Unique Selling Point Guide

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The Unique Selling Point Guide (USPG) contains product information not available in catalogues or the Product Marketing Guide (PMG). The USPG introduces the prominent features of the product, and proves the new model’s superiority over the competition in direct data comparisons. Please use this guide to deepen your understanding of the product, and convey the unique features to potential customers.

**Before use**

- For detailed information on the Hybrid Synergy Drive, please refer to the *Hybrid Synergy Drive Pocket Guide*, enclosed in the supplemental DVD.

- Intriguing inside stories heard directly from the engineers and development team are featured in the *Stories Behind Development* columns, marked by the light bulb icon.

- The DVD link icon appears in pages where supplemental movies are available. Please refer to the respective chapters in the enclosed DVD for deeper explanations.

- The data of this guide is prepared using Microsoft® Office PowerPoint® 2003 application. The text data, photos, and figures in charts can be replaced or edited according to your localization needs.

**Warning:**

- The use of this guide outside of Toyota, and making reproductions of this guide for purposes other than for internal sales preparation and training activities are strictly prohibited.

- Specifications of the vehicles may vary from each country, and details shown in this guide may differ from actual models that go on sale in your country.

- Some of the measurements presented in this guide were taken by TMC/GMD on prototype models with the specific purpose to perform vehicle comparisons under the same criteria; therefore, the figures are only for your reference and are NOT OFFICIAL.

**Models shown in this guide for comparisons are as follows:**

- New PRIUS (Europe Specification, Prototype Model)
- Current PRIUS (Europe Specifications)
- Honda CIVIC Hybrid (Japan Specifications)

**Icons:**

The "1st" icons appear throughout this guide to indicate features and functions that are not available in competitive models.

Note: These claims are true at the time of USPG production (Nov. 2008), however we suggest checking once again before using these in external communications.
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Message from the Chief Engineer

Akihiko Otsuka
Chief Engineer
Product Planning Div.
Toyota Passenger
Vehicle Development Center 2

Around the time that hybrids were first launched, I began working on the development of hybrid minivans for the Japan market, and I continued that responsibility for about ten years until I became the Chief Engineer of the Prius. Perhaps it may have been based off of that experience but I developed self-confidence that I was thoroughly knowledgeable in all aspects of hybrid vehicles. However, that self-confidence crumbled away when I first test drove the current generation and witnessed the breathtaking evolution that had occurred in a mere five years since the first generation entered the market. The evolution of the technology that makes up the core hybrid elements including the motor, the inverter, and the battery was a sight to behold. As the Chief Engineer, I felt exuberated as I embarked on a new challenge to develop technology that leads to the future. With that said, however, I proceeded to move forward with the development of the new Prius while feeling the pressure of having to create new value which must surpass that of the current production model.

In addition to environmental performance and fuel efficiency, which are the greatest elements of hybrid vehicles, I challenged the development team to take the Prius spirit of innovation and vehicle performance to an even higher level. To achieve this, we carefully reanalyzed the balance structure between the engine and motor and improved fuel efficiency and driving performance. We also adopted a new 1.8L engine and strived to improve fuel efficiency even further by suppressing the engine speed when driving at high speeds. From there, we meticulously pursued performance aspects that contribute to fuel efficiency such as the aerodynamic design and power saving features of the components.

In considering a visual feature to catch the attention of customers, we set a goal to develop a compelling design that accentuates the innovative spirit. The exterior maintains the triangular form of the current generation and fuses aerodynamic performance with a beautiful silhouette based on the theme of “Aero Symbolism”. The interior was designed with pursuit of operation ease and visibility based on the concept of “Human Tech”, and a sense of innovation was added with the characteristic instrument panel and center cluster. We also equipped the vehicle with an abundance of state-of-the-art equipment such as the Solar Ventilation system, the Remote Air-conditioning system, Touch Tracer Display, and the new Intelligent Parking Assist.

On the other hand, we also refined the intrinsic elements that create the allure of the vehicle including steering stability, quietness, and safety. This included optimizing the renovated platform based suspension and ensuring the safety equipment such as the PCS (Pre-Crash Safety system / Pre-Collision System) and the superior impact absorption structure. From there we carefully pursued a high efficiency package with a compact body size based on the key phrase “Outside Optimum, Inside Maximum”, and successfully maintained a roomy interior with ample luggage space.

Each member of the development team worked with enthusiasm and pride to create a 3rd generation Prius that overflows with charm. Now, I urge each member of our sales staff to approach an even broader range of customers and clearly convey the four basic hybrid vehicle benefits (fuel efficiency, low emissions, driving performance, and quietness) that have been cultivated by the Prius and the enhanced basic vehicle performance that the new generation offers. With this, I am confident that we can enjoy successful sales.
1. HYBRID PERFORMANCE

Targeted fuel efficiency that can not be surpassed by any other vehicle

The PRIUS debuted as the world’s first mass produced hybrid vehicle and the fuel efficiency performance achieved by its ingenious hybrid system has built an image for the PRIUS as a “car with excellent fuel efficiency”. This image was passed from the first generation model to the second, and now with the new PRIUS, every aspect of the vehicle that sets it apart as a hybrid frontrunner has been meticulously refined.

Both the hybrid system and the efficiency of the vehicle, highlighted by its aerodynamic performance, were raised to a level that is unrivaled by the competition. As a result, the vehicle’s environmental load was reduced and fuel efficiency performance was enhanced.

2. INNOVATIVE STYLING

Further polished the vehicle's advanced image

PRIUS owners are people with great concern for the environment. One thing that has contributed to creating this environmentally focused image is the “triangular mono form” introduced with the 2nd generation model. Since then, this hybrid exclusive design has become the icon for eco-friendliness.

While inheriting this immediately recognizable shape, the new PRIUS adopts a more dynamic exterior expressing functional beauty, and features an interior that projects a feeling of warmth. On closer inspection, the new model’s innovation, forward thinking design, high quality, and refined image are also apparent.
3. CUTTING-EDGE EQUIPMENT

Fully loaded with innovative technology that further elevates the vehicle's appeal

The new PRIUS is fully loaded with equipment that is ahead of its time. For instance, the Dynamic radar cruise control utilizes millimeter wave radar to automatically adjust the distance from preceding traffic, and the world’s first ventilation and air conditioning system that operates while the vehicle is parked. Moreover, the steering wheel incorporates touch sensitive switches with a futuristic speedometer display function, and further enhances the advanced cabin atmosphere as well as operability.

4. BASIC VEHICLE PERFORMANCE ENHANCEMENT

Brought out the intrinsic appeal of vehicles

The new PRIUS maintained the compact exterior dimensions of the current model, but increased the interior and luggage space by adopting slim seats, and by reducing the size of the battery cooling system. As for the excitement of driving, the new PRIUS was developed with features that satisfy even drivers who tend to focus more on driving performance. To achieve both handling stability and smoothness, a solid body and suspension were essential, and so the new MC platform was adopted.
1. HYBRID PERFORMANCE

ADVANTAGES OF THE TOYOTA HYBRID SYSTEM
NEW APPROACH FOR HYBRID PERFORMANCE ENHANCEMENT
HYBRID SYSTEM EVOLUTION
VEHICLE SIDE EVOLUTION
FUEL EFFICIENCY
LOW EMISSIONS
ACCELERATION
QUIETNESS
RELIABILITY
### System Comparison

**Toyota Hybrid System (THS) - “Strong Hybrid”**

With the operation of the Power Split Device, the Strong Hybrid system adopted by the PRIUS can utilize the power generated by the engine and motor for different purposes based on driving conditions. With this advantageous characteristic, electric motor-only driving is possible, and the engine can operate at much higher efficiency ranges.

**Honda Integrated Motor Assist (IMA) - “Mild Hybrid”**

With the Mild Hybrid system configuration adopted by the Honda IMA, the engine is the main source of power, and the motor merely acts as an auxiliary power source. Also, with its combined motor/generator configuration (i.e. engine and motor are directly connected), the system cannot benefit from simultaneous motor assist and electricity generation, and electric motor-only driving is not possible.

Compared to other hybrid systems, this system can bring out superior performances in terms of fuel efficiency and power. From its configuration, this hybrid system is also called a Series-parallel hybrid.

Furthermore, with the Honda IMA’s mild motor assist characteristics, engine power is almost constantly needed in common stop and go situations, resulting in mediocre practical fuel economy. From its configuration, this hybrid system is known as a Parallel hybrid.

### 4 Key Benefits of the Hybrid Synergy Drive

Hybrid Synergy Drive (HSD) is the marketing name for the Toyota Hybrid System (THS). The HSD adopts a “Series-parallel Hybrid” or a “Strong Hybrid” configuration to deliver the energy-saving benefits of a “Series Hybrid” together with the acceleration of a “Parallel Hybrid”. As a result, the HSD offers the four key benefits of **Class-Leading Fuel Efficiency**, **World-Class Low Emissions**, **Impressive Seamless Acceleration**, and **Surprisingly Silent Performance**.

*For more information on Hybrid Synergy Drive, please refer to the Hybrid Synergy Drive Pocket Guide.*

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**Table: Fuel Economy Improvement**

<table>
<thead>
<tr>
<th>System</th>
<th>Fuel economy improvement</th>
<th>Driving performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toyota THS (Strong Hybrid)</td>
<td><img src="Excellent" alt="Icon" /> <img src="Normal" alt="Icon" /> <img src="Normal" alt="Icon" /> <img src="Excellent" alt="Icon" /> <img src="Excellent" alt="Icon" /> <img src="Excellent" alt="Icon" /></td>
<td><img src="Excellent" alt="Icon" /> <img src="Normal" alt="Icon" /> <img src="Normal" alt="Icon" /> <img src="Excellent" alt="Icon" /> <img src="Excellent" alt="Icon" /> <img src="Excellent" alt="Icon" /></td>
</tr>
<tr>
<td>Honda IMA (Mild Hybrid)</td>
<td><img src="Excellent" alt="Icon" /> <img src="Normal" alt="Icon" /> <img src="Normal" alt="Icon" /> <img src="Excellent" alt="Icon" /> <img src="Excellent" alt="Icon" /> <img src="Excellent" alt="Icon" /></td>
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</tbody>
</table>
System Configuration

The new PRIUS inherited the basic hybrid system configuration of the current model. However, such significant advances were made that you could say that the hybrid system of the new model is an entirely new system. Also as a new approach, efforts were made to maximize efficiency on the vehicle side as well. Together, these enhancements resulted in a synergy effect, and the overall vehicle performance was dramatically enhanced.

