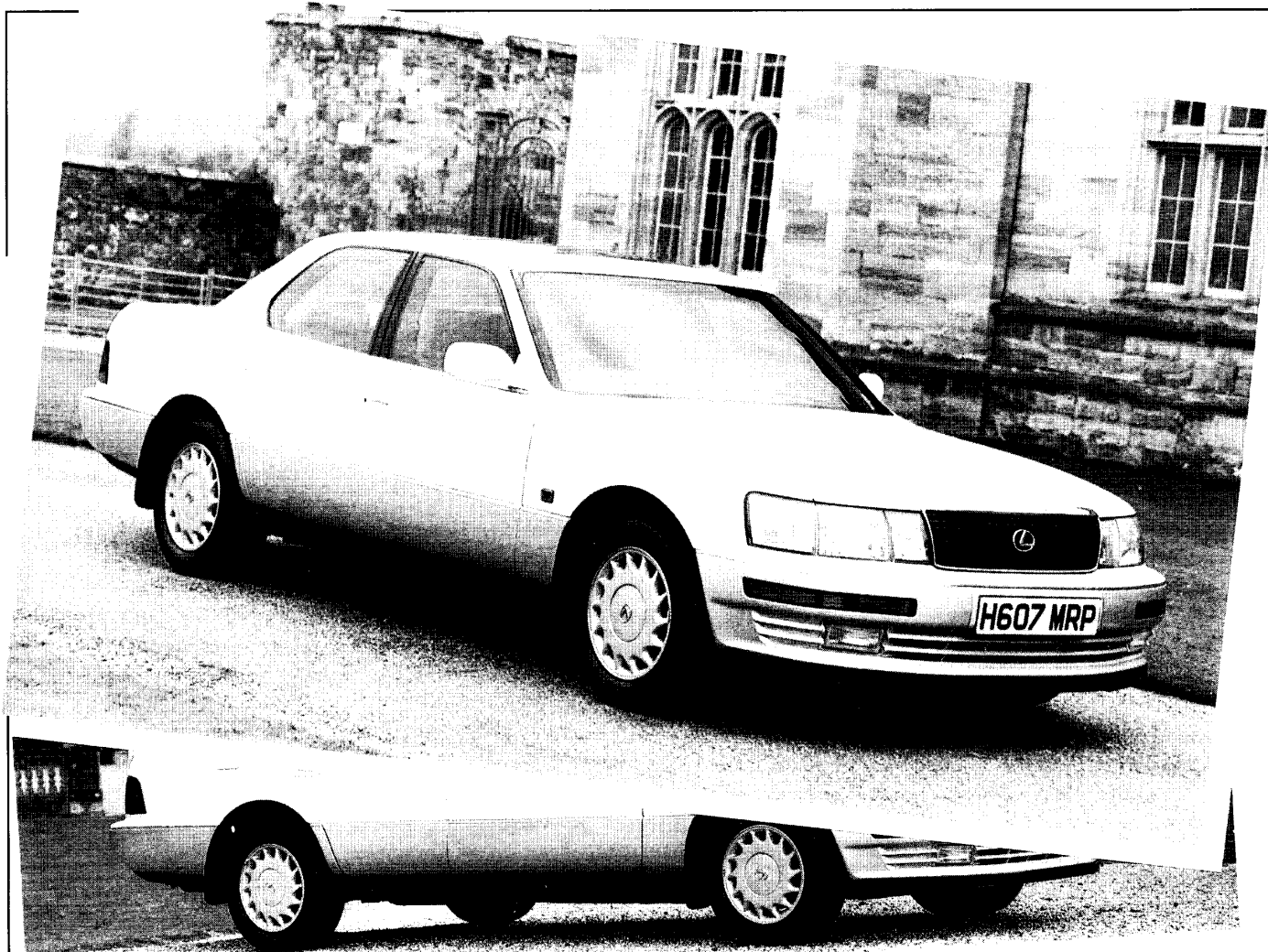


Lexus LS400 (Automatic)



ANY MOTOR MANUFACTURER WILL tell you that the top end of the large executive car market is a good place for prestige and profit. No wonder then that Ford has recently acquired Jaguar, General Motors has swallowed Saab and Renault has ambitions about Volvo.

