

www.fhi.co.jp

# Subaru Introduces All-New Impreza

Tokyo, November 30, 2011 - Fuji Heavy Industries Ltd. (FHI), the manufacturer of Subaru automobiles, today announced the release of the all-new Subaru Impreza which will go on sale through Subaru dealerships in Japan beginning December 20.

This fourth generation all-new Impreza was developed under the concept of "Redefining Value, Redefining Class". Its aim is to provide a new level of value not known to exist until now. Superior reliability, handling and safety features of the Subaru Symmetrical AWD (All-Wheel Drive) system with the Horizontally-Opposed Boxer engine at its core - these among many other qualities have made possible a safe and environmentally-friendly high grade global car while enhancing the sportiness of the Impreza.

Subaru's brand statement "Confidence in Motion" is the foundation of its automobile development. Subaru is committed to engineering excellence and the creation of products in harmony with customer lifestyles and values. Its quest for "Enjoyment and Peace of Mind" through the Subaru experience hopes to achieve more Subaru fans, especially now with the all-new Impreza, our first production model embodying all of its visions.

The Impreza series has earned worldwide acclaim as a stylish and sporty high-quality compact car since its debut in 1992.



Subaru Impreza Sport (5-door)



Subaru Impreza G4 (4-door)

# [Concept]

The main themes in developing the all-new Impreza were "stylish exterior and high quality interior" and "refinement of driving comfort and environmental friendliness". In order to realize these concepts, Subaru focused on improvements in fuel efficiency and environmental friendliness; enhancement of "fun-to-drive" characteristics for more pleasant and agile driving; actualization of a high-quality, spacious and comfortable cabin without increasing body size. Its excellence in quality exceeds the expectations of a car from this class.

# "Redefining Value, Redefining Class"

# Stylish Exterior and High Quality Interior

- -The bottom end of the A-pillar has been extended toward the front and the wheelbase has been enlarged to create a stylish figure that suggests a spacious cabin.
- -Special attention was paid to the materials to give the interior a feel of higher quality and roomier comfort more than what one would expect from the actual measurements.
- Pleasant and Agile Driveability

Improvements in:

- -acceleration capability due to new generation Boxer engine and new Lineartronic (CVT)
- -aerodynamics and handling ability from reduced body weight and advanced chassis (in accordance with "Subaru Dynamic Chassis Control Concept" (SDC<sup>3</sup>))
- -safety performance attributable to VDC (Vehicle Dynamics Control) and standard application of four disc brakes

-collision avoidance by installing "EyeSight Ver. 2"

# Fuel-efficient Environmental Friendliness

- -First time incorporation of new generation Boxer engine, new Lineartronic  $(\mbox{CVT})$  , and Auto Start Stop system
- -Improvements in aerodynamics and reduction of body weight
- -A multifunction display monitor to assist fuel-efficient driving

5-door	IMPREZA SPORT	Named to express its stylishness in and out, spacious cabin and cargo, and superior driving performance capable of long journeys.	
4-door	IMPREZA G4	Genuine + 4-door = G4. A next generation sporty sedan with ultimately balanced driving performance and environmental friendliness.	

# [New Sub Names]

# [Model Variations]

Engine Displacements	Models	Concept
1.6 liter	1.6i	Basic model laden with all-new Impreza's appeal of high grade interior and driveability.
	1.6i-L	Upgrade model equipped with ample amenities and Auto Start Stop system for excellent fuel efficiency.
2.0 liter	2.0i (/2.0i EyeSight)	Most desirably balanced model with powerful 2.0-liter engine providing high output and fuel efficiency.
	2.0i-S (/2.0i-S EyeSight)	Sportiness enhanced model with 17-inch aluminum wheels and side sill spoilers.

# [Main Features]

# <Packaging / Utility>

Without changing body size from the previous models, Subaru aimed for a cabin that allows greater comfort for all passengers.

- The wheelbase was enlarged by 25 mm. The redesigned door structure and other modifications expanded the cabin, shoulder and elbow space, and rear seat foot room without altering the vehicle's overall length and width.
- By extending the bottom end of the A-pillar 200 mm forward, both roominess and visibility were achieved.
- The door opening dimensions have been enlarged. In addition, the height of the side sills above the floor was lowered 20 mm in front and 10 mm in rear than the previous model. These features vastly facilitate the entering and exiting of the vehicle.
- In order to increase field of vision and sense of spaciousness, the vehicle has lowered instrument panel and window sills, and the front quarter windows have been moved forward.
- $\cdot$  4-door models have an enlarged trunk space which also has better utility due to the 60:40 split folding rear seats.
- Cargo space for the 5-door models has increased in accessibility because of the redesigned roof structure and adoption of a flat tire repair kit. The cargo floor was lowered and flattened, a sub-trunk was added, and the 60:40 split folding rear seats were installed.

