This press pack accompanied the UK launch of the first generation Lexus GS300 in October 1993. Some changes were made to the model range during its time on sale, which can be tracked using the Timeline feature available on the Lexus GS archive web page. Additional assets and information relating to the first generation GS range may be obtained from the Lexus press office if required.

LEXUS

Press Information

FOR IMMEDIATE RELEASE

6 October, 1993

NEW LEXUS GS300 DEBUTS AT LONDON MOTOR SHOW

A second Lexus model to sell alongside record-breaking LS400

The Lexus story, which began in the UK only a little more than three years ago, has been one of the outstanding successes of recent automotive history. Not just a new car but a whole new marque, and introduced into the most expensive segment of the industry at a time of severe economic recession. The success has been all the more remarkable when the Lexus marque has had to rely on just one model, the LS400.

Now, however, Lexus doubles its attack in the UK with a new model, the GS300, which goes on sale on October 20th. The GS300 is smaller than the LS400, with entirely distinct and highly distinctive styling, and will appeal to a wider audience. Equipment levels and refinement, however, very much echo the LS400. It is priced at £31,950 and, while the Lexus name sets it apart from the mainstream, it will compete directly with the established prestige makes from the German and British markets.

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The GS300 engine is a 3.0-litre straight six; a non-turbocharged version of the unit which powers the recently launched Toyota Supra with twin camshafts and 24 valves. The 209 bhp engine develops a strong 202 lb ft torque for effortless, smooth progress, but can reach 60 mph in 8.6 seconds and go on to 143 mph. At 56 mph, however, the GS300 returns an impressive 36.2 mpg. Regular unleaded petrol is supplied via electronic, sequential fuel injection with engine management computer controlled.

Power is transmitted to the rear wheels through the same four speed automatic gearbox found in the LS400, although the GS300 uses different ratios. The electronically-controlled transmission with normal and power modes to control change up points, interacts with the engine management computer to retard ignition timing momentarily during gearchanges, making them almost imperceptible and allowing seamless progress. A manual transmission is not available.

Double-wishbone suspension at all four corners of the car provides state-of-the-art handling and comfort, and ventilated disc brakes front and rear are equipped with a four-sensor, three-channel ABS system. Sixteen-inch alloy wheels are fitted with 225/55 tyres.

The basic exterior design came from Giorgetto Giugiaro of Italdesign in Turin, reflecting the growing importance to Lexus and Toyota of European tastes and styles. Toyota then

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refined the design in-house and the final sleek shape has an impressive drag co-efficient of 0.31. The GS300 body has crushable zones front and rear, a deformity resistant cabin and side-impact beams in the doors.

Inside, there are driver and passenger airbags, front seat belt pre-tensioners and adjustable seat belt anchors. Luxury interior appointments include electrically adjustable and heated front seats, electrically adjustable steering column, leather upholstery, walnut panelling, nine-speaker RDS/EON audio system with twelve-disc CD auto-changer, automatic air conditioning, electric steel sunroof and windows, cruise control, heated electric door mirror control, and security system with immobiliser. Activated by key or remote control, the system will even automatically re-lock the vehicle after 30 seconds if the remote control is inadvertently operated.

The luminescent gauges which appear completely black until the ignition is switched on are very similar to the critically acclaimed instruments of the LS400. NVH (noise, vibration and harshness) is kept to an absolute minimum by mounting sources such as the engine on sub-frames which are in turn mounted on liquid-filled bushings.

The GS300 takes Toyota and Lexus into a new 'compact luxury' sector of the market, perfectly complementing the LS400. The 1993 model LS400 saw over 50 detail improvements as

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Lexus engineers continuously strive to realise Eiji Toyoda's challenge of building "the world's finest luxury performance saloon".

It has paid off. In the USA and in many other countries it continues to out-sell its rivals from both Europe and America, and the latest J.D. Power survey on customer satisfaction and reliability again put Lexus first. In the restricted UK market the LS400 has forged ahead to confound the recession-hit luxury sector. To the end of August Lexus sales are 62.9% up on the same eight months of 1992, in a sector showing a 4.7% decline. Only one other marque shows any increase, and the LS400 has out-sold the formidable Mercedes S Class in the same period. The LS400 costs £42,023.