The Japanese giants have not missed the point either and Toyota, the biggest of them, has now unveiled the result of its seven years of research and development – Lexus.

Aimed both in exterior size and price at the Jaguar Sovereign, Mercedes-Benz 300E and BMW 735i, it's a remarkable achievement to have got so much right first time. Its 241bhp, V8, 4-litre engine is a magnificent mixture of speed and hush, ably backed up by a smooth and sophisticated four-speed automatic. So quiet is the Lexus when cruising at

any speed that's vaguely legal, that the very modest tyre rumble seems a nuisance by comparison. There's also a virtual absence of both engine and wind noise and there are definitely no trim creaks. It purrs even when its accelerating in a hurry, so passengers seldom realise how fast they're going! The test track figures prove otherwise, however – 147mph flat out and 30 to 70mph in 7½sec isn't bad going for a saloon weighing 4000 lb: 23mpg overall isn't bad going, either.

The ride is also impressive, although things get more thumpy and restless at very gentle speeds or when there's a full complement of passengers and luggage. Likewise, the Lexus grips the road tenaciously through corners without any nasty unexpected tricks, yet the slippery leather seats and feel-less steering mean that it doesn't seem as eager as a Jaguar or a BMW about being hustled.

Living with the Lexus . . .

It's extremely comfortable at the back, but legroom isn't at all special for a car that's 16¹/₂ft long – there's more passenger space in the back of a Fiat Tipo! But then, that's not all that important in this sort of car, any more than its fixed luggage space or its being relatively difficult to park (because of the sheer size as well as rearward vision limitations).

No, it's the interior opulence that counts, with life's little luxuries, such as automatic driving position re-adjustment and automatic climate control, as well as the superb wood and leather treatment. Criticisms of the driving position include its offset accelerator and instruments that are inaccurate and vague.

Nevertheless, people enjoy driving and being driven in the Lexus, although a fifth passenger gets the hump – in the centre of the rear floor.

The quality of both fittings and furnishings is of the highest order and despite a problem with fumes from the exhaust getting in when the sunroof was opened, we were also impressed by the build quality and engineering integrity. The Lexus has been developed by a large company of ample resources that already makes cars with an enviable reputation for reliability – so why should anybody be surprised that the Lexus is a quality product?

That's not quite the same thing as an upper crust image, however, and there's a certain anonymity about the Lexus' styling, inside and out. With certain items missing from the inventory of equipment, such as heated seats, suspension self-levelling, a trip computer and cassette storage, the price and the image may not quite coincide.

However, car testers should

remain strictly objective and we've no hesitation in describing the Lexus as a fine motor car with a superb power unit, that's also likely to give its owner reassuring service.

At the Wheel

Driving position

Incongruously, for a two-pedal car, the accelerator is offset and can cause knee discomfort. The wide seats and slippery leather don't do much for lateral location unless the driver is of ample girth. However, the ten adjustments under electric control, with a memory for two drivers' exact set of requirements, is a super facility, even after its novelty-toy entertainment value has worn off. Nobody is going to be short of legroom, either.

Displays and controls

The most impressive aspect of the displays is the way they are illuminated – on a permanent basis. The two major instruments both proved inaccurate (the speedo by over 10 per cent), the minor pair are not closely calibrated, and the low fuel level lamp comes on prematurely. The other tell-tales are effective and have the gear positions in the main displays, but no trip computer digital data is provided on the Lexus.

The foot operated parking brake left us as unimpressed as ever and gave trouble on test. The accelerator is a shade too heavy if you have small feet, until a thick floor mat is inserted to raise your heel and improve the angle of attack. The centre console lid impedes your angle of approach to the gear selector lever as well.

