S2000

HONDA
The Power of Dreams

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Honda S2000

THE DREAM

To create an electrifying sports car that perfectly captures Honda's racing DNA.

Oneness is the basis
of driving pleasure.

The perfect relationship between a horse and rider is one of complete intimacy. The rider controls the actions of the horse by the slightest body movement, becoming in effect one with the horse, conveying instructions in an almost telepathic manner. This is the ideal that Honda sought when developing the S2000 – a sports car that would respond intuitively to the demands of the driver while still obeying the laws of physics that govern our material world. The physical characteristics necessary to achieve this melding of man and machine are of supreme importance, and our decision was to design a lightweight, compact package that combines a low centre of gravity with an ideal front-rear weight distribution and a low yaw moment of inertia. By building on these vital basic attributes we have succeeded in creating not just a sports car, but an entity where the distinction between human desire and mechanical function almost ceases to exist – car and driver become one in the S2000.

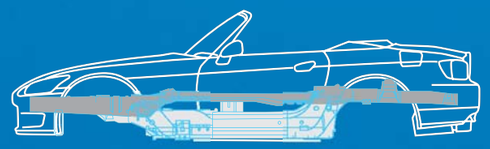
Like all things in sport,
balance is everything.

A natural sports layout demands innovative engine placement.

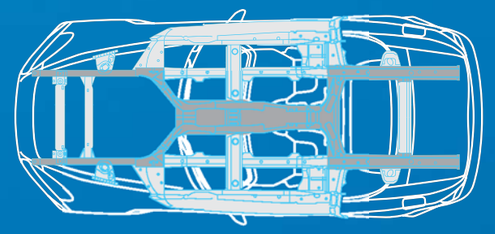
Various engine-drive layouts were considered in Honda's search for the perfect sports car configuration. Detailed investigation revealed that the front-engine, rear-drive layout was a natural choice to realise the ideal 50:50 front-rear (FR) weight distribution ratio necessary to achieve superlative handling and balance while ensuring superb traction performance. Our goal was to create a sports car that will enable more people, regardless of their levels of driving skill, to experience the real pleasure of sports car driving over a wide variety of road conditions. The decision to pursue an FR layout was merely the beginning of our quest for an ideally balanced sports car. The frontal positioning of the engine and transmission, the heaviest components, required a radical change in design to prevent the car from being front heavy. Accordingly, not only were the size and weight of the engine significantly reduced, but the unit itself was located behind the front axle, a longitudinally mounted, front-engine configuration that enabled the ideal front-rear weight ratio of 50:50 to be achieved. The concentration of other heavy components, such as the fuel tank, battery and spare tyre at the midpoint of the vehicle, significantly lowers the centre of gravity and gives the S2000 an extremely low moment of inertia comparable to that of a super sports car with a rear-midship layout.

Closed body rigidity
in an open car.

Balanced, dynamic sports driving performance ultimately depends on the structural integrity of the body. Only an exceptionally rigid body can counter the forces generated during braking, cornering and coping with vibration-inducing road surfaces – thus allowing the suspension to perform as designed. For the S2000, Honda employed an innovative High X-Bone Frame Structure that links the front and rear side members by a high-mounted floor tunnel that provides superb torsional rigidity. Large cross-section side sills further enhance this exceptional body stiffness. This unique construction gives the open-top S2000 the equivalent body rigidity of a closed car.



High X-Bone Frame Structure The High X-Bone Frame with its high-mounted floor tunnel is combined with the large cross-section side sills to provide a lightweight yet highly rigid structure equivalent to that of a closed car.

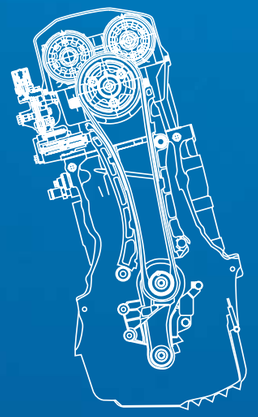


*Actual equipment may vary from picture shown

Power throughout the rev range.

No longer do we live in an age when the environment can be sacrificed in the pursuit of more power. The second automotive century demands a more responsible attitude, especially from the manufacturers of sports cars. Engines that deliver higher power must do so with the highest level of environmental consideration.

