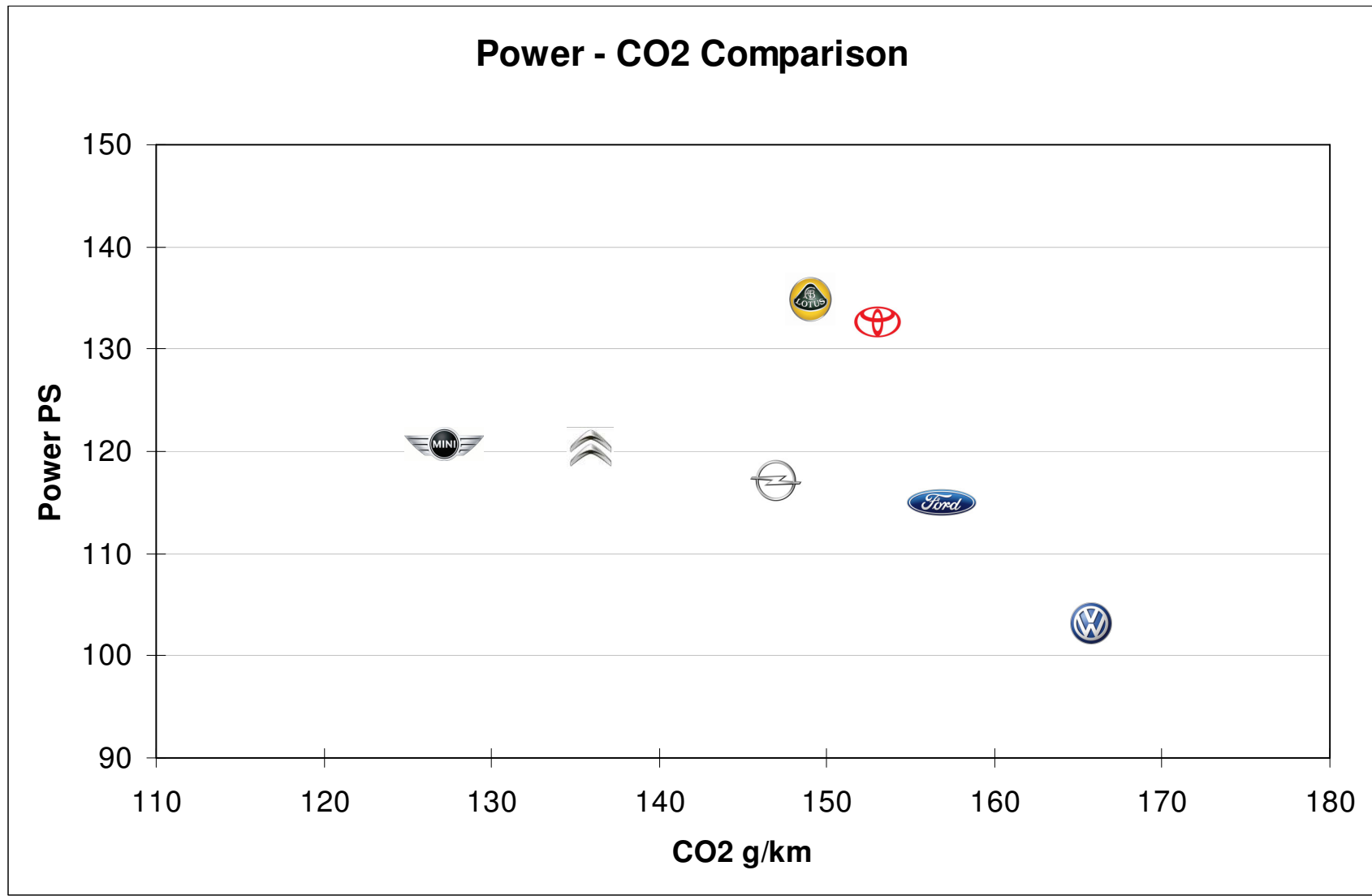
All contributing to a world leading emissions figure of 149 g/km CO₂