The new Lexus GS300 will be sold alongside the LS400 in the seventy-strong UK Lexus network. Lexus showrooms are located in special areas of selected Toyota dealerships, with personnel trained specifically in every aspect of the marque. **The GS300 becomes the first Lexus or Toyota model to require servicing at only 9,000 mile intervals rather than the more usual 6,000, so reducing the costs of ownership.** Both Lexus models come with a three-year/60,000-mile warranty and the Club Lexus benefits package which includes RAC membershipfor three years.

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For further information, contact Simon Small or Mark Carbery, Press Office, Tel: 0737 768585.

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LEXUS

Press Information

FOR IMMEDIATE RELEASE

6 October, 1993

THE LEXUS MARQUE IN BRITAIN

No newly introduced marque has created quite so much interest as Lexus. Nor has any new marque been greeted with quite such critical acclaim. Conceived as the "luxury division of Toyota," the first Lexus model was the LS400, launched in the United States in September 1989. It went on sale in Japan (as the Toyota Celsior) about two months later. To describe the LS400 as extremely successful is something of an understatement. Its sales success in the US, Europe, Japan and other countries where it has outsold its major rivals, speaks for itself. It has consistently scored the highest marks in independent customer satisfaction, reliability and quality surveys and amongst a host of awards around the world, it has claimed the "*US Imported Car of the Year*" and "*Japan Car of the Year*" titles.

Although the LS400 has, until now, been the only Lexus model available in Europe, the US has enjoyed the availability of several more Lexus models including the SC300 and SC400

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coupes and the ES250 and ES300. The new GS300 was launched in the US earlier this year (1993). If we include production of Toyota badged versions of Lexus models sold in the domestic market only, cumulative production to the end of 1992 is as follows:

Lexus ES250/ES300	98,563 units
Lexus LS400/Toyota Celsior	234,679 units
Lexus SC400/SC300	37,236 units
Lexus GS300/Toyota Aristo	23,290 units
Toyota Windom (ES300)	41,797 units
Total	435,565 units

This total *does not* include Lexus coupes badged and sold as Toyota Soarers in Japan. However, as a guide to this, 11,320 Soarers were produced in 1992. The total number of Lexus badged cars produced to the end of 1992 was 281,965.

In Britain, the Lexus LS400 went on sale on June 5, 1990 at a cost of £34,250 inclusive of car tax and VAT. The latest LS400 costs £42,023. Sales in the UK have been as follows:

1990 (from June 5)	583 units
1991	671 units
1992	695 units

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To the end of August, sales of the LS400 in 1993 are 862, a 63% increase over the same period last year. This represents 10.66% of the luxury sector. In fact, the sector has shown a significant decline this year and only two makes have recorded sales increases - Lexus and Jaguar.

What is perhaps most astonishing is just how quickly Lexus has established itself as a leading luxury make alongside some of its (particularly European) rivals with much longer histories.

Although Lexus was a new marque, it was - and still is - sold through special Lexus dealerships within the existing Toyota network, and its volume counts against Toyota's overall market share within any import restriction arrangements. Because of the relatively low volume and the highest standards demanded by the manufacturer and Lexus (GB) Ltd (a division of Toyota (GB)), Lexus is subject to a completely separate dealer franchise agreement - a franchise within a franchise - and is sold through carefully selected, existing Toyota dealerships chosen on the basis of location, facilities, operational standards, sales performance and model mix.

Back in 1990, the Lexus network comprised 41 dealerships. There are now 70.

It is a rare event for a new franchise and a truely outstanding product to be introduced, and the Lexus LS400 and

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GS300 models are special enough to demand the highest standards from those who sell and service them. Considerable investment (estimated at £6 million) was made by Toyota (GB) and the first Lexus dealerships in the early days of the franchise to upgrade every facet of their business. That investment covered personnel, management, systems, extensive training and facilities and has continued ever since.

Considerable thought went into the obvious challenge of competing in a completely new market sector where customers are entitled to expect and demand extraordinary levels of service.

