

Emergency Response Guide



2014 Acura RLX Hybrid



Prepared for Fire Service, Law Enforcement, Emergency Medical, and Professional Towing Personnel by American Honda Motor Co., Inc.

Introduction

This guide has been prepared to assist emergency response professionals in identifying a 2014 Acura RLX Hybrid Electric Vehicle and safely respond to incidents involving this vehicle.

Copies of this guide and other Honda Emergency Response Guides are available for reference or downloading at <https://techinfo.honda.com>.

For questions, please contact your local Acura dealer or Acura Client Relations at (800) 382-2238.

Acura wishes to thank emergency response professionals for their concern and efforts in protecting Acura customers and the general public.

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Vehicle Description

Vehicle Type and Construction

The RLX Hybrid is a four-door, five-passenger vehicle. Most of its structural components are made of steel. Other parts are made of aluminum and plastic.



Vehicle Description

Vehicle Overview

The Acura RLX Hybrid is powered by a three-motor hybrid system, which consists of a 6-cylinder 3.5 liter gasoline engine that is teamed with a 35kilowatt (kW) electric motor/generator in the front of the vehicle and two 27kW electric motors in the twin motor unit located between the two rear wheels. A 1.3 kilowatt-hour (kWh) (260 volt) high-voltage (HV) lithium-ion (Li-Ion) battery is mounted behind the rear seats and is charged under certain driving conditions.