**Hybrid System Evolution**

**Engine (2ZR-FXE)**
- Unrivaled Fuel Economy & Class Above Acceleration
  - Atkinson cycle + Cool-EGR System => Higher Efficiency
  - Electric-driven Water Pump (Beltless) => Reduced Friction
  - Output => 73kW (+16kW)
  - Heat Management System

**Battery**
- Higher Cooling Performance
  - Ni-MH Battery
  - Output => 27kW/1sec (+2kW) 21kW/10sec.
  - Cooling Fan: Max. 150m³/h (Current 70m³/h)

**System Output:**
- 81kW
- 100kW
  - (Engine 73kW + Battery 27kW)

**Power Control Unit (Inverter)**
- Acc. Battery Size including DC-DC Converter
  - Direct Cooling Structure
  - Thinner IGBT Chips, Reduced Switching Loss
  - => Higher Efficiency, Reduced Size and Weight

**Transaxle/Motor**
- Compact Lightweight Unit for New MC Platform
  - Reduction Mechanism
  - Generator (Concentrated Winding)
  - Motor (Weight 17.8kg, Mass -39mm, Output 60kW (+10kW))
  - Transaxle Torque Loss -10%

**Vehicle Side Evolution**

- Aerodynamics => P.16
- Lightweight Low Noise and Vibration Body => P.21
- LED Headlamps/Rear Combination Lamps => P.19
- ECS Evaporator => P.20
- Lightweight High Rigidity Body => P.22

**Balance Born from the Delicate Japanese Spirit of Harmony**

The hybrid system consists of various components and controls. Two factors were behind the efforts to maximize this potential: the spirit of harmony in each individual engineer and the deployment of supervisors who had an extensive view of the entire development process and did not overlook even the smallest flaw. The engineers not only focused on the components that they were individually responsible for; they considered the characteristics of the overall vehicle and then focused their energy on drawing out the necessary performance for the areas they were in charge of.

In order to move forward with development efforts without being overly conservative and without overly emphasizing certain areas, development supervisors were deployed to function as orchestra conductors and bring harmony to the entire process. With this compilation, a level of fuel efficiency that could not be achieved by merely putting together the components was realized.

This achievement can be called the crystallization of harmony and was possible only because a spirit of harmony existed within the entire team and because this harmony was based on the delicate aesthetic sense that is unique amongst Japanese people.
HYBRID SYSTEM EVOLUTION

Engine

< Engine Displacement Increase >

The 1.5L in-line 4-cylinder gasoline engine of the current model was replaced with the 1.8L in-line 4-cylinder engine to improve fuel efficiency at high speeds. In addition, both maximum output and maximum torque were improved by approximately 30% with a 300cc increase in engine displacement.

<table>
<thead>
<tr>
<th>Compared to Current Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Displacement: 1.5L ➝ 1.8L</td>
</tr>
<tr>
<td>Max. Output: 56kW ➝ 73kW</td>
</tr>
<tr>
<td>Max. Torque: 110Nm ➝ 142Nm</td>
</tr>
</tbody>
</table>

< Engine Speed Reduction during High Speed Driving >

Increase in engine displacement led to more output and torque, and allowed the engine to operate at lower speeds when driving at high speeds. This in turn contributed to enhancing high speed fuel efficiency and quietness.

<table>
<thead>
<tr>
<th>Current Model</th>
<th>New PRIUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2470rpm Engine rpm at 120 km/h</td>
<td>2180rpm Approx. 300rpm reduction</td>
</tr>
</tbody>
</table>

Stories Behind Development

Exclusive Advantages of the Hybrid

In order to improve practical fuel economy at high speeds, the engine displacement of the new PRIUS was expanded. During this process, various tips from the engines of large-sized ships, which are widely known for being the most efficient internal combustion engines available, were incorporated. Engine efficiency generally improves by increasing the displacement of each cylinder. However it is commonly regarded that fuel efficiency decreases as displacement is increased for gasoline-powered vehicles. This is simply not the case for a hybrid, as the actual engine can be stopped during inefficient slow traffic driving.

The Atkinson-cycle engine has been used continuously since the first generation PRIUS. This engine utilizes high-efficiency technology that was formulated over 100 years ago, but which could only generate low torque during low speeds and was therefore deemed unsuitable for practical use. By combining this engine with motor-assist, only possible with a hybrid vehicle and the newest technologies, this formally shelved technology has been allowed to return to life. The Atkinson cycle engine has realized a compression ratio of 13.1, similar to that of ultimate high output and efficiency pursuing Formula One car engines.
1. HYBRID PERFORMANCE

**Engine**

*< Friction Reduction >*

![Electric-driven Water Pump](image)

Beltless Configuration

The use of a drive belt was discontinued to reduce mechanical loss, and the water pump was converted to an electric system. As a result, the coolant flow rate can be controlled with greater precision based on vehicle conditions, and this in turn contributes to better fuel efficiency.

*< Expansion of the High Heat Efficiency Zone >*

![Graph](image)

**Cool-EGR System**

Adoption of a Cool-EGR System reduced cooling loss and pumping loss. With lower exhaust heat, heat efficiency was enhanced, and consequently, fuel efficiency was enhanced as well.

*< Quicker Warm-up Resulting in Earlier Engine Stop >*

**Exhaust Heat Recirculation System**

By reusing heat that until now was merely discarded, the engine warm-up time has been reduced.
Transaxle

< Friction Reduction >
Friction has been significantly reduced by thoroughly refining the components that make up the transaxle. For instance, bearings used in the unit have been changed from tapered bearings to ball bearings.

<table>
<thead>
<tr>
<th>Compared to Current Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive Shaft Energy Loss: 10-20 % reduction</td>
</tr>
</tbody>
</table>

< Size and Weight Reduction >
A multi-function gear integrating 4 types of gears was adopted to achieve a significantly more compact and lightweight design.

<table>
<thead>
<tr>
<th>Compared to Current Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transaxle Length: 12.5mm smaller</td>
</tr>
<tr>
<td>Transaxle Weight: 20kg lighter</td>
</tr>
</tbody>
</table>

A reduction mechanism, found in other hybrid vehicles, was adopted for the motor to realize further size and weight reduction of the overall transaxle.
1. HYBRID PERFORMANCE

Motor

< New Voltage Conversion Algorithm >

The electric power from the hybrid battery can be amplified to a maximum of 650V in the New PRIUS. However, under ordinary driving conditions, unless maximum output is demanded, driving the motor at an unamplified voltage as much as possible helps enhance fuel efficiency. To realize both higher efficiency and higher response, a new voltage conversion algorithm was developed for the New PRIUS. With this, a high efficiency range, in which the battery voltage is unamplified, has been expanded, and on the contrary, the maximum voltage range has been reduced.

< Size and Weight Reduction >

By fully taking advantage of the Strong Hybrid system’s characteristic of allowing the two power sources to operate at different speeds, the motor rotational speed was significantly increased. With the motor operating at incredibly higher speeds, ample output was secured, and this in turn enabled the use of a smaller and more lightweight design contributing to enhanced fuel efficiency.

Compared to Current Model

Total Weight (Motor+Generator): Approx. 33% lighter
Max. Motor Output: 50 kW ➞ 60 kW

Generator (MG1)

Current

New

More compact, more lightweight design achieved through centralized winding of the coils

Motor (MG2)

Current

New

Higher rotational speed was achieved, improving power performance
Power Control Unit

< Higher Response >

The switching speed of the IGBT* chips was enhanced by developing a new element with higher response to the flow of electricity. With this, electrical loss generated during switching has been reduced, contributing to higher efficiency of the unit, and thus to higher overall fuel efficiency.

< Size and Weight Reduction >

The New PRIUS adopted a structure that directly cools the IGBT as opposed to the current model’s indirect method. This structure resulted in significant size and weight reduction and more efficient power supply, thus contributing to the enhancement of overall power output and fuel efficiency. The new power control unit is now similar in size to a 12-volt battery.

Compared to Current Model

- Mass: 37% smaller
- Weight: 36% lighter
- Output: 500V → 650V

*Insulated Gate Bipolar Transistor

Power Control Unit

New (Direct Cooling Structure)
< Higher Efficiency Achieved by New Cooling Device >

When the battery generates heat through the exchange of electricity, its input-output performance drops. Therefore, the cooling performance of the battery was enhanced by accelerating the fan speed and increasing the cooling air volume. Through these measures, input-output performance was maintained at a high level, and energy recovery efficiency was enhanced. This contributed to enhancing overall fuel efficiency.

< Size and Weight Reduction >

The battery module and main relay were optimally positioned, and the number of fastener components was significantly decreased to thoroughly eliminate any dead space in the battery pack. The compact battery contributes to expanding luggage space, and thus to enhancing cabin comfort.
Aerodynamics

Of the many measures incorporated to improve the fuel efficiency of the new PRIUS, aerodynamics was one of the main points of focus.

To achieve this value, the body shape was meticulously examined in every detail using CFD* simulations and full scale wind tunnel tests. The body was fine tuned to suppress air flow interference and turbulence. The resulting shape led to best-in-class aerodynamic performance, and thus to improved fuel efficiency.

* Computational Fluid Dynamics

**Compared to Current Model**

| Cd (Drag Coefficient): | 0.26 | 0.25 |

**Beauty Concealed in the Embodiment of Function**

The development team wanted to achieve the industry's best Cd value of 0.25 and to fuse design and function based on the "triangular mono form" that has become the PRIUS icon. From the viewpoint of design, the goal was to differentiate the new PRIUS from the current model by moving the position of the roof apex further to the rear and adopting a dynamic design with a vibrant image. However, from the aspect of aerodynamics, if the roof apex is moved too far to the rear, the targeted Cd cannot be achieved, so the team faced the challenge of overcoming two contradicting design issues.

The proposal that was made to conquer this challenge was the adoption of a "large rear spoiler". The spoiler was developed based on data gathered through cutting-edge analysis and tests on a full-size clay model. The resulting shape helped to rectify the flow of air from the front to the rear without disturbing it, and as a result, a phenomenal Cd value was achieved.

In the end, functional beauty suited for the top runner of mass production hybrid vehicles was accomplished without making any compromises in design or performance.
Air Management Techniques

Gentle surface continuance between the window and the front pillar suppresses air separation. The distinct bumper corner edges were created with optimal side surface angles and treatment of the periphery of the lamps to realize both beauty and aerodynamic function.

The characteristic triangular mono form was inherited and every detail was carefully reviewed to further improve aerodynamic performance. The rocker molding overhang was designed to rectify the flow of air along the sides.

The sharp edge of the rear bumper was designed to act in harmony with the front. The distinct shape prevents air from wrapping around from the sides or from underneath the vehicle.

Uncompromising efforts were made even in areas that are not visible. The surface area of the under covers was significantly expanded, including a full engine under cover.

Particular attention was paid to the rear floor cover. The diffusing angle was optimized to smoothly discharge air flow. Vertical fins were adopted to reduce lateral turbulence and ensure driving stability.

Wind Tunnel Test
Air Management Techniques

Fender Liner

From the enormous amount of data collected through wind tunnel tests, it was discovered that the rotating tires created an outward air flow that interfered with the air current flowing from the front. In order to eliminate this phenomenon, the fender liner shape was devised so that turbulence created inside the wheelhouse would not interfere with the flow of air from the body side.

Wheels

Wheels were designed to provide both an aerodynamic effect as well as a brake cooling effect. The outer perimeter of the wheel was flattened, and the opening size and shape were optimized for maximum effect.

15"

Wheel caps with a flat outer perimeter design are installed on the 15-inch aluminum wheels.

17"

17-inch aluminum wheel design already incorporates a flat outer perimeter.
LED Headlamps

< Electricity Consumption Reduction >

Low electricity-consuming LEDs were adopted for the headlamps. Coupled with refinements in other electronic equipment, total electricity consumption by the vehicle has been reduced by approximately 20 to 30%, contributing to overall fuel efficiency.