# Designs

# <Exterior Design>

The all-new Impreza was designed to convey the stylishness and agility of the Impreza series with its powerful eye-catching look of the front fascia and sophisticated profile.

- $\cdot$  The outward appearance suggests its dominant road presence, spaciousness, and ease of use even though the overall size has not been increased.
- Subaru's symbolic and standard features of hawk eye headlights, hexagon grille, and wheel arches that emphasize its AWD (All-Wheel drive) character all fortify the all-new Impreza's Subaru identity.
- With the forward placement of the A-pillar and the extended wheelbase, it has an elegant form that also suggests a spacious cabin. For the 4-door model, the distinctive C-pillar design gives the vehicle both a sleek coupe-like styling and the emphasized presence of a trunk.

# <Interior Design>

Elements were carefully chosen for an interior space of high quality feel and roominess beyond actual measurements.

- $\cdot$  The instrument panel is styled horizontally to add to the spacious atmosphere.
- $\cdot$  Materials such as leather, metal and fabric were used effectually to be pleasing to the touch and eyes.
- A sporty three-spoke steering wheel with rich texture and high quality look was installed. The switches on the wheel were designed to be in optimum size and shape for easy operation.
- For a greater sense of security, the top of the front seat backrests is 60 mm taller than previous models. Both the driver's and passenger seats have a higher hip point than before to increase field of view and to make getting on and off the vehicle easier. The rear seats also have a hip point that is set higher than previous models in order to enhance spaciousness.

• A multifunction display monitor shows details of the vehicle's driving conditions.<sup>\*1</sup> In order to support fuel-efficient and safe driving, the monitor displays suggestions for eco-friendly driving, Adaptive Cruise Control, and VDC activation updates.

\*1: 1.6i-L, 2.0i, 2.0i EyeSight, 2.0i-S, 2.0i-S EyeSight

## Mechanisms

#### <Engine and Transmission>

The third generation Subaru Boxer engine, which was introduced last fall with a totally new design, is installed in all models. Along with the usual merits of this horizontally-opposed engine, it has improved fuel efficiency and exhaust performance. The transmission employs the newly developed light weight and compact Lineartronic (CVT) providing a fuel-efficient and well-responding drive. This system will prove satisfactory even to those customers who have been previously driving cars with bigger engine capacity.

#### -1.6-liter DOHC Engine-

- Subaru chose 1.6-liter for the engine displacement of the new generation Boxer engine because of its excellent balance in driving performance, fuel efficiency and price. The all-new Impreza will be the first to carry this type and will lead it to the global market.
- Compared to the previous 1.5-liter type, by using the additional 100 cc engine displacement for increased torque, the agile and pleasant driving performance in practical speed range is enhanced. The torque is also greater at all ranges from low to high speed. It has acceleration ability that stands comparison with the previous 2.0-liter models.
- $\cdot$  The fuel economy is improved by approximately 20% compared to the previous 1.5-liter engine.\*^2

#### -2.0-liter DOHC Engine-

• Improvements were made to the fuel economy by approximately 27% compared to the previous 2.0-liter engine and also to the regular-use mid-low range torque.\*<sup>2</sup> The engine is capable of equal acceleration performance as the previous 2.5-liter models and has a quick accelerating response even when the accelerator is only lightly depressed. \*2:10/15 mode

#### -The New Lineartronic (CVT)-

- Further advancing the benefits of Chain-driven CVT (Continuously Variable Transmission) such as lightness, compactness, superior fuel efficiency, and wide ratio coverage, Subaru has successfully developed a new CVT with improved environmental friendliness and driveability by optimizing the parts and layouts.
- The installment of a paddle shifting 6-speed manual mode with excellent shifting response provides an exciting driving experience as if operating a MT vehicle.\*3 \*3:2.0-liter models

#### -Auto Start Stop System<sup>\*4</sup>-

- · A new Auto Start Stop system was developed and installed which prioritizes the will of the driver so that the pleasant and secure feel of driving is not interrupted.
- In order to restart the engine rapidly after being automatically turned off, and to facilitate driving in congested situations, the Lineartronic models have adopted tandem solenoids in the starter. This starter can restart even when the engine has not completely shut off.