Vehicle Description

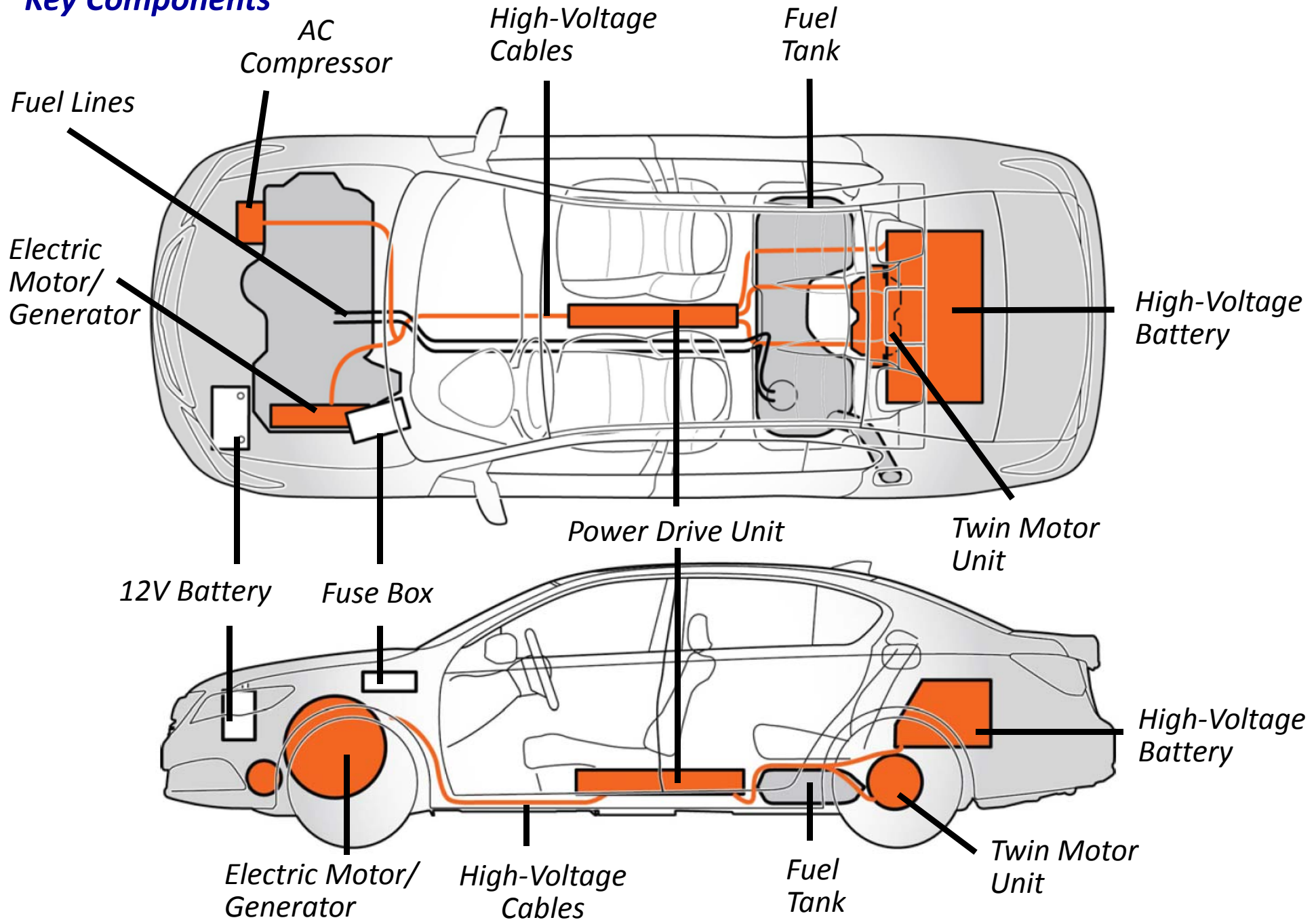


Vehicle Identification

You can identify a Acura RLX Hybrid by the exterior “Hybrid” marks located on the front fenders and by the blue letters “SH” on the trunk lid. You can also identify an RLX Hybrid by the orange cabling under the hood.