The Lexus ownership experience commences before purchase. Lexus models are of course, on display in a special area of a Lexus dealership showroom. The dealer also has readily available demonstration vehicles. Senior sales staff have been specially trained to be fully conversant with Lexus and its market sectors. Any enquiry is handled accurately and promptly. Following purchase, regular but not intrusive customer follow-up ensures that the Lexus owner enjoys total satisfaction.

Lexus dealers are fully equipped with special tools and service equipment, and an exclusive area is incorporated into each workshop so that the LS400 and GS300 can be expertly and correctly maintained. Dedicated technicians have undergone

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extensive and intensive training to "*Master Technician*" standards at Toyota's Technical and Training Centre.

Lexus owners can see their car being serviced and may even wish to personally visit the service area. Lexus technicians are always available to discuss the customer's vehicle. A Lexus Customer Services Executive in each dealership is the central contact for all sales, service and parts matters. Even the lighting requirements in the service and car preparation areas have been researched and specified.

"*Customer Care*" have been watchwords for Toyota over many years, but the attitude of mind and level of service within a Lexus dealership redefines these words. An appropriate courtesy vehicle is available to the Lexus owner if his or her car is off the road, and home or office collection and delivery of vehicles requiring service or repair is available. The whole concept of "*care*" embraces every service the dealership can provide, with the sole aim of making ownership satisfying and rewarding.

Lexus dealerships are, of course, clearly identified with Lexus livery. Corporate stationery, staff clothing and badges reflect Lexus standards. In addition to sales and service staff, parts and paint and body technicians have also undergone rigorous training.

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The investment in the design, development and manufacture of the LS400 and now the GS300 has been enormous. The thought and investment in time, people, training and facilities in Britain has been just as thorough. The Lexus ownership experience is a reflection of the fact that a Lexus is unlike any other car.

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For further information, contact Simon Small or Mark Carbery, Press Office, Tel: 0737 768585.

LEXUS

Press Information

FOR IMMEDIATE RELEASE

6 October, 1993

THE LEXUS GS300 IN DETAIL

CONCEPT AND STYLING

The basic concept and styling of the Lexus GS300 was initiated at the Italdesign studios of the renowned Italian stylist Giorgetto Giugiaro, and later refined in-house at Toyota. This is the first time that Toyota Motor Corporation has entered into a full collaboration with an outside design company.

Giugiaro and a team of ten completed their original proposal in just six months. Although Italdesign had already acted as a consultant to Toyota purely on the styling of other models, this was its first involvement with the Lexus brand. To collaborate with such a company - from outside Japan - at the conception stage emphasises the increasing globalisation of Toyota and growing importance of Europe to Lexus.

In the GS300 the sometimes opposing forces of styling and design have been brought together. Italian flair and Japanese functionality are reconciled harmoniously. The car has a

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stylish 'single-stroke' form, leading from a steeply raked nose through an organic cabin section to a high rear end. At the same time it satisfies the need for excellent aerodynamics, cabin space and body rigidity, which aids both comfort and vehicle dynamics. Safety, comfort and ergonomic considerations were designed in from the start, and were not to be constrained by the styling. The front and rear of the GS300 had to effectively absorb impact energy, and at an early stage ideal seating and control locations were decided.

EXTERIOR & AERODYNAMICS

The GS300 is distinct not only from its LS400 stablemate but from any other car. The single-stroke concept gives it a sporty look and individuality, the sloping front with almost-flush grille and striking rear lamp design finishing off a unique appearance. At the same time the conventional four-door configuration gives easy access to the five seats.

The low-beam headlights use projector lamps, which suit a shallow lens shape by providing a powerful light source with wide distribution from a compact unit; projectors also offer very little reflection from rain and other hazards. The high-beam headlight function, which does not require such a wide distribution, utilises conventional lamps. A beam level control is located within the cabin along with that for headlamp washers.

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The windscreen wipers have a full-area wiping system. This uses an additional motor to ensure that, when the wipers are operating at a low speed setting, they clear as great an area as at higher settings when inertia forces them further across the screen. The wiper blades can be fully retracted at the touch of a switch.

Sixteen-inch 7.5JJ alloy wheels with a seven-spoke design are used. Tyres are 225/55 R 16, giving the best balance between handling, comfort and road noise.