Stories Behind Development

LED Headlamps as a Symbol of a Spirit of Innovation

In order to stably maximize LED performance, heat generation must be suppressed and heat sinks must be used for cooling. However, the space that was available to house those heat sinks was so tight in both the vertical and front to back directions that initially the engineers thought it would be “impossible”. Nonetheless, in order to house the heat sinks in this limited space, the team focused on a compact design and on ensuring cooling efficiency by integrating the heat sinks to cool multiple LEDs as a group. Efforts were also made to improve the brightness of the LED lamps themselves and to achieve illumination performance comparable to HIDs with just 3 lamps rather than using numerous lamps like other cars. These efforts contributed to the function of the headlamps and to space savings and also further emphasized the spirit of innovation of the PRIUS.

The PRIUS, which is a symbol of innovation, rightly adopts these Toyota brand-first LED headlamps.

LS600h

Conventional heat sinks

New PRIUS

Integrated heat sink
LED Rear Combination Lamps

< Electricity Consumption Reduction >
LEDs were adopted for both the tail and stop lamps, contributing to a further reduction in overall electricity consumption, thus enhancing fuel efficiency.

| Compared to Current Model | Electricity Consumption: | 10W ➔ 1W |

Current Civic

LEDs for stop lamps only

New

LEDs are adopted for both the tail and stop lamps

ECS* Evaporator

< Air Conditioner Power Consumption Reduction >
Air conditioning systems require large amounts of power when compressing refrigerant. The ECS* Evaporator system adopted on the new PRIUS consumes less power by significantly enhancing cooling efficiency. Furthermore, overall fuel efficiency has been enhanced by minimizing the operation of the compressor itself.

| Compared to Current Model | Energy Consumption: | Approx. 18% lower |

ECS Evaporator

Newly Adopted a 2-stage Evaporator
(Current model: 1-stage)
Enhanced Cooler Efficiency
Lightweight Low Noise and Vibration Body

Optimum amounts of sound insulation and sound absorption materials were positioned in locations where they will function the most efficiently. This contributed to not only a quiet environment but also to the realization of a lightweight design.

Sound Insulation and Sound Absorption Materials
Aluminum material was adopted in areas such as the engine hood and back door to reduce weight and significantly improve dynamic performance. High tensile steel sheet metal was adopted in areas that support heavy loads such as the center pillar and roof reinforcements.

Aluminum was adopted in areas where weight reductions were expected to improve kinetic performance, including the front bumper reinforcement and suspension knuckles. High tensile steel sheet metal was adopted in places that must support heavy loads such as the inner rocker panel.
Unlike the ordinary approach of concentrating on improving Mode fuel economy (officially disclosed fuel economy figures), the new PRIUS was developed with the primary consideration of improving Practical fuel economy (actual fuel economy under daily usage conditions).

In order to achieve this, development of the new PRIUS moved forward with enhancements on both the hybrid system side and the vehicle side.

By incorporating measures throughout the vehicle, practical fuel economy of the new PRIUS was improved to a level that can not be surpassed.

With improvements to practical fuel economy, Mode fuel economy, the standard for comparison with other vehicles, was inevitably improved to a level that dominates the competition in any nation’s standards.
The Eco Drive Monitor is a useful tool to teach drivers how to enjoy more fuel efficient driving. During normal driving, drivers tend to press excessively on the accelerator pedal without really noticing. With four displays provided for different purposes, drivers can visually confirm and understand the eco-friendly and fuel efficient driving ranges, and instinctively exploit the electric motor-only driving range, which is the strongest advantage of the Toyota Hybrid System. Also, by continuously utilizing the information provided, drivers can enjoy practicing driving techniques that contribute to better fuel efficiency.
Hybrid System Indicator

The Hybrid System Indicator acts as visual guidance for the driver’s accelerator pedal operations. The indicator consists of four areas, and the hybrid system’s energy consumption status is displayed by a bar that extends from the left. By controlling the accelerator pedal and maintaining the bar within the Hybrid ECO area or the ECO area, drivers can expect enhancements to practical fuel economy while enjoying ECO-driving.

1. **ECO drive indicator**
   Indicator is illuminated when the driver maintains the bar below the Power area, indicating that they are driving efficiently.

2. **Charge Area**
   Indicates that energy is being recovered by regenerative braking.

3. **ECO area**
   Indicates that energy consumption is low. When accelerating, controlling the accelerator and keeping the bar within this area help increase fuel efficiency.

4. **Hybrid ECO area**
   Indicates that energy consumption is extremely low, because the engine is frequently stopped in this area. By utilizing this area effectively when driving at steady speeds, great practical fuel economy enhancements can be expected.

5. **Power area**
   Indicates that energy consumption is high, and the hybrid system is under high load. ECO drive indicator turns off when the bar reaches this area.

Stories Behind Development

**User-friendly System for More Eco-friendly Driving Habits**

The Hybrid System Indicator provides information to guide the eco-conscious driver’s accelerator pedal operations. However, driving habits and traffic conditions vary by country and region, and the standards for providing this guide vary as well. For example, in Europe, ownership rate of diesel cars with ample low end torque is high, and drivers tend to accelerate harder from a complete stop compared to other regions.

To provide the optimum guidance matching the diverse driving conditions, conformance tests were conducted in each region with local drivers. The results of these tests were reflected in fine tuning the system logic for each region. By undertaking these types of elaborate development measures, realistic guidance that was not too hard to abide by, yet proved greatly effective in enhancing fuel efficiency, was realized.
Drive Mode Switch (ECO Mode)

The ECO Drive Mode is the answer for those who want to pursue economical driving.

When this mode is selected, the following controls are implemented to reduce excessive energy consumption:
- Lowers power output in response to accelerator pedal operation to enhance fuel economy
- Suppresses air conditioner performance to enhance fuel economy
Fuel Consumption Test – City Drive Simulation

Purpose of Test
To confirm the effectiveness of the ECO Mode and the Hybrid System Indicator, and determine how different driving styles affect actual fuel economy.

Test Course
3 laps around a specially constructed course simulating a city drive situation.

Driving Style
3 driving styles shown below were tested. When utilizing the ECO Mode, accelerator operations were controlled within the respective Eco areas.

- **Style A**
  - Normal Driving
  - No special attention to the HYBRID SYSTEM INDICATOR

- **Style B**
  - Focused on staying within the ECO area

- **Style C**
  - Focused on staying within the Hybrid ECO area

Results
Utilization of the ECO Mode and the Hybrid System Indicator resulted in an improvement of approximately 10% in actual fuel economy.

Note:
- Internally tested by TMC-GMD
- Improvement range may vary depending on conditions and/or driving style
- Official TMC figures suggest approx. 10% improvement by using the ECO Mode
Emission Standards

The achievement of high level fuel efficiency and minimum CO₂ emissions logically led to controlling the emission of other harmful materials to a low level as well. The new PRIUS complies with the strictest emission standards of every region.

<table>
<thead>
<tr>
<th>Emission standards</th>
<th>New</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT-PZEV*/BIN3</td>
<td></td>
</tr>
<tr>
<td>Euro 5</td>
<td></td>
</tr>
</tbody>
</table>

*Advanced Technology Partial Zero Emissions Vehicle

Eco-friendly Materials

Ecological Plastic

In preliminary calculations using the LCA (Life Cycle Assessment) technique, the use of ecological plastic emits roughly 20% less CO₂ compared to the use of oil derived plastics.

Recyclable Materials

The concept of proactively utilizing recyclable materials was inherited by the new PRIUS. TSOP* plastic, which offers superior recyclability, was adopted in the interior parts, and the recycled soundproofing material RSSP was also adopted.

*Toyota Super Olefin Polymer

Eco Factory Plan

Environmental performance was pursued at the plant that produces the new PRIUS as well. The Tsutsumi Plant was designated as a model plant for eco production, and a project is now underway to turn this plant into a sustainable plant that generates 50% of its power with solar panels and recycles water. Toyota is also in the process of expanding this activity to other plants throughout the world.
## Acceleration Performance Charts

### Standing Start Acceleration Test
0-100 km/h (Full Acceleration)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>New PRIUS</td>
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<tr>
<td>Current Model</td>
<td>10.80 sec</td>
<td></td>
</tr>
<tr>
<td>Civic Hybrid</td>
<td>12.30 sec</td>
<td></td>
</tr>
</tbody>
</table>

*Note: TMC Official figures for European Specifications*

### Passing Acceleration Test
50-80 km/h (Full Acceleration)

- 2 Passengers
- Air Conditioner: On/Recirculation/Fan Speed Low
- Average of 3 runs

<p>| | | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>New PRIUS</td>
<td>4.25 sec</td>
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<tr>
<td>Current Model</td>
<td>4.65 sec</td>
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<tr>
<td>Civic Hybrid</td>
<td>6.00 sec</td>
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</tr>
</tbody>
</table>

*Note: GMID Test results*

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## Passing Acceleration
40-70 km/h (50% Acceleration)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>New PRIUS</td>
<td></td>
<td>8.7 sec</td>
</tr>
<tr>
<td>New PRIUS (Power Mode)</td>
<td></td>
<td>5.1 sec</td>
</tr>
<tr>
<td>CAMRY 2.4L</td>
<td></td>
<td>5.0 sec</td>
</tr>
</tbody>
</table>

*Note: GMID Test results*

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### Compared to Current Model

- **PCU Max. Voltage Conversion:**
  - Current Model: 500V ➔ 650V
  - New PRIUS: 50kW ➔ 60kW
Drive Mode Switch (Power Mode)

The Power Mode is characterized as the extreme opposite of the ECO Mode, and provides dramatically powerful driving performance with the seamlessness expected of a hybrid vehicle.

**Passing Acceleration Test**
50-80 km/h (50% Acceleration)

<table>
<thead>
<tr>
<th>Test Conditions</th>
<th>Time (sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Passengers, Air Conditioning, On/Recirculation, Fan Speed Low</td>
<td>Average of 3 runs</td>
</tr>
<tr>
<td><strong>New PRIUS (Power Mode)</strong></td>
<td>4.11</td>
</tr>
<tr>
<td><strong>New PRIUS</strong></td>
<td>5.81</td>
</tr>
</tbody>
</table>

Note: GMD Test results
Drive Mode Switch (EV Mode)

The EV Mode limits engine startup and can be used to drive a certain distance using only the motor. This mode enables the type of quiet driving expected from hybrid vehicles, and particularly from the PRIUS.

**EV Mode Driving Range**

at Full Battery Charge:

1 - 2 km

**Note:** Distance may vary depending on driving conditions

**Noise level at 50km/h**

By comparing the dB figures, 4dB may not seem to be a big difference. However, when converted to actual sound pressure, the new PRIUS is approx. 1.5 times quieter than the Corolla.

By comparing the dB figures, 4dB may not seem to be a big difference. However, when converted to actual sound pressure, the new PRIUS is approx. 1.5 times quieter than the Corolla.

Note: GMD Test results

**Cabin Noise Level Test**
**Overseas Evaluation Tests**

Reliability of the New PRIUS' hybrid system has been confirmed through actual driving tests conducted in demanding environments throughout the world.

