



October 10, 2024

Lexus revamps LX and unveils new LX700h with newly developed hybrid system

- Pursuing electrification befitting the LX while maintaining reliability, durability and off-road performance

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BEYOND ZERO News, Release, Model Lexus, LX, HEV, Carbon, Neutral

- While maintaining the concept of "easy and high-quality driving on any road in the world," this is the first LX to be electrified.
- A new hybrid system for harsh environments that embodies "an electric vehicle that can go anywhere and come back alive"
- Further pursuit of the unique Lexus driving experience, "Lexus Driving Signature," on-road or off-road
- The "OVERTRAIL" model is now available, featuring exclusive equipment and interior and exterior colors based on the ideas of the LEXUS OVERTRAIL PROJECT.



LX700h "LUXURY" (Sonic Titanium)



Rear Badge

On Thursday, October 10th, Lexus announced the LX700h, a partially improved version of the LX and equipped with a new hybrid system, a first for Lexus. The new model is scheduled to be released in various regions from the end of 2024 onwards.

Since its founding in 1989, Lexus has always maintained a spirit of innovation and has continued to take on the challenge of providing new technologies and value to its customers. As we strive to realize a carbon-neutral society, we will continue to provide a variety of options to meet the needs of customers around the world, with the desire to make the lifestyle shared with beloved cars more enjoyable and enriching.

The LX is a flagship SUV that combines the driving performance required for driving on any road in the world with the high-quality ride quality that is characteristic of Lexus, based on the concept of "Easy and high-quality driving on any road in the world". Currently, it is popular with a wide range of customers in over 50 countries around the world. On the other hand, it was the only model in the Lexus lineup that did not have an electric vehicle option.

With the introduction of the LX700h, Lexus has developed a new parallel hybrid system that prioritizes maintaining the reliability, durability, and off-road performance that the LX has cultivated for generations, even in electrification. In addition to realizing a driving experience that is characteristic of Lexus by making the most of the motor torque, in terms of environmental performance, annual CO₂ emissions during vehicle use have been reduced more than ever before for all global vehicles.

By improving the basic features, including the engine model, we have further raised the level of the driving experience unique to Lexus, "Lexus Driving Signature." In addition to refining the "interactive driving" that responds without delay to the driver's operations, the safety equipment has been updated to the latest Lexus Safety System + (LSS+) to provide a safer and more secure ride.

Furthermore, in order to better meet the diverse needs of customers around the world, the company will be expanding its product lineup under the Lexus OVERTRAIL PROJECT by introducing the new "OVERTRAIL" model, which includes the GX and NX "OVERTRAIL" models that have already been released for sale.

Chief Engineer, Lexus InternationalTakami Yokoo

The LX, which underwent a full model change in 2021 with the concept of "Easy and high quality on any road in the world," has been so well received by customers around the world that we cannot keep up with supply, and we would like to express our gratitude once again.

On the other hand, it is true that Lexus, which aims to realize a carbon-neutral society, faced the dilemma of being the only one in its lineup that did not have an electric vehicle. For Lexus, and for me, who has been involved with the LX for a long time, the electrification of the LX, which is used in harsh environments around the world, was both a high hurdle that seemed impossible and a long-cherished wish.

In the development, the first thing we solidified was our strong will and determination to never sacrifice the reliability, durability, and off-road performance that previous LX models have maintained, even in an electric vehicle. How can we make the LX safe to use, how can we make it come back alive, and how can we achieve a driving experience that is characteristic of Lexus? The development team came together and arrived at the answer: the development of a new parallel hybrid system and improvements to the GA-F platform.

The gasoline and diesel models, which have been on the market for about three years, have further pursued the Lexus Driving Signature and enhanced safety and comfort features. The knowledge gained from the "Driving Experience Refinement Activities" has been generously applied to both the HEV model and the vehicle to refine the "drivability that allows dialogue," and improvements have been made to make the drive even easier and more refined, such as updating the LSS+ by updating the electronic platform. A new "OVERTRAIL" package has also been added, further enhancing the lineup to suit the diverse lifestyles of our customers. Please come and experience the driving of the new LX, which was created with the passion and dedication of the development team, including the HEV model that has stepped into a new stage of electrification.

