Acura Hybrid Vehicle FAQs

1. What is a hybrid vehicle?
A hybrid vehicle uses two distinct kinds of power. In the automotive world, a hybrid car usually uses a gasoline engine in combination with one or more electric motors to propel the vehicle. A special hybrid battery supplies power to the electric motor(s) and is recharged by regenerative braking or engine power.

2. What are the main types of hybrid vehicles?
There are many types of hybrid vehicles, but they can be broken down into a few main categories:
- In “parallel” hybrids, both the gasoline engine and the electric motor(s) can power the wheels, depending on the conditions.
- In “series” hybrids, the electric motor(s) power the wheels and the gasoline engine turns a generator that recharges the hybrid battery.
- “Power-split” hybrids are designed to function in parallel or series, depending on the operating conditions.

All Acura hybrid models are parallel hybrids.

3. Why buy an Acura hybrid?
Many people associate buying a hybrid vehicle with sacrificing performance for fuel efficiency, but Acura doesn’t believe buyers need to sacrifice anything. Instead, Acura always starts with performance. The result is that every vehicle in our hybrid lineup delivers an exciting driving experience and fuel efficiency.

Acura’s approach of Precision Crafted Performance means that buyers can have it all.

4. How does the battery get charged in an Acura hybrid?
The hybrid battery is charged by the gasoline engine and regenerative braking, which captures the inertia of the moving vehicle and converts it into electricity.

5. How is a hybrid battery different than a conventional battery?
Most conventional automotive batteries are the lead–acid type. Acura hybrid batteries are lithium–ion, which is an advanced battery type that can store more energy with less weight and volume than a lead–acid battery.
6. Does Acura offer a plug-in hybrid?
Acura does not offer a plug-in hybrid model at this time.

7. What advantages do Acura hybrid vehicles offer over their gasoline-only counterparts?
There is no gasoline-only counterpart to the NSX, so no comparison can be made. In the RLX and MDX, the hybrid versions offer greater system horsepower and torque, and superior EPA fuel economy ratings when compared with their gasoline-only counterparts. In the case of the MDX, its Sport Hybrid Super Handling All-Wheel Drive™ system offers a more pronounced torque vectoring effect than that of the gasoline-only MDX SH-AWD. It can selectively apply power to either rear wheel and also apply regenerative braking to the wheel on the opposite side. This greater differential torque between the inside and outside rear wheels when cornering helps make the MDX Sport Hybrid feel exceptionally nimble and responsive.

8. Can Acura hybrid vehicles operate on battery power only?
All Acura hybrid vehicles can operate on battery power alone for a short distance when certain parameters are met. The NSX allows the driver to select electric-only operation by placing the Integrated Dynamics System (IDS) into the Quiet mode. In this mode, the NSX is electrically powered initially and the gasoline engine will restart automatically, as needed, based on driving conditions and other factors.

9. How does the Acura hybrid drive system differ from other traditional hybrid drive systems?
Acura hybrid systems are engineered to enhance vehicle acceleration and handling, first and foremost. Most other hybrid vehicles principally use the hybrid system to improve fuel efficiency.

10. Why does the Acura hybrid system have three electric motors?
The Acura hybrid system uses three different electric motors to provide all-wheel drive. One electric motor is paired with the gasoline engine to power the front wheels in the RLX and MDX, or the rear wheels in the NSX. Two other electric motors are positioned at the opposite end of the vehicle, each powering one of the wheels. These two motors can provide power or regenerative braking separately to each wheel. This “torque vectoring” helps improve handling agility and stability when cornering.
11. Do Acura hybrid vehicles require any special driving techniques?

Acura hybrid vehicles do not require any special driving techniques since the coordination of the gasoline engine and the three electric motors is handled automatically.

12. If my Acura hybrid does not start, can the vehicle still be “jump-started?”

Acura hybrid vehicles can be jump started, if needed, just like gasoline-only vehicles. See the Owner’s Manual for specific instructions.

13. What is the Acura hybrid warranty?

Please read the Acura Warranty Information booklet that came with the vehicle for precise information on warranty coverage or visit http://owners.acura.com/vehicles/warranty for the latest warranty information.

14. When did Acura start making hybrid vehicles?

Acura’s first production hybrid was the 2013 ILX Hybrid. Acura shares hybrid engineering resources with parent company Honda, which launched its first production hybrid, the Insight, in 1999 as a 2000 model year vehicle.

15. What happens when the Acura hybrid battery charge runs out?

The Acura hybrid system automatically maintains a specific minimum charge level. Should the charge drop below that level (due to extended storage or other factors), the next time the vehicle is started, the gasoline engine and regenerative braking systems will recharge the hybrid battery.