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Location</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynamic Performance &amp; Ride Comfort Test</td>
<td>Germany (Aug. 2008)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Belgium (Aug. 2008)</td>
<td></td>
</tr>
<tr>
<td>Hybrid System Reliability Test in Extremely Cold Conditions</td>
<td>Canada (Feb. 2007)</td>
<td></td>
</tr>
<tr>
<td>Hybrid System Reliability Test in Extremely Hot Conditions</td>
<td>Mexico (Oct. 2006)</td>
<td></td>
</tr>
</tbody>
</table>
2. INNOVATIVE STYLING
Design Concept

The exterior design of the New PRIUS was guided by the design concept of creating an “ECO-ICON”. This concept was based on the Toyota design philosophy of “VIBRANT CLARITY”, and aims to evolve the beauty of the characteristic hybrid shape by capitalizing on the excitement of driving as well as by refining its aerodynamics.

In the realization of this concept, the triangular silhouette was inherited from the second generation, and Air Management* techniques were incorporated throughout the vehicle.

*Air Management: Approach to creating design expressions with foremost respect to aerodynamic performance.
Front View

The front shape plays an important role in defining the vehicle's overall aerodynamic characteristics. To achieve a design backed by function, the theme of “Under Priority” was adopted, and a design expression placing emphasis on the lower half was created.

The upper grille opening was minimized to help the air flow smoothly over the upper half of the body. In contrast, the lower area below the bumper was emphasized by adopting Aero Corners*, by incorporating pedestrian protection structures, and by enlarging the grille opening to reduce air flow resistance as well as for cooling efficiency.

* Aero Corners: Design expression incorporating aerodynamically effective treatments. Namely, clean-cut bumper edges accentuated by adopting flat wheel flare surfaces that rectify the air flow around the wheelhouse.

COMPARISON  Front Styling

New

Current

Civic

Features a plain overall structure that is epitomized by round bumper corners

Equipped with a front spoiler that visually highlights the vehicle’s aerodynamic performance

Stereoscopic bumper intake and vertical turn signal and fog lamp configuration create a unique front view expressing both aerodynamic performance and a sense of wideness
Side View

The triangular silhouette inherited from the second generation was skillfully evolved to enhance the sense of dynamism, and to achieve cabin comfort simultaneously. The apex of the roof was shifted rearward for more rear seat head clearance, and the front pillar was brought forward and slanted further to connect to the headlamps in one fluid motion, creating a distinctively advanced proportion.

The surface was carefully sculpted to portray a tight, crisp appearance while embodying a warm texture reminiscent of glazed ceramics. The beauty created by the contrasting elements of contoured surfaces and sharp edges can be found in the character lines, as well as in the front and rear Aero Corners.

**COMPARISON Side Styling**

**New**

Features a plain image with the integration of simple surface structures. The roof apex is positioned toward the front.

**Current**

The thick body and the side windows that extend to the front and rear project an image of speed and power.

**Civic**

Side character lines project a sense of dynamic forward momentum. Air Management is also incorporated in these lines, contributing to driving stability.
Rear View

The rear maintains the basic vertical rear combination lamp and back door window configuration of the current model as a PRIUS icon. However, details have been refined to achieve both aerodynamic performance and interior comfort.

Aero Corners, tailored to the image of the front, are incorporated at each ends of the bumper to enhance aerodynamic performance, and to give the rear view a clean-cut, advanced image.

**COMPARISON  Rear Styling**

- **New**: The wider tread increases the sense of stability
- **Current**: Features a form that perfectly balances aerodynamic performance and riding comfort
- **Civic**: Projects a sporty look with its thick rear bumper
The LED headlamps, which project an advanced image, feature a double projector and diffusion lights. This design creates a new expression that differs from that of the conventional HID headlamps.

The adoption of multiple projectors optimized for LED lights creates an unconventionally advanced image. High grade models are equipped with LED headlamps.

Features a simple vertically split structure. High grade models are equipped with HID headlamps.

Features an irregularly shaped design with sharp inner and outer edges. High grade models are equipped with HID headlamps.
Rear Combination Lamps

The rear combination lamps feature a characteristic design with transparent outer lenses that reveal the internal structure. By adopting LED lights in the stop lamp and tail lamp, electricity consumption was significantly reduced, and this in turn contributed significantly to improving fuel efficiency.

**COMPARISON  Lights-off**

New

Current

Civic

**COMPARISON  Lights-on**

New

Current

Civic

Positioned the LED lights so that they are not visible from the outside and created different visual qualities when the lights are on and off.

Only the stop lamp features LED lights. The tail lamp uses a bulb.

Offers LED high mount stop lamp as hybrid vehicle exclusive equipment.
Wheels

Wheels were designed to ensure aerodynamic performance and brake cooling. Both 15-inch and 17-inch aluminum wheels feature dynamic designs that project the image of agile driving performance.

15-inch aluminum wheel features a wheel cap designed to have an air rectification effect. Areas with minimal impact on strength were drastically cut to pursue a more lightweight design.

17-inch aluminum wheel emphasizes an advanced image, and cleverly incorporates a flat section in its design for rectification.

Hybrid Identity

The "Hybrid Synergy Drive" badge and the “Hybrid Synergy Blue” color symbolize Toyota’s pursuit of the world's highest environmental performance as well as a dramatic leap forward in driving exhilaration.

The identity of the vehicle as a hybrid is casually projected by incorporating the blue color as accents throughout the vehicle.

Just the right touches of blue accents are used in the front Toyota emblem and headlamps.
Design Concept

The concept for the interior was the realization of an atmosphere befitting the New PRIUS as the “ECO-ICON”. Based on the Toyota design philosophy of “VIBRANT CLARITY”, advanced features were concepts skillfully arranged to create a warm atmosphere that gently embodies the occupants. An advanced image, a feeling of warmth, and high usability of functions were skillfully balanced by positioning the elements to center around the occupants, and by blending natural motifs and organic motions into the design.

Also, as a novelty of hybrid design, leaf vein patterns were utilized in the upper instrument panel surface grain, as well as in the seat upholstery.

COMPARISON  Interior

**New**

Soft lines and the contrast of symmetric and asymmetric accents were skillfully used to create an advanced yet gentle image

**Current**

The display system and operating systems are organized in a simple, symmetric design

**Civic**

The display system and operating systems are arranged in multiple layers to emphasize an advanced image
Design Concept

The cockpit was distinctively separated into two zones to match the human perception. The Display zone provides information at an optimal distance for the driver’s sight, and the Command zone conveniently clusters the controls within easy reach.

These functionally distinct zones were harmoniously coordinated with gentle curves and asymmetric positioning to suit the driver’s senses.

The center meter is housed in the gentle organic motion of the upper instrument panel. Switches and touch panel are arranged in a ripple formation centering around the selector lever for easy identification and operability.

**COMPARISON: Display Zone**

- **Current**: The center meter is embedded in the top of the linear based instrument panel.
- **Civic**: A digital speedometer is located in the top tier, and the bottom tier displays the motor assist and battery charge status.

**COMPARISON: Command Zone**

- **Current**: The shift lever is positioned so that it is hidden behind the steering wheel.
- **Civic**: The layout of the operating system is centrally located around the steering wheel.
Display Zone

The combination meter display is divided into three sections: the driver information area, the multi-display area, and the warning / indicator area. The driver information area displays information that the driver always needs, such as the vehicle speed and fuel gauge. Also, the switch layout instantaneously appears when the driver operates the steering wheel switches.

Multi-display area utilizes a 5-inch monitor to mainly display information to support ecological driving, such as the Energy monitor and Hybrid system indicator.
Command Zone

The Command zone features a unique and exciting center cluster design based on the Vibrant Clarity theme. The most symbolic element of this design is the bridge shaped center cluster. By incorporating by-wire technology that doesn’t require mechanical connections, a design that intuitively anticipates occupant needs was realized. The bridge shape allowed the cup holder to be positioned within easy reach, and created a place for storage beneath the cluster. The design also allowed the selector lever to be positioned closer to the driver, and control related switches, such as the audio/navigation controls and push type air conditioner switches, were ergonomically clustered to offer the ultimate level of operation ease.
Steering Wheel

The steering wheel incorporates a unique design with the lower perimeter of the wheel cut off and raised by 10mm. This design ensures ease of operation, and good visibility of the meters, while providing sufficient knee space. The center pad features sleek silver ornament plates that are pleasantly in harmony with the door trim and shift lever, and houses the state-of-the-art steering switches.

COMPARISON

<table>
<thead>
<tr>
<th>New</th>
<th>Current</th>
<th>Civic</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-shape grip with a flat bottom, and ornaments with sleek, eye-catching lines</td>
<td>Elliptical shape with a center pad designed independent of the grip area</td>
<td>3-spoke, small radius steering wheel that is somewhat elliptical in shape</td>
</tr>
</tbody>
</table>

Stories Behind Development

**Individuality is Necessary in the Steering Wheel**

The goal was to create a steering wheel with a bright, sporty design not found in other Toyota models. A novel design that projects a sporty image with silver accent panels that bite into the grip was one element in particular that the team wanted to embody in the new PRIUS. To achieve this fresh, new design, the team pursued both visual features and a sporty feel when steering. To naturally blend the upper design with the cut section of the lower perimeter, gentle lines were created with multiple continuous curvatures.

Safety performance in a collision was also considered in the design, and the resulting steering wheel with its advanced design reflects the careful attentiveness that was given to every detail.
2. INNOVATIVE STYLING

**Door Trim**

The door trim is an area of the car that passengers always touch and see when getting in and out, so the door trim was positioned as an important design item. The design incorporates the unified sleek lines utilized throughout the new PRIUS, and functions to project gentleness and a spirit of innovation.

**COMPARISON  Door Trim**

**New**

Exquisite design in which gentleness and a spirit of innovation coexist

**Current**

A simple design based on a straight line motif and strongly expresses an advanced image

**Selector Lever**

The selector lever was newly positioned in the center cluster and features a more colorful design. Sleek lines that are in harmony with the steering wheel and door trim were incorporated to create a more emotionally inspiring mood. Hybrid Synergy Blue accents the top indicator area, inspiring pride in drivers for being owners of hybrid vehicles.

**COMPARISON  Selector and Shift Lever**

**New**

Features an eye-catching contrast between the transparent blue and silver

**Current**

Organized with a simple shape and a monotone color scheme

**Civic**

An orthodox design with a straight shaped shift lever positioned on the floor
Color Variations

All colors adopted express a forward thinking, futuristic image with a sense of quality and refinement that is in line with the ECO-ICON theme.

A rich lineup of 8 exterior colors was developed to meet a broad range of needs. This lineup includes 1 newly developed color (8V1 ABYSS GRAY ME.), 2 newly adopted colors (4T8 BEIGE ME. and 8T5 DK. BLUE MC.) and 5 basic colors. The newly developed ABYSS GRAY ME. emphasizes a pottery-like surface texture that exudes a feeling of human warmth.

An interior color that matches the intelligent, clean-cut image of hybrid vehicles was newly developed (143B/617B AQUA). A new world view was created by devising this new color scheme, which is typified by the boldly cut center cluster area.