New LX700h Main Specifications (Prototype)

full length	5,100mm
Width	1,990mm
Height	1,895mm ^{*1} (1,885mm ^{*2})
Wheelbase	2,850mm
Vehicle weight	2,780kg ^{*3}
Powertrain	3.5L V6 twin turbo hybrid system [full-time 4WD]

^{*1} When using 265/55R22 tires

^{*2} When using 265/55R20 tires

^{*3} Middle East prototype value

Main features of the new LX

"Reliability," "durability," and "drivability on rough roads"hold fast

Newly developed hybrid system

1. Lexus' first parallel hybrid system

In order to maintain the drive system that supports the LX's reliability, durability, and off-road performance, including full-time 4WD, transfer low range, and automatic transmission with torque converter, even in the electrified version, a parallel hybrid system has been adopted, with a motor generator (MG) with a clutch between the V6 3.5L twin turbo engine and the 10-speed automatic transmission. The high output and torque of the engine and motor are reliably transmitted to the road surface, and the hybrid control system optimally controls switching between engine only and motor only depending on the situation. In addition, an alternator and starter, which are not equipped on conventional Lexus parallel hybrid vehicles, are standard equipment. In the event that the hybrid system stops, the engine can be started with the starter, and the power generated by the alternator is supplied to the 12V auxiliary battery, making it possible to evacuate using only the engine. This is the first Lexus system to do so. Even during evacuation, the transfer low range can be used, the vehicle height can be adjusted using the active height control [AHC ^{*1}], and A-TRAC ^{*2} can be operated, which contributes to evacuating on rough roads.

2. River crossing performance equivalent to that of gasoline engine vehicles

The hybrid main battery mounted on the rear floor is packed in a waterproof tray divided into upper and lower halves. This prevents water from entering deep waterways, ensuring a river fording performance of 700mm, equivalent to that of gasoline-powered vehicles. In the unlikely event that water does enter the waterproof tray, a water damage sensor located inside the tray will detect it and alert the driver via the meter display.

3. Driving that makes the most of motor torque

The combination of the responsive motor torque characteristics and the large-displacement twin-turbo engine achieves responsive, linear starts and acceleration from low throttle openings at low speeds, and powerful, extended acceleration when the accelerator is pressed down or at high speeds, utilizing the large torque, in pursuit of the "interactive driving" characteristic of Lexus.

Off-road, Lexus is the first to adopt motor drive in the Lo range, rather than just the transfer high range, and in combination with the various Multi-Terrain Select modes, it is possible to drive partially on the motor alone on rocky areas, dirt roads, deep snow, etc., which require delicate accelerator operation, achieving both high drivability and ease of control.

4. Power supply function

The AC inverter (with waterproof structure) located under the center console makes it possible to supply power of up to 1,500W or 2,400W (depending on the region). Convenience is also enhanced by providing outlets at the rear of the center console and on the deck. It can be used for various activities or as an emergency power source in the event of a disaster.