\*4: 1.6i-L, 2.0i, 2.0i EyeSight, 2.0i-S, 2.0i-S EyeSight

# <Chassis>

The advanced chassis in line with "Subaru Dynamic Chassis Control Concept" (SDC<sup>3</sup>) provides steady handling performance of a linear response and secure driveability while absorbing any road surface irregularities. Improvements in the rigidity of key points and optimizations in setting made possible both comfortable driving and agile handling.

- · Vibrations are kept under control with a highly rigid cross member design, allowing improved driving stability and comfort.
- A strut-type front suspension has been adopted. The strut cylinder has a rebound spring inside which steadies the vehicle's movements.\*<sup>5</sup> Also, the stabilizer diameter was increased to improve driving stability. \*5: 2.0-liter models
- Highly-responsive front and rear damper valves are used to improve overall vehicle response.
- A double wishbone rear suspension is employed and the lateral link external bush has been changed to a pillow ball type in order to improve stability when traveling in a straight line.
- A pinion-assist type electric power steering was installed.\*<sup>6</sup> Along with improved fuel efficiency, the smooth motor control allows a natural steering feel.

# <Body>

\*6:1.6i-L CVT models, all 2.0-liter models

- · Insulators are arranged optimally to offer excellent noise reduction.
- · By employing ultra-high tensile strength steel, a light but durable cabin was achieved.
- $\cdot$  A new platform was designed and by having certain key points undergo stiffening, the body has been reduced in weight while attaining high rigidity.

# Safety

# <Active Safety>

- To reduce blind spots and improve visibility for the driver, the front door partition window pillars and the A-pillars have been made narrower and the door mirrors have been mounted on the door panels.
- $\cdot$  All models have standard VDC (Vehicle Dynamics Control) . Its control timing has been optimized so that enjoyable driving and danger avoiding performance are both achievable. The VDC also incorporates a braking assist function.

 $\cdot$  All models are equipped with a brake override control system.

# <Passive Safety>

- $\cdot$  By using high tensile steel effectively to reduce weight and by revamping the frame, a high level of collision safety from all directions was achieved.
- The front hood and bulkhead are specially designed to have an impact-absorbing structure to protect pedestrians. This high impact-absorption ability has been achieved without sacrificing rigidity.

# <Pre-crash Safety>

 EyeSight Ver.2, well-received on Legacy, will be available on the all-new Impreza as well.\*7 By making the pre-crash safety possible, Subaru's history of actualizing high safety performance has risen to a new level.
\*7: 2.0i EyeSight, 2.0i-S EyeSight

## Environmental Friendliness

Renewal of power trains to the new-generation boxer engine and new Lineartronic (CVT), addition of fuel saving devices such as the Auto Start Stop system, improvements in aerodynamics, vigorous reduction of weight – these all contribute to the vastly upgraded fuel performance. Moreover, the multifunction display monitor will visually show the state of fuel consumption in order to support further fuel-efficient driving.

The AWD models with Auto Start Stop system and CVT achieve the 2015 Japanese fuel standards.

### <1.6-liter 2WD with Lineartronic / Auto Start Stop system>

17.6 km per liter (JC08 mode) 20.0 km per liter (10/15 mode)\*8

# <2.0-liter 2WD with Lineartronic / Auto Start Stop system>

- 17.2 km per liter (JC08 mode)
- 18.2 km per liter (10/15 mode)

\*8∶1.6i-L

#### About Fuji Heavy Industries Ltd.

Fuji Heavy Industries Ltd. (FHI), the maker of Subaru automobiles, is a leading manufacturer in Japan with a long history of technological innovations that dates back to its origin as an aircraft company. While the automotive business is a main business pillar, FHI's Aerospace, Industrial Products and Eco Technologies divisions offer a diverse range of products from general-purpose engines, power generators, and sanitation trucks to small airplanes, crucial components for passenger aircrafts, and wind-powered electricity generating systems. Recognized internationally for its AWD (all-wheel drive) technology and Horizontally-Opposed engines in Subaru, FHI is also spearheading the development of environmentally friendly products and is committed to contributing to global environmental preservation.