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SUBARU INTRODUCES 2014 XV CROSSTREK HYBRID, ITS FIRST GASOLINE/BATTERY MODEL

- XV Crosstrek Hybrid based on popular XV Crosstrek crossover
- Subaru-engineered hybrid system uses 2.0-liter BOXER engine and integrates an electric motor into a continuously variable transmission
- 160 total system hp vs. 148 hp for gas model
- 29 MPG city / 33 MPG highway fuel economy
- Symmetrical All-Wheel Drive standard offers solid, all-terrain performance
- Same utility and versatility as the gasoline model

Cherry Hill, N.J., Nov 12, 2013 - Subaru of America, Inc. has introduced the carmaker's first-ever production hybrid vehicle, the XV Crosstrek Hybrid, which arrives in dealerships in early 2014. The XV Crosstrek Hybrid is based on the successful XV Crosstrek crossover model and retains its all-terrain capability while providing better fuel efficiency and enhanced agility.

The 2014 XV Crosstrek Hybrid will achieve an EPA-estimated 29 city MPG and estimated 33 highway mpg, with a combined 31 MPG.

In developing its first-ever hybrid, Subaru chose one of its popular, go-anywhere crossover vehicle platforms. As a result, the new XV Crosstrek Hybrid offers all the capability and versatility of the gasoline XV Crosstrek. Key to this approach is that the XV Crosstrek Hybrid shares the gasoline model's Symmetrical All-Wheel Drive and chassis capability. For example, the 8.7 inches of ground clearance is the same as for the gas model and is higher than for some dedicated SUVs, while providing a low step-in height. Rather than simply replicate the driving feel of the gasoline XV Crosstrek, Subaru engineered its first-ever hybrid model to provide a sportier driving experience and so equipped it with retuned suspension and quick-ratio electric power steering.

In addition to optimizing the 2.0-liter FB-series BOXER engine to reduce internal friction, Subaru applied a number of other efficiency-enhancing technologies to the XV Crosstrek Hybrid. An Auto Start-Stop system can shut down the gasoline engine when the vehicle is stopped. Brake regeneration works when the car is coasting or the driver has applied the brake, recapturing kinetic energy from the turning wheels to recharge the hybrid battery.

Hybrid Powertrain With 2.0-liter BOXER Engine and Symmetrical All-Wheel Drive

The Subaru BOXER engine and Symmetrical All-Wheel Drive configuration provided an ideal platform for integrating the parallel hybrid system. Under light acceleration, the Subaru-engineered hybrid system uses the electric motor for initial vehicle acceleration and then starts the gasoline engine once underway. The electric motor can also provide

motor assist for acceleration in parallel with the gasoline engine, and an EV mode will operate the vehicle in certain low-speed situations.

The 2.0-liter Subaru BOXER engine uses a slightly higher compression ratio (10.8:1) than in the standard gas model (10.5:1), along with reduced-friction piston rings and valve springs and a higher capacity exhaust gas regeneration (EGR) system with an EGR cooler. The main performance boost comes from the permanent-magnet AC synchronous electric drive motor, which produces 13.4 hp from 1,500 rpm-6,000 rpm, for a total hybrid system output of 160 hp at 6, 000 rpm vs. 148 hp at 6,200 rpm for the gas model. The starter and alternator functions are combined into one unit.

The drive motor also contributes 47.9 lb.-ft. of torque from 0-1,500 rpm. The result is total system torque of 163 lb.-ft. at just 2,000 rpm, compared to 145 lb.-ft. at 4,200 rpm for the gas model, adding a significant boost to low-speed driving performance. The electric drive motor, which weighs 28.7 lbs. (77.2 lbs. with frame), is neatly integrated into the Lineartronic® Continuously Variable Transmission (CVT). The CVT includes a manual mode with steering wheel paddle switches.

A 100.8V, 13.5kW nickel-metal hydride battery, with 0.55kWh capacity, is located under a revised rear floor area. The battery, placed low in the vehicle, contributes to handling agility, which has also been enhanced with quicker-ratio electric power steering and special suspension tuning.

Hybrid Operation

The 2014 Subaru XV Crosstrek Hybrid automatically adapts to driving needs, using only the electric drive motor, the gasoline engine or combining output of the two, depending on conditions and always prioritizing maximum efficiency. Initial acceleration is performed in EV mode with the driving force generated by electric drive motor only. The gasoline engine will then start depending on conditions, including pressure on accelerator pedal, state of battery charge, air conditioner use and other factors.

When the transmission shift lever is in Drive, but not in Manual mode, it is possible to drive the XV Crosstrek Hybrid in EV mode at speeds below 25 mph for a short distance. When accelerating, Motor Assist adds to engine power. Under certain conditions, such as steady-state driving and when driving uphill, the engine will operate alone when it is more efficient to do so.

When the vehicle is stopped, Auto Stop-Start stops the engine to help reduce fuel consumption. When the brake is released, the system transitions to a creep state using the electric drive motor. If the climate control is operating, Stop/Start may not operate and instead, the engine uses the electric motor to charge the battery.