Vehicle Description

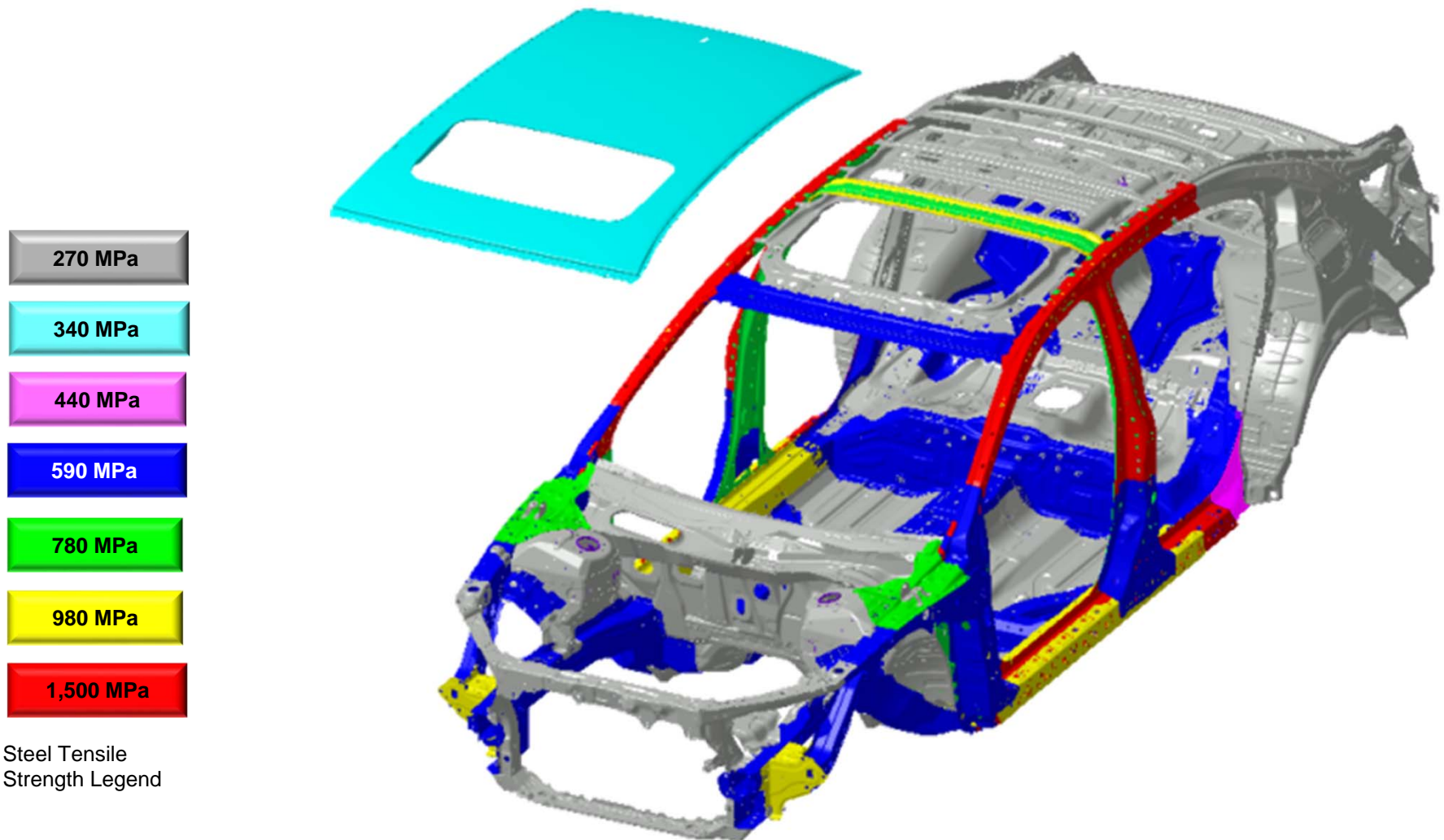
Key Components



Vehicle Description

High Strength Steel

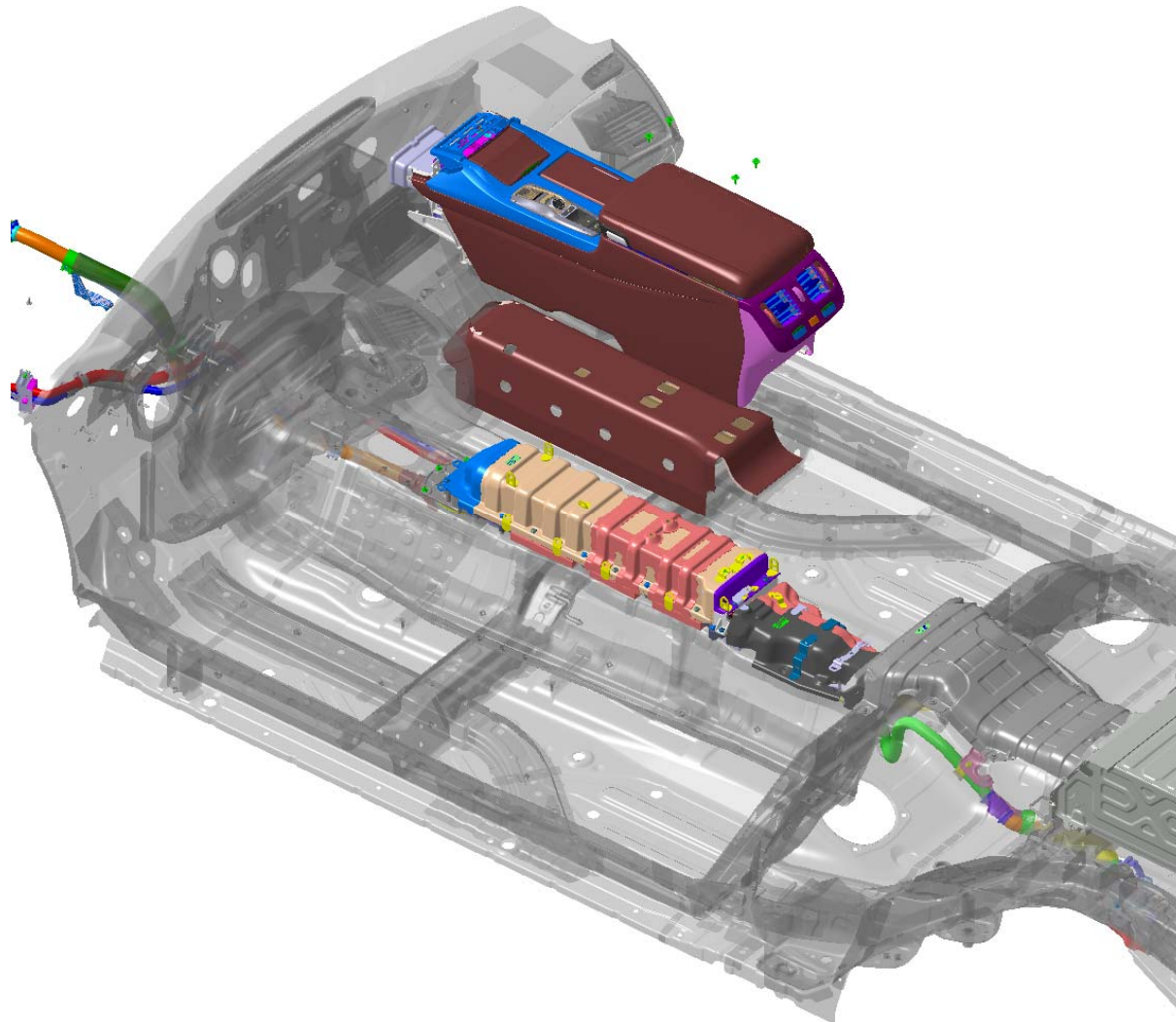
High strength steel is used in the colored areas.