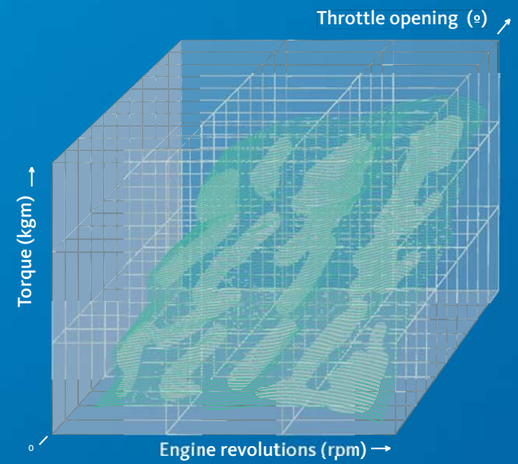
The 2.0 litre in-line four-cylinder DOHC VTEC engine of the S2000 delivers impressive power and torque – 176 kW @ 8300 rpm and 208Nm @ 7500 rpm – yet meets the Honda LEV standard for low emission vehicles. Its maximum power output of 90kW/litre, one of the highest for naturally aspirated engines, 9000 rpm rev limit and 11.0:1 compression ratio place the S2000 firmly within the realm of competition race engines. However, these figures reveal only a fraction of this engine's potential. To provide the maximum driving pleasure, engine development was focused on ensuring an exhilarating feeling of power throughout the rev range. The three-dimensional performance graph shows the degree of throttle opening in addition to the conventional power and torque curves. The consistently high torque at all engine revolutions provides not only the expected superb acceleration at peak power, but also immediate response at cruising speeds. Such engine characteristics – smooth, instantaneous response regardless of throttle input – serve to enhance the feeling of oneness between the driver and car.



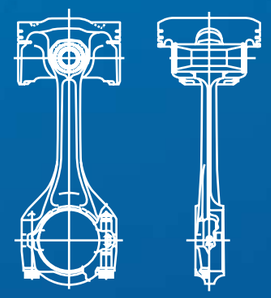
Chain camshift drive system The scissor-gear, silent-drive-chain camshaft drive and the single-belt serpentine auxiliary drive reduce the overall size of the powerplant.

Smaller, lighter yet more powerful.

The exceptionally powerful 2.0 litre DOHC VTEC engine used in the S2000 is approximately 10 per cent shorter, narrower and lighter than previous equivalent-displacement engines. Use of high-precision, metal-injection moulded, roller coaxial VTEC rocker arms reduces friction and simplifies the internal structure of the camshaft. Exceptionally strong, yet lightweight, round-section valve springs allow higher engine revolutions, and the smaller diameter camshaft gear drive and narrower valve angle permit a more compact DOHC cylinder head. Positioning the silent-drive oil pump within the sump shortened the block, and a serpentine auxiliary drive enabled the generator and water pump to be located for maximum compactness. Such dimensions also enhance collision safety, since the crumple zone could be proportionately expanded.



Three-dimensional engine-performance graph
Throttle opening is an additional element of this graph, enabling the S2000's engine characteristics to be discerned throughout the rev range.



Forged aluminum pistons and carburised connecting rods
The rigid forged aluminum pistons, strong tapered-roller bearings and carburised connecting rods are weight-saving and friction-decreasing measures that help achieve the goal of high revolutions.

The higher the revolutions, the higher the technology.

To realise exhilarating acceleration, we determined that the maximum revolutions of the S2000 engine should be set at 9000rpm, one of the highest figures among commercially available production cars. Achieving such a high engine speed necessitated reducing the inertial weight of components while increasing strength and eliminating friction wherever possible. Accordingly, forged aluminium pistons are employed for the first time in a Honda production car together with special hard-surface carburised connecting rods for greater strength. To cope with such high engine revolutions the clutch also received special attention, with the use of extremely high wear-resistant pad material while the small inertia mass of the flywheel, the lowest of all 2.0 litre engines, increases response and ease of use.

Connecting your right foot to the road.

The rigidity of the drivetrain determines the immediacy of the input of the driver's right foot. The S2000 features a one-piece propeller shaft and large diameter driveshaft with widely positioned aluminium differential mounts that convey positive, instantaneous delivery of power to the rear wheels. Similarly, we adopted a highly refined Limited Slip Differential (LSD) that enables the exceptional power of the S2000 to be transmitted to the road with minimal loss and greater control under changing road conditions and weight transfer when cornering.

6-speed close-ratio harmony.