*040 SUPER WHITE II is available only in Europe and Australia.*
3. CUTTING-EDGE EQUIPMENT

ADVANCED FEATURES
Solar Ventilation System

System Summary
Solar Ventilation System further accentuates the hybrid vehicle’s concept of effectively utilizing limited resources, and efficiently utilizes solar energy. The solar panel on the roof generates power to drive the ventilation system and suppresses cabin temperature increases, thus alleviating the discomfort that is felt when climbing into a car that has been parked in the scorching sun.

Note: Even if the car is parked under clear skies, the system may not operate if the amount of insolation is low. System may not operate fully if a portion of the solar panel is covered by shadows, leaves, dirt, etc.

Operation
The system can be activated by turning on the ventilation switch. One minute after the ignition is turned OFF, the air intake mode switches to Outside Air Ventilation, and the blower mode switches to the FACE Mode, in order to first increase the ventilation efficiency. The system waits for ten minutes so that the air that was cooled while the vehicle was in operation is not discharged immediately after the car is parked. Then, the system starts and continues its operation until either the ignition is turned ON, or the ventilation switch is turned off.

Stories Behind Development

No Compromising Beauty with the Advanced Equipment
During the initial development stage, the difference in densities of the silicon crystals caused a variation in the coloration of the solar cells and impacted the uniformity of the coloration of the roof.

To eliminate this variation, color chart sorting was implemented by skilled craftsmen with a solid sense for coloration. The skills of these master craftsmen were used to separate each individual cell by color and then group cells of a similar color together to form the panel. This improved the sense of quality of the product and also led to the completion of one-of-a-kind solar roof panels.

Solar Ventilation Switch
Remote Air Conditioning System

System Summary
The Remote Air Conditioning System, which was adopted as a world first in the new PRIUS, exhibits a major synergistic effect with the Solar Ventilation System. The new PRIUS is equipped with a large capacity hybrid battery, so it can reasonably operate the air conditioner while the car is parked and the engine is stopped. This system can not be realized in ordinary cars equipped with only a 12V battery.

Operation
The system can be started by pressing (for 1 second) the A/C button on the wireless remote key. The system receives the signal and starts the air conditioner if all of the operation requirements are in order.

Press the A/C switch before getting in
Compressor motor is started using the hybrid battery power supply to reduce heat in the cabin

Note: Maximum operation duration of this system is three minutes. System may not operate if the hybrid battery is under load and/or if the battery charge is low.

Stories Behind Development

Hospitality that Overturns Basic Assumptions
The interior of a car parked under the scorching sun can reach temperatures that exceed 80 degrees Celsius, and until now the basic assumption was that this uncomfortably hot interior had to be endured until the air conditioning kicked in. The technology that overturns this basic assumption is the Remote Air Conditioning System, which has a large synergistic effect with the Solar Ventilation System.

The development team came up with the idea of using the large capacity Hybrid Battery as a weapon to fight that interior heat, instead of using it to merely drive the car. This idea of providing as much comfort as possible every time passengers climbed into the car, is a true expression of providing hospitality through Japanese originality.

Needless to say, this system was only possible in a hybrid car equipped with a large capacity Hybrid Battery.
The new PRIUS has taken the steering switch function to an entirely new level. While ordinary steering switches allow the driver to operate various functions while gripping the steering wheel, this new system utilizes touch sensitive switches and instantly displays the switches touched in the combination meter. The driver can now operate the vehicle systems more comfortably with their hands on the steering wheel and without having to look away.

In addition to enhanced touch-based operation ease, the movement of the display in the meter cluster projects a very futuristic image.

**Operation**
The switch layout immediately appears on the meter screen when the switches are touched, and the amber highlight moves in conjunction with the movement of the driver's finger. When the desired function is highlighted, all the driver has to do is press down firmly on the switch to select that function.
Intelligent Parking Assist / Advanced Parking Guidance System

System Summary
Intelligent Parking Assist assists drivers with steering operations into a targeted spot when parallel parking or when backing in. The driver merely has to check the surroundings for safety and control the speed with the brakes. This advanced technology was adopted in the current model as a world first and has also been adopted in the new PRIUS with dramatically enhanced functions. The new system is much easier to use and significantly reduces the amount of time and labor involved in operations.

New Functions

**Parking Space Detection**
- Ultrasonic sensors in the front bumper can be activated by pressing a switch located beneath the POWER switch. The sensors detect target parking spots while the vehicle passes by the parking space.

**Start Position Guidance**
- System notifies the driver when to stop or turn the steering wheel by voice navigation, monitor display, and sound signals.
Dynamic Radar Cruise Control / Adaptive Cruise Control

System Summary
The Dynamic Radar Cruise Control system alleviates driver burden when traveling at a constant speed on a highway. When the vehicle is traveling within the preset speed range, the system automatically adjusts the distance to the vehicle ahead, and thereby frees the driver from having to focus on cumbersome acceleration and deceleration operations.

Operation
The distance between vehicles can be switched to three different levels (Long, Medium, and Short) by using the distance interval selection switch on the steering wheel.

Vehicle-to-vehicle Distance Control

When a vehicle moving at a slower speed is detected in the lane ahead, deceleration control reduces vehicle speed by reducing engine power and, if necessary, by operating the brakes. If sufficient deceleration is not achieved, an alarm is sounded to alert the driver. On the other hand, if the preceding vehicle speeds up, the system will maintain the preset distance between vehicles and follow the vehicle ahead.

Acceleration Control

If the system detects that the vehicle traveling in the same lane has changed lanes or if it detects that you have changed lanes, it will accelerate the vehicle to the preset speed and return to a steady speed.
ADVANCED FEATURES
Head Up Display

System Summary
In addition to the innovative center combination meters, the new PRIUS adopts a Head Up Display (HUD) to provide even more superior visibility. With this display, the driver can look at various types of information with only a minimal shift in their line of sight.

Operation
The HUD is operated using a switch located at the side of the center cluster. Display location can be adjusted up or down to match the driver’s seat position using the display location setting switch. The brightness of the display is automatically adjusted according to the brightness of the surroundings, but can also be freely adjusted using the display brightness setting switch.

Displays
- Vehicle Speed
- Vehicle Speed & Hybrid System Indicator
- Navigation Display
Lane Keeping Assist

System Summary
This advanced technology is made up of two functions: Lane Departure Warning (LDW) and Lane Keeping Assist (LKA).

The LDW function alerts the driver when unintentional lane departure is detected. On the other hand, the LKA function is designed to relieve the driver’s steering load by generating steering torque and thereby assisting the driver in keeping within the lane. These functions not only alleviate the load on the driver while driving, but also support operations to ensure a safe drive.

Operation

Lane Departure Warning function

When the LKA switch on the steering wheel is turned ON, an on-board camera begins to confirm the vehicle lane. If a possibility of lane departure is detected, the system warns the driver using a buzzer and display. The system then provides inward steering torque and encourages the driver to take evasive action.

Lane Keeping Assist function

When the LKA switch on the steering wheel is turned ON, and vehicle speed conditions and lane recognition conditions are established with the Radar Cruise Control, the system assists the driver in tracing the center of the lane by continuously generating steering torque.

*Available on North American Models Only
**Inner Mirror Built-in Rear View Monitor**

*Available on North American models only*

**System Summary**

The Inner Mirror Built-in Rear View Monitor realizes the convenience of allowing the driver to check the conditions of the rear direction at one glance. The system displays the rear view monitor camera view on a liquid crystal display built in to the rear view mirror.

Until now, rear view monitors have typically come as a set with navigation systems, but with this system, video images of the rear view can be confirmed even in vehicles that are not equipped with navigation systems.

**Operation**

When reverse gear is selected, the left side of the rear view mirror immediately displays the rear view monitor camera images. Then, when the shift lever is moved to a position other than reverse, the camera images automatically disappear.
4. BASIC VEHICLE PERFORMANCE ENHANCEMENT

PACKAGING
DYNAMIC PERFORMANCE
SAFETY
COMFORT
Exterior Packaging Concept

The key development phrase for packaging was "Outside Optimum, Inside Maximum". In other words, achieving harmony between two obviously conflicting requirements of minimizing the size increase of the exterior while expanding the interior space to the maximum limit. With this key phrase in mind, the design team was able to achieve a dramatically more spacious interior than the current model with ample luggage space, while still keeping the overall length increase to only 15mm, and the overall width increase to only 20mm. The new exterior packaging also complies with the collision safety standards that are becoming stricter year after year.

Major Dimensions

<table>
<thead>
<tr>
<th>Dimension</th>
<th>New PRIUS</th>
<th>Current Model</th>
<th>Civic Hybrid</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-1 Overall length</td>
<td>4460</td>
<td>4445</td>
<td>4535</td>
</tr>
<tr>
<td>E-2 Wheelbase</td>
<td>2700</td>
<td>2700</td>
<td>2700</td>
</tr>
<tr>
<td>E-3 Front overhang</td>
<td>905</td>
<td>890</td>
<td>-</td>
</tr>
<tr>
<td>E-4 Rear overhang</td>
<td>855</td>
<td>855</td>
<td>-</td>
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<tr>
<td>E-5 Overall height</td>
<td>1490/1505</td>
<td>1490</td>
<td>1435</td>
</tr>
<tr>
<td>E-6 Overall width</td>
<td>1745</td>
<td>1725</td>
<td>1750</td>
</tr>
<tr>
<td>E-7 Front wheel tread (15”/17”)</td>
<td>1525/1515</td>
<td>1505</td>
<td>1500</td>
</tr>
<tr>
<td>E-8 Rear wheel tread (15”/17”)</td>
<td>1520/1510</td>
<td>1480</td>
<td>1530</td>
</tr>
</tbody>
</table>

*1: With solar roof  *2: With rough road package
Interior Packaging Concept

In the development of the interior packaging, emphasis was focused on expanding the rear seat head clearance and knee space. The head clearance was expanded by moving the apex of the triangle mono form roof to the rear, and the knee space was expanded by adopting a slim seat design.

### Major Dimensions

<table>
<thead>
<tr>
<th></th>
<th>New PRIUS</th>
<th>Current Model</th>
<th>Civic Hybrid</th>
</tr>
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<td>I-1</td>
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<td>I-2</td>
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<td>I-3</td>
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<tr>
<td></td>
<td>Rear seat leg clearance</td>
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<tr>
<td></td>
<td>Rear seat head clearance</td>
<td>150</td>
<td>135</td>
</tr>
</tbody>
</table>
Interior Packaging Concept

Rear Knee Space and Rear Head Clearance
The seating space and luggage space were expanded while also maintaining a compact exterior size that ensures easy handling. Rear passenger space was thoroughly expanded by adopting a slim front seat design, by altering the shape of the roof, and by effectively utilizing the vehicle width expansion.

Stories Behind Development

The Key to Rear Passenger Comfort was the Next Generation Front Seats
The key to passengers seated in the rear seat feeling a sense of spaciousness is sufficient knee space. To ensure ample knee space, the new PRIUS features a new seat frame that was researched and developed as a next generation seat frame. The issue in the development of the new frame was the shape of the springs. With typical S-springs, the deflection that occurs when sitting causes the seatback to project significantly in the direction of the rear seat. To overcome this, vertical wires that minimize the sinking in of the seat were newly developed and adopted to achieve a slim design for the seat frame. As a result, rear passenger knee space was expanded by 35mm, even though the front-to-rear couple distance was shortened by 15mm.