Vehicle Description

Power Drive Unit (PDU)

The PDU is located below the center console and houses the liquid cooled inverter and other HV system components. There are no serviceable parts inside, so there is no reason for it to be opened or disassembled.



Vehicle Description

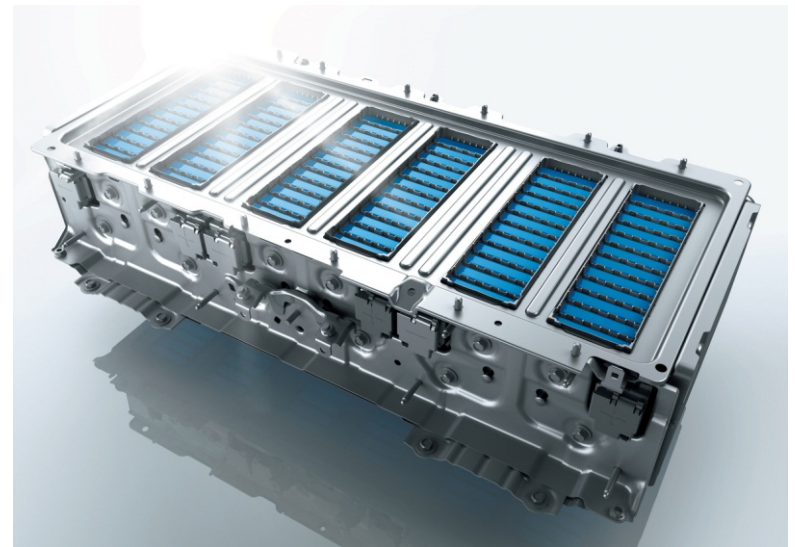
12-Volt Battery

A conventional 12-volt battery is located under the hood on the driver's side of the vehicle. This battery powers the airbags, lights, audio system, and other standard 12-volt system components. In an emergency situation, it may be necessary to disconnect or cut the 12-volt battery negative cable.