Vision

A clever parallelogram linkage ensures a perfect wiper sweep, but the wash and wipe system doesn't go on long enough to clear the solvent away properly. There are

three superb mirrors and a neat little visor over the interior mirror, but the driver's visor has a mirror with no cover. The rear window has the annoying habit of staying soiled in its centre after getting wet – only the outsides dry off as you go along. All four quarters are bulky enough to cause blind spots, but the headlamps are superb; they have an interior beam trimmer because self-levelling isn't incorporated in the suspension.

Driver satisfaction

From the foregoing, you'll realise that some cabin features can be faulted. However, the driver feels in command, thanks to light steering effort when manoeuvring the small wheel.

It's the engine and gearbox that make the Lexus a real joy to drive; the selector, with an overdrive lock-out control, is easy to use, and there's a sports mode switch to delay up-changes and make the 'box feel more responsive. Full-bore accelerator depression gives a 2 to 1 downshift up to 38mph, and up to 70mph finds second. The 'box always knows best at such times – manual override is unnecessary. We know of no engine that's smoother or more hushed, yet with these gear controls, it can also prove deceptively swift and eager – a wonderful dualism of response.

There's almost too much power assistance when cornering in the 30 to 50mph range, making the steering feel disconnected – but this firms up nicely when you're really trying through fast open bends.

Space & Comfort

Seating and ride comfort

Of course, there isn't an uncomfortable saloon in this price bracket and the Lexus doesn't disappoint either, in general terms. At this model's price, the front passenger

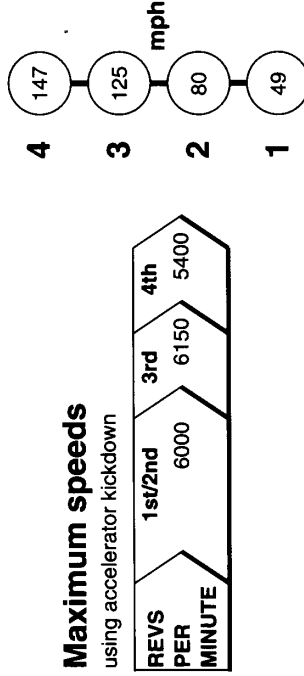
PERFORMANCE

Acceleration time in seconds – using accelerator kickdown

STANDING START	0-30mph	3.4	0-60mph	8.7	1/4 mile	16.7
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THROUGH THE GEARS	30	40	50	60	70
		1.4	3.2	5.3	7.6

20 mph SPEED RANGES USING KICKDOWN	30	40	50	60	70
		2.8	4.1		
			3.2		4.5



FUEL CONSUMPTION

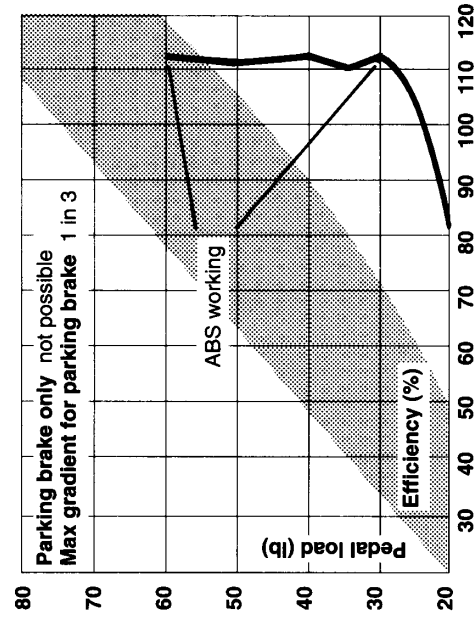
Fuel grade for tests: unleaded Premium, 95 octane

Normal range	mpg
Hard driving, heavy traffic	18 1/2
Short journeys in the suburbs	NA
Motorway – 70mph cruising	26
Brisk driving, mixed roads	22
Gentle driving – rural roads	26
Typical mpg overall	23
Realistic tank range*	74 litres/375 miles

* based on gauge/warning lamp and filling station experience

SAFETY

Brakes How pedal loads affect braking



Braking efficiency shown as a percentage of gravity (ie 100% = 1.0g). Ideally the braking curve should fall within the shaded zone of this graph. If it's above, the brakes are too heavy; if it's below, they are too light. When the curve becomes broken, the wheels are skidding.

