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# MITSUBISHI OUTLANDER PHEV OFFERS THE BEST OF BOTH WORLDS WITH EV EFFICIENCY AND GAS SUV CAPABILITIES

- Mitsubishi Motors' 100 years of engineering prowess is put to work to create a vehicle that is both capable and environmentally friendly
- Best-selling PHEV in Europe is now ready to take on the U.S. market; starting MSRP of under \$35,000

**HUNTINGTON BEACH, Calif., Sept. 28, 2017** – The world's first plug-in hybrid crossover and the best-selling PHEV in Europe is coming to America. The all-new 2018 Mitsubishi Outlander Plug-in Hybrid Electric Vehicle (PHEV) will arrive in dealerships in December 2017 starting at the MSRP of \$34,595. The Outlander PHEV is a perfect culmination of Mitsubishi's 100-year history of automotive excellence: over 50 years of electromobility and decades of four-wheel drive technology honed on the international rally circuit. Featuring a highly efficient 2.0-liter gas engine and two high-performance electric motors, along with Mitsubishi's superior Super All-Wheel Control (S-AWC) system, the Mitsubishi Outlander PHEV delivers SUV capabilities and EV fuel economy. The Outlander PHEV is the only PHEV crossover with all-wheel drive in its class. It is also the only PHEV with DC Fast Charging capability.

The Outlander PHEV represents a fusion of the EV technologies developed by Mitsubishi for models such as the i-MiEV, S-AWC technologies honed from the Lancer Evolution, and SUV know-how gained from the Montero. The result is a groundbreaking new model that brings together the superior environmental performance and efficiency of an EV, the stability and handling of S-AWC, and the practicality of a crossover.

"The Outlander PHEV is an all-new driving experience that is unmatched in the market; until now, this type of vehicle has been exclusive to the premium segment," said Don Swearingen, executive vice president and COO, MMNA. "Offering EV technology in a very capable crossover will satisfy a consumer need that's been missing in the marketplace. The Outlander PHEV offers seating for five passengers and room for their gear, 1500lb towing capability, SUV practicality and a fantastic Super All-Wheel Control system, all wrapped in an environmentally friendly EV system."

## PHEV System with Twin Electric Motors All-Wheel Control

The highlight of the all-new Outlander PHEV is the use of Mitsubishi's sophisticated PHEV system. It uses two full-time, high-output electric motors separately mounted at the front and rear axles to instantly supply torque on demand for incredibly responsive performance with agile all-wheel drive. The front electric motor is positioned transaxle-style on the left side of the gas engine and has an output of 60 kW. The front motor is

smaller and lighter with a higher output enhanced version of the permanent magnet synchronous electric motor used in the Mitsubishi i-MiEV.

The system features a front-mounted generator that converts mechanical power to electricity and continuously charges the drive battery, while a Power Drive Unit (PDU) helps to convert the electric power and send it to the front motor.

The rear 60 kW motor and Electric Motor Control Unit (EMCU) are mounted beneath the rear cargo area subfloor. Both the front PDU and rear EMCU are intelligent control units that contribute to heightened energy efficiency and optimal motor control.

For non-electric driving, a clean and efficient 2.0-liter gasoline engine is utilized.

"The twin electric motors and economical gasoline engine optimize performance according to how you want to drive. It's smooth and quiet with abundant power to tackle a variety of different driving conditions with highly efficient purpose," said Nathan Berg, senior product manager, MMNA.

The battery that supplies the electricity for the motors is a high-capacity 12kWh lithium-ion battery pack developed specifically for the PHEV system. The battery pack consists of 80 cells configured in a series, with a total voltage measuring 300V and a total storage capacity of 12kWh. The battery is located in a dust and waterproof encasement positioned beneath the passenger compartment subfloor and between the front and rear axles (with no intrusion into the passenger compartment whatsoever).

Regenerative braking is also used to generate electricity for the system. During deceleration (braking), the front and rear electric motors function as generators so that electricity can be generated and fed back into the lithium-ion drive battery pack. Regenerative braking occurs when the vehicle is in motion while the accelerator pedal is not being pressed (coasting) or when the driver engages the brakes by pressing the brake pedal. The level of regenerative braking can be conveniently selected by the driver at any time using the steering wheel paddle shifters.