To fully exploit the potential of the high-revving, high-power S2000 engine we developed a 6-speed close-ratio manual transmission with a low inertia geartrain ideal for the rear-drive layout. This geartrain reduces the load on the synchromesh and was developed from Honda's renowned expertise in front-engine, front-drive vehicles. Unlike that of other cars, sixth gear on the S2000 is not an overdrive, but is an integral element that perfectly matches this gearbox to the unique characteristics of the engine for smooth acceleration under a wide variety of driving conditions. First, third and fourth gears feature double-cone synchronisers and a triple-cone synchroniser is fitted to second, reducing the shift load for a positive, short-stroke, competition-style shift feel. The S2000's flick-of-the-wrist shifting ability encourages drivers to create their own individual symphonic driving melodies.

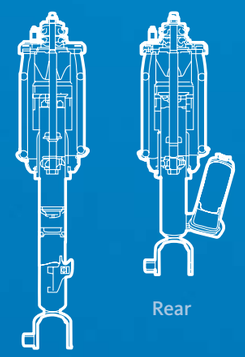
The symbiotic relationship between car and driver.

Invigorating handling at all speeds.

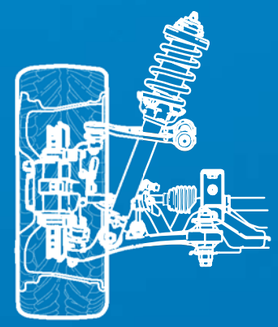
The essence of a sports car is its ability to provide the same exhilarating performance whether negotiating tight slow corners or high-speed curves. Maintaining poise and balance during rapid direction changes and acceleration. The S2000 was developed to be fun to drive at any speed and on a wide variety of roads. Accordingly, before we conducted full-scale track testing, we tested the S2000 under normal road conditions to ensure that driving pleasure was not diminished in everyday situations. Further extensive testing, not only at our sinuous Takasu test track in Japan, but also the famed Nürburgring in Germany, revealed that the S2000 was a world-class performer under any conditions.

A suspension tuned for pleasure.

The in-wheel type front and rear Double Wishbone suspension was selected for the flexibility of its settings. It also offers the virtue of compactness and lower load height while allowing the mounts to be widely spaced on the front and rear subframes to enhance rigidity. Independent-pressure separate-reservoir dampers complete this layout, and the resulting taut linear responsive handling gives maximum feedback from the road, yet does not detract from driving comfort.



Separate-reservior dampers
The combination of sealed high-pressure gas and the free-piston movement, which prevents cavitation, allows excellent response.



In-wheel type Double Wishbone suspension.

Overseas model shown.

Brakes to match the performance.

The full potential of a sports car cannot be realised without the reassurance of a braking system that complements its performance. The 16-inch front ventilated discs and 15-inch rear discs provide progressive fade-resistant braking force in direct response to pedal pressure, and the specially calibrated ABS allows the driver to fine-tune braking performance for maximum sports driving pleasure.

Tyres and wheels for responsive stability.

The tyres for the S2000 were specifically designed to complement its unique abilities. The 215/45R17 front tyres provide the essential quick responsive steering, while the wider 245/40R17 tyres at the rear ensure maximum grip. Lightweight aluminum wheels further reduce unsprung weight for superb cornering stability that is the hallmark of a true sports car.

EPS enhances your communion with the road.

The lightweight and compact Electric Power Steering (EPS) system eliminates the power loss of hydraulic systems and provides the perfect response necessary for sports driving. An optimised gear ratio and enhanced gearbox torsional rigidity give a taut linear feel at high and low speeds while minimising kickback for sensitive road communication that you can exploit to the full.

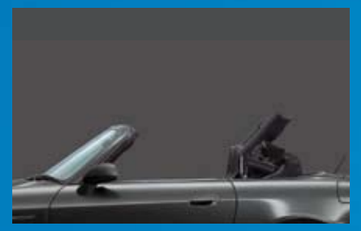
Greater peace of mind with Vehicle Stability Assist.

Honda's VSA's traction control function has been designed to detect wheel-slip under acceleration and combines the use of braking and interruption of the ignition to regain traction. This safety feature enhances vehicle stability and provides greater driver control during acceleration, cornering and braking. VSA also provides a limited slip differential effect by applying brake force to slipping wheels which, in-turn, directs drive-force to the wheel with more grip.

It’s a mind-expanding difference.