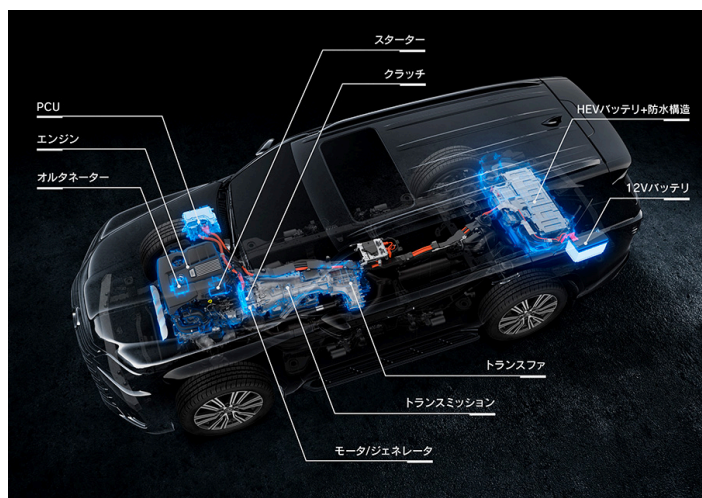
5. Improvements to the GA-F platform

A dedicated cross member (Cross Member No. 3) was newly installed to accommodate the power train, which has increased in weight and length due to the addition of MG, and the cross section and plate thickness were optimized to create a thin shape to ensure the same ground clearance as the engine model. In response to the increased weight of the power train, the material of the rear engine mount was also changed to a more durable one.

In addition, a spare tire cross was newly installed to change the spare tire position in accordance with the installation of the hybrid main battery on the rear floor, and the installation angle was optimized to lower the installation position while maintaining the departure angle, achieving both off-road performance and serviceability. The installation position of the 12V auxiliary battery was changed from inside the engine room to the side of the rear deck, and a dedicated metal tray and removable battery brace were installed to achieve both ease of replacement and improved body rigidity around the rear quarters.

*1 AHC : Active Height Control

*2 A-TRAC : Active Traction Control



New parallel hybrid system



Starter/Alternator



Waterproof tray



Cross member No.3

A unified LEXUS driving experiencePursuing the Lexus Driving Signature

At Lexus, we are constantly pursuing the "Lexus Driving Signature," a driving experience that is consistent across the entire lineup, regardless of the model cycle, and we aim to provide "a driving experience that allows for dialogue." For the new LX, we have incorporated trial and error with the previous model, knowledge gained from other Lexus models, and improvements to the elemental technologies unique to frame vehicles, and have run the car on a variety of road surfaces, including the Toyota Technical Center Shimoyama (TTC-S), aiming for a driving experience that is unique to Lexus, both on and off road.

1. Initiatives to improve rigidity

The new LX also incorporates the same rigidity improvements around the radiator support as other Lexus models. This

achieves linear response to steering operations, while maintaining wheel articulation by making the reinforcing material a patch shape, improving steering response without sacrificing off-road performance.

For the instrument panel reinforcement, brackets have been added to improve steering support rigidity and the thickness of existing brackets has been changed, improving steering feel and handling stability.

2. Newly designed cab mount cushion

The structure of the cab mount cushion used to mount the body to the frame has also been revamped, improving the connection rigidity when the frame and body are twisted together, further reducing the low-frequency vibration that is unique to frame vehicles. This achieves a smooth ride while maintaining the advantages of frame vehicles such as high robustness and road noise soundproofing.

3. The Evolution of AVS

The valve structure of the AVS actuator has been revised to smoothly control the damping force when the absorber suddenly compresses when going over a bump in the road, resulting in a smooth ride with less jolting. Even in the low transfer range, the damping force control has been improved when the vehicle comes to a stop

from extremely low speeds, suppressing unnecessary vehicle movement and improving the sense of security and quality on rough roads.

Even easier and more high qualityFor your driveEvolution of functions and equipment

In conjunction with the introduction of the hybrid model, we have further enhanced the functionality and equipment of all models, including the engine model.

1. Adoption of a large 12.3-inch full LCD meter

Driving support information can be displayed in an easy-to-understand manner so that the driver can concentrate on driving. In addition to the LX's traditional auxiliary battery voltage and engine oil pressure gauge, you can also customize the screen to display a boost meter and hybrid battery charge status (hybrid model only). The vehicle animation display when switching modes for Drive Mode Select and Multi-Terrain Select has also been completely redesigned.

2. Adoption of Electro Shiftmatic(Hybrid models only)

When adopting the electro shiftmatic for the first time in a Lexus off-road 4WD vehicle, we pursued ease of operation and grip when operating on rough roads, such as "kneading," under the supervision of off-road expert TAKUMI, and newly adopted a shift knob exclusive to the LX that combines a comfortable feel with high operability. In conjunction with the adoption of the electro shiftmatic, the "Advanced Park" switch has also been placed in an easily visible position on the top of the center console.

