



# Toyota At Geneva Show 2000

3 March 2000

## **MORE POWERFUL YARIS VERSO JOINS RANGE**

Yaris Verso, the versatile new compact car from Toyota, will be available across Europe with a more powerful 1.5-litre petrol engine from later this month.

The Yaris Verso 1.5 is the latest addition to the growing Yaris family and builds on the successful launch of the original, 1.3-litre, Yaris Verso last November.

Based on the same platform as Toyota Yaris, the European Car of the Year, Verso challenges established preconceptions of compact car design and offers young families all the space and performance they are looking for - with the added bonus of being stylish and fun to drive.

## **INTELLIGENT ENGINE TECHNOLOGY**

Yaris Verso 1.5 is the latest new Toyota to take full advantage of computer controlled VVT-i (Variable Valve Timing - intelligent) to offer maximum performance and fuel economy from its sophisticated engine. Its 1.5-litre VVT-i engine is developed from the unit that forms the heart of the Toyota Hybrid System powering the revolutionary Prius hybrid sedan.

The 1,497cc, four cylinder, 1NZ-FE unit develops a maximum 78kW of power at 6,000rpm and 145Nm of torque at 4,200rpm. Mid-range engine torque has been boosted by VVT-i and Yaris Verso 1.5 is smooth and easy to drive.

Yaris Verso 1.5 will only be available with a five-speed manual gearbox and performance is lively, with excellent mid-range acceleration. The car has a top speed of 175Km/h, will accelerate to 100Km/h from rest in 11.2 seconds and cover a standing 400m dash in 17.7 seconds.

Yet fuel economy is excellent with the car using 6.5 litres/100km on the combined European fuel consumption cycle.

## **SAME YARIS VERSO VIRTUES**

The new Yaris Verso 1.5 shares all the same virtues that have already made its smaller engined relative so popular across Europe. It has incredible interior space and a stylish, modern interior.

The key to Verso versatility is its unique, retractable rear seats. With all seats in position Verso is a spacious five-seater family car with plenty of boot space and sedan car comfort for all passengers. Yet, within seconds, any member of the family can convert Verso from a five seater to a two seater without

a struggle.

The left and right rear seats fold away to create a low, flat floor - even the headrests do not have to be removed - creating an incredible 2,160 litres of load space. Yet, thanks to its clever design, this huge interior space has been created within a car which is stylish, compact and easy to drive.

As more and more customers are discovering, Yaris Verso is maneuverable and nimble in town but equally at home on the open road. The new Yaris Verso 1.5 can only add to their driving pleasure. Yaris Verso 1.5 is due to go on sale end of this month.

## **TOYOTA - YARIS VERSO - SPECIFICATIONS**

### **ENGINE**

Code Name	1NZ-FE
Type	L4
Valve mechanism	DOHC 16V VVT-i
Bore X Stroke (mm)	75.0 x 84.7
Displacement (cc)	1497
Compression Ratio	10.5
Max. Output (kW/rpm)	78@6000
Max. Torque (Nm/rpm)	145@4200
Max. Speed (km/h)	175

### **ACCELERATION**

0-100 km/h	11.2
0-400 m	17.7
Gear Ratios	
1 <sup>st</sup>	3.545

2 <sup>nd</sup>	1.904
3 <sup>rd</sup>	1.310
4 <sup>th</sup>	1.031
5 <sup>th</sup>	0.864
Reverse	3.250

## **DIMENSIONS**

Overall length (mm)	3860
Overall width (mm)	1690
Overall height (mm)	1680
Wheelbase (mm)	2500
Tread width (mm) front	1440
Tread width (mm) rear	1420
Overhang (mm) front	725
Overhang (mm) rear	635
Interior length (mm)	1905
Interior width (mm)	1370
Interior height (mm)	1250
Kerb weight (kg)	1000-1115
Gross vehicle weight (kg)	1530

Luggage capacity (L)	390
Fuel Tank capacity (L)	45
Min. Turning radius (m)	5.1
Coefficient of Drag	0.311

## **STEERING**

Type	Rack and Pinion
Ratio	17.1 (LHD)16.7 (RHD )
Turns lock to lock	3.3 (LHD)3.2 (RHD PS)

## **FUEL CONSUMPTION L/100km**

Combined	6.6
Extra Urban	5.7
Urban	8.3

## **SUSPENSION**

Front	MacPherson Strut
Rear	Torsion Beam

## **BRAKES**

Front	Ventilated Disc
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Rear

Drum

**TYRES AND WHEELS**

Wheel size

14" Steel Wheels

Tyre size

175/65 R 14

**YARIS VERSO 1.5 EQUIPMENT LIST (MAINLAND EUROPE)**

**EXTERIOR**

**Linea Luna**

**Linea Sol**

Bumpers - colour-keyed

S

S

Door handles - colour-keyed

S

S

Door mirrors - Power (for RHD) and heated

O

S

Halogen headlights

S

S

Headlamp leveling

S

S

Front fog lamps

O

O

Exterior roof rails

O

S

Rear fog light

S

S

Twin sunroofs (front tilt - rear electric (sliding))

O

O

Paint - Metallic

O

O

Rear wiper and rear window defogger

S

S

**TYRES AND WHEELS**

**Linea Luna**

**Linea Sol**

14" Wheels	S	S
175/65 tyres (R14* 5.5 J tyres)	S	S
Full wheel covers - Linea Luna design	S	-
Full wheel covers - Linea Sol design	-	S
Spare tyre (space saver)	S	S
Alloy wheels 14"	O	O

## COMFORT

	Linea Luna	Linea Sol
Steering wheel - 3-spoke design	S	S
Power steering	S	S
Tilt steering column	S	S
Long assist grips (2)	O	O
Additional 12V power outlet in trunk compartment	O	S
Air conditioning (CFC free)	O	O
Hard-type pile tonneau cover (loadable at 2 heights)	S	S
Dust and pollen filter	S	S
Driver and passenger vanity mirror	S	S
Power windows - front(with jump protection on driver's side)	S	S
Headlamp "warning" buzzer	S	S
Detachable trunk lamp/torch	S	S

Room lamp and front map lamp	S	S
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## **AUDIO**

	<b>Linea Luna</b>	<b>Linea Sol</b>
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Stereo Radio/Cassette 2 speakers	S	-
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Stereo Radio RDS/Cassette 4 speakers	O	S
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Stereo Radio RDS/CD 4 speakers	O	O
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## **COMMANDS**