The GS300 looks aerodynamic and it is. Its drag coefficient is 0.31, and the coefficient of lift only 0.02. Several factors contribute to this. The classic wedge shape, with a low front end and high rear, is pronounced in the GS300, and the low line of the front section features a very slanted nose. The cabin section is smoothly curved. Flush surfaces allow smooth air flow. A flattened underbody directs air to the rear of the car, reducing both resistance and lift. And the smoothly curved bodywork around the rear bumper reduces turbulence as the air exits.

BODY CONSTRUCTION

Attention to NVH (noise, vibration and harshness) is becoming increasingly important in all vehicles but, naturally, luxury cars in particular, and at the core of NVH is body construction.

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Body shell

The GS300 has a rigid shell made of light, high-strength sheet steel, which is also used for the bonnet, door panels and boot. Extra strengthening has been carried out on joints in the body shell for both increased rigidity and reduced vibration.

The body also makes use of insulating materials for sound proofing and vibration damping. The smooth, flush exterior aids the overall refinement by keeping noise to a minimum.

Pressed steel doors with reinforcements, as well as an enlarged door frame cross-section, create further rigidity which is added to by the pipe-type door beams which protect occupants in the event of side impacts. Refinement is aided by noise-reducing foam inside the door frame.

Anti-corrosion

Two kinds of anti-corrosion sheet steel are used. Galvannealed steel is used in many internal locations such as the engine compartment, while zinc-iron alloy, double-layer galvannealed steel is used for major outer panels such as the bonnet.

The high-quality paint finish consists of five layers: electro-deposit primer, intermediate paint, enamel base, and

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two scratch-resistant clear coats; metallic paints have a colour sealer layer instead of the lower clear coat. Wax and sealer is applied to the bonnet, doors and boot.

The underside of the body is given a PVC coating 0.5mm thick, with double that for areas such as the front bumper apron which are especially vulnerable. The leading edge of the bonnet and the lower part of the side mouldings is protected with anti-chip paint.

Side mouldings and trim use the newly-developed glass fibre-reinforced thermoplastic urethane (R-TPU). It is highly scratch-resistant, does not rust, allows a better paint colour match and has a high-quality feel which is consistent with a luxury car.

Noise absorption & vibration damping

Refinement considerations affected the whole design process and every part of the car. Vibration damping sheet, consisting of a film of resin approximately 0.05mm thick, sandwiched between two sheets of steel, is widely used and was first seen in the Lexus LS400. The film is impregnated with metallic powder, which makes spot-welding possible.

The GS300 also uses asphalt sheeting with a resin binding, consisting of three layers with varying degrees of hardness, to further absorb vibration in areas such as the engine compartment bulkhead.

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Wind noise is suppressed by the use of foam materials around glass fittings, as well as in the doors which also have a double sealing arrangement.

CHASSIS & HANDLING

The aim of the GS300 engineers was to create a cohesive handling, braking and steering package in which high dynamic capabilities are not at the expense of comfort.

The principal features of the chassis are:

- four wheel double wishbone suspension
- sub-frames
- progressive power steering (PPS)
- high performance brakes with excellent feel

The suspension is double wishbone front and rear, providing state-of-the-art technology with greater design freedom. Double wishbones help maintain vertical wheel alignment, for outstanding straight line, cornering and braking stability.

The upper arm of the front suspension is A-shaped, with high lateral rigidity. Lower arms are inherently rigid with L-shaped, forged arms. The anti-roll bar is hollow, to reduce weight, and shock-absorbers are filled with low-pressure nitrogen.

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The A-shaped aluminium upper arm of the rear suspension is combined with two unequal-length, non-parallel lower arms and a strut-rod. This upper arm uses rubber-integrated pillow ball bushings on both front and rear sides. The number one lower arm is hollow and number two is made of forged steel to maintain lateral rigidity and reduce weight. The anti-roll bar and shock absorbers are the same as at the front.

The combination of long lower arm and short upper arm provides optimum camber change; during cornering the outer tyre is given a greater negative camber. The lengthened lower arm minimises track change while enhancing straight-line stability and comfort.

