



# Media Information

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## Subaru Unveils "SUBARU BRZ"

Tokyo, Nov 28, 2011 - Fuji Heavy Industries Ltd. (FHI), the maker of Subaru automobiles, announced its world premiere of "SUBARU BRZ (display model)" at the 42nd Tokyo Motor Show 2011. (Open to public from December 3 to 11 at Tokyo Big Sight)

SUBARU BRZ is a rear-wheel drive sports car featuring the Horizontally-Opposed Boxer engine. It was developed as a joint-project between Subaru and Toyota Motor Corporation, to bring to the world a sports car with superior steering response and driving pleasure that everyone can experience. The Subaru Boxer engine in the BRZ was positioned even lower than other Subaru models so that the BRZ has one of the lowest possible centers of gravity on the market today. This low center of gravity produces astonishing handling character and combined with a light-weight chassis BRZ realizes Subaru's aim for "Pure Handling Delight" -- the driving experience taken to a new level.

### Major Features

#### *Concept*

The product concept of BRZ is "Pure Handling Delight." The Horizontally-Opposed Boxer engine has inherent qualities of low center of gravity, lightweight, and compactness. These attributes are maximized by placing this engine even lower and closer to the center of the chassis. These factors contributed to BRZ's low center of gravity -- one of the lowest possible. The BRZ is a fun sports car that any driver can enjoy driving with peace of mind.

#### *Design*

- "Ultra-low Center of Gravity Package"

The BRZ has a low-mounted Boxer engine on a specially designed sub-frame that forms an "ultra-low center of gravity package". With this arrangement, BRZ achieved a low driving position typical of a sports car. Overall height of BRZ is 1,300 mm and it has a wide and low body of a stylish coupe at 1775mm. Yet, it allows for 2+2 seating and a trunk with ample space. Not only is the BRZ a sports car, but it can also be a suitable partner for long tours with its unexpected utility.

- Exterior

Subaru aimed for a sports car design that instinctively conveys the car's fun-to-drive character. In addition, it was detailed to be instantly recognizable as a Subaru.

- Front fascia

The "ultra-low center of gravity package" also allowed a low hood design. This low hood and bulging front fenders raise expectations for the BRZ's drivability. Also, to communicate the Subaru identity the Subaru six-star ornament, headlights and hexagon lower grille follow the Subaru design motif common across new Subaru models.

- Side

The low center of gravity enhances BRZ's sensuous beauty with its shapely fender flares. The aesthetic beauty is combined with functional beauty that advances aerodynamics through such areas as the C-pillar shape, rear glass inclination, trunk lid layout. As would be expected from a sports car, the front and rear overhangs were shortened to express the BRZ's liveliness. The front fender is accentuated with a distinctive garnish.

- Rear fascia

The projecting rear wheel arches sit by way of contrast to the compact cabin and emphasizes the beauty of the BRZ's rear view.

- Interior

Details were carefully designed to allow a new level of fun-to-drive experience in which the driver and vehicle become one.

- The steering wheel was made smaller to achieve sports car maneuverability.
- A tachometer with digitally displayed speedometer is placed in the center of the gauges so that the driver can instantly see information without diverting attention from the road.
- Bespoke sports car seats were designed to hold the driver and passenger and feature lowered sitting positions to match the "ultra-low center of gravity package".

## **Mechanisms**

- Engine

Making full use of the design concept of the new-generation Boxer engine, the newly developed engine made exclusively for the BRZ is highly efficient with superior output and environmental friendliness. It realizes an exhilarating high revving nature of a naturally aspirated sports engine.

- It has square bore and stroke of 86 X 86 mm.
- Due to the joint development with Toyota Motor Corporation, Toyota's direct injection and port injection technology "D-4S" was incorporated in the BRZ's power unit.
- To achieve the "ultra-low center of gravity package", the engine as a whole has been made more compact by such means as adopting the shorter intake manifold and the shallower oil pan.

- Transmission

The joy of sports car driving was realized through a transmission that focuses on shift feel and response.

- The 6-speed MT employs a short stroke shift lever. The lever was optimized in rigidity, shift quality and weight application in its pursuit of a superb shift feel.
- The 6-speed AT has "S mode" for better shifting response and "M mode" for optional shifting. Also, with the paddle shift and downshifting blipping control, this model can respond faithfully to the driver's inputs.

- Body

The lightweight yet highly-rigid body was developed exclusively to maximize the advantages of the "ultra-low center of gravity package".

- Low center of gravity and low driving position were achieved by the perimeter type body frame layout.
- The body has a rigid and durable frame structure that also works in balance with the vehicle's light-weight. The rigidity

is optimized for high drivability and appropriate durability is maintained for collision safety.

- High tensile steel was used in the body to contribute to weight reduction. Effective use of this material in the upper structure of the BRZ contributed to its low center of gravity.
- The front hood employs aluminum for lightness. The structure was fine-tuned for a low styling that also improves pedestrian protection performance.

- Chassis

Excellent maneuverability and stability of the "ultra-low center of gravity package" offers direct and sharp response to steering and enhances driver's connection to the car

- The front suspension employs struts for light-weight and high rigidity, while a double wishbone layout is adopted at the rear for better shock absorption.
- To gain a low front hood from the "ultra-low center of gravity package", the front strut mount was lowered while maintaining the stroke.
- The tires are 215/45R17 combined with lightweight and highly rigid aluminum wheels.
- All models are equipped with electronic stability control to provide both driving pleasure and safety.

#### Major Specifications

|   |              |   |
|---|--------------|---|
| Overall Length X Width X Height (mm) / (in) |              | 4,240 X 1,775 X 1,300<br>170 X 70 X 52                          |
| Wheelbase (mm) / (in)                       |              | 2,570 / 101   |
| Curb weight (kg) / (lb)                     |              | 1,220 / 2,689 *1*2  |
| Maximum output (kw(PS)) / hp                |              | 147(200) / 200 *1   |
| Maximum torque (N.m(kg.m)) / (lb/ft)        |              | 205(20.9) / 151 *1  |
| Power unit                                  | Engine       | 2.0-liter Horizontally-Opposed Boxer<br>Direct Injection engine |
|   | Transmission | 6MT/E-6AT   |
| Drive train                                 |              | Rear-wheel drive  |
| Suspension                                  |              | front: strut / rear: double wishbone                            |
| Tire size                                   |              | 215/45R17   |
|   |              |   |
| *1 reference value                          |              |   |
| *2 average value                            |              |   |