The XV Crosstrek Hybrid employs regeneration when the accelerator is released during driving, and when braking. The motor then acts as a generator, using the still-turning wheels to charge the hybrid battery. For times when the vehicle is operating only in EV mode, an audible vehicle approach pedestrian warning system generates sound from a small speaker below the right headlight and directed toward the front of the car.

Same Capability and Utility as Gas Model, With Greater Agility

The 2014 Subaru XV Crosstrek Hybrid builds upon the utility and versatility of the gas model, while also offering enhanced handling responses. All XV Crosstrek models benefit from additional sound insulation measures for 2014. Significantly, the hybrid model uses the same Active Torque Split version of Symmetrical All-Wheel Drive as in the gasoline model, preserving the all-weather performance that Subaru customers expect. The system sends torque to the four wheels all the time and adjusts the torque distribution in response to acceleration, cornering and road conditions.

Low-rolling resistance all-season tires are mounted on new aluminum alloy-wheels with an aerodynamic design. Exclusive to the North American market, a new Active Grille Shutter system helps reduce air resistance. The air conditioning system uses a temperature and humidity sensor to optimize operation for reduced draw on engine power. Numerous enhancements that help to reduce noise include thicker floor sections, under-floor covers and additional sound insulation.

Retuned suspension and a quick-ratio version of the electric power-assisted steering give the XV Crosstrek Hybrid sharper handling responses than the gasoline model. Integrating the electric drive motor within the Symmetrical All-Wheel Drive system places it close to the vehicle's center of gravity – which remains the same as in the gasoline model – enhancing handling agility.

Thanks to clever packaging of the hybrid system components in the XV Crosstrek Hybrid, Subaru maintained the same passenger cabin room as in the gasoline model (97 cu. ft.), while the Hybrid's maximum cargo room (rear seatbacks down) measures 50.2 cu. ft., vs. 51.9 in the gas model. With the rear seatbacks in the raised position, the XV Crosstrek Hybrid offers 21.5 cu. ft. of cargo space vs. 22.3 cu. ft. for the gas model.

All other cargo area dimensions, including load floor length, remain the same for both models. Also, as a result of the new floor configuration, the XV Crosstrek Hybrid is able to offer sub-floor storage for the jack and other items.

The cargo area is outfitted as standard with a cover that can be pulled into place or removed, along with a removable waterproof cargo tray, tie-down hooks and grocery bag hooks. Subaru dealers offer a number of accessories for the standard roof rails for carrying items such as bicycles and kayaks.

Sophisticated Appearance

The 2014 XV Crosstrek Hybrid serves as the top model in this series and features numerous exclusive design features. The rear LED combination lights illuminate the surface uniformly for a high-tech look.

In addition to the different wheels, other exterior enhancements readily differentiate the Subaru XV Crosstrek Hybrid from the gasoline model. "HYBRID" badges appear at the front edges of the front doors and on the tailgate. A new Plasma Green Pearl exterior color, exclusive to the XV Crosstrek Hybrid, spotlights the vehicle's environmental character. Chrome exterior door handles add an upscale touch.

In front, the Active Grille Shutter system closes the shutters to reduce wind resistance and enhance fuel economy during continuous highway-speed driving. Closing the shutters also helps warm the engine more quickly, reducing friction.

Upgraded Interior with Expected Subaru Value

The 2014 Subaru XV Crosstrek Hybrid's instrument cluster, exclusive to this model, uses gradations of the blue color scheme to provide a sense of depth.

The XV Crosstrek Hybrid includes all the standard equipment from the XV Crosstrek Premium model and adds an automatic climate control system, upgraded instrument cluster, high-grade multi-function display, body-color foldable side mirrors with integral turn signals, leather-wrapped steering wheel with silver stitching, chrome exterior door handles, Keyless Access & Start and more. The XV Crosstrek Hybrid Touring model adds a touch-screen navigation system, leather-trimmed seating and a power moonroof.

The high-grade color multi-function display is exclusive to the XV Crosstrek Hybrid and featured on both models. The 4.3-in. LCD screen, which can be easily viewed from any seat, can show the hybrid system's energy flow according to driving conditions. Using switching screens, the display was designed to combine driving operation information with entertainment content.

The navigation system in the XV Crosstrek Touring uses a 6.1-inch touch screen LCD display and integrates voice control, iTunes® tagging, SMS text messaging capability, HD Radio, SiriusXM Satellite Radio® and SiriusXM NavTraffic® (4-month trial subscriptions included). Updated map data can be downloaded to a personal computer and then transferred into the system via secure digital (SD) card. The navigation system also features Aha® smartphone integration featuring radio stations, newsfeeds, audiobooks and more.

About Subaru of America, Inc.

Subaru of America, Inc. is a wholly owned subsidiary of Fuji Heavy Industries Ltd. of Japan. Headquartered in Cherry Hill, N.J., the company markets and distributes Subaru vehicles, parts and accessories through a network of more than 600 dealers across the United States. All Subaru products are manufactured in zero-landfill production plants and Subaru of Indiana Automotive Inc. is the only U.S. automobile production plant to be designated a backyard wildlife habitat by the National Wildlife Federation. For additional information visit www.subaru.com.

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