Fade test

How hard use or water affects braking. (Ideal brakes show no change.)

Pedal load needed for 75% stop (lb)

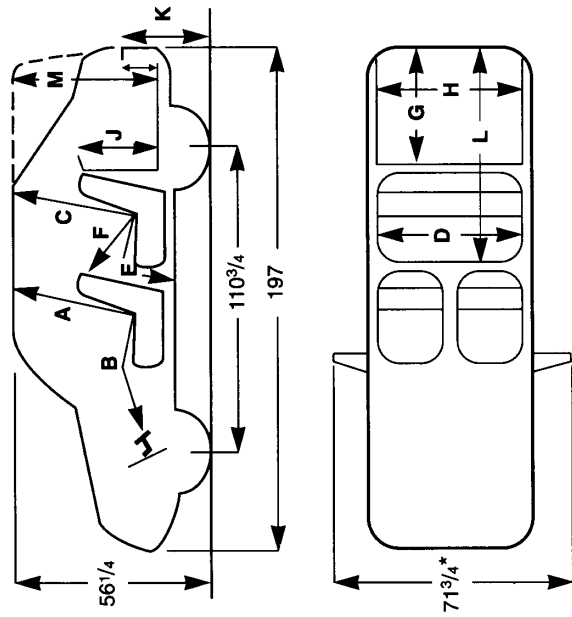
At start of test	18
After constant use	19
After severe use	24
After watersplash	NA
Number of stops to recover	NA

Safety check list

Steering	true 'feel' of the road?	<input checked="" type="checkbox"/>
Brakes	powerful?	<input checked="" type="checkbox"/>
	sensible effort?	<input checked="" type="checkbox"/>
	fade resistant?	<input checked="" type="checkbox"/>
Seatbelts	front – effective?	<input checked="" type="checkbox"/>
	convenient?	<input checked="" type="checkbox"/>
	rears – effective?	<input checked="" type="checkbox"/>
	convenient?	<input checked="" type="checkbox"/>
Head restraints	front – effective?	<input checked="" type="checkbox"/>
	rear – effective?	<input checked="" type="checkbox"/>
Interior	thoroughly padded?	<input checked="" type="checkbox"/>
Fuel	shielded filler?	<input checked="" type="checkbox"/>
	protected tank?	<input checked="" type="checkbox"/>

MEASUREMENTS

Dimensions (inches)



* with mirrors folded

Inside (inches)

A Front headroom	35 1/2 - 37 1/2	G Load length	31 1/2
B Front legroom (min - max)	35 - 44 1/2	H Load floor width (min - max)	53 - 58
C Rear headroom	37	J Load height	20
D Back seat width (between armrests)	52 1/2	K Sill height (inner/outer)	8/28
E Typical rear * legroom	38 1/2	L Load length	NA
F Typical rear * kneeroom	30	M Load height (to tailgate hinge)	NA

* 'Typical' represents the mean measurement behind the driver's seat set at 39in legroom and the passenger's seat set at 41in

seat's lack of height and lumbar adjustments, with no seat heating, look mean. In fact, the back seat proved better shaped and secure – so long as it's just for two. The prominent hump in the middle precludes its serious five-seater status, and leg-stretching space isn't this model's strongest asset, either – Granadas and Passats look roomy by comparison.