High-Voltage (HV) Battery Pack

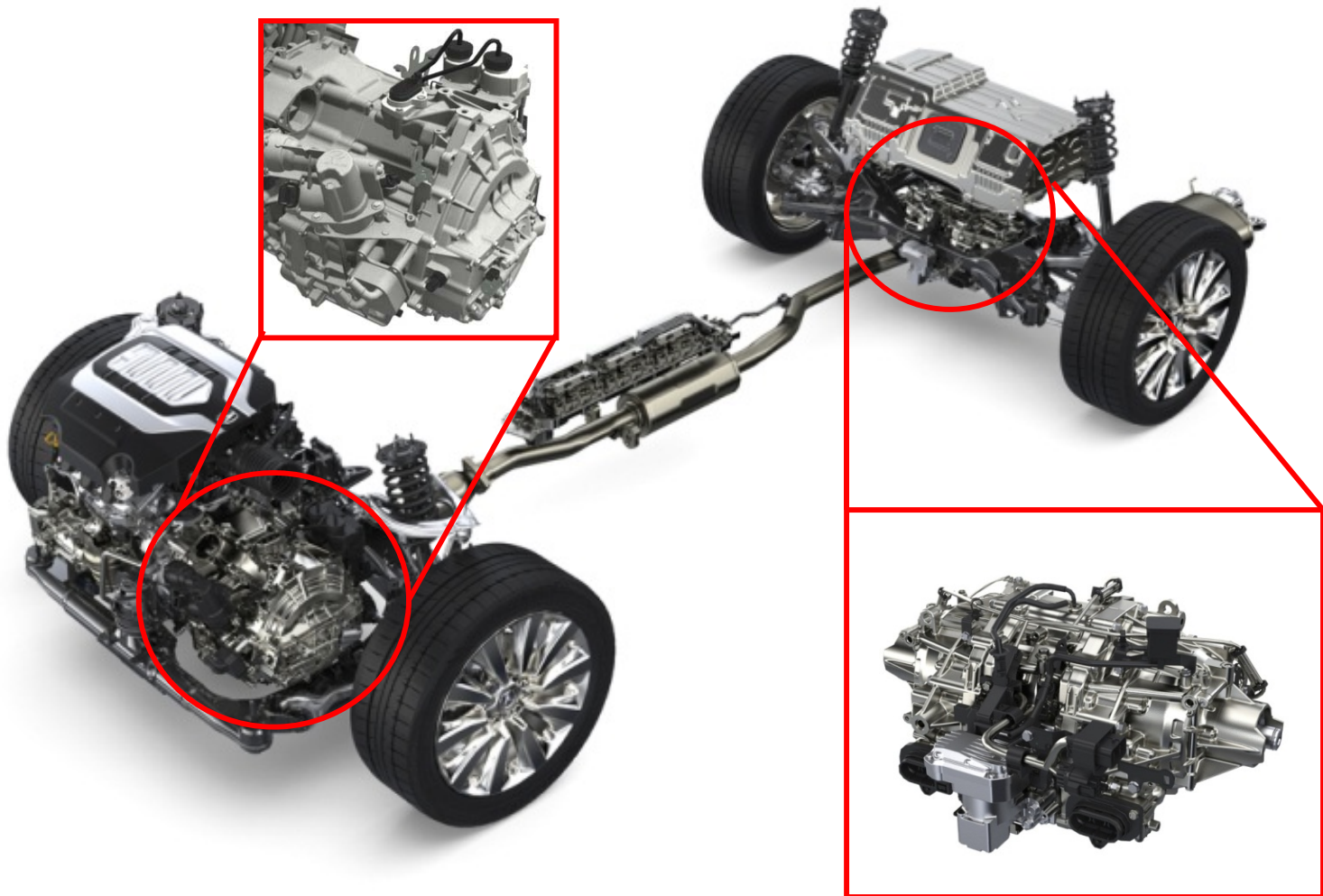
A 1.3 kilowatt hour (kWh) high-voltage lithium-ion battery pack is located in a well protected area behind the rear seat. The battery pack is made up of 72 3.6 volt cells, totaling approximately 260 volts. The Intelligent Power Unit (IPU) is housed with the battery pack and consists of the Power Control Unit (PCU), the HV battery ECU, the battery contactors, a forced air cooling system, and other battery system controls .



Vehicle Description

Electric Motors/Generator

The RLX Hybrid incorporates one electric motor/generator that is attached to the gasoline engine and transmission and two electric motors located between the rear wheels in the twin motor unit.



Vehicle Description

High-Voltage Cables

High-voltage flows through easy to identify heavy-duty orange cables. These cables are purposely routed through areas away from the usual cut points.



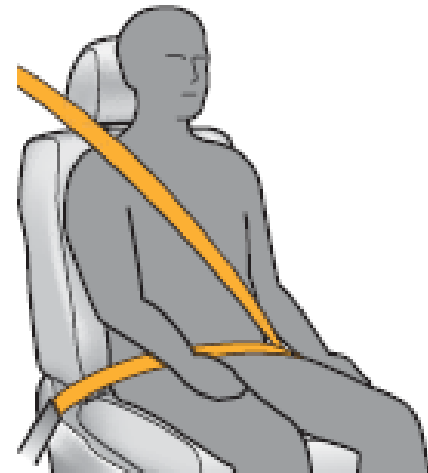
Occupant Protection Equipment

The Acura RLX Hybrid is equipped with lap/shoulder belts in all five seating positions. Front seat belts are equipped with pyrotechnically activated tensioners that help tighten the seat belt in a crash. Front, front side, and side curtain airbags are also provided.