A Sportscar with Supermini Emissions



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Elise - Transmission

Manual 6 speed Transmission

Improvements to gear selection mechanism

Compact and efficient manual EC60 transmission in a transverse installation

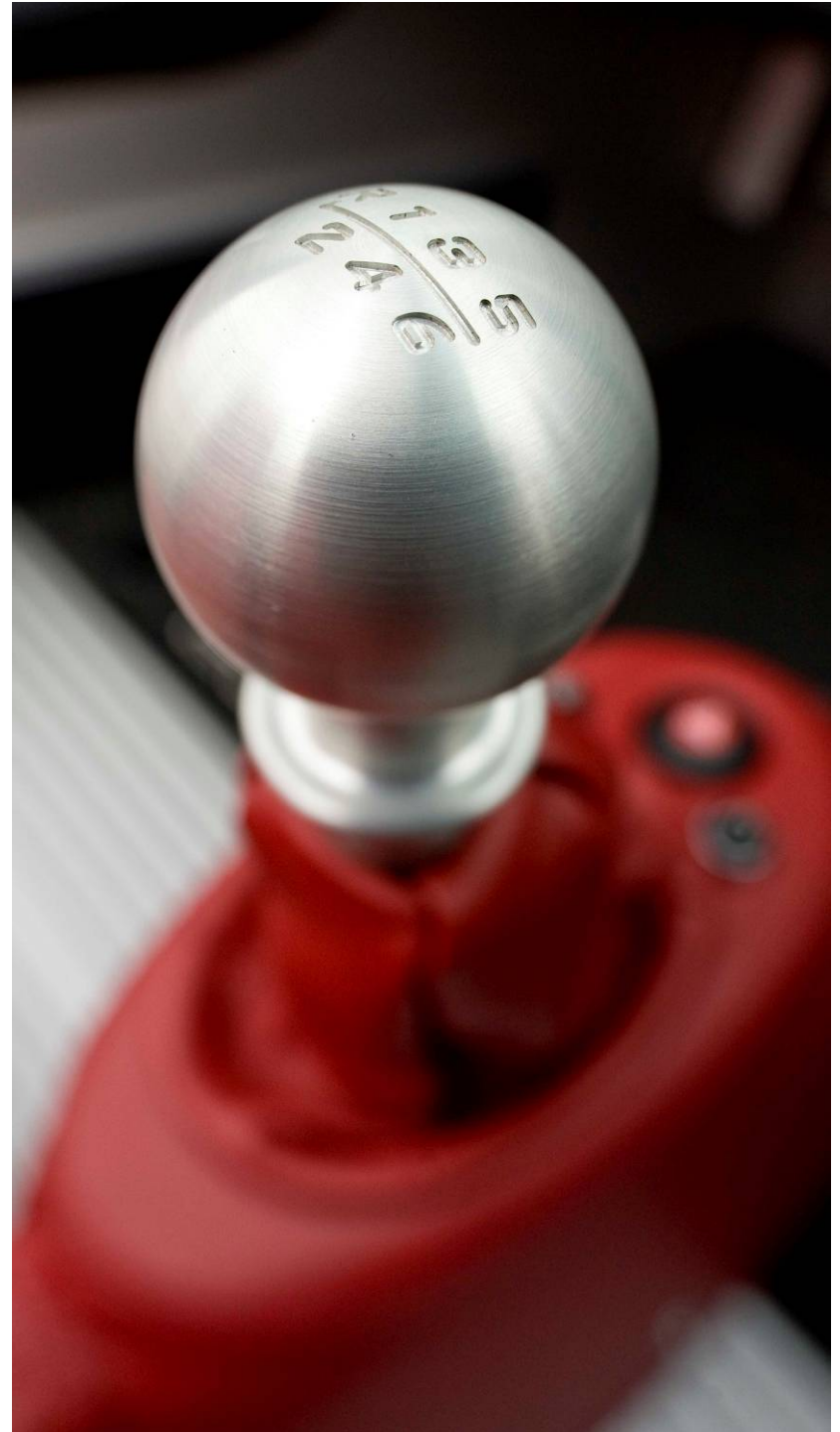
Weight 42.3kg

Transmission Ratios

1st	3.538	4.7 mph	(7.6km/h) / 1000rpm
2nd	1.913	8.7 mph	(14.0km/h) / 1000rpm
3rd	1.310	12.7 mph	(20.5km/h) / 1000rpm
4th	0.971	17.2 mph	(27.7km/h) / 1000rpm
5th	0.818	20.4 mph	(32.8km/h) / 1000rpm
6th	0.700	23.9 mph	(38.4km/h) / 1000rpm

Reverse	3.333
Final Drive	4.294

Overall gearing



Elise R and SC



- High efficient and revving 2ZZ engine continues
- Class leading Performance and Efficiency remain unchanged

	Max Power	Max Torque	0-60 mph (0-100 km/h)	Top Speed	CO2 Emissions
Elise R	189 hp (192 ps, 141kW) @ 7800 rpm	133 lbft (181 Nm) @ 6800 rpm	5.1 secs (5.4 secs)	138 mph (222 km/h)	196 g / km
Elise SC	217 hp (220 ps, 162kW) @ 8000 rpm	156 lbft (212 Nm) @ 5000 rpm	4.3 secs (4.6 secs)	145 mph (233 km/h)	199 g / km

Options and Accessories for Elise

- Cruise Control (Elise only)
- Rear Parking Sensors
- Lotus Traction Control System LTCS
- Hard Top
- Air conditioning
- Metallic paint
- Premium paint
- Lifestyle paint
- Customer paint
- Twin Spoke ultra lightweight forged alloy wheels in Hi-Power silver
- Lotus sports exhaust
- Touring Pack:
 - Leather ProBax Seats
 - Leather door panels
 - Perforated leather door inserts
 - Leather trimmed centre consol
 - Handbrake gaiter
 - Black carpet mats with embroidered Elise logo
 - Noise insulation panelling
 - Auxiliary driving lights
 - iPod stereo connection
 - Trinket tray divider and cup holder
- Sports Pack
 - Lotus Traction Control System
 - Bilstein Sports Dampers
 - Twin oil coolers
 - Twin Spoke ultra lightweight forged alloy wheels in Hi-Power silver
 - ProBax sports seats
- Black Pack
 - Black wheels
 - Black rear diffuser
-