The ride is really impressive on long main road trips when the car is half-laden. Show it town bumps or take on a full load and it becomes jiggly and can feel under-damped. Basically, the suspension isn't technically sophisticated enough to cope with all these wide variations of use. We reckon it's set up to be ideal for those long trips on US interstate highways.

Getting in and out

Central locking with a remote-control button on the key is ideal – if you can find the tiny button in the dark! The door keyhole (and all interior lights) illuminate when you raise the door release, so this was our preferred means of entry. Foot entry is a little tricky at the back and sliding across is impossible; the sill treads show some vulnerable painted metal, too.

Luggage and oddments stowage

If one accepts that only cheaper cars flaunt folding back seats and load adaptability, the Lexus is fine; it has a good-sized, well-lined boot with a reasonably shallow loading sill. The spare wheel (full-sized) lies flat below the luggage and the other intrusion is the CD player. Interior oddments spaces are generous – particularly at the back, where the compartment within the centre armrest is a nice idea. There's nowhere special for storing cassette tapes, but we like the clever cup holders just behind the gear selector.

Heating and ventilating

Like the in-car entertainment controls below them, the numerous

push buttons provided for heating, ventilating and air-conditioning make a great impression – but results aren't always consistent. The temperature setting doesn't produce the same results first thing in the morning as the night before, and we were left thinking that big bold slides or rotary knobs would be easier to work when on the move. Still, the system treats rear passengers generously and the AC button certainly keeps everyone comfortable in warm or muggy weather. The sunroof is disappointingly prone to buffeting disturbance at lower speeds.

Trim and equipment

Wherever you look the fit and finish are of the highest standard. Whether the total effect is as classy and opulent as its rivals we leave you to judge – but the quality isn't open to question.

The ICE has the disadvantage of having its compact disc player in the boot, but the tone seems to be ideal in this mode – FM radio is rather lacking in treble response and there are only six presets for FM stations.

Money Matters

Value for money

We think that, on balance, the Lexus looks expensive. Admittedly, it's pitched on level terms with the German competition (BMW 735i, Mercedes 300E) that don't boast the engine size or power of the Lexus. The Jaguar does, however, and the non-Daimler 4.0 version starts at £7000 cheaper and also has a fine manual alternative on offer for even less. If performance and accommodation matter more than image, there are also some fine alternatives for £10,000 less, as our rivals table demonstrates. Still, the yet-to-be-proven depreciation of the Lexus may benefit from its Toyota parentage. In reality, some prestigious brands are struggling to match the quality and reliability of the better mass-produced cars.

Warranty and servicing

The fastidious emphasis placed on giving owners VIP treatment when they visit one of the 40 Toyota dealers especially trained and equipped to deal with the Lexus, appears promising. Warranty terms look good, too. In fact, the formal warranty period is no better than for any other Toyota, but the small details impress, such as hotel accommodation of up to £150 per night per person if the car lets you down, and use of a free replacement Camry V6 for three days.

Fuel economy

The Lexus Automatic does well to attain similar consumption to the Jaguar 4.0 manual and it will manage 25mpg or so on long steady runs without difficulty. The range is good, but would be even better if the gauge and tell-tale lamp weren't so alarmist – there's no computer read-out for range, as rivals offer. The tank is easy to replenish to within three litres of brim full, however.

Safety

Accident avoidance

Although the steering gives little true feel of the road, cornering stability is exemplary, with no nasty tail-swing if you lift the accelerator halfway round a bend or roundabout – the classic double wishbone layout is clearly geometrically consistent.

The brakes are superb – they were particularly impressive in our arduous fade test, and emergency stops are not only comfortably above 1.0g, but give this result with remarkable consistency once the ABS is functioning. Our only minor gripe is that they could be more progressive in their response: 25 lb pressure in an emergency is lighter than many clutches require. The parking brake is easy to release, though awkward to engage.

Injury prevention

Full marks here too for scrupulous

attention to interior safety padding, including the backs of the front seats and at head level around the sunroof. Effective anti-whiplash head restraints are electrically adjustable up front, as are the front seatbelt shoulder mounts.