#### **Three Drive System Modes**

Because of its unique drivetrain which combines a front electric motor, rear electric motor, front-mounted gasoline-powered 2.0-liter engine and generator, the all-new Mitsubishi Outlander PHEV automatically selects one of three unique drivetrain modes for optimal performance and efficiency.

#### EV Drive Mode (Twin Motor S-AWC EV)

In the EV Drive Mode, the vehicle is driven in a very eco-friendly performance mode by the two electric motors, with energy being supplied exclusively by the lithium-ion drive battery pack (100 percent electric-powered, zero-emission vehicle). This mode is excellent for running errands/performing family duties on a daily basis as a highly sustainable/low environmental impact form of personal transportation. With the EV mode button the driver can select this driving mode when they desire 100% EV driving.

Series Hybrid Mode (Twin Motor S-AWC EV with Internal Combustion Generator)
When the energy level remaining in the lithium-ion drive battery pack is low or when the need arises for a

sudden and/or additional degree of acceleration, the two electric motors are powered by the battery pack *and* the gasoline-powered generator.

In this configuration, the gasoline-powered generator helps:

- 1) Charge the lithium-ion drive battery pack
- 2) Provide power to the pair of electric motors

Parallel Hybrid Mode (Gasoline-Powered Engine Supported by Twin Motor S-AWC)

In this drive mode, the Outlander PHEV uses its full complement of available resources:

- 1) The 2.0-liter gasoline engine drives the front wheels; the front axle features a built-in clutch that switches the system to Parallel Drive Mode mainly for engine-powered travel at high speeds/steady-state cruise.
- 2) The two electric motors positioned at the front and rear of the vehicle operate seamlessly when additional power is required, such as driving uphill.
- 3) The gasoline-powered engine/generator while operating the vehicle at sufficient speed will feed any excess energy (electricity) back into the lithium-ion drive battery pack.

The **Parallel Hybrid** mode is most commonly utilized when the Outlander PHEV is being driven in a long-haul/high-speed steady-state cruise manner such as on the open road or interstate. This is the most efficient drivetrain mode under these types of driving circumstances.

#### **Driver Selected Modes**

#### ECO Mode

The Outlander PHEV features a driver-activated "ECO Mode" switch that reduces both fuel *and* electricity usage for increased efficiency simply with the touch of the button.

## **Battery Save Mode**

In this driver-activated mode, the Outlander PHEV automatically conserves the energy within the lithium-ion drive battery pack by operating the vehicle in hybrid mode (note: Battery Save Mode will only operate once the lithium-ion drive battery pack's energy level falls below 90 percent full). For example, engaging the Battery Save Mode would allow the vehicle to be driven in urban traffic with the engine/generator on to maintain a higher level of battery charge; it could then be deactivated, allowing the vehicle to be driven through a neighborhood silently at an appropriate speed in EV Drive Mode.

## Battery Charge Mode

When activating the Battery Charge Mode – whether the vehicle is in motion or at a standstill – the engine will generate electricity to be fed into the lithium-ion drive battery pack (essentially forcing the vehicle to operate in Series Hybrid Mode). For example, if the engine is idling and the vehicle is not moving, selecting the Battery Charge Mode will replenish a low energy level within the lithium-ion drive battery pack back up to 80 percent fully charged in approximately 40 minutes.

The advantage to the Battery Charge Mode is giving the vehicle a reserve of additional power when necessary such as hill-climbing or towing.

## S-AWC Produces Smooth Linear Response

The Outlander PHEV comes standard with Mitsubishi's proprietary S-AWC. The S-AWC system found on the Outlander PHEV is a specialized application of the Lancer Evolution-derived Super All-Wheel Control developed specifically for the Outlander PHEV's unique twin electric motor configuration for maximum performance, efficiency, tractability and safety.