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Sources of vibration such as the engine, differential, suspension and power steering are mounted on sub-frames. These are in turn attached to the body on mounting cushions, absorbing vibration and distancing the source from the car's occupants as much as possible.

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Progressive Power Steering is standard on the lightweight, rack-and-pinion system. PPS electronically controls hydraulic pressure acting on the hydraulic reaction chamber, altering the amount of effort required to turn the

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wheel - and providing more feel - at higher vehicle speeds. The steering column has power tilt and power telescopic adjustment. A motor-driven, microcomputer-controlled telescopic locking mechanism is also adopted.

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The standard electronic, four-channel anti-lock braking system is equipped with three speed sensors to monitor both the front and rear of the car.

Power-assisted, ventilated disc brakes are fitted all round, with two-piston calipers on the front and a single-piston arrangement at the rear. The master brake cylinder is made of aluminium, and has a built-in brake control valve. Audible pad-wear indicators are incorporated in the inner pad at both front and rear.

POWER TRAIN & TRANSMISSION

Engine

The engine in the GS300 is a 3.0-litre, in-line six-cylinder, DOHC unit with 24 valves; it is designated 2JZ-GE. It produces 209 bhp at 5,800 rpm, and 202 lb ft torque at 4,800 rpm. Performance is geared towards the usable rather than the test track, but the standard parameters of 0-60 mph (8.6 seconds) and top speed (143 mph) are nonetheless

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impressive. The high torque helps the car to reach 400m from rest in just 16.5 seconds.

The cylinder head is aluminium alloy, and each combustion chamber is a four valve pentroof type with a valve angle of 45 degrees. The spark plugs are located near the centre of the combustion chamber to increase anti-knocking and combustion efficiency. Upright, small-diameter intake ports increase torque at low and medium speeds.

Acoustic Control Induction (ACIS) maximises the dynamic effect of intake air by changing the effective intake manifold length. A bulkhead divides the intake manifold into two, with a valve opening and closing to vary the effective length of the manifold in accordance with engine speed and throttle valve opening. The result is to increase power output at all engine speeds.

An ESA (Electronic Spark Advance) ignition system is fitted, determining the optimum ignition timing for different engine conditions from signals from the engine and ECU.

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The cylinder block has a skeleton structure and is made of cast iron, with the external walls curved to reduce noise and enhance rigidity. Pistons are of aluminium alloy construction. The crankshaft has seven journals and twelve

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counterweights, which reduces vibration, and an aluminium hub is used for the crankshaft pulley to reduce weight as well as noise.

The air conditioner compressor, alternator and other auxiliaries are attached directly to the cylinder block, again to reduce weight and vibration, and the distributor is driven by the drivegear attached to the exhaust camshaft.

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The electric fuel pump speed is variable so that it always delivers the volume of fuel required by different engine conditions. Twin-hole fuel injectors are used for optimum engine response.

Ancillaries are driven by a single, serpentine 'V' belt which reduces the overall engine length, weight and number of components. An automatic tensioner eliminates the need for adjustment.

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The GS300 engine is supported by liquid-filled mounts to reduce vibration and noise. Aluminium engine mounting brackets reduce those levels still further, while simultaneously minimising weight.

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Transmission

The Lexus GS300 is available as an automatic only. The transmission is based on the highly-acclaimed ECT (Electronically Controlled Transmission) unit found in the LS400, a four-speed gearbox with torque converter and lock-up system, plus intelligent control.

ECT-i provides the smoothest possible operation by controlling gear shift timing, lock-up timing, engine torque and hydraulic pressure of both brake and clutch during shifting. When the ECU senses that a shift is occurring it 'talks' to the engine computer and momentarily retards ignition timing, reducing engine torque, for ultimate smoothness.

The system now also features extra functions to eliminate 'shift shock'. The hydraulic pressure acting on the clutches is electronically modulated according to the rate of acceleration or deceleration to ensure the smoothest possible engagement and disengagement of gears.

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A straight driveline links engine and transmission, reducing vibration especially when the engine is under load. The GS300 uses a two-piece propeller shaft with flexible couplings at the number one and three joints, and a Hooke's universal joint at number two.