	<b>Linea Luna</b>	<b>Linea Sol</b>
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3D digital centre meter and tachometer	S	S
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Central information display	S	S
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GPS satellite navigation system	O	O
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## **SEATS**

	<b>Linea Luna</b>	<b>Linea Sol</b>
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Linea Luna dual tone seat trim	S	-
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Linea Sol unitone seat trim (velour)	-	S
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3 independent rear seats:	S	S
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- 1 removable centre seat	S	S
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- 2 hide-away seats: flat-in-floor retractable	S	S
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2 Fr and 3 Rr headrests in vinyl	S	-
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2 Fr and 3 Rr headrests in velour	-	S
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**STORAGE COMPARTMENTS****Linea Luna****Linea Sol**

Front door pockets

S

S

Seat back pockets (D + P)

-

S

Back door trim with pocket

O

S

Room separator safety net

O

O

Front roof console(2 side lockers and glasses storage)

S

S

Under steering wheel storage

S

S

Centre book and CD case

S

S

Under floor storages (2)

S

S

Cup holders (Fr = 2/ Rr = 2)

S

S

Passenger under seat tray

S

S

Double glovebox

S

S

Removable luggage compartment cover

S

S

Centre console

S

S

**SAFETY****Linea Luna****Linea Sol**

Immobilizer

S

S

Central power door locking

O

S

Keyless entry system

O

S

ABS with EBD (Electronic braking force distribution)

O

O



Rear disc brakes	O	O
Side airbags (D+P side)	O	O
Child-proof lock (rear side doors and back door)	S	S
Fuel cap locking	S	S

Some options set forth as standard specifications in this documentation may be optional in some countries.

## **FREEDOM AND FASHION IN YARIS CABRIO CONCEPT**

Yaris is the award winning Car of the Year from Toyota - a stylish, modern, car that combines good looks with practical, real world benefits such as plentiful interior space, intelligent engineering, outstanding economy and excellent performance.

Now Toyota presents Yaris Cabrio - a concept car that takes the Yaris theme one step further and offers a tantalising glimpse of possible new Yaris family members to come.

Yaris Cabrio emphasises the freedom and self-confidence of today's younger generation. It offers enjoyment, chic city streets, sunshine and long, lazy days with the wind in your hair. But it is practical too.

Yaris Cabrio is the only convertible in its class to look as natural with its hood up as it does down. Cabrio is styled like a speedster - its roof line a natural extension of the steeply raked A-pillar; its rising haunches suggesting power and tension.

The 'fashionable' Yaris image has been transformed for Cabrio into something more masculine and aggressive, without being too flashy or vulgar. The Cabrio is clearly for younger customers but it presents a freshness which is now being reflected throughout the Toyota model range.

## **THE YARIS FAMILY**

The Yaris family is growing fast. The original, trendsetting Yaris was launched with a 1.0-litre VVT-i engine and was soon followed by a more powerful 1.3-litre VVT-i. The environmentally friendly Yaris Eco, with stop-go engine technology, followed. (Not available in the UK)

Yaris Verso, a spacious family derivative offering fold-in-floor rear seats and fashionable looks, is now available with 1.3-litre and 1.5-litre VVT-i engines.

Could Yaris Cabrio be next? The public reaction to this concept may decide.

## **STYLED FOR FUN**

Yaris Cabrio is clearly from the family, but it has its own characteristics. The deep front spoiler, now more integrated with the bumper, and prominent bright lights add a more aggressive feel. Integrated long range driving lamps will pierce the darkest night.

Yaris Cabrio is longer (3640mm) and lower (1430mm) than its hatchback cousin, giving it a true sporting feel. But Cabrio width, track and other mechanical dimensions remain unchanged. Air vents, cut into the front spoiler, improve cooling under the wide, low profile (190/50x15) tyres on five-spoke alloy wheels.

The dynamic, rising side view of Yaris stays, but the Cabrio roofline emphasises the sweeping A-pillar and removing the B-pillar, creates a wonderful feeling of space.

The redesigned boot gains a small lip-spoiler which aids aerodynamics and also completes the sporting detail. Rear lights are reshaped to reflect the frontal image and a rear splitter tray is part of a deep, wide rear bumper.

## **DETAILED INTERIOR**

Yaris is an innovator. The interior design has set new standards for cars of this class.

Yaris Cabrio takes innovation and adds fun. Interior trim and seat fabric is colour coordinated while two-tone highlighting is used to visually emphasise the main features and functions. Practical touches such as a split glove .box remain.

Aluminum finished gear lever, three-spoke sports steering wheel with alloy trimming and alloy pedals conclude the sporty touches to the interior.

Safety matches the outstanding standards set by the Yaris family. Airbags, seatbelt pretensioners and anti-lock brakes are just some of the features that could be available. And, of course, Yaris Cabrio will be stiff and strong to help withstand impacts and roll-over.

## **INTELLIGENT ENGINEERING UNDERNEATH**

Beneath its sleek exterior, Yaris Cabrio shares the same intelligent engineering as other models in the family. The concept is based on the 1.3-litre VVT-i (Variable Valve Timing-intelligent) engine developing 63kW of power at 6,000rpm and maximum torque of 124Nm at 4,400rpm.

Transmission is five-speed manual, giving easy, light operation, lively acceleration through the gears and relaxed cruising at speed.

## **TOYOTA - YARIS CONVERTIBLE CONCEPT - SPECIFICATIONS**

### **ENGINE**

Code name	2NZ-FE
Type	L4
Valve mechanism	16-Valve DOHC (VVT-i)
Bore X Stroke (mm)	75.0 x 73.5

Displacement (cc)	1299
Compression Ratio	10.5:1
Max. Output (kW/rpm)	63@6000rpm
Max. Torque (Nm/rpm)	124@4100rpm

## **DIMENSIONS**

Overall length (mm)	3640
Overall width (mm)	1660
Overall height (mm)	1430
Wheelbase (mm)	2370
Fuel Tank capacity (L)	45
Kerb Weight min.-max. (kg)	880~990 (H/T), 1000 (A/T)

## **DIMENSIONS (interior)**

Room Length (mm)	1800
Room Width (mm)	1380
Room Height (mm)	1265

## **STEERING**

Steering Gear Type	Rack and Pinion
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## **SUSPENSION**

Front	Macpherson Strut Type
Rear	Torsion Beam

## **BRAKES**

Front	Disc
Rear	Disc

## **TYRES AND WHEELS**

Wheel size	15"
Tyre size	195/50 R 15

## **NEXT GENERATION MR2 IS TRUE ROADSTER**

The latest generation Toyota MR2 Roadster, to be launched in Europe in March, is a no-compromise roadster designed to excite true sports car enthusiasts. It is fun to drive, good to look at and affordable to own.