This integrated control system delivers incredible power and control. By optimally managing Active Yaw Control (AYC), Anti-lock braking system (ABS) and Active Stability Control (ASC) with Traction Control (TCL) — which now offers enhanced traction on all road conditions — it brings out the full potential of Twin Motor S-AWC without compromising safety, comfort or fuel efficiency. When desired, the driver can press the Twin-Motor 4WD LOCK button to simulate locking of a center differential and optimally distribute torque to all four wheels for improved traction and stability.

"The PHEV system in the Outlander has been tested and proven in some of the most grueling races in the world. A pair of MiEV Evolution III all-electric prototype racecars competed at Pikes Peak International Hill Climb in 2014 and placed first and second. Then, Mitsubishi built a specially prepared Outlander PHEV rally car that raced very competitively in the Baja Portalegre 500 off-road rally in 2015," said Berg. "The Outlander PHEV responds faithfully to every command given by the driver. The Twin Motor S-AWC teams with the PHEV drivetrain to supply optimal torque and traction to each wheel, helping to provide smooth, powerful acceleration, and stable handling in all road conditions."

# Easy Charging with Standard DC Fast Charging Capability

Charging the Outlander PHEV is simple with three different methods to choose from depending on your location and/or needs. The vehicle's drive battery can be charged with a standard 120V (full charge in less than eight hours) power outlet at home with the supplied charging cable, or with a public or residential 240V (full charge in less than four hours) charging station. Outlander PHEV also comes standard with DC Fast Charging capability, the only Plug-in Hybrid in the market with it. Using this system at commercial charging facilities, the vehicle will charge up to 80 percent capacity in as little as 25 minutes. Charging status is conveniently displayed on the instrument panel.

#### **Spacious Comfort and New Refinement**

Inside the Outlander PHEV is an oasis of comfort and refinement where driving pleasure is enhanced by generous legroom, luxurious amenities and a supremely quiet ride. The seats are meticulously finished with standard premium soft leather and the rear seatbacks can be folded to allow for many different adventures. A special PHEV meter cluster design indicates to the driver the energy usage by pointing the needle toward the Power, Eco or Charge zone.

Affixed to the steering column is a pair of paddle shifters which control the regenerative braking system. This allows the driver to adjust regenerative braking strength to any of six settings with the simple flip of the paddles. Other interior features include an advanced EV shift lever and console design, efficiency and ECO monitoring features integrated in the display screen and a premium steering wheel.

Adding to the aesthetic, the Outlander PHEV introduces a new exclusive premium exterior color, Ruby Black Metallic, along with a new interior color choice, dark brown premium leather with red stitched accents.

## **Technology for All Around Safety**

Advanced safety technology supports safer, more confident driving — on the road and in parking lots, day and night. From intelligent sensors that track the vehicle's surroundings and warns of danger to active driving assistance and solid passive protection, the Outlander PHEV delivers all around high levels of safety.

**Blind Spot Warning (BSW)** – This safety feature uses radar sensors in the rear bumper to detect vehicles in rear blind spots, on the right and left sides. An indicator appears in the door mirror when BSW is active and the turn signals are off. When a vehicle is detected and the turn signals are on, an indicator blinks in the door mirror on that side.

**Rear Cross Traffic Alert (RCTA)** – An indicator appears in the combination meter display when RCTA is active. If radar sensors in the rear bumper detect an approaching vehicle nearby while reverse gear is engaged, a warning message appears in the multi-information display, an audible alert sounds and an indicator blinks in both door mirrors.

**Forward Collision Mitigation (FCM)** – Helps prevent a frontal collision or reduce the severity of that collision if it becomes unavoidable. Responds to vehicles and pedestrians via camera and laser radar.

**Lane Departure Warning (LDW)** – The Lane Departure Warning (LDW) system uses an onboard camera to monitor lane position in front of the vehicle audibly and visually, alerting the driver if it detects the vehicle leaving its lane unintentionally.

**Automatic High Beam (AHB)** - To increase safety, comfort and driving ease at night, the high beams automatically switch to low beams when vehicles are detected ahead and automatically switch back to high beams so the driver doesn't have to remove their hand from the steering wheel to switch the beams manually.