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INTERIOR

Within the smoothly rounded, aerodynamic and sporty-looking cabin section of the GS300 body is an interior which is fresh but has the calm, restrained refinement expected of the Lexus marque. High quality finishes - including rich walnut panelling and leather upholstery and trim - provides traditional luxury, but touches like the twin cup holder in the centre console take the interior out of the world of the gentleman's club and make it the practical businessman's express for the 1990s.

****

The front seats are power adjustable for fore and aft movement, front and rear height, recline and lumbar support. Headrests are manually adjustable for fore and aft and height, including in the rear where there is a centre arm rest. Front seats are heated.

Front seats are fitted with three-point seat-belts with pre-tensioners and adjustable shoulder belt anchor. The inner and outer lap belt anchors are mounted on the seat tracks so that the belt is conveniently reached from any position. The lateral rear seats have three-point ELR belts, while the central position has a two-point arrangement.

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The hi-tech GS300 instrument panel, situated within a facia which curves right round into the door trims, is reminiscent of that in the LS400 and quite different from a conventional analogue display, with luminescent gauges which are illuminated when the ignition is turned on. Needles are red and dials are illuminated by amber LEDs; the speedometer is cable-less. When the ignition is off the whole panel is blacked out behind a smoke filter-covered surface panel.

The effect is of high precision but it is not merely cosmetic, offering high visibility and legibility. All instruments and controls are placed for high ergonomic value, control and comfort.

When the ignition key is removed the steering wheel automatically tilts to its highest position and telescopically retracts to its foremost for ease of exit and access. It automatically returns to the original position when the key is inserted. Power tilt and telescopical adjustability is standard.

The GS300 is also equipped with power windows, electric remote boot and bonnet release, timed rear window demister, windscreen de-icer, heated power door mirrors, power glass sunroof and cruise control. The cruise control switches are located on the one, steering wheel-mounted lever, so it can be operated while keeping both hands on the wheel.

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The air conditioning, which uses the ozone-friendly refrigerant R134a, was developed to provide full climate control. When the system is turned on it will automatically reach any temperature set by the occupants. Fifteen vents ensure that this occurs quickly and that the desired temperature is efficiently maintained.

A liquid crystal display in the control panel indicates the settings of the various controls. In addition the LCD temperature setting display indicates the outside temperature.

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The nine speaker audio system follows the LS400 in setting new standards for original equipment in-car entertainment. It incorporates an FM/AM/LW multiplex radio, cassette deck and CD player with twelve-disc autochanger located in the boot. The power amplifier puts out up to 55 watts per channel, and speakers include woofers and tweeters as well as full-range units. The audio features the same advanced anti-theft system as that in the LS400.

****

The latest key-mounted remote door locking is standard equipment. If the remote switch is accidentally pressed to unlock the car, the doors will automatically re-lock after thirty seconds if the car has not been entered. One of the master keys is the card type for convenient carrying.

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The GS300 is also equipped with a system to prevent keys being locked inside the car. If the door is opened with the interior door lock button in the 'locked' position and the key still in the ignition, a mechanism automatically turns the button to 'unlock'.

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A theft deterrent system protects the vehicle and the audio unit. If a forced entry via the doors, boot or bonnet is attempted when the system is set, the car is immobilised and the horn and headlights are activated. The radio and cassette deck are disabled if the unit is removed from the car.

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Illuminated entry turns on the ceiling light and foot and ignition key area illuminations for fifteen seconds after the doors are closed; if the ignition switch is turned to the ACC or ON positions during this period the lights go off immediately.

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Electric trunk and fuel filler release levers have a cancel button to prevent their operation. With the button depressed they are disabled. A manual fuel filler release is provided in the event of a failure in the electric release.

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SAFETY

Chief GS300 engineer Hiroyuki Watanabe incorporated several significant measures in both prevention (active safety) and protection (passive safety). Active measures include:

- 4-channel 3-sensor ABS disc brakes with booster
- projector headlamps
- fog lamps
- four-wheel double wishbone suspension
- outside temperature gauge
- Progressive power steering
- full-area wiping system
- self-diagnosis systems*

* Many areas such as ABS in the GS300 have ECUs (Electronic Control Units) which are equipped with self-diagnosis systems, ensuring immediate and accurate warning of any problems. A TDCL (Total Diagnostic Communication Link) within the car can be connected to a diagnosis monitor to enable data to be read.