Like all the best roadsters the new Toyota MR2 Roadster combines traditional sports car characteristics with modern engineering. It draws on the legend of two, highly successful, previous generations of MR2. And returns to the lightweight concepts of the Toyota Sport 800 to create a new style for the 21st century.

New Toyota MR2 Roadster is mid-engined, rear wheel drive for precise handling with excellent stability and balance. But it is also in the area of agility that the MR2 Roadster performs well - Toyota engineers have used the very latest technology to cut weight and boost performance.

The MR2's 1.8-litre engine has VVT-i (Variable Valve Timing - intelligent) for maximum mid-range torque and superb top-end power, with the best fuel consumption in its class.

## **MODERN SPORTS CAR STYLING**

The MR2 Roadster is a sports car with striking looks. The basic characteristics are its long wheelbase, short overhangs and strong horizontal line, accentuated by the dramatic air scoop for the engine. The body is short (3885mm) relative to the wheelbase (2450mm) which increases

responsiveness and the low centre of gravity, wide track and long wheelbase also give it stability.

The interior is comfortable but clearly sporty. The bucket seats and leather trimmed, three spoke steering wheel create the ideal sports car driving environment, which is enhanced by the aluminium pedals. The dashboard is clean, simple and the race car-style instrumentation clear to read.

But drivers will not find MR2 Roadster lacking in comfort. Power steering, power windows and remote control central locking are among the items that will be offered as standard equipment. An engine immobiliser and, in selected markets, 'double locking' will help make the desirable MR2 Roadster more secure.

A detachable hard-top, creating a striking coupe look, will be available as an option. Other options include air conditioning.

### **LIGHTWEIGHT DESIGN PHILOSOPHY**

The light weight of the new MR2 Roadster is the key to its sparkling performance, low fuel consumption, agile handling and stable road holding.

Design engineers worked to a target of less than 1,000kg, not just reducing the weight of each individual component but looking at the design as a whole when considering performance. As a result, new MR2 has the best weight-to-power ratio in its class at 6.96 kg/PS.

### **MODERN SAFETY STANDARDS**

Safety has been a critical consideration in the design of the new Toyota MR2 which has a strong, stiff body.

Driver and passenger airbags are standard equipment and seat belts are pre-tensioned with force limiters to reduce the risk of chest injury in the event of an accident.

With its mid-engined, rear-wheel drive configuration MR2 Roadster has ideal weight distribution for maximum stability and excellent active safety. The lightweight platform coupled with ventilated front and rear disc brakes means excellent braking performance. Anti-lock Braking System (ABS) is standard equipment on all models.

The electro-hydraulic power steering offers precise, speed sensitive steering assistance without drawing on engine power and is itself light weight and compact.

### **INTELLIGENT ENGINE TECHNOLOGY**

Purposeful, agile, technically advanced - new Toyota MR2 Roadster is powered by a sophisticated 1.8-litre VVT-i engine (1ZZ-FE), developing 103kW at 6,400rpm and maximum torque of 170Nm at 4,400rpm.

Thanks to its low body weight (less than 1000kg), new MR2 Roadster has the best power-to-weight ratio in its class and performance to match. The car will hit 100Km/h from rest in 7.9 seconds and has a top speed, where allowed, of 210Km/h.

The VVT-i (Variable Valve Timing - intelligent) delivers power where it is needed most - at high engine speeds - and torque throughout the rev range, making new MR2 Roadster easy and

relaxing to drive. The precise five-speed manual gearbox has a slick, positive action to allow the driver to make the most of this exciting car's performance.

But the power comes without a penalty in fuel consumption. On the combined EU cycle, MR2 Roadster will use just 7.4 litres/100km - the most fuel-efficient car in its class and with exhaust emissions reduced to match.

New MR2 Roadster is also equipped with Toyota Direct Ignition - individual computer controlled coils acting directly onto the spark plugs - which improve ignition timing, cut harmful emissions and reduce service costs. Toyota Direct Ignition means there is no distributor to be maintained and no ignition timing to be reset.

## **SOPHISTICATED SUSPENSION**

The suspension design calls upon Toyota's long experience with mid-engined sports cars and has been developed to offer a firm, but comfortable, ride that keeps the car stable and true.

The rear suspension is a dual link, strut design that has been engineered for stability and lightweight. The front suspension uses MacPherson struts, optimised and re-engineered to suit the mid-engined, rear wheel drive weight balance and characteristics.

Stylish, 15-inch alloy wheels are standard equipment (depending on local markets) with 185/55R 15 tyres at the front and 205/50R 15 at the rear. A limited slip differential for improved traction will be offered as standard in some markets

## **FULL AFTER SALES SUPPORT**

Like all new Toyotas, new MR2 Roadster will be backed by a pan-European three-year or 100,000 km warranty, a three year paint warranty, and a 12-year bodywork corrosion perforation warranty. Full aftersales support is available through Toyota's extensive and highly trained European dealer network.

## **TOYOTA MR2 - SPECIFICATIONS**

### **ENGINE**

Code name	1ZZ-FE
Valve Mechanism	DOHC 16 Valve (VVT-i)
Bore X Stroke (mm)	79 x 91.5
Displacement (cc)	1794
Max. Power (kW/rpm)	103@6400
Max. Torque (Nm/rpm)	170@4400

## **ACCELERATION**

0-100km/h	7.9 sec
0-400m	15.6 sec
20-60km/h (2 <sup>nd</sup> )	4.3 sec
40-80km/h (3 <sup>rd</sup> )	6.1 sec
60-100km/h (4 <sup>th</sup> )	8.9 sec
80-120km/h (5 <sup>th</sup> )	12.6 sec
Max.Speed (km/h)	210

## **FUEL CONSUMPTION L/100km**

Combined	7.4
Urban	10.1
Extra Urban	5.9

## **DIMENSIONS (exterior)**

Overall length (mm)	3885
Overall width (mm)	1695
Overall height (mm)	1240 Soft top1250 Hard top
Wheelbase (mm)	2450
Tread width (mm) front	1475

Tread width (mm) rear	1460
Fuel Tank capacity (L)	48
Coefficient of Drag	0.35
Minimum turning radius (m)	5.0
Gross Vehicle Weight (total kg)	1225

## **SUSPENSION**

Front	McPherson Strut
Rear	Dual Link McPherson Strut

## **BRAKES**

Front	14" Ventilated Discs
Rear	14" Ventilated Discs

## **STEERING**

Type	Rack and pinion
Ratio	13.6
Turns lock to lock	2.7 cycles

## **TYRES AND WHEELS**

Wheel size	15"
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Tyre size (front)Tyre size (rear)

185/55 R15205/50 R15

Spare tyre

Space-saver type

Some options set forth in this documentation may not be available in every country and therefore, local dealers may not be able to provide vehicles with such options.