Also, based on the enhanced vehicle performance with improved dynamic performance, the new seats were also designed to provide firm holding support during driving.

COMPARISON

New

Current

Civic

New

Current

Civic

The benefit derived from adopting the slim seat design is visually apparent

Ensures sufficient amount of knee space

Considerations made for the shape of the seatback are visible, but the knee space is somewhat cramped

Comfortable, open atmosphere is created with ample head clearance

Has a sufficient and necessary amount of head clearance, but because of the roof pitch, it feels somewhat cramped

The surface area of the windows is small, so the design projects a strong feeling of being enclosed
**Storage Space**

One major highlight of the available storage space is the tray located under the center cluster. A more compact configuration for the shift lever related mechanisms was achieved by adopting a shift-by-wire design, and as a result, it was possible to ensure large capacity storage space.

Storage space is located under the center cluster and can be used to store a bag or tissue box. Cup holders arranged in tandem are also positioned in an easy to reach location.

When the armrest is slid to the rear, the second cup holder appears.

When the armrest is pulled upward, a convenient, removable tray appropriate for storing mobile phones or portable music players appears.

Underneath the removable tray is a large capacity storage box that can hold up to ten CDs.
Luggage Space Capacity

The key to expanding the luggage capacity without making any major expansions to the dimensions of the vehicle itself was in the hybrid battery. By revamping the design of the battery cooling system housed under the luggage floor, a more compact design for the overall battery pack was achieved. The luggage space was expanded 80mm at the top of the suspension towers compared to the current model, and the luggage capacity was increased by 30 liters.

### COMPARISON

<table>
<thead>
<tr>
<th></th>
<th>New PRIUS</th>
<th>Current Model</th>
<th>Civic Hybrid</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-1</td>
<td>1830</td>
<td>1750</td>
<td>-</td>
</tr>
<tr>
<td>L-2</td>
<td>905</td>
<td>895</td>
<td>755</td>
</tr>
<tr>
<td>L-3</td>
<td>1555</td>
<td>1500</td>
<td>1375</td>
</tr>
<tr>
<td>L-4</td>
<td>970</td>
<td>950</td>
<td>1000</td>
</tr>
<tr>
<td>L-5</td>
<td>1220</td>
<td>1050</td>
<td>1000</td>
</tr>
</tbody>
</table>

*Measured at the top of suspension towers*
Luggage Space Capacity

**COMPARISON**

**New**
- Has enough room for three golf bags

**Current**
- Has enough room for two golf bags

**Civic**
- Has enough room for two golf bags, but it is difficult to get them in and out

**New**
- Can store two Medium sized suitcases side by side

**Current**
- Can store two Medium sized suitcases, but is somewhat cramped

**Civic**
- Can only accommodate one Medium sized suitcase
New MC Platform

On top of its superior fuel efficiency and environmental performance, impressive driving performance is another key quality of the new PRIUS. To achieve this impressive driving performance, a new MC platform that has already been highly reputed in other models was adopted.

The three key development phrases were "Straight-line Stability", "Flat Riding Comfort", and "Steering Feel". As a result, a comfortable ride around town and an agile and sporty feel on winding roads were achieved.

Suspension

Suspension geometry was optimized to best suit the new MC platform with ensured roll rigidity and torsional stiffness, and as a result, handling stability and riding comfort were achieved on a high dimension.
SRS Airbags

The new PRIUS features a total of seven airbags as standard equipment. Standard airbags include driver's seat and front passenger's seat airbags, curtain shield airbags, side airbags, and driver's knee airbag. With the adoption of the curtain shield airbags, a head impact absorption structure was also adopted in each pillar.

Active Headrest

Active Headrests were adopted to help reduce whiplash injuries. This system uses a mechanical structure to move the headrest diagonally forward so that the headrest can quickly catch the occupants' head as it begins to flip backward.

The new PRIUS features SRS Airbags, Active Headrest, and the VSC system as “3 Standard Items for Safety”.

Global standard equipment
**Impact Absorbing Body Structure**

Top level collision safety performance was pursued based on the concept of omnidirectional compatibility. When two vehicles of different heights and different weights are in a collision, this concept focuses on ensuring the safety of both vehicles.

**Side Impact**
Side impact support boxes positioned on top of the floor tunnel help maintain a survival space for the front and rear seat passengers.

**Rear End Collision**
High strength rear side member was adopted to reduce the amount of body deformation during a collision.

**Frontal Impact**
A structure was adopted that uses a front side member made of high tensile steel sheet metal to reliably react to collision energy and efficiently disperse the force.

**Pedestrian Protection Body Structure**

In addition to measures to help protect passengers, the new PRIUS was designed with structures to help reduce potential injury to pedestrians in the event of a collision with a pedestrian.

- Cowl area features an easily crushable structure to alleviate impact from above.
- Impact absorbing bracket was adopted on the fender to help reduce head injury.
- Engine hood structure was designed to maintain a certain stroke during a collision and to alleviate impact.
- Impact absorbing materials were installed on the front of the front bumper reinforcement and under the radiator to help avoid the pedestrian’s legs from sliding under the vehicle. A structure was also adopted to help minimize leg injury.
Pre-crash Safety System / Pre-collision System

System Summary
The Pre-crash Safety System utilizes pre-crash sensors consisting of millimeter wave radar and lane detection cameras to help protect the safety of the driver. If the system judges that there is a high possibility of a collision, it will first alert the driver, and then activate the brake system and seatbelts to help lessen collision damage.

When a collision is likely to occur, the system warns the driver with a buzzer and a meter display, and encourages the driver to take evasive action.

Pre-crash Brake Assist
Pre-crash Brake Assist function assists the driver by amplifying the braking force in an emergency situation.

Pre-crash Brake & Pre-crash Seatbelt
The function of this system is to help lessen the impact if a collision is determined to be unavoidable.

Pre-crash Brake Assist amplifies the braking force and helps reduce collision speed.

Brakes are automatically applied even if the driver does not press the brake pedal.

Seatbelts are simultaneously tightened to help increase passenger restraint performance.
Emergency Brake Signal

The Emergency Brake Signal is a system that automatically flashes the stop lamps during sudden braking to warn trailing vehicles of the emergency and thereby reduce the danger of a rear end collision. This system is activated when the driver presses on the brake pedal while traveling at speeds over 55km/h and the car decelerates at a rate of over 7m/s². In other words, the system is activated with sudden braking.

Tests conducted by a public organization showed that the reaction time of the driver in the trailing vehicle is 0.7 seconds faster when the stop lamps flash compared to non-flashing stop lamps. When this is applied to vehicles traveling at 60km/h, the faster reaction time would lead to a shorter braking distance of 11.7m, and thus significant effects can be expected with this system.

*Available on European and Australian models only

Source: 2002 JARI research
4. BASIC VEHICLE PERFORMANCE ENHANCEMENT

Electronically Controlled Brake System

System Integration

The system was reconstructed to achieve an 18% reduction in weight and a 31% reduction in size. The 18-29% reduction in electric power consumption also led to better fuel efficiency.

VSC (Vehicle Stability Control)

VSC is a system that automatically controls engine output and brakes on each wheel when the vehicle has a strong tendency to oversteer or understeer during a turn. Thus, this ensures vehicle stability by suppressing these tendencies.

Logic was constructed that satisfies the driver’s requirements while implementing coordinated control of the regenerative brakes and the hydraulic brakes. As a result, stable braking force and superior regenerative performance were achieved and advanced control performance was realized.
4. BASIC VEHICLE PERFORMANCE ENHANCEMENT

**Exhaust Heat Recirculation System**

**System Summary**

This system uses the heat from the engine’s exhaust gas to quickly warm the engine coolant. With this system, the engine coolant, which becomes a heat source for the heater, can be quickly heated, and superior heating performance is maintained.

Engine warm-up performance is also improved, and lubrication performance is maintained by quickly warming the engine. This in turn reduces mechanical loss and contributes to improved fuel efficiency.

---

**Smart Entry & Start System**

*System name may vary by regions*

The new PRIUS features the Smart Entry & Start System as standard equipment.

By simply carrying the key, doors can be unlocked by grasping the outside door handle, and doors can be locked by touching the newly adopted touch sensor. The ignition can be turned on by simply pressing the POWER switch.

- **Door unlock**
- **Door lock**
- **Touch sensor**
Audio System

Speakers positioned around the front seats of the new PRIUS were enlarged compared to the current model’s system in an aim to create the best acoustic space in its class.

6 x 9 inch woofers were adopted on the front doors for crisp bass sound, and 65 mm squawkers were adopted on the instrument panel for clear mid-range and high-range sounds. Both of these speakers have a large diameter that is rarely seen in this class.

In addition to the 6-speaker system that is available as standard equipment, an 8-speaker Super Live Sound System and a JBL Premium Live Sound System (North America only) are available.
### Audio System

<table>
<thead>
<tr>
<th></th>
<th>New</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Front door:</strong></td>
<td>6 x 9 inch</td>
<td>16cm</td>
</tr>
<tr>
<td><strong>Instrument panel:</strong></td>
<td>65mm</td>
<td>A-pillar: 25mm</td>
</tr>
</tbody>
</table>

#### JBL Premium Live Sound System
(For North American Models Only)

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Rear</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instrument Panel Squawker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front Door Woofer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rear Door Squawker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rear Door Woofer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaker Diameter</td>
<td>6.5cm</td>
<td>6.5cm</td>
</tr>
<tr>
<td>Voice Coil Impedance</td>
<td>2.0ohm</td>
<td>2.0ohm</td>
</tr>
<tr>
<td>Output Sound Pressure Level</td>
<td>83dB</td>
<td>83dB</td>
</tr>
<tr>
<td>Minimum Resonance Frequency</td>
<td>180Hz</td>
<td>180Hz</td>
</tr>
<tr>
<td>Rated Output</td>
<td>20W</td>
<td>20W</td>
</tr>
</tbody>
</table>

#### Super Live Sound System

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Rear</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instrument Panel Squawker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front Door Woofer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rear Door Full-range Speaker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rear Door Squawker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaker Diameter</td>
<td>6.5cm</td>
<td>6.5cm</td>
</tr>
<tr>
<td>Voice Coil Impedance</td>
<td>8.0ohm</td>
<td>8.0ohm</td>
</tr>
<tr>
<td>Output Sound Pressure Level</td>
<td>81.5dB</td>
<td>83dB</td>
</tr>
<tr>
<td>Minimum Resonance Frequency</td>
<td>310Hz</td>
<td>280Hz</td>
</tr>
<tr>
<td>Rated Output</td>
<td>10W</td>
<td>10W</td>
</tr>
</tbody>
</table>
## New Features and Functions