Security

A comprehensive set of arrangements secures the boot and glovebox separately from the interior (good in hotels or garages) and a burglar alarm sounds the horn, flashes the lights and isolates the starter from the battery. Inconveniently, the boot can't be opened when the engine is running,

however, and unlike the Jaguar, there's no 'panic button' that shuts down everything in one go.

Durability

Build quality

It's early days, but on the whole we were impressed with the Lexus' fits and finish. Its body engineering reveals carefully consistent shut lines and lustrous paint, while its underbonnet attention to detail is immensely reassuring. So, too, is the care taken to prevent stone chips from spoiling its good looks – Jaguar

could learn a lot from Lexus in this respect.

Reliability

Our car had a temperamental switch for the cruise control – sometimes it worked, at other times it didn't. Also, when the roof was open, in certain conditions, we could smell exhaust fumes inside the car – we suspect the rear extraction ducts went into reverse. It took us a while to realise what was happening because it smelt like a smoky domestic boiler – the whiff of catalysed things to come! Otherwise, the car ran beautifully for over 1000 miles.

HOW IT COMPARES

	Engine cap/power (cc/bhp)	Max speed (mph)	30-70mph through gears (sec)	Fuel in 5th/4th (mpg)	Brakes* best stop (%g/lb)	Maximum legroom – front (in)	Typical leg/kneerom – rear (in)	Steering † turns/circle (ft)	Overall length (in)
Lexus LS400 (Automatic)	3969/241	147	7.6	23	113/30 on	44½	38½/30	3.3/37¼	197
Jaguar XJS 4.0 (Manual)	3980/223	137	7.8	23½	106/45 on	43½	40/32	2.7/40	196½
BMW 735i (Manual)	3430/220	138	8.3	25	100/35 on	43¾	40/29	3.5/36½	193½
Rover 827 Sterling (Automatic)	2675/177	132	8.5	26	100/40	42	39½/29¾	3.2/38¼	185
Vauxhall Senator 3.0 24v (Automatic)	2969/201	142	7.2	24	101/50 on	42	43/32	3.2/34¾	190¾

* all with ABS † all power assisted

TECHNICAL SPECIFICATION

ENGINE

Type and size front-mounted, longitudinal V8; water-cooled. 87.5mm bore x 82.5mm stroke = 3969cc. All-alloy construction; 5 main bearings

Compression ratio 10.0:1

Valve gear four belt-driven overhead camshafts, actuating four valves per cylinder via hydraulic tappets

Fuel system multi-point electronic fuel injection; Lambda sensor with three-way closed loop twin catalytic converters. 85-litre (18¾-gallon) tank, with low-fuel warning lamp. Fuel required: unleaded only, 95 octane minimum

Ignition system fully programmed electronic, integrated with fuel injection and automatic transmission

Maximum power (DIN-net) 241bhp at 5400rpm

Maximum torque (DIN-net) 258 lb ft at 4400rpm

TRANSMISSION

Type epicyclic four-speed and reverse with

hydrokinetic torque converter and electronic control. Ratios: first 2.53, second 1.53, third 1.00, fourth 0.75 and reverse 1.88:1

Final drive 3.62:1, to rear wheels

Mph per 1000rpm (theoretical) 27.1 in top gear

Rpm at 70mph (observed) 2600 in top gear

CHASSIS

Suspension front: independent by double wishbones with coil springs and an anti-roll bar. Rear: independent by double wishbones, coil springs and an anti-roll bar. Dampers: telescopic all round

Steering power-assisted rack and pinion with 3.3 turns between full locks. Turning circles average 37¼ft between kerbs, with 61ft for one turn of the wheel

Wheels 6½zin alloy with 205/65R15Z tyres (Dunlop D8 on test car)

Brakes 10¾zin ventilated discs front, 11½zin ventilated discs rear with vacuum servo and electronic anti-skid control