Passive measures include:

- driver and passenger airbags
- front seat-belt pre-tensioners
- lateral rear three point ELR seat belts

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- side impact beams
- rigid body construction
- flame retardant interior
- roll over valve
- placing of fuel tank between rear seat and boot

The SRS (supplemental restraint system) airbags fitted to the GS300 are to the larger, USA specification, with a 60-litre capacity. A warning light in the instrument panel alerts the driver to any problems with the system. A further supplementary device is seat belt pre-tensioners. If the airbag sensors detect a frontal impact of a certain force the belts retract by a predetermined length.

ENVIRONMENTAL CONSIDERATIONS

Several environmental improvements have been made in the design of the GS300.

A new, recyclable material, Super Olefin Polymer, is used for the construction of the car's bumper. It has been developed entirely by Toyota.

Plastic bumpers were introduced in the USA in 1971, but have since become far more complex. They are now much larger, and effectively one of the car's external panels; in turn their weight has increased. It has become important to reduce their weight, particularly for fuel conservation. The most

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effective method is to reduce the thickness of the material, but impact resistance must not be impaired. Cosmetically, surface quality has also had to be improved at the same time. Super Olefin Polymer achieves all these objectives.

It has a molecular-composite structure and is superior to the commonly-used bumper materials R-RIM urethane and polypropylene. It has a low CLTE (coefficient of linear thermal expansion) value and comfortably exceeds all requirements laid down for bumper material.

The principal advantages are:

- large weight reduction
- easier recyclability
- high impact resistance even in low temperatures
- low heat swelling, allowing closer panel fit with the body
- surface smoothness matches steel
- good paintability

The R134a refrigerant in the air conditioning system replaces R12 and does not contain chlorine, the harmful agent in CFCs which is released into the atmosphere and damages the ozone layer.

The GS300 also features coded parts for recycling.

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PRODUCTION

Production of the Toyota Aristo, marketed as the Lexus GS300 outside Japan, started in October 1991 at Toyota's Tahara plant in Nagoya, Japan. It is one of the world's most advanced production facilities and also produces the Lexus LS400 (Toyota Celsior in Japan) and Toyota Supra.

GS300 production utilises the most modern technology. The body is stamped on the world's largest stamping press, which allows panels of more than 13 feet to be produced. The press produces the entire side member outer body, providing a seamless quality.

Extended use of laser welding, which was pioneered by Toyota for the LS400's side member outer panels, has made it possible to join four sheets of different shapes, thicknesses and materials to form the GS300's side body panel. This reduces the number of stampings as the four sheets do not need to be stamped separately. It also improves body fit and finish, increases storage space and reduces waste. All of 4,200 spot welds required to assemble the body of the GS300 are carried out by automation.

Doors, bonnet and boot are fitted to the body by one of the most advanced automated fitting systems. During final assembly robots attach the engine to the chassis, and position wheels and seats. And, in an automotive industry first, the air conditioning unit and fuel tank are also fitted by robots.

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Toyota's increasing use of advanced technology has enhanced body rigidity, weight reduction and fit and finish, with real life evidence coming in the latest J.D. Power customer satisfaction survey in the USA - where the GS300 is already on sale - which again places the Lexus brand first.

CV Chief Engineer Hiroyuki Watanabe

1967: Master of Aeronautical Engineering at Kyushu University; joined Toyota
1967 - 1980: Body Design Section, Product Engineering Department
1980 - 1985: Manager of Body Development Section, Product Engineering Division.
1985: Manager of Product Planning Department; in charge of Toyota Crown to present day.
1986 - 1989: Deputy General Manager of Product Planning Department.
1989 - present: Chief Engineer of Product Planning Administration Division; General Manager of Product Planning Division.

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For further information, contact Simon Small or Mark Carbery, Press Office, Tel: 0737 768585.