<table>
<thead>
<tr>
<th>Features</th>
<th>Classification</th>
<th>Details</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote Air Conditioning System</td>
<td>WORLD 1st</td>
<td>Air-conditioner can be started remotely by pressing the A/C button on the wireless remote key. Utilizes Hybrid battery power to operate the electric compressor.</td>
<td>Optional</td>
</tr>
<tr>
<td>Ecological Plastic</td>
<td>WORLD 1st</td>
<td>1. Injection molded bio-plastic&lt;br&gt;&lt;related parts;&gt;&lt;br&gt;Cowl side trim&lt;br&gt;Door scuff plate inside&lt;br&gt;Door scuff plate outside&lt;br&gt;Deck trim cover rear&lt;br&gt;Deck trim service hole cover&lt;br&gt;2. Urethane foam bio-plastic&lt;br&gt;&lt;related parts;&gt;&lt;br&gt;Driver’s side front seat cushion</td>
<td>Standard</td>
</tr>
<tr>
<td>Power Control Unit</td>
<td>WORLD 1st</td>
<td>Direct cooling structure adopted for the IGBT</td>
<td>Standard</td>
</tr>
<tr>
<td>Touch Tracer Display</td>
<td>WORLD 1st</td>
<td>Enhances operation ease of the steering switches by displaying switch layout image and operations in the meter panel. Utilizes touch pressure sensors integrated in the switches to detect operations.</td>
<td>Standard</td>
</tr>
<tr>
<td>Solar Ventilation System</td>
<td>TOYOTA 1st</td>
<td>Discharges hot cabin air using a fan powered by the solar panel</td>
<td>Optional</td>
</tr>
<tr>
<td>Eco Drive Monitor</td>
<td>TOYOTA 1st</td>
<td>Various information concerning fuel economy is accessible through the meter display to support the driver’s economical driving.</td>
<td>Standard</td>
</tr>
<tr>
<td>LED Headlamp</td>
<td>TOYOTA 1st</td>
<td>LED headlamps adopted for LO beam</td>
<td>Optional</td>
</tr>
<tr>
<td>Electric-driven Water Pump (Beltless)</td>
<td>TOYOTA 1st</td>
<td>Changed the conventional belt-driven water pump to an electric water pump. Enabled control of water flow, and enhanced fuel efficiency and heat management performance.</td>
<td>Standard</td>
</tr>
<tr>
<td>New Electronically Controlled Brake ECU</td>
<td>TOYOTA 1st</td>
<td>System module integrating the master cylinder, sensors, linear solenoids, and ECU in a single unit. Developed the smallest in class and less heat generating ECU to realize this integrated unit.</td>
<td>Standard</td>
</tr>
<tr>
<td>Head Up Display</td>
<td>CLASS 1st</td>
<td>Top of class display system in new Prius’ segment. Satellite display of the navigation guidance is enabled with the use of multiple-dot display.</td>
<td>Standard</td>
</tr>
</tbody>
</table>

Note: These claims are true at the time of USPG production (Feb. 2009), however we suggest checking once again before using these in external communications.
## Major Specifications

### [Dimensions & Vehicle Weight]

<table>
<thead>
<tr>
<th></th>
<th>New PRIUS</th>
<th>Current PRIUS</th>
<th>Civic Hybrid</th>
<th>New Insight</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Length (mm)</strong></td>
<td>1905</td>
<td>1890</td>
<td>1900</td>
<td>1935</td>
</tr>
<tr>
<td><strong>Width (mm)</strong></td>
<td>1470</td>
<td>1440</td>
<td>1470</td>
<td>1430</td>
</tr>
<tr>
<td><strong>Height (mm)</strong></td>
<td>1225</td>
<td>1225</td>
<td>1170</td>
<td>1150</td>
</tr>
<tr>
<td><strong>Curb Weight</strong></td>
<td>1370-1420</td>
<td>1300-1325</td>
<td>1260-1290</td>
<td>1190-1200</td>
</tr>
<tr>
<td><strong>Gross Vehicle Weight</strong></td>
<td>1805</td>
<td>1725</td>
<td>1270-1310</td>
<td>-</td>
</tr>
<tr>
<td><strong>Luggage Capacity</strong></td>
<td>445</td>
<td>415</td>
<td>350</td>
<td>400</td>
</tr>
<tr>
<td><strong>Seating Capacity</strong></td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td><strong>Fuel Tank Capacity</strong></td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>40</td>
</tr>
<tr>
<td><strong>Min. Turning Radius (Tire)</strong> (15&quot;/17&quot;)</td>
<td>5.2 / 5.5</td>
<td>5.4</td>
<td>5.0</td>
<td>5.0</td>
</tr>
</tbody>
</table>

*1: With rough road package

### [Chassis]

<table>
<thead>
<tr>
<th></th>
<th>New PRIUS</th>
<th>Current PRIUS</th>
<th>Civic Hybrid</th>
<th>New Insight</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transmission Type</strong></td>
<td>P410 (CVT)</td>
<td>P112 (CVT)</td>
<td>Honda Multimatic S</td>
<td>Honda Multimatic S</td>
</tr>
<tr>
<td><strong>Suspension Type</strong></td>
<td>McPherson strut</td>
<td>McPherson strut</td>
<td>McPherson strut</td>
<td>McPherson strut</td>
</tr>
<tr>
<td><strong>Brake Type</strong></td>
<td>Front 15&quot; Ventilated disc</td>
<td>14&quot; Ventilated disc</td>
<td>Ventilated disc</td>
<td>Ventilated disc</td>
</tr>
<tr>
<td><strong>Stabilizer Bar</strong></td>
<td>Front Standard</td>
<td>Standard</td>
<td>Standard</td>
<td>Standard</td>
</tr>
<tr>
<td><strong>Steering Gear Type</strong></td>
<td>Rack &amp; pinion</td>
<td>Rack &amp; pinion</td>
<td>Rack &amp; pinion</td>
<td>-</td>
</tr>
</tbody>
</table>

### [Performance]

<table>
<thead>
<tr>
<th></th>
<th>New PRIUS</th>
<th>Current PRIUS</th>
<th>Civic Hybrid</th>
<th>New Insight</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Max. Output</strong></td>
<td>100 (134)</td>
<td>81 (110)</td>
<td>81 (110)</td>
<td>72 (96)</td>
</tr>
<tr>
<td><strong>Fuel Consumption (EC mode)</strong></td>
<td>Urban L/100km 3.9 / 4.0</td>
<td>4.8</td>
<td>5.2</td>
<td>-</td>
</tr>
<tr>
<td><strong>Fuel Consumption (U.S. EPA Estimated)</strong></td>
<td>City mpg 51</td>
<td>48</td>
<td>40</td>
<td>-</td>
</tr>
</tbody>
</table>


Note: Figures shown here are true at the time of USPG production (Mar. 2009), but may differ from the final figures for production models. Figures for the New Insight are temporary information available from Honda sales manual for Japanese domestic market.
## Major Specifications

### [Engine]

<table>
<thead>
<tr>
<th></th>
<th>New PRIUS</th>
<th>Current PRIUS</th>
<th>Civic Hybrid</th>
<th>New Insight</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>European Specifications</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engine Type</td>
<td>2ZR-FXE</td>
<td>1NZ-FXE</td>
<td>LDA-MFS</td>
<td>-</td>
</tr>
<tr>
<td>Number of Cyls. &amp; Arrangement</td>
<td>4 cylinders, in-line</td>
<td>4 cylinders, in-line</td>
<td>4 cylinders, in-line</td>
<td>4 cylinders, in-line</td>
</tr>
<tr>
<td>Valve Mechanism</td>
<td>16-valve DOHC with VVT-i</td>
<td>16-valve DOHC with VVT-i</td>
<td>8-valve SOHC with i-VTEC</td>
<td>i-DSI with VCM</td>
</tr>
<tr>
<td>Bore x Stroke (mm)</td>
<td>80.5 x 88.3</td>
<td>75.0 x 84.7</td>
<td>87.0 x 80.0</td>
<td>-</td>
</tr>
<tr>
<td>Displacement (cm³)</td>
<td>1798</td>
<td>1496</td>
<td>1339</td>
<td>Approx. 1300</td>
</tr>
<tr>
<td>Compression Ratio</td>
<td>13.0 : 1</td>
<td>13.0 : 1</td>
<td>10.8 : 1</td>
<td>10.8 : 1</td>
</tr>
<tr>
<td>Fuel System</td>
<td>EFI</td>
<td>EFI</td>
<td>PGM-FI</td>
<td>-</td>
</tr>
<tr>
<td>Max. Output (SAE-NET) (kW (hp) / rpm)</td>
<td>73 (98) / 5200</td>
<td>56 (76) / 5000</td>
<td>65 / 5800</td>
<td>65 / 5800</td>
</tr>
<tr>
<td>Max. Torque (SAE-NET) (Nm (lb-ft) / rpm)</td>
<td>142 (105) / 4000</td>
<td>110 / 4000 (82 / 4200)</td>
<td>121 / 4500</td>
<td>121 / 4500</td>
</tr>
</tbody>
</table>

**Note:** Figures shown here are true at the time of USPG production (Mar. 2009), but may differ from the final figures for production models.

### [Motor/Generator]

<table>
<thead>
<tr>
<th></th>
<th>New PRIUS</th>
<th>Current PRIUS</th>
<th>Civic Hybrid</th>
<th>New Insight</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>European Specifications</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>Permanent magnet synchronous motor</td>
<td>Permanent magnet synchronous motor</td>
<td>Permanent magnet motor</td>
<td>Permanent magnet motor</td>
</tr>
<tr>
<td>Rated voltage (V)</td>
<td>650</td>
<td>500</td>
<td>158</td>
<td>100.8</td>
</tr>
<tr>
<td>Max. Output (kW (hp))</td>
<td>60 (80)</td>
<td>50 (67)</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>Max. Torque (Nm (lb-ft))</td>
<td>207 (152.7)</td>
<td>400 (295)</td>
<td>103</td>
<td>92</td>
</tr>
</tbody>
</table>

### [Battery]

<table>
<thead>
<tr>
<th></th>
<th>New PRIUS</th>
<th>Current PRIUS</th>
<th>Civic Hybrid</th>
<th>New Insight</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>European Specifications</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>Nickel-metal hydride</td>
<td>Nickel-metal hydride</td>
<td>Nickel-metal hydride</td>
<td>Nickel-metal hydride</td>
</tr>
<tr>
<td>Voltage (nominal) (V)</td>
<td>201.6</td>
<td>201.6</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Number of modules</td>
<td>28 modules 168 cells</td>
<td>28 modules 168 cells</td>
<td>11 modules</td>
<td>7 modules</td>
</tr>
<tr>
<td>Max. Output (kW (hp))</td>
<td>27 (36)</td>
<td>21 (28)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Note:** Figures shown here are true at the time of USPG production (Mar. 2009), but may differ from the final figures for production models.