3. Adoption of refreshable front seats(EXECUTIVE is in the driver's seat)

To help reduce fatigue for front seat passengers, the new seats feature an air bladder system. The function can be turned on and off, and five different modes (two for the whole body and three for specific body parts) can be selected from the switch in the center display. The intensity can also be set to one of five levels.

4. The evolution of "just place and charge"

The next generation of the "just place it and charge" feature on the top of the centre console has been updated to support quick charging, and the EXECUTIVE option, which was previously only available in the rear centre console, has now been added to the front centre console to meet the growing need for in-car smartphone charging.



Large 12.3-inch full LCD meter



Electro Shiftmatic

Accommodating the diverse lifestyles of our customers**Lineup**

Lexus is working on the "LEXUS OVERTRAIL PROJECT" to support a wide range of outdoor lifestyles for customers, aiming to realize a carbon-neutral society and "the coexistence of people, nature, and mobility." Based on this concept, we have added the "OVERTRAIL" model with exclusive equipment and interior and exterior colors.

Exclusive interior and exterior colors

- The exterior design
features a black-painted spindle grille and matte gray aluminum wheels, as well as other parts (fog lamps, roof rails, window moldings, wheel arch moldings, door handles, outer mirrors, and rear bumper side chrome moldings) coordinated in black and dark colors to create a "professional tool" that can withstand harsh environments.
- The "Moon Desert" color, which has a solid body color but accentuates the three-dimensional effect with metallic shadows and exudes the high quality that is characteristic of Lexus, has been set as an exclusive color for the OVERTRAIL, and is available in a total of six colors.
- The interior design
has been given the "OVERTRAIL" monolith interior color. The low-saturation monolith is combined with the main part of the seat upholstery and the door trim, and coordinated with the ash burl black ornament decoration, creating a high-quality off-road scene that is characteristic of Lexus.

Dedicated Equipment

- Front and rear differential locks
In addition to the centre differential lock that comes as standard on all vehicles, front and rear differential locks are

available exclusively for the OVERTRAIL. In the event that the wheels become stuck, the differentials can be locked as necessary to improve escape capabilities.

- 265/70R18 Dedicated All-Terrain Tires ^{*1}

The all-terrain tires, which are the first to be available for the LX, are tires developed exclusively for Lexus frame vehicles, with a high level of balance between off-road and on-road performance. The sidewalls feature a tread pattern that improves escape from muddy roads and gives off a tough image, and the shoulder shape is designed to control wind flow, giving consideration to fuel efficiency.

- 265/65R18 Dedicated M+S Tires ^{*1A}

dedicated 18-inch tire with a high aspect ratio is available, which improves road-holding performance on rough roads. The tread pattern and structure have been optimized to reduce road noise, achieving both excellent handling and ride comfort on the road and off-road performance.

^{*1} The types of tires available vary by region.



Body color: Moon Desert ※"OVERTRAIL" exclusive color



Interior color: "OVERTRAIL" Monolith



Exclusive for "OVERTRAIL" Front and rear differential locks



All-Terrain Tires

Advanced safety technology based on human-centered thinking

Lexus Safety System+ update Preventive safety features updated

Lexus is promoting the development of safety technology with the ultimate goal of a mobility society: "zero traffic fatalities and injuries."

Based on the belief that it is important to develop the world's most advanced safety technology as quickly as possible and spread it to more cars, the latest Lexus safety system + is also adopted in the new LX. Proactive driving assist, which provides appropriate operation support according to the driving situation, and optimal control according to the driver's driving situation in cooperation with the driver monitor, will further contribute to safe and secure driving for customers.