LEXUS

Press Information

FOR IMMEDIATE RELEASE

6 October, 1993

LEXUS GS300

STANDARD EQUIPMENT

Interior

Electrically adjusted front seats including height and lumbar
Heated front seats
Rear seat head rests
Driver and passenger airbags
Seat belt pre-tensioners
Tinted glass and laminated screen
Power tilt and telescopic adjustable steering column
Leather upholstery and trim
Electronic RDS/EON radio/cassette with nine speakers
CD player (12 disc autochanger)
Automatic air conditioning
Adjustable seat belt anchors (front)

Exterior

Colour keyed body parts
Front fog lamps
Headlamp washers
Front spoiler
Alloy wheels
Side impact beams

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Mechanical

ABS brakes
Central and remote locking
Security system and immobiliser
Cockpit headlamp levelling
Variable wash/wipe
Electric and heated door mirrors
Heated rear window with timer
Electric windows
Electric moonroof
Speed sensitive power steering
Cruise control
Electric aerial
Remote (electric) boot and fuel flap releases

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For further information, contact Simon Small or Mark Carbery, Press Office, Tel: 0737 768585.

LEXUS

Press Information

FOR IMMEDIATE RELEASE

6 October, 1993

LEXUS GS300

TECHNICAL SPECIFICATION

Dimensions	
Length	4965mm
Width	1795mm
Height	1425mm
Wheelbase	2780mm
Track front/rear	1535mm/1515mm
Turning circle	11 metres dia.
Ground clearance	147mm
Coefficient of drag	cd 0.31
Weights	
Kerb weight	1700kg
Gross vehicle weight	2120kg
Weight distribution	53.6% front/ 46.4% rear
Towing weight with/without brake	1200/500kg
Roof rack load	100kg
Capacities	
Boot capacity	14.5 cu.ft./410 litres/ 0.404 cu. m (VDA).
Fuel tank	80 litres
Engine	Type 2JZ-GE. Front mounted longitudinally. 6 cylinder, twin camshafts, 24 valves. Alloy head, iron block. Twin three way catalysts.
Bore	86mm
Stroke	86mm
Capacity	2997cc
Compression ratio	10:1
Power	209bhp at 5800rpm

more...

The Quadrangle, Redhill, Surrey RH1 1PX
Telephone: Redhill (0737) 768585
Facsimile: Redhill (0737) 771728
Telex: 946414

Torque		202 lb ft at 4800rpm
Fuel system		Electronic L-Jetronic sequential fuel injection. 95 RON unleaded.

Electrics

Ignition		Transistorised, 12V
Alternator		12V 90A
Starter		12V 1.4kW

Transmission

Type A343E electronically controlled four speed automatic. Torque converter with lock up system.

Ratios	1st	2.804
	2nd	1.531
	3rd	1.000
	4th	0.753
	reverse	2.393
Differential		Hypoid gear.
Ratio		4.083

Suspension

Front	Double wishbone with coil springs and gas dampers
Spring rate	59 N/mm
Anti-roll bar	Torsion, 30mm dia.
Caster	7.07 deg.
Camber	0.08 deg.
Toe-in	0.14mm
Rear	Double wishbone with coil springs and gas dampers
Spring rate	31.5 N/mm
Anti-roll bar	Torsion, 21mm dia.
Camber	0.92 deg.
Toe-in	0.38mm

Steering

	Speed sensitive, power assisted rack and pinion
Ratio	18.3:1
Turns lock to lock	3.2

Wheels and Tyres

Front and rear	16 x 7.5 JJ alloy wheels with 225/55ZR-16 Bridgestone tyres

more...

Brakes	Power assisted with ABS (electronic 4 sensor 3 channel)
Front	Ventilated discs 296mm dia. with 2 piston calipers
Rear	Ventilated discs 307mm dia. with single piston calipers
Parking brake	Drum 190mm dia. acting on rear
Performance	
Maximum speed	143 mph
0-60mph	8.6 seconds
0-400m	16.5 seconds
Fuel consumption	
Urban cycle	20.2mpg (13.9l/100km)
56mph	36.2mpg (7.8l/100km)
75mph	29.7mpg (9.5l/100km)

ends...

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