Please contact your local distributor should you require specific information regarding your country.

## **NEW PREVIA TAKES TOYOTA TO THE TOP**

Toyota is to launch an all-new version of its flagship family MPV, the Previa. The new Previa, debuted at Geneva Motor Show 2000, will build on the established reputation of its predecessor for space, comfort and advanced styling.

The new Previa is a striking, ultra-modern MPV that has been designed from the outset to carry six to eight adult passengers and their luggage in comfort. It offers flexible accommodation, excellent ride and handling and, thanks to 'intelligent' engineering, excellent levels of performance, handling, comfort and economy.

Toyota is confident that the new Previa, which will be launched in Europe in May, will set new standards in the family MPV segment and, once again, establish Toyota as the class leader in the market.

## **ADVANCED STYLING**

New Previa has interior space and comfort as a priority, without compromising drivability, handling or active safety. The 'one wave' design of the first Previa model has been sharpened and refined to create an ultra-modern vehicle that will attract customers ready for 21st century transport.

Unlike its predecessor new Previa adopts a front-engine, front wheel drive layout which has enabled the Toyota engineers to create an even more spacious interior - the best in the class - within the same overall length (4750mm).

The wheelbase has been increased by 40mm, to 2900mm, the seating positions lower and more natural, and the overall height slightly lower at 1765mm. The new Previa is also slightly narrower than its predecessor at 1790mm, making parking easier, with the turning radius being reduced for better maneuverability, indeed the flexibility and functionality of the interior design sets Previa apart from its competitors.

## **INTERIOR SPACE AND COMFORT**

New Previa is available with a wide range of seating options to suit customer demand and vehicle function. It will be available as a six or seven seater with individual second and third row seats - or as an eight seater with second and third row bench seats. And in seven seater format the third seating row can be removed to become a capacious five seater.

The individual seats (6 and 7 seater) tumble and fold to create space or can be detached and removed from the vehicle entirely. The second row bench seat (8 seater) is split 60:40 and has a reclining back, while the third row bench tips, and can slide up to 825mm, to create extra luggage space.

Whatever seating configuration is chosen, Previa has outstanding luggage carrying capacity. There is ample space behind the third row of seats with a full sized 'boot' 780mm deep. Both second and third rows of seats slide to create optimum legroom and comfort for passengers.

### **NEW 2.4 LITRE VVT-i ENGINE**

The new Previa is equipped with the latest development in Toyota's VVT-i (Variable Valve Timing-intelligent) petrol engine range. This offers outstanding performance and fuel economy by using computer-controlled valve timing to boost mid-range torque.

Previas is fitted with a new 2.4-litre VVT-i engine (2AZ-FE), developing 115kW at 5,600rpm and maximum torque of 225Nm at 4,000rpm. The new Previa is front-engined, front wheel drive for greater vehicle control and road holding. It also gives maximum interior space and a low, flat floor. By mounting the new engine on a sub-frame at the front of the new platform Toyota has increased body rigidity, which in turn has improved stability and handling, as well as cutting engine noise and vibration to a minimum.

Previas will be equipped with a newly developed five speed manual gearbox or a new generation automatic transaxle that is compact and lightweight. The automatic gearbox is equipped with an advanced control system, which actively responds to driver input and offers rapid, smooth gear changes.

VVT-i technology, plus intelligent engineering to create excellent aerodynamics and reduce overall weight, means new Previa will offer best-in-class fuel economy. Real, on-road performance is excellent and new Previa is exceptionally quiet and comfortable for a vehicle in this class.

### **OUTSTANDING SAFETY**

Safety is a key issue for MPVs and Toyota has an outstanding record in European and worldwide crash tests, plus substantial 'real world' experience.

Fitted as standard across all models is anti-lock braking (ABS), with electronic brake force distribution (EBD) to control brake force on all four wheels and between the left and right and front and rear wheels in accordance with driving conditions. In the event of an accident, the brake pedal is designed to retreat away from the driver, reducing the risk of any lower leg injury.

New Previa is fully equipped to meet the latest passive safety requirements, with its passenger car handling and braking performance contributing to additional active safety or accident avoidance. Previa will be equipped with Safety Restraint System (SRS) airbags for driver and front seat passenger as standard.

Front seat belts with pre-tensioners and force limiters are also standard, and second and third row seats have 3-point seat belts fitted to the outer seats. The centre seats of the second and third row have a 2-point seat belt. All separate seats, including the second row centre seat, have headrests.

The interior is lined with head impact protection to reduce the impact of collision.

## FULLY EQUIPPED

The 'one wave' exterior styling of new Previa is carried over to the interior where driver and passengers will find advanced functionality and comfort. Inside Previa the emphasis was on driver and passenger control with a strong focus on ergonomics. The centre cluster and main instruments have been designed to offer good visibility with minimal line of sight movement and the most important instruments feature 'Optitron' displays. By projecting the information on to the instrument panel reflections and glare are reduced during the daytime but night visibility is enhanced.

There are 18 different storage spaces and cup and bottle holders are placed throughout the cabin to reflect the likely leisure and family usage of new Previa. There are also personal roof lights for each individual seat (except centre seats).

Electric-powered front windows are standard on all vehicles, and powered rear windows will also be standard in many markets. The sliding side doors, designed for maximum visibility and easy passenger access, are equipped with several safety features to avoid the door being opened when the window is open - or keep the door open when the Previa is parked on a slope.

Cabin temperature is controlled by a manual heater as standard, with air conditioning as an option. Rear cabin temperature is regulated by a ceiling mounted unit and airflow throughout the cabin has been carefully controlled to ensure maximum driver and passenger comfort under all conditions.