< Main performance improvements >

- Proactive Driving Assist [PDA ^{*1}] :

This function predicts risks according to the driving situation, such as "pedestrians crossing the road" or "people who may jump out in front of you," and supports driving operations, leading to peace of mind for the driver. In addition to supporting deceleration operations for preceding vehicles and curves ahead and reducing frequent pedal changes, the new LX supports safe and secure driving by providing appropriate operation support according to a wide range of driving situations, such as deceleration support when turning right or left at signalized intersections and constant steering assistance when driving within the lane.

The following functions linked to the driver monitor will support your driving.

- Pre-Crash Safety [PCS ^{*2}] :

If the system detects that the driver is looking away from the road, it warns the driver at an early stage, ensuring the driver's reaction time and helping to avoid a collision or mitigate damage.

- Radar Cruise Control(With full speed tracking function) :

When the driver monitor's attention alert function is enabled, the system alerts the driver and provides support control to ensure a safety margin during normal driving, allowing the driver to resume driving with peace of mind when they return to normal driving mode (voice assist).

- Lane Departure Alert[LDA ^{*3}] :

If the system detects that the driver is looking away from the road, it will issue an alarm and prevent the vehicle from leaving its lane earlier than usual.

- :

If the driver's posture becomes significantly unstable during the Lane Tracing Assist [LTA ^{*4}] control, the system will determine that it is difficult for the driver to continue driving, and will gently decelerate while warning those around by turning on : the hazard lights, etc., and stop the vehicle within the lane. After stopping, the system will also unlock the doors and

automatically connect to the HelpNet to request rescue, contributing to early rescue and medical treatment for the driver.

*1 PDA : Proactive Driving Assist

*2 PCS : Pre-Collision System

*3 LDA : Lane Departure Alert

*4 LTA : Lane Tracing Assist

< Lexus Teammate: Supporting comfortable mobility >

The vehicle is equipped with the advanced driving assistance technology "Lexus Teammate" ^{*1}, which includes the functions "Advanced Drive (traffic jam assistance)" and "Advanced Park (hybrid model only)."

- Advanced Drive (traffic jam assistance)Recruitment

When driving on expressways in traffic jams (0km/h to approx. 40km/h), the system will activate if certain conditions are met, such as the driver facing forward while radar cruise control and lane tracing assist are in operation.

By supporting recognition, judgment, and operation, the driver can reduce fatigue during traffic jams and drive while paying more attention to their surroundings.

- Advanced Park

has expanded support for parallel parking. In addition to reverse parking, it now supports forward parking, and allows you to exit the parking lot forward or in reverse by operating from inside the car. This improves usability when

parking, such as when you want to let children or elderly people get in and out of the car in a spacious area, or when taking luggage out of the trunk.

^{*1} Developed based on Toyota Motor Corporation's unique autonomous driving philosophy, the Mobility Teammate Concept, in which people and cars drive together like friends, improving each other.

End

For more information on LX, click here

[LX TOP ▶](#)


~From negative to zero, creating new value beyond zero~

In order to "pass on our beautiful home planet, Earth, to the next generation," Toyota will not only work to resolve the various issues facing society and individuals (turning negatives into zero), but will also aim to create and provide new value that goes beyond zero and will continue to "unrelentlessly take on challenges for a future where there are no answers."

BEYOND ZERO : <https://global.toyota/jp/mobility/beyond-zero/> ▶



Toyota strives to "mass-produce happiness" through innovative, safe, and high-quality manufacturing and services. For over 80 years since our founding in 1937, under the Toyoda Precepts, we have believed that supporting the happiness of our customers, partners, employees, and the local community leads to our growth as a company, and have striven to realize a safe, environmentally friendly, and inclusive society. Currently, Toyota is focusing even more on new technological fields such as connectivity, automation, and electrification, and is transforming itself into a mobility company. In the midst of this transformation, we will continue to respect our founding spirit and the SDGs set by the United Nations, and strive to realize a better mobility society in which all people can move freely.

Initiatives toward SDGs : <https://global.toyota/jp/sustainability/sdgs/> 

Particular contributions that can be made through this initiativeSDGs Goals