Sales and Market information



Elise R and SC

- All Global Markets where Lotus is present
- From April 2010

Elise

- Asia Pacific and EU only
- Dealer Demonstrators from late April 2010
- Customer cars from May 2010

- Anticipated sales volumes for the Elise of around 800 worldwide for the next 12 months



The cars that you will be driving



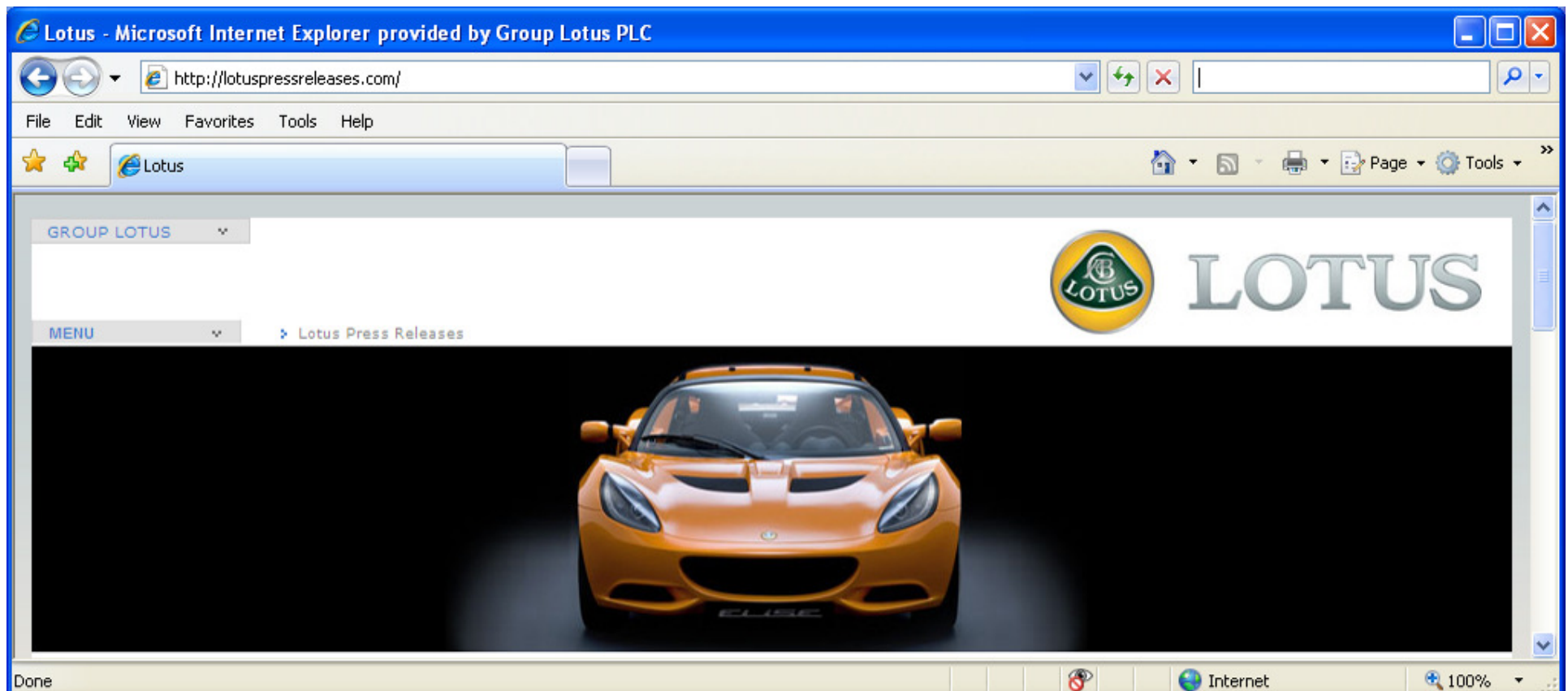
- Touring Pack (All)
- Black Pack (Aspen White LHD)
- Cruise Control (All)
- Air conditioning (All)
- Metallic paint (Solar Yellow RHD and LHD)
- Lifestyle Paint (Laser Blue RHD and LHD, Aspen White LHD)
- Premium paint (Burnt Orange LHD)
- Twin Spoke ultra lightweight forged alloy wheels in Hi-Power silver or black
- Lotus Traction Control System LTCS (All)
- Stone chip protection (All)
- **Full details are contained in each car**



Press information



- Full press information and press photography available at:
 - On a USB memory stick
 - www.lotuspressreleases.com (username: group lotus; password:elise2011)
- Full suite of pictures using the press cars on and around the drive route
- Opportunities to speak to some of the key people involved in the project in the morning, during lunch and prior to departure





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www.grouplotus.com

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