The S2000 is different. Its open-top design ensures you experience the rich variety of sights, sounds and smells that nature has to offer. Your oneness with the car and road is broadened into an enviable communion with the world around you. The sound of the engine merges into the breeze; the scent of the forests blends with that of the leather upholstery. Opening the top opens your mind to a wealth of new driving sensations.

Open up a wealth of driving sensations.



Open-cockpit comfort without sacrifices.

The S2000 is primarily designed to be driven with the top down, and we conducted exhaustive wind-tunnel and real-world testing to fine-tune the body contours for a pleasant airflow conducive to driver and passenger comfort. The buffeting effect of the wind that is usually apparent behind the occupants' heads is eliminated as is the distraction this causes.

To ensure that owners can continue to enjoy open-top sports driving in cold weather, the S2000 is equipped with a large-capacity, high-performance heating system. Central outlets ensure lower-body warmth even in the middle of winter and the one-touch open-mode air-conditioning setting enables the driver to select the most comfortable environment for any season.

Owners of the S2000 will soon become addicted to open-top driving. However, to cope with sudden changes in weather, the S2000 features one of the quickest operating soft-tops in the world. This lightweight electric system raises the roof in approximately six seconds, hardly time for the rain to spot the water-resistant upholstery.

Overseas model shown.

The cockpit reflects the driver/car interface.

The interior ergonomics of the S2000 set this vehicle apart from all others. Seat, steering wheel, shift lever and pedal positions all reinforce the oneness of driver and car. Competition-style bucket-type seats provide excellent lateral support when cornering, thus minimising fatigue to allow you to spend fun-filled hours at the wheel. The small 360mm-diameter steering wheel offers direct steering response, with an optimised shape and thickness for delicacy of control and a non-slip, punch-finish surface. To further hone steering responsiveness we developed a compact lightweight air-bag module that eliminates the centre offset and reduces the moment of inertia.

The compact digital instrument panel, although mounted directly behind the steering wheel, gives the driver unobstructed at-a-glance information. The tachometer, a vital element of sports driving, features a vivid graphic display for instant readability, while speed is indicated by a large digital readout. Warning lights are clustered logically and switches are positioned according to their frequency of use for maximum driving efficiency.
The unique racing spirit of Honda is obvious from the moment you turn the key – nothing happens. You've time to relax, sit back and compose yourself. Then you hit the red starter button that lights the competitive fire within the S2000. Let the fun begin.

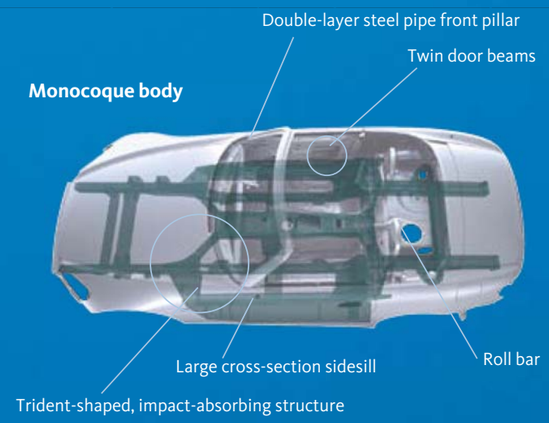
Overseas model shown.

The relationship between the driver and society.

Safety is an integral aspect of sports driving.

The enjoyment of high performance without anxiety was our goal. The S2000 is a next-generation sports car, one that fulfils its social responsibilities while generating unconditional driving pleasure. Safety is a crucial element in high-performance cars, especially open-top sports cars, and our objective was to create a vehicle that offers safety levels equivalent to that of closed-body cars.

The High X-Bone Frame Structure is the key to the S2000's outstanding safety performance. In a frontal collision, the straight side-members absorb the brunt of the impact by progressively crumpling. Impact force is also distributed through the floor tunnel, floor frame and side sills to effectively preserve basic cabin integrity. Three-point ELR seatbelts with pretensioners and load limiters are fitted as standard equipment, and the dual SRS airbags offer additional head and torso protection for seatbelt-restrained occupants. Twin beams in each door and the high, large cross-section sidesills help ensure the safety of occupants in a side collision. The excellent visibility afforded by this open-top vehicle is further enhanced by the optimised A-pillar shape, while highly effective, long-life High Intensity Discharge (HID), low beam only, projector headlights provide superb illumination for night time driving. A major contribution to safety is the combination of the inherent agility of the S2000, with the standard Anti-lock Braking System (ABS). The S2000 achieved impressive results in frontal, offset and side collision tests, and offers one of the highest levels of vehicle safety in the world.