A six-speaker system is standard with audio options dictated by local markets or customer choice. An optional multi-display gives driver information in addition to the audio operation status.

## FULLY SUPPORTED

A pan-European three-year, or 100,000 km, mechanical warranty and a 12-year bodywork corrosion perforation warranty will back the new Previa. Bodywork is also protected with a three-year paint warranty against imperfections. Full aftersales support is available through Toyota's extensive and highly trained European dealer network.

## TOYOTA PREVIA - SPECIFICATIONS

### ENGINE

Code name	2AZ-FE
Type	L4, 2.4L
Valve Mechanism	16 valve, DOHC, VVTi
Bore X Stroke (mm)	88.5 X 96.0
Displacement (cc)	2362

Compression ratio	9.6:1
Max Power (kW/rpm)	115@5600
Max Torque (Nm/rpm)	225@4000

**ACCELERATION**

	5M/T	4A/T
0-100km/h	10.9	11.2
0-400m	17.8	18.0
Max.Speed (km/h)	185	180

**FUEL CONSUMPTION L/100km**

	5M/T	4A/T
Combined	9.4	10.5
Urban	12.1	14.1
Extra Urban	7.9	8.5

Fuel consumption figures are target data

**DIMENSIONS (exterior)**

Overall length (mm)	4750
Overall width (mm)	1790
Overall height (mm)	1765
Wheelbase (mm)	2900
Tread width (mm) front	1545

Tread width (mm) rear	1530
Interior length (mm)	2950
Interior width (mm)	1560
Interior height (mm)	1265 (1250 with sunroof)
Interior volume (m <sup>3</sup> )	5.9
Fuel Tank capacity (L)	75
Coefficient of Drag	0.29
Minimum turning radius (m)	5.6
Kerb weight (kg)	1525-1735
Gross vehicle weight (total kg)	2240-2400
Towing capacity (kg)	1600
Towing capacity w/o brakes	600
Turning circle (m)	15" Tyre: 11.2 (16" Tyre: 11.6)

## **SUSPENSION**

Front	McPherson Strut
Rear	Torsion Beam

## **BRAKES**

Front	Ventilated discs
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Rear Disc

## **STEERING**

Type Rack and Pinion

Ratio 15" Tyre: 18.0416" Tyre: 18.24

Turns to lock 15" Tyre: 3.6216" Tyre: 3.48

## **TYRES AND WHEELS**

Wheel size 15" Steel wheels15" Aluminium wheels16" Aluminium wheels

Tyre size (front) 205/65 R 15215/60 R 16

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## **NEW TOYOTA RAV4 REPLACES STYLE ICON**

Toyota is to replace one of the motoring icons of the 1990s with a brand new vehicle for the 21st century. The all-new Toyota RAV4 receives its world debut at the Geneva Motor Show 2000 prior to going on sale in Europe later this summer.

New RAV4 builds on the strengths of the innovative and trend-setting original leisure off-roader. It also benefits from Toyota's worldwide reputation for quality and robustness combined with the company's extensive expertise in building class leading off-road vehicles.

The new RAV4 is redesigned to taking account of the current fashion styles and further expanding the segment that it first created. It has been re-engineered in line with Toyota's 'intelligent engineering' philosophy to offer customers better performance, better fuel economy and lower harmful emissions. Inside the RAV4 delivers even more space with a quieter and smoother ride.

New RAV4 is lighter, faster and more economical than other vehicles in the segment. At the same time it manages to be more spacious, more comfortable and more enjoyable to drive. And new RAV4 customers will find they have a choice of engine size and drivetrain.

## **NEW STYLING**

The new RAV4 draws its styling cues from the familiar model it replaces but has a more rounded shape and a more powerful, mature, individual look. The deep front spoiler and rear bumper create a true 'off-road' feel and the trademark Toyota grille and headlamps are more prominent.

The rear quarter panels are more rounded but the car retains its distinctive forward-poised look and the rising waistline creates a sense of motion and purpose. Prominent flared wheel arches are a feature and the overall design is both more modern and more striking.

## **MORE SPACE**

New RAV4 will be available as either a three-door or five-door model and retains its compact overall length. Passenger space and comfort have been increased by lengthening the wheelbase and improving interior height and width.

New RAV4 is the most spacious car in its class and offers greatly improved luggage carrying capacity, even in the three-door model. There is also more head, shoulder and legroom for passengers with the five-door model seating five adults in comfort.

Interior design is also more flexible, giving real MPV-type modularity. The rear seats can now slide backwards or forwards, fold, tumble or be removed altogether.

## **CHOICE OF VVT-i ENGINES**

The new RAV4 will be available with a choice of engines: a 1.8-litre VVT-i engine (1ZZ-FE) developing 92kW and a 2.0-litre VVT-i engine (1AZ-FE) developing around 110 kW. Both engines will benefit from Toyota's Variable Valve Timing-intelligent (VVT-i) technology which offers outstanding performance, increased mid-range torque and improved fuel economy.

The 2.0-litre version retains the popular permanent four-wheel drive transmission from the existing car while the 1.8 litre is available as a front wheel drive model only. The two models will be visually similar, offering buyers of the 1.8-litre a value-for-money package with reduced running costs.

Acceleration and performance will be excellent with either engine and both RAV4s will have the best power-to-weight ratio in their class.

Both cars will be available with a five-speed manual gearbox while a four speed automatic will be an option on the 2.0-litre model.

## **EXCELLENT ROADHOLDING**

The original RAV4 set new standards in Sports Utility ride and handling - often being favourably compared to a GTI hatchback. New RAV4 builds on this reputation.

The all-round independent suspension has been retained with the addition of a rear anti-roll bar to improve cornering performance. Double wishbone suspension is retained at the rear and anti-lock brakes with electronic brake force distribution will be standard on five-door models.

Wind noise, road noise and aerodynamic drag have all been improved to make new RAV4 sound and feel like a true passenger car.

Passenger and driver Safety Restraint System (SRS) airbags, pre-tensioned front seat belts with force limiters, and side impact beams are all part of a comprehensive safety package. In most markets rear seat passengers get three-point seatbelts. In addition the front seats of the new RAV4 are both equipped with Toyota's whiplash injury lessening (WIL) seats. The seat frame design, headrest position, seatback construction and recline lock feature all help reduce the risk of whiplash injury in low speed rear-end collisions.