16. What happens if I run out of gasoline? Will the vehicle keep going on electric power until I get to a gas station?

The electric-only range of an Acura hybrid is relatively short and is not intended to be a range extender when the fuel tank is empty.
17. What is the electric–only range of an Acura hybrid?

As with a gasoline–powered vehicle, hybrid vehicle fuel efficiency and driving range is most impacted by your driving style. Aggressive acceleration and high-speed driving can easily trigger the system to switch the propulsion source to the gasoline–powered engine. In addition, heavy climate control system use negatively affects vehicle range and efficiency. Either of these use patterns will more quickly reduce the high–voltage battery’s state of charge.

18. Can the MDX Sport Hybrid be used for towing?

The MDX Sport Hybrid is not engineered for towing. For MDX clients who wish to tow, the non–hybrid MDX models are the correct choice.

19. Are Acura hybrid vehicles designed mainly to offer greater fuel efficiency?

First and foremost, Acura hybrids are designed to offer enhanced performance and handling. Improved fuel efficiency, particularly in the city, is an additional benefit.

20. What does “electric torque vectoring” mean in an Acura hybrid?

All Acura hybrid models have a total of three electric motors. One is connected to the crankshaft of the gasoline engine. A pair of electric motors separately drive each rear wheel (each front wheel in the NSX). Since these motors are separate, each can apply power (or torque) or regenerative braking at any time. When cornering, the hybrid system can apply power to the outside wheel while simultaneously applying regenerative braking to the inside wheel. This effect, called “torque vectoring,” helps to turn the vehicle through a corner, making the car feel more agile and responsive to the driver’s steering commands.

21. What is “regenerative braking?”

The three electric motors in the Acura hybrid system can apply power to the wheels, but can just as easily be used to generate electricity that can be stored in the hybrid battery system. When decelerating without the accelerator being depressed or the brake pedal being applied, or while driving downhill, the electric motors act as generators to recapture a portion of the energy that was used to accelerate the vehicle. This regenerative braking slows the vehicle in a manner similar to engine braking in a gasoline–powered vehicle.
22. What is “idle stop” or Auto Engine Stop/Start?

Idle stop, or Auto Engine Stop/Start, is a feature of all three Acura Sport Hybrid vehicles that is designed to automatically shut off the gasoline engine when it isn’t needed in order to conserve fuel. An Acura hybrid vehicle’s gasoline engine will automatically stop and start during vehicle operation, as needed, to meet driving and battery conditions.

In the following cases, however, Auto Engine Start/Stop may not activate:

- When the Integrated Dynamics System is in Sport+ mode. (MDX)
- When the Integrated Dynamics System is in Sport+ or Track mode. (NSX)
- When in Sport mode. (RLX)
- When the vehicle momentarily needs additional power for aggressive acceleration, driving uphill or driving at high speeds.
- When the climate control system is in heavy use.
- When the high-voltage battery temperature is high or low.
- When the high-voltage battery state of charge is low.
- When the engine coolant temperature is low.
- When the gear position is in S or R. (MDX)
- When the gear position is in M. (NSX)

23. Do Acura hybrid vehicles have any unique maintenance requirements?

The RLX and MDX Sport Hybrids do not have any unique maintenance requirements. The NSX needs to have its high-voltage battery charged regularly, using the following process.

To maintain the high-voltage battery, drive the vehicle for more than 30 minutes at least once every three months. If road conditions are not suitable or desirable for driving, the following alternate procedure can be used to maintain the vehicle’s high-voltage battery (if local laws permit idling):

- Remove the vehicle from the garage or enclosed area to prevent carbon monoxide accumulation.
- Depress the brake pedal and press the Engine Start/Stop button as you normally would to start the vehicle.
- Allow the vehicle to run for 30 minutes. Time spent at idle stop still counts as part of this 30-minute run.
24. How do you store an Acura hybrid vehicle for an extended period of time?

For the RLX and MDX Sport Hybrids, no special storage methods are required. For the NSX, to maintain the low-voltage 12-volt battery, connect it to an accessory battery charger. For more information on how to maintain your 12-volt battery, consult an authorized Acura NSX dealer.

Remove the NSX from the garage or enclosed area, remove covering, and periodically run the engine until it reaches full operating temperature (the cooling fan cycles on and off twice). Preferably, do this once a month. To maintain the high-voltage battery, drive your vehicle for more than 30 minutes at least once every three months.

If road conditions are not suitable or desirable for driving, the following alternate procedure can be used to maintain the vehicle's high-voltage battery (if local laws permit idling):

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