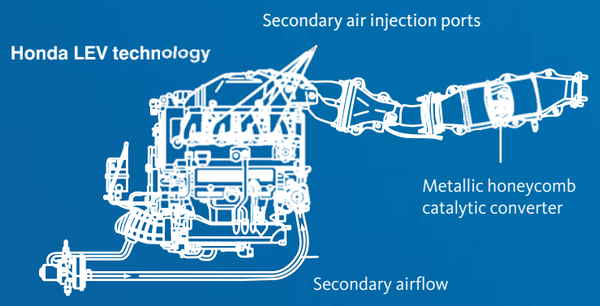


Sports cars need not be antisocial.

The Honda S2000 owes its high performance to a highly efficient engine design, not sheer size, and such efficiency results in outstanding fuel economy.

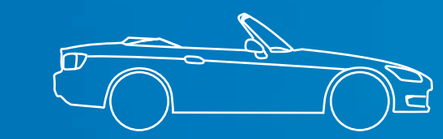
One of our most significant achievements with regards to our social responsibility was the inclusion of Low Emission Vehicle (LEV) technology in this sports car. The metallic honeycomb catalytic converter and the electric air pump system that injects air into the exhaust ports ensure the temperature of the catalyser is kept high for lower emission levels, even when starting from cold. Also, since the air-fuel ratio is precisely and constantly adjusted, harmful HC, NOx and CO emissions are sharply reduced. Such environmentally aware thinking in the design of what is essentially a high-performance car is typical of Honda's commitment.

The S2000 is a next-generation sports car, one that will build a new relationship with society, thus allowing you to enjoy the exquisite pleasure of sports driving in a socially responsible manner.



Make the S2000
truly your own.

Personalise your new S2000 and enhance your driving pleasure even further with this exciting range of colour co-ordinated body components and practical on-car accessories. Choose from sporty front and rear spoilers and functional sill air deflectors. Select your accessories when you choose your S2000 for full warranty protection and quality Honda fitment.



S2000 Accessories.


1


2


3


4


5

1 Rear Boot Spoiler. For enhanced aerodynamics and style. **2 Floor Mats.** Available in Red and Black. **3 Sill Air Deflector.** A stylish and handy touch to an already striking vehicle. **4 Hard Top.** Available by special order from Japan. **5 Storage Net.** For the convenient and safe storage of small-sized objects.

Overseas model shown.

Dreams do come true.

What if we tested our new technologies in the most extreme conditions possible?

At Honda we have always believed that racing is fundamental to our development. It's the ultimate testing ground and regardless of whether we win or lose, the same question is always asked – how can we improve performance? And you can be sure that for every improvement made on the track, there is an equal improvement made to every Honda vehicle that hits the road.

What if our technology was more ... alive?

ASIMO, the World's Most Advanced Humanoid Robot, was born from a dream to create a robot that could benefit people in everyday life. His name stands for Advanced Step in Innovative MObility, a title he's definitely worthy of. Currently ASIMO's capabilities include: running at 6 km/h, walking on uneven surfaces, turning smoothly, climbing stairs, pushing a cart, receiving and delivering trays and he can even dance a little boogie if the occasion calls for it. Our dream is that one day, everyone will have an ASIMO of their own to help around the home or office.

What if there was a car that only emitted water?

Obviously the world would be a better place and the good news is, such a car already exists: The FCX Clarity. It works by converting hydrogen into electricity, which leaves you with only one emission, H_2O. And in 2008, this totally new fuel-cell vehicle went into production.

What if a plane had its engines mounted on top of the wing?

Well, it would be an original and it would be called the HondaJet. Secondly, the engines would have to be in a special position on the wing we call 'The Sweet Spot'. That would then result in less drag at high speeds, 30% better fuel economy and because there is no need for structural engine mounts on the fuselage, 30% more cabin space.

Colours.

This isn't an average car for average people. That's why the Honda S2000 comes in a range of dynamic colours that are designed not only to suit you, but also to show that the Honda S2000 really is one of a kind.