## **STYLISH & SPORTY INTERIOR**

As well as being more spacious, the new RAV4 interior is also more robust and more stylish. The dashboard and centre cluster have been redesigned to create a sportier environment. Metallic rings border the combination meter's three white-faced main dials, and the use of metallic colours emphasises the car's off road sports pedigree. A three-spoke sports steering wheel is fitted.

An in-car navigation system, together with full audio equipment, is optional. Automatic air conditioning will also be an option.

Practical interior features include numerous convenient storage spaces, cup holders and pockets.

## **ON SALE SOON**

New RAV4 will be introduced to European markets later this year. Full product details and more specifications will be issued nearer the time.

## **TOYOTA RAV4 - SPECIFICATIONS**

### **ENGINE (1.8L)**

Code name	1ZZ-FE
Valve Mechanism	16 valve, DOHC, Chain Drive
Bore X Stroke (mm)	79.0 x 91.5
Displacement (cc)	1794
Compression ratio	10.0:1
Max. Power (kW/rpm)	92@6000
Max. Torque (Nm/rpm)	161@4200
Max. Speed (km/h)	175



**ENGINE (2L)**

Code name	1AZ-FE
Valve Mechanism	16 valve, DOHC, Chain Drive
Bore X Stroke (mm)	86.0 x 86.0
Displacement (cc)	1998
Compression ratio	9.8:1unleaded
Max. Power (kW/rpm)	110@6000
Max. Torque (Nm/rpm)	192@4000
Max. Speed (km/h)	185 (M/T), 175 (A/T)

**ACCELERATION**

	1.8L	2.0L
0-100km/h	12.2 sec	10.6 (M/T) 10.8 (A/T)
0-400m	17.6	16.9 (M/T) 17.5 (A/T)

**FUEL CONSUMPTION L/100km**

	1.8L	2.0L
Combined	7.4	8.8 (M/T) 9.3 (A/T)
Urban	9.4	11.4 (M/T) 12.4 (A/T)
Extra Urban	6.2	7.3 (M/T) 1.6 (A/T)

**DIMENSIONS (exterior)**

	3 DOOR	5 DOOR
Overall length (mm)	3.850	4.245

Overall width (mm)	1.735	1.735
Overall height (mm)	1.695	1.715
Wheelbase (mm)	2.280	2.490
Min. turning radius (m)	5.0	5.3
Kerb weight (kg)	1220-1365	1275-1420
Gross Vehicle Weight (total kg)	1690	1825
Tread width (mm) front	1505 (215/70R16)	
Tread width (mm) rear	1495 (215/70R16)	
Fuel Tank capacity (L)	57	
Coefficient of Drag	0.35	

## SUSPENSION

Front	McPherson Struts with L-shaped arms	
Rear	Double Wishbone with trailing arms	

## BRAKES

### 3 DOOR

### 5 DOOR

Front	Disc	Disc
Rear	Drum	Disc

## STEERING

Type	Rack and Pinion
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Ratio	16
Turns lock to lock	2.933

#### **TYRES AND WHEELS**

Wheel size	16" Aluminium
Tyre size	215/70 R 16

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#### **PRIUS FOR EUROPE**

A European specification Prius has been developed as Toyota moves forward with its plan to launch the revolutionary petrol/electric hybrid-powered car in Europe later this year.

The world's first mass production hybrid vehicle, Toyota Prius is a breakthrough in practical, low emissions automotive technology. Unlike the prototype low emissions vehicles displayed by other manufacturers, Prius is both a glimpse of the future and a practical family car for today.

Powered by the Toyota Hybrid System (THS), Prius can run on either its highly efficient 1.5-litre VVT-i petrol engine, its electric motor, or a combination of both. The ratio of power provided by each system is constantly monitored electronically, depending on speed and load, to keep the car in its most efficient operating mode.

It is a four-door, five-seater sedan that drives and handles like a conventional car. It has full safety features, including anti-lock brakes and driver and passenger airbags, plus conventional comfort features such as electric windows, audio equipment, air conditioning and, optional, satellite navigation system.

#### **ENGINEERED FOR EUROPE**

For the European market, Toyota research engineers have set a target of less than five litres per 100 kilometres on the combined European fuel cycle (more than 56 mpg) and carbon dioxide emissions of less than 120 gm/km.

The challenge for the engineers has been to achieve effective emission control and low fuel consumption in Europe while retaining the principal requirement of Prius that it should be no less comfortable and no more difficult to drive than a conventional petrol car with automatic transmission.

European driving conditions are considerably different from those in Japan. Cruising speeds are higher, traffic in cities is less congested, and country roads increase demands on ride and handling. The Hybrid System control software and powertrain characteristics of Prius have all been adapted for European conditions.

Top speed, standing start acceleration and mid-range acceleration have all been improved.

## **SALES SUCCESS**

The Toyota Prius went on sale in Japan in December 1997 and has already proved to be an outstanding sales success. More than 30,000 cars have been bought since then and production volumes have been increased to 1,500 to 2,000 units a month.

Customer satisfaction is high. Owners give the car particularly high ratings for the hybrid system, interior space, its comfortable driving position, lack of road noise and vibration (a particular merit of the hybrid powertrain) and instrument layout.

Export volumes from Japan are estimated at between 18,000 -24,000 cars a year to both the North American and Europe markets. Sales targets for individual European markets are still being analysed but the primary market will be in major European towns and cities where traffic congestion is high and environmental issues are a public concern.

Prius can be serviced routinely at a conventional Toyota dealership but potential customers are likely to require specialist sales support and finance packages. A full roadside recovery and support package is under development.

## **A REAL CAR**

Prius was designed by Toyota's Caltex research centre in California with a clear brief to develop a conventional modern sedan around a revolutionary power plant. It has a spacious interior, with long wheelbase within a short overall body length and wide, easy entry through all four doors.

For the European market bumpers have been lowered, rear fog lamps added and front and rear spoilers fitted. These help to reduce the frontal drag coefficient thus further improving fuel consumption and performance in the high speed range.

Prius has a single, dashboard mounted gearshift lever controlling the Toyota Hybrid System which functions as a continuously variable transmission. Other steering column control stalks act as they would in a conventional car.

Control of the Toyota Hybrid System is entrusted to its electronic control system and vehicle information is displayed in the 15cm central monitor which shows energy status and recovery usage. It also serves as a general display panel for audio and, where fitted, navigation information.

