

Hybrid Safety on the Sales Floor

What Customers are Asking and What Sales People Need to Know

Third in a 3-part Series by Peter Zaidel

As a professional car, truck or SUV sales person, you are either already selling hybrid vehicles or you are likely to be in the near future. In the eight years since Toyota began selling its first electric vehicle the number of hybrid electric vehicles (HEVs) has exploded, and today there are more than 25 models sold under eleven brand names. Hybrid cars, crossovers, and sport utility vehicles now make up 2.4% of U.S. sales; that number is projected to rise to 6% of new vehicle sales by 2012.

This article provides responses to common safety questions asked by potential buyers of hybrids, and offers safety fundamentals for sales personnel where there are hybrid vehicles on the sales lot.

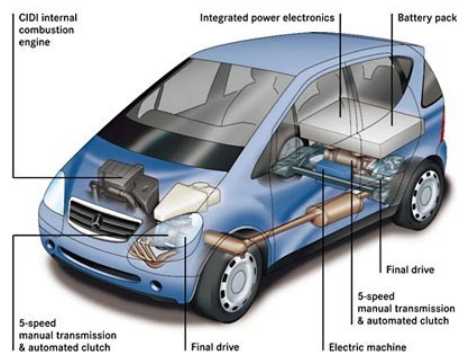
Customers may ask:

How are hybrids different from traditional gasoline-engine vehicles?

- ✓ Hybrid Electric Vehicles differ from conventional gasoline engine vehicles because they have two power sources – a gasoline engine and a high-voltage electric motor. That's why they are called "hybrids."
- ✓ The gasoline is stored in the fuel tank, as in a conventional gasoline-powered vehicle; the electrical energy source is the high-voltage battery pack for the electric motor. This is a separate battery from the battery supporting the gasoline engine system. The high-voltage battery pack is recharged by the gasoline engine, or by using the regenerative braking system.

The high-voltage battery sounds dangerous. What's the safety record?

- ✓ The safety record is outstanding; to date there are no known injuries to passengers, technicians or emergency responders due to the high-voltage circuit. Most hybrids are designed to isolate the high-voltage battery if the vehicle is involved in an accident that is serious enough to deploy the air bags.
- ✓ The high-voltage battery is designed to last for the life of the vehicle, typically without servicing. It is placed in an out-of-the-way location, and the owner will normally not see the high-voltage battery.



- ✓ While the high-voltage battery contains a corrosive electrolyte fluid, the battery is designed with a self-contained reservoir to prevent potential leakage.

What happens if the vehicle is in an accident? Can I get a shock from the high-voltage circuit?

- ✓ All hybrids conform to Department of Transportation (DOT) safety standards that require automatic shutdown after an accident.
- ✓ The high-voltage circuit uses a separate, heavily insulated high-voltage power cable rather than the vehicle as a ground.
- ✓ No voltage circuitry runs through columns or doors; it is all isolated in the center of the vehicle.
- ✓ Because of the closed circuit, there is also no shock potential if the vehicle is submerged.
- ✓ As an added precaution, most hybrid models provide automatic disabling of the high-voltage system if airbags deploy. In Japan, where commercial hybrid vehicles were developed, the government required that the high-voltage system remain isolated even if the “Jaws of Life” is used after a collision; the same standard applies in the U.S.

Hybrid vehicles are sometimes silent, even though the vehicle is on. Isn't that a safety risk?

- ✓ When the vehicle is stopped, as at a red light, the gasoline engine and electric motor turn off and the engine is silent; this is one way that hybrids use less gasoline.
- ✓ Setting the parking brake and shifting into Park, on vehicles that have a Park position, are two ways to immobilize the vehicle while it is running.

Safety on the sales lot:



Hybrid identification

As a vehicle sales professional, you know the inventory you have on the sales lot and in the showroom. Some hybrids are a distinctive model, such as the Toyota Prius, but more frequently the hybrid is an option of a conventional gasoline model and has the same external appearance. Almost all hybrids share these common identifiers:

- ✓ Hybrid badging on the body of the vehicle, typically including the rear right section of the vehicle
- ✓ READY indicator inside the vehicle, in the ignition area

Turning a hybrid ON and OFF

Because hybrid vehicles sometimes run silently, extra precaution should be used around hybrid vehicles. The car you think is OFF may indeed still be running.

- ✓ Do not leave the vehicle idle with the Ready light on while it is in neutral; the high voltage battery will not be able to charge. If leaving the vehicle idle, shift into Park.
- ✓ Always confirm that the vehicle is in Park prior to getting out. Otherwise, the vehicle could power up and potentially move while you are out of the vehicle.
- ✓ Do not leave the key in the ON position with the vehicle OFF for an extended period of time. This will cause the auxiliary 12-volt battery to rapidly discharge.
- ✓ Turn off the vehicle immediately if you run out of fuel. If run down too low, the high-voltage battery may be discharged and will then require servicing by a specially trained technician. The high-voltage battery jump-start procedure requires special tools.
- ✓ Many hybrids have remote keyless systems. After exiting the vehicle, be sure the key is kept at least 15 feet away from the vehicle.

Moving hybrid vehicles on the sales lot

- ✓ Do not physically push hybrids around the lot. To do so may damage the vehicle. Either drive the vehicle or have it moved on rollers or a flatbed truck.

Hybrids – Safe, Fuel Efficient, and a Little Different

You can assure potential buyers of hybrid vehicles that the innovations responsible for delivering greater fuel efficiency were also designed with the safety of the driver, passengers, service personnel, and emergency responders in mind. Eight years after the commercial introduction of hybrid vehicles, there are no substantiated reports of injuries due to the high-voltage system.

You will, however, want to ensure that hybrid buyers are aware of unique safety practices of hybrid ownership; the owner's manual should offer comprehensive information. And for your own safety on the sales floor, you, too, will want to be trained in the fundamentals of hybrid safety.



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