**Adaptive Cruise Control System (ACC)** - Maintains a selected distance between the vehicle and the car ahead via radar for greater safety and peace of mind. It reduces driver stress especially during traffic jams on highways.

**Multi-View Camera System** - The views from cameras mounted on the front, rear and sides of the vehicle (including a bird's-eye view) can be displayed in various combinations to help reveal what is in blind spots and help you park.

## Wi-Fi EV Remote

Using a Smartphone remote control app, the Outlander PHEV and wireless device communicate directly. You do not have to access a public Wi-Fi spot or prepare any Wi-Fi routers at your home. Once set up, the owner can use the wireless device for many functions:

Charging Schedule – turn on/off the charging timer. Can also set the charging schedule to fit your lifestyle.

Remote Climate Control – cooling, heating and defrosting can be controlled remotely. You can also set the A/C to run on a schedule. You can utilize the grid power to run the heat or A/C before going to the vehicle, so there is no decrease in vehicle efficiency or range.

Monitor Vehicle Status – You can check your car's status such as an open/closed door or hood, headlights on/off, driving battery state of charge and more.

Vehicle Control – turn on/off headlights and parking lights.

Settings – can change MITSUBISHI REMOTE CONTROL settings, such as change/cancel SSID, customize vehicle settings, and check theft alarm operation history.

#### **Ultimate Outdoor Vehicle**

Available in the Outlander PHEV are two AC power outlets located in the rear seat and cargo area. The plugs don't need an adaptor to use as they are standard North American 120V plugs. The plugs draw directly from the drive battery and provide 1,500 watts of electric power, enough to power nearly any portable household appliance. The plugs could be useful for outdoor events such as camping (toaster, spotlight, electric grill, coffee maker) or tailgating (television, blender, game console, mini-fridge, speakers).

## **Warranty and Pricing**

The 2018 model year Outlander PHEV comes with a fully transferable 5-year/60,000-mile new vehicle limited warranty as well as a fully transferable 10-year /100,000-mile warranty on PHEV components and the Main Drive Lithium-ion battery. These warranties are in addition to a 10-year/100,000-mile powertrain limited warranty to the original retail purchaser and a 7-year/100,000-mile anti-corrosion perforation limited warranty. In addition, the Outlander PHEV comes with a 5-year/unlimited miles Roadside Assistance benefits.

The Outlander PHEV will arrive in dealerships in December 2017 with a starting MSRP of only \$34,595. For more information please visit media.mitsubishicars.com.

<sup>1</sup>The 10-year/100,000-mile Powertrain Limited Warranty coverage terms are from the original in-service dates, and are applicable only to the original owner of new, retailed models purchased from an authorized Mitsubishi dealer. Subsequent owners receive the balance of the New Vehicle Limited Warranty of 5-years/60,000-miles. In addition, the Mitsubishi Outlander PHEV has a fully transferable 10-year/100,000-mile warranty on PHEV components and the Main Drive Lithium-ion battery. See retailer for limited warranty and roadside assistance terms and conditions.

# About Mitsubishi Motors North America, Inc.

Mitsubishi Motors North America, Inc., (MMNA) is responsible for all research and development, marketing, and sales for Mitsubishi Motors in the United States. MMNA sells sedans and crossovers/SUVs through a

<sup>&</sup>lt;sup>1</sup> Manufacturer's Suggested Retail Price excludes destination & handling, tax, title, license, etc. Retailer price, terms and vehicle availability may vary. Federal and state tax credits and/or rebates may be available "post-sale" (after purchase of the vehicle has been completed by the dealer). Consult your tax professional for details.

network of approximately 360 dealers. MMNA is leading the way in the development of highly efficient, affordably priced new gasoline-powered automobiles while using its industry-leading knowledge in battery electric vehicles to develop future EV and PHEV models. 2017 marks the 100th year of Mitsubishi producing cars. For more information, contact the Mitsubishi Motors News Bureau at (888) 560-6672 or visit media.mitsubishicars.com.

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