## **HOW TOYOTA HYBRID SYSTEM (THS) WORKS**

The Toyota Hybrid System (THS) is a carefully integrated package whose mechanical components take up little more space beneath the bonnet than a conventional engine. The unit consists of a specially developed, high efficiency, 1.5-litre petrol engine; a compact and high-torque electric drive motor; and a separate generator.

The power unit works in conjunction with a bank of advanced nickel-metal hydride batteries which form an energy buffer. These are maintained in a constant state of charge by the THS engine and regenerating braking, so never need external recharging. The European-spec. Prius will benefit from a smaller, lighter battery pack, 20 percent lighter than its predecessor. The new batteries will reduce battery pack volume by 40 percent and will allow for more luggage space in the boot.

The various mechanical elements of the THS are connected by a power splitting device, in the form of an epicyclic gear train, which enables the engine output to be divided between driving the wheels and turning the generator. The key to the mechanical efficiency of THS is the electronic control of power flow between the mechanical and electrical elements to ensure that energy consumption is optimised at all times.

The main function of the petrol engine is to drive the wheels but any excess output is used to recharge the batteries. The batteries are also charged by regenerative braking. In turn, the batteries supply extra power, via the drive motor, when required such as for hill climbing or overtaking.

In particular situations where the petrol engine cannot run efficiently, or where it would produce relatively high emissions for example at low speed, travelling downhill or when standing still it is switched off altogether. Starting from rest is normally accomplished in electric drive only; the petrol engine starting as the Prius picks up speed.

Because the petrol engine operates under relatively stable load conditions, supported by the electric drive motor when necessary, it can be designed for maximum efficiency and minimum emissions.

## **WHOLE LIFE RECYCLING**

Toyota Prius is designed to be less damaging to the environment throughout its life and the car has been manufactured with specific materials for maximum recyclability. These include extensive use of Toyota's Super Olefin Polymer (TSOP) for many of the moulded interior and exterior fittings plus recycled soundproofing product (RSPP) made from automotive shredder residue.

The high technology nickel-metal hydride batteries used in Prius will last longer than batteries used in conventional electric vehicles and the battery bank is much smaller. Toyota will establish a network capable of collecting and recycling the batteries in all markets.

## **ON SALE**

The Toyota Prius will go on sale across Europe later this year. It will be backed by a full Toyota warranty and after sales service.

Full mechanical details and figures will be issued closer to individual launch dates.

## **TOYOTA PRIUS - SPECIFICATIONS**

### **PETROL ENGINE**

Code name

1NZ-FXE

Valve Mechanism	In-line 4 cylinder DOHC
Bore X Stroke (mm)	75.0 x 84.7
Displacement (cc)	1.497
Compression ratio	13.5:1
Max. Power (kW/rpm)	78@6000
Max. Torque (Nm/rpm)	145@4100

### **ELECTRIC MOTOR**

Electric Motor	Permanent Magnet
Max. Power (kW/rpm)	30@940-2000
Max. Torque (Nm/rpm)	305@0-940

Transmission	Electrically controlled CVT
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### **DIMENSIONS**

Overall length (mm)	4315
Overall width (mm)	1695
Overall height (mm)	1475
Wheelbase (mm)	2550
Fuel tank capacity	50 ?

Seating capacity	5
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## **SUSPENSION**

Front	Macpherson Strut
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Rear	Macpherson Strut
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## **STEERING**

Type	Rack and Pinion
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Ratio	?
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Turns to lock	?
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## **BRAKES**

Front	Disc
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Rear	Drum (Hydraulic, with power assist) with Integrated Regenerative System
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## **TYRES AND WHEELS**

Wheel size	14"
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Tyre size	175/65 R 14
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## **NCSV - A CONCEPT THAT BREAKS CONVENTIONAL BOUNDARIES**

The NCSV concept from Toyota is the clearest sign yet that vehicles of the future will break out of the conventional boundaries of car design by type and category. NCSV is designed to fulfil multiple roles in today's high technology, highly mobile world.

Chief engineer, Takeshi Yoshida, says NCSV has been designed to embody a modern, fun lifestyle and is targeted at drivers in their 20s and early 30s. Here is a vehicle for everyday use that is great for commuting but also perfect for cruising around in your leisure time.

"The NCSV is a distinctly different kind of vehicle," he explains. "It could be a coupe; a wagon or a sedan - and that's the whole point. It is aimed at those buyers who want something different from the conventional."

### **POWERFUL YET PRACTICAL**

NCSV combines the practicality of a three-door hatchback with the striking good looks of a low-slung sports coupe. Its futuristic body lines and aerodynamic profile, partly reminiscent of an aircraft, combine style, beauty and power.

From the side NCSV is youthful and vigorous. The steeply inclined A and B pillars give it a sleek profile and create a sports-car feel to the main cabin - enclosed and secure. Low ground clearance and low profile 215/45 17-inch tyres enhance the look.

At the front, the upper and lower body curves blend seamlessly to create a solid, punchy nose. This powerful, yet practical image is repeated at the rear where the styling was inspired by the rear view of an ultrasonic jet aircraft. The low slung body, wide tyres and angled tail lights convey sturdiness and safety.

### **HIGH TECHNOLOGY FEEL**

"Both inside and out, the NCSV sports a fresh modern design crafted to appeal to a generation that has grown up in the age of computing and electronics," says Yoshida.

The interior surfaces are created with a new kind of material with a functional, high-tech metallic look. The design is seamless and flowing, producing a personal cockpit environment. The instrument panel flows down to the central gear-shift cluster and across to the door trims.

### **THE INFORMATION AGE**

A whole host of features is geared towards younger, more techno-literate customers.

Both the driver and front passenger have separate, multi-purpose monitor screens that can clearly display a wide variety of information. Located in the island console between the rear seats is a third display which can be stored away when not in use.

This 'intelligent' interior could be used for in-car entertainment to make long journeys more fun, or for increased communication between the front and rear of the vehicle.

### **FLEXIBLE, MODERN INTERIOR**

In the NCSV, even the seats look ultra-modern - the trim material has a refined, sporty feel with a



slightly metallic look - but they are practical and comfortable too.

The rear seat can slide backwards or forwards by 120mm (4.7 inches) for maximum flexibility in luggage space and is split 60:40 for easier loading of long and awkward shaped items. All the seats recline for extra comfort.

The luggage space, which can be covered by a storable hard shelf, is huge and easily accessible. With the rear seats folded forward, there is a full 1.5 metres (59 inches) in length.