Overseas model shown. Black interior

Overseas model shown. Red interior^

Bermuda Blue Pearl*

Indy Yellow Pearl*

Formula Red

Berlina Black

Synchro Silver Metallic*

Apex Blue Pearl*

Grand Prix White

*Metallic/Pearlescent paint additional cost. †Leather interior includes some PVC vinyl material. ^Optional on Grand Prix White, Berlina Black and Synchro Silver.

S2000 Specifications.

POWERTRAIN	
Engine	Inline 4 cylinder, DOHC VTEC
Capacity	2.0 litre – 1997 cc
Maximum power	176kW @ 8300 rpm
Maximum torque	208Nm @ 7500 rpm
Fuel Supply system	Honda programmed and fuel injection (PGM-FI)
Emission standard	Euro 4
Manual transmission	6-speed
Limited Slip Differential (LSD)	✓
Drive by wire throttle (DBW)	✓
Fuel type	RON95 unleaded

CHASSIS	
Body type	Monocoque
Dampers	Gas type
Front suspension	Double Wishbone
Rear suspension	Double Wishbone
Stabiliser bars	Front and rear
Steering system type	Electric Power Steering
Wheel type	Alloy
Spare wheel type	Temporary
Brakes - front	Ventilated disc
- rear	Solid disk

EXTERIOR	
Bumpers	Impact absorbing
Front wiper	2-speed and intermittent
Headlights (low beam)	HID
Headlight washers	✓
Keyless entry	✓
Power door mirrors	✓
Power soft top	✓

INTERIOR	
Air conditioning	✓
Air conditioning pollen filter	✓
Boot release	✓
Centre console	With storage
Central locking	✓
Cup holder	✓
Dashboard warning lights	Comprehensive array
Dashboard	Digital
Driver's footrest	✓
Driver's window	Auto up / down
Fuel lid release	✓
Head restraints – front	✓
Lights-on warning	Chime
Low fuel warning	Light
Outside temperature gauge	✓
Power windows	✓
Power outlet (10 amp)	✓
Storage net	x3
Tachometer	Digital
Tripmeter	x2
Seat back pockets	Driver and passenger seats
Seat trim material	Leather†
Vanity mirror	Passenger sunvisor
Windows (front and side)	Heat absorbing

S2000 Specifications.

ACTIVE SAFETY	
Anti-lock Braking System (ABS)	✓
Convex door mirror	Passenger side
Hazard warning lights	✓
High mounted stop light	✓
Rear view mirror	Day/night type
Seatbelt reminder	Driver
Vehicle Stability Assist (VSA) with Traction Control (TCS)	✓

PASSIVE SAFETY	
Airbag SRS	Driver and front passenger
Fire retardant interior	✓
Front windscreen	Laminated
Fuel tank rollover valve	✓
Immobiliser system	✓
Instrument panel	Padded
Monocoque body construction	✓
Progressive crumple zones	Front and rear
Rollover protection	✓
Screw type fuel cap	✓
Seatbelts – 3 point ELR	✓
Security alarm system	✓
Side impact protection	✓
Steering column	Energy absorbing type

DIMENSIONS/WEIGHTS/CAPACITIES	
Overall length (mm)	4145
Overall width (mm)	1750
Overall height (mm)	1285
Ground clearance – laden (mm)	107
Weight – tare (kg)	1255
Turning circle (metres)	10.8
Fuel consumption combined (litres/100km)*	10.0
Fuel tank capacity (litres)	50
Wheel size - front	17 x 7 JJ
- rear	17 x 8.5 JJ
Tyre size - front	215/45 R17 87 W
- rear	245/40 R17 91 W
Seating capacity	x2

AUDIO SYSTEM	
AM/FM radio, stereo cassette	4 channel x 40 watts
CD stacker	8 CD capacity
Front speakers	x2
Front tweeters	x2
Standard headrest speakers	x2

COLOURS	
Exterior	**Interior**
Grand Prix White	Black or Red leather†
Berlina Black	Black or Red leather†
Synchro Silver Metallic^	Black or Red leather†
Formula Red	Black leather†
Indy Yellow Pearl^	Black leather†
Apex Blue Pearl^	Black leather†
Bermuda Blue Pearl^	Black leather†

Specifications may vary in some cases and are subject to change without notice. ✓ Standard equipment.
^Metallic/Pearlescent paint additional cost. †Leather interior includes some PVC vinyl material. *The fuel consumption figures are based on ADR81/01 test results.