**Figures for the New Insight are temporary information available from Honda sales manual for Japanese domestic market.**
# Measurement List

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Current</th>
<th>New</th>
<th>New</th>
<th>Current</th>
<th>New</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Front door opening height</td>
<td>1090 mm</td>
<td>990 mm</td>
<td>960 mm</td>
<td>Current</td>
<td>New</td>
</tr>
<tr>
<td>2</td>
<td>Front door opening width</td>
<td>800 mm</td>
<td>875 mm</td>
<td>895 mm</td>
<td>Current</td>
<td>New</td>
</tr>
<tr>
<td>3</td>
<td>Front door opening distance</td>
<td>70 mm</td>
<td>105 mm</td>
<td>109 mm</td>
<td>Current</td>
<td>New</td>
</tr>
<tr>
<td>4</td>
<td>Front door sill ground height</td>
<td>1100 mm</td>
<td>1045 mm</td>
<td>1025 mm</td>
<td>Current</td>
<td>New</td>
</tr>
<tr>
<td>5</td>
<td>Rear door opening height</td>
<td>1150 mm</td>
<td>1175 mm</td>
<td>1185 mm</td>
<td>Current</td>
<td>New</td>
</tr>
<tr>
<td>6</td>
<td>Rear door opening width</td>
<td>1150 mm</td>
<td>1175 mm</td>
<td>1185 mm</td>
<td>Current</td>
<td>New</td>
</tr>
<tr>
<td>7</td>
<td>Rear door opening distance</td>
<td>1100 mm</td>
<td>1070 mm</td>
<td>1090 mm</td>
<td>Current</td>
<td>New</td>
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<tr>
<td>8</td>
<td>Rear door sill ground height</td>
<td>360 mm</td>
<td>360 mm</td>
<td>360 mm</td>
<td>Current</td>
<td>New</td>
</tr>
<tr>
<td>9</td>
<td>Rear seat leg space</td>
<td>295 mm</td>
<td>260 mm</td>
<td>280 mm</td>
<td>Current</td>
<td>New</td>
</tr>
<tr>
<td>10</td>
<td>Rear seat head clearance</td>
<td>150 mm</td>
<td>135 mm</td>
<td>145 mm</td>
<td>Current</td>
<td>New</td>
</tr>
<tr>
<td>11</td>
<td>Rear seat leg clearance</td>
<td>195 mm</td>
<td>160 mm</td>
<td>185 mm</td>
<td>Current</td>
<td>New</td>
</tr>
<tr>
<td>12</td>
<td>Steering wheel tilt adjustment range</td>
<td>30 mm</td>
<td>30 mm</td>
<td>30 mm</td>
<td>Current</td>
<td>New</td>
</tr>
</tbody>
</table>

*Measured with 160cm tall model*  
*Measured with front seat in neutral position*  
*Measured at lowermost edge of steering wheel*
## Measurement List

<table>
<thead>
<tr>
<th>No.</th>
<th>Measurement</th>
<th>New</th>
<th>Current</th>
<th>CIVIC HV</th>
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</thead>
<tbody>
<tr>
<td>13</td>
<td>Steering wheel telescopic adjustment range</td>
<td>40  mm</td>
<td>Not available</td>
<td>40 mm</td>
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<tr>
<td>14</td>
<td>Front to rear couple distance</td>
<td>930 mm</td>
<td>945 mm</td>
<td>--- mm</td>
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<tr>
<td>15</td>
<td>Front seat couple distance</td>
<td>700 mm</td>
<td>700 mm</td>
<td>700 mm</td>
</tr>
<tr>
<td>16</td>
<td>Rear seat couple distance</td>
<td>760 mm</td>
<td>660 mm</td>
<td>660 mm</td>
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<tr>
<td>17</td>
<td>Driver’s seat thigh space</td>
<td>190 mm</td>
<td>190 mm</td>
<td>180 mm</td>
</tr>
<tr>
<td>18</td>
<td>Driver’s seat thigh space</td>
<td>200 mm</td>
<td>190 mm</td>
<td>175 mm</td>
</tr>
<tr>
<td>19</td>
<td>Front seat seatback height</td>
<td>790 mm</td>
<td>780 mm</td>
<td>780 mm</td>
</tr>
<tr>
<td>20</td>
<td>Front seat seatback width</td>
<td>500 mm</td>
<td>520 mm</td>
<td>510 mm</td>
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<tr>
<td>21</td>
<td>Front seat seatback thickness</td>
<td>120 mm</td>
<td>110 mm</td>
<td>945 mm</td>
</tr>
<tr>
<td>22</td>
<td>Front seat cushion seating surface width</td>
<td>355 mm</td>
<td>370 mm</td>
<td>370 mm</td>
</tr>
<tr>
<td>23</td>
<td>Front seat cushion width</td>
<td>520 mm</td>
<td>520 mm</td>
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<tr>
<td>24</td>
<td>Front seat cushion length</td>
<td>530 mm</td>
<td>510 mm</td>
<td>500 mm</td>
</tr>
</tbody>
</table>

*Measurements are provided as new and current, with specific values for CIVIC HV. Measurements are given in millimeters (mm).*
### Measurement List

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Unit</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Value 3</th>
<th>Value 4</th>
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</thead>
<tbody>
<tr>
<td>Front seat cushion thickness</td>
<td>mm</td>
<td>New 120</td>
<td>Current 120</td>
<td>CIVIC HV 120</td>
<td></td>
</tr>
<tr>
<td>Front seat slide distance</td>
<td>mm</td>
<td>New 260</td>
<td>Current 240</td>
<td>CIVIC HV 240</td>
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</tr>
<tr>
<td>Front seat hip point (from floor)</td>
<td>mm</td>
<td>New 200</td>
<td>Current 165</td>
<td>CIVIC HV 135</td>
<td></td>
</tr>
<tr>
<td>Front seat hip point (from ground)</td>
<td>mm</td>
<td>New 460</td>
<td>Current 405</td>
<td>CIVIC HV 400</td>
<td></td>
</tr>
<tr>
<td>Front seat height adjustment range</td>
<td>mm</td>
<td>New 40/80</td>
<td>Current 20/80</td>
<td>CIVIC HV 40/80</td>
<td></td>
</tr>
<tr>
<td>Rear seat seatback height</td>
<td>mm</td>
<td>New 675</td>
<td>Current 650</td>
<td>CIVIC HV 780</td>
<td></td>
</tr>
<tr>
<td>Rear seat seatback width</td>
<td>mm</td>
<td>New 1240</td>
<td>Current 1240</td>
<td>CIVIC HV 1380</td>
<td></td>
</tr>
<tr>
<td>Rear seat cushion width</td>
<td>mm</td>
<td>New 1310</td>
<td>Current 1380</td>
<td>CIVIC HV 1340</td>
<td></td>
</tr>
<tr>
<td>Rear seat cushion length</td>
<td>mm</td>
<td>New 470</td>
<td>Current 480</td>
<td>CIVIC HV 470</td>
<td></td>
</tr>
<tr>
<td>Rear seat cushion length (at headrest top)</td>
<td>mm</td>
<td>New 275</td>
<td>Current 255</td>
<td>CIVIC HV 200</td>
<td></td>
</tr>
<tr>
<td>Rear seat hip point (from floor)</td>
<td>mm</td>
<td>New 525</td>
<td>Current 495</td>
<td>CIVIC HV 405</td>
<td></td>
</tr>
<tr>
<td>Rear seat hip point (from ground)</td>
<td>mm</td>
<td>New 765</td>
<td>Current 740</td>
<td>CIVIC HV 800</td>
<td></td>
</tr>
</tbody>
</table>

*Measured with seat height in lowest position
*Measured with headrest at highest position
*Measurement from seating surface to headrest top
*Measured at front end / rear end of seat cushion

Current 120
New 40/80
CIVIC HV 120
Current 260
Current 200
CIVIC HV 240
Current 165
CIVIC HV 135
Current 460
CIVIC HV 400
New 40/80
Current 20/80
CIVIC HV 40/80
New 675
Current 650
CIVIC HV 780
New 1240
Current 1240
CIVIC HV 1380
New 1310
Current 1380
CIVIC HV 1340
New 470
Current 480
CIVIC HV 470
New 275
Current 255
CIVIC HV 200
New 525
Current 495
CIVIC HV 405
New 765
Current 740
CIVIC HV 800
### Measurement List

<table>
<thead>
<tr>
<th>Measurement</th>
<th>New</th>
<th>Current</th>
<th>CIVIC HV</th>
</tr>
</thead>
<tbody>
<tr>
<td>37 Luggage opening max. width</td>
<td>1070</td>
<td>1010</td>
<td>1160</td>
</tr>
<tr>
<td>38 Luggage opening width</td>
<td>905</td>
<td>990</td>
<td>1050</td>
</tr>
<tr>
<td>39 Luggage opening min. width</td>
<td>1555</td>
<td>1500</td>
<td>1375</td>
</tr>
<tr>
<td>40 Luggage opening step to floor</td>
<td>970</td>
<td>950</td>
<td>1000</td>
</tr>
<tr>
<td>41 Luggage opening diagonal length</td>
<td>1070</td>
<td>1070</td>
<td>520</td>
</tr>
<tr>
<td>42 Luggage floor length</td>
<td>905</td>
<td>895</td>
<td>755</td>
</tr>
<tr>
<td>43 Luggage floor max. width</td>
<td>1555</td>
<td>1500</td>
<td>1375</td>
</tr>
<tr>
<td>44 Luggage floor min. width</td>
<td>970</td>
<td>950</td>
<td>1000</td>
</tr>
<tr>
<td>45 Luggage opening ground height</td>
<td>690</td>
<td>690</td>
<td>685</td>
</tr>
<tr>
<td>46 Bumper extension range</td>
<td>190</td>
<td>190</td>
<td>200</td>
</tr>
<tr>
<td>47 Luggage compartment height</td>
<td>705</td>
<td>670</td>
<td>550</td>
</tr>
<tr>
<td>48 Luggage floor length to front seatback</td>
<td>1830</td>
<td>1750</td>
<td>1450</td>
</tr>
</tbody>
</table>

*Measured at the widest points of each vehicle

*Measured at the rear end edge

*Measured at the narrowest points of each vehicle

*Height of luggage sill from luggage floor

*Measurement between the foremost and rearmost edge of opening

*Height of luggage sill from the ground

*The difference from luggage floor to the luggage opening bottom

*The difference from luggage floor to the luggage opening bottom

*Height of luggage sill from luggage floor

*Rear seats folded forward

---

New 1900 mm
Current 1750 mm
CIVIC HV — mm
Measurement List

49  Luggage compartment width

50  Center console lid width

51  Center console lid length

52  Console box opening width

New  1220 mm
Current  1050 mm
CIVIC HV  1000 mm

New  150 mm
Current  150 mm
CIVIC HV  150 mm

New  435 mm
Current  380 mm
CIVIC HV  330 mm

New  120 mm
Current  135 mm
CIVIC HV  130 mm

53  Console box opening length

54  Console box depth

55  Upper glove box opening height

56  Upper glove box opening width

New  330 mm
Current  315 mm
CIVIC HV  250 mm

New  165 mm
Current  200 mm
CIVIC HV  210 mm

New  130 mm
Current  145 mm
CIVIC HV  Not available

New  290 mm
Current  345 mm
CIVIC HV  Not available

57  Upper glove box depth

58  Lower glove box opening height

59  Lower glove box opening width

60  Lower glove box depth

New  145 mm
Current  140 mm
CIVIC HV  Not available

New  140 mm
Current  140 mm
CIVIC HV  115 mm

New  375 mm
Current  315 mm
CIVIC HV  375 mm

New  260 mm
Current  240 mm
CIVIC HV  230 mm

*Measured at the top of suspension towers