## **ADVANCED ENGINE TECHNOLOGY KEEPS TOYOTA AHEAD**

Toyota, the world's third largest manufacturer of cars and light commercial vehicles, is a global leader in advanced automotive technology which will bring long term benefit to its customers and to the environment as a whole.

The company is committed to developing high efficiency engines which offer better fuel consumption, lower emissions and more economy.

Toyota already offers several practical solutions to the market - including the Prius hybrid petrol-electric sedan; the common rail, direct injection D-4D diesel engine; a direct injection, D4 petrol engine; and the introduction of Variable Valve Timing - intelligent (VVT-i) across an increasingly wide range of petrol engines.

Toyota is further developing its power technology with the development of the HV-M4, the world's first four-wheel drive hybrid vehicle and is well advanced with fuel cell research through FCHV - a Fuel Cell Hybrid Vehicle. These, and other advanced technology projects, form an integral part of Toyota's environmental strategy for passenger car and transport systems of the future.

## **VARIABLE VALVE TIMING - intelligent**

Variable Valve Timing-intelligent (VVT-i) is already offering benefits to Toyota customers. Toyota cars equipped with VVT-i are more flexible and easier to drive; offer better performance than comparable cars with the same engine size; use less fuel and emit less carbon dioxide, less nitrous oxides and less hydrocarbons.

Originally developed by Toyota for executive cars, VVT-i was introduced to the mass market in the award winning Yaris 1.0 last year. Now engines with VVT-i power the Yaris 1.3, Yaris Verso, new generation Corolla, new Celica, new Toyota MR2, new RAV4 and new Previa. More new models with the technology will be announced shortly.

Toyota is committed to introducing VVT-i across its petrol engine range. The present line-up in Europe includes the 1.0 and 1.3-litre in Yaris and Yaris Verso; the 1.4 and 1.6-litre in new generation Corolla; the 1.5-litre in Yaris Verso and at the heart of the Toyota Hybrid System (THS) in Prius; and the 1.8-litre in Celica and new MR2.

## **COMMON RAIL, DIRECT INJECTION DIESEL (D-4D)**

Toyota is to extend its technically advanced common rail, direct injection (D-4D) diesel technology into a range of engines which will power vehicles from small passenger cars through to Sports Utility Vehicles and light commercials.

The new Toyota common rail diesel engines, developed with Denso, are among the most fuel efficient on the market today and play a crucial role in Toyota's environmental protection policy. Potentially harmful emissions are reduced, thanks to the improved fuel consumption and more efficient combustion of the direct injection engine.

Emissions of the main greenhouse gas, CO<sub>2</sub>, are cut by around 20% and an exhaust gas recirculation unit (EGR) helps cut NO<sub>x</sub> emissions by 68%. The new engine produces no smoke, and particulate emissions are cut by 44%.

The D-4D engine offers exceptionally low noise, vibration and harshness levels for an engine of this type. Pilot injection and more progressive burn in the combustion chamber reduce the 'ignition shock' which causes the traditional distinctive diesel engine knock.

Avensis was the first car in the European model range to benefit from the newly developed engine with the introduction of the 2.0-litre D-4D. Additions to the engine range now include a 3.0-litre turbocharged engine with high power output and high torque at low engine speeds - suitable for a Sports Utility Vehicle - and a compact, lightweight 1.4-litre with an aluminium die-cast cylinder block - suitable for passenger cars.

## **HYBRID ENGINES**

Toyota is the world leader in the hybrid vehicle market and Toyota Prius, to be launched in Europe later this year, is the world's first mass production hybrid vehicle.

Prius went on sale in Japan in December 1997 and has already proved to be an outstanding sales success. More than 30,000 cars have been bought and production volumes have been increased to 1,500 to 2,000 units a month.

Powered by the Toyota Hybrid System (THS), Prius can run on either its highly efficient 1.5-litre VVT-i petrol engine, its electric motor, or a combination of both. The ratio of power provided by each system is constantly monitored electronically, depending on speed and load, to keep the car in its most efficient operating mode.

Now Toyota is building on its expertise to develop other vehicles, such as the HV-M4, the world's first hybrid four-wheel drive.

The HV-M4 mid-sized minivan was developed to demonstrate the type of vehicle we could expect in the future. The THS-C hybrid system combines a 2.4-litre VVT-i petrol engine with two electric motors and a continuously variable transmission (CVT). Only the absolute minimum of energy is used to move the vehicle, so the HV-M4 has a fuel efficiency about double that of MPVs of the same class.

The combination of a petrol engine with electric motors eliminates the main problem associated with electric vehicles - the need to recharge the battery overnight.

In addition, the HV-M4's hybrid system can supply electric power to appliances outside its own powertrain circuit. The concept vehicle is equipped with three AC100v sockets on the inside and one on the outside which can be hooked up to devices such as hairdryers, microwave ovens and televisions.

This makes the HV-M4 an ideal vehicle for camping and other leisure activities - or on a more serious note, for electrical equipment or medical devices when used as an ambulance or

emergency vehicle.

## **FUEL CELL TECHNOLOGY**

Toyota first displayed a fuel cell hybrid vehicle incorporating hydrogen-absorbing alloy tanks back in October 1996. A year later came a similar vehicle powered by a fuel cell and methanol reformer, the first such vehicle in the world.

Now the company is using its expertise in hybrid control systems, developed through Prius and other vehicles, in its advanced development work with cells.

Fuel cell vehicles can be considered as an advanced hybrid vehicle in which two power sources - the fuel cell and batteries - supply energy to the motor to drive the vehicle. Toyota's Fuel Cell Hybrid Vehicle seeks to run the entire vehicle at its most efficient, using both these sources.

Toyota has developed considerable expertise in electronically controlled powertrains and in the control of battery charging and discharging. The company has also devised ways of harnessing and storing large amounts of energy via regenerative braking and when decelerating.

Another crucial part of this programme is the development of smaller, lighter yet more efficient FCHV components - notably fuel cell stacks, reformers, air compressors and hydrogen-absorbing alloy tanks. Toyota aims to shrink each of these parts and reduce their weight.

The choice of fuel for the FCHV remains an important issue. Toyota is working on a variety of different hydrogen sources for a fuel cell, from pure hydrogen itself to a range of fuels that could be reformed to produce it. These include methanol, natural gas and petrol.

**ENDS**