In a collision severe enough to deploy one or more of the airbags, the RLX Hybrid electrical system is designed to automatically open the high-voltage electrical contactors. This disconnects the high-voltage battery from the other high-voltage components and stops the flow of electricity in the high-voltage cables.

Responders should always assume, however, that the HV system is powered “on” and take the appropriate action described later in this guide to power the system “off.”

It takes up to 3 minutes for the airbags and tensioners to de-power after the 12-volt system has been turned off by following the emergency shut-down procedures provided later in this manual.



Potential Hazards

Electric Shock

Unprotected contact with any electrically charged or “hot” high-voltage component can cause serious injury or death. Receiving an electric shock from a RLX Hybrid, however, is highly unlikely because of the following:

- Contact with the battery module or other high-voltage components only can occur if they are damaged and the contents are exposed or if they are accessed without following proper precautions.
- Contact with one of the electric motors only can occur after one or more components are removed.
- The high-voltage cables can be easily identified by their distinctive orange color and contact with them can be avoided.

If severe damage causes high-voltage components to become exposed, responders should take appropriate precautions and wear appropriate insulated personal protective equipment.



Potential Hazards

Lithium-ion Battery Fumes or Fire

A damaged high-voltage lithium-ion battery can emit toxic fumes and the organic solvent used as electrolyte is flammable and corrosive, so responders should wear appropriate personal protective equipment. Even after a lithium-ion battery fire appears to have been extinguished, a renewed or delayed fire can occur. The battery manufacturer cautions responders that extinguishing a lithium-ion battery fire will take a large and sustained volume of water.

Responders should always ensure that a RLX Hybrid with a damaged battery is kept outdoors and far away from other flammable objects in order to minimize the possibility of collateral fire damage should the battery catch on fire.



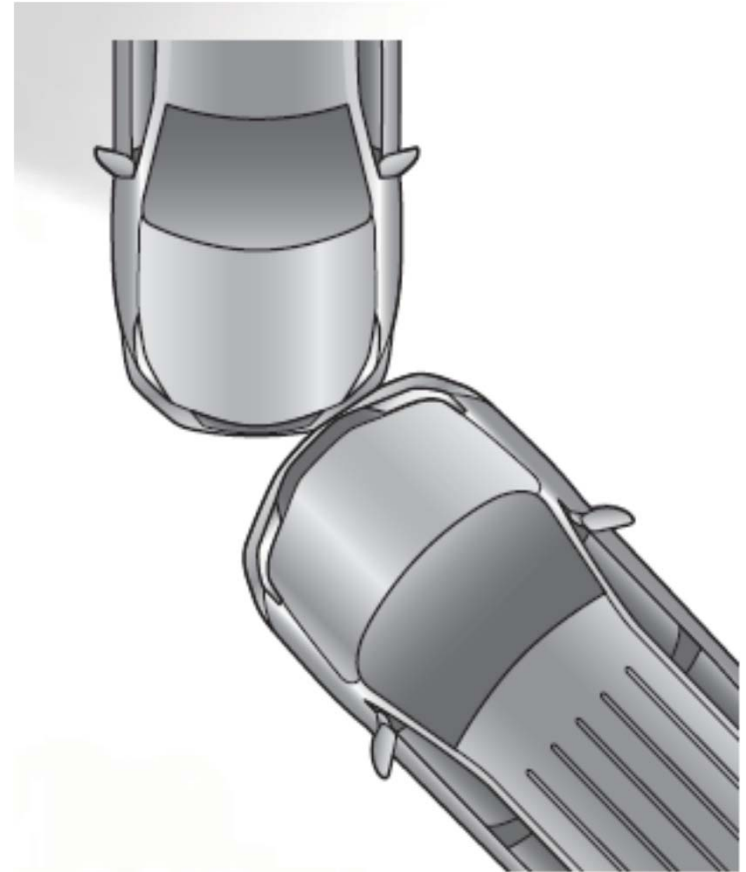
Emergency Procedures

Vehicle Collision

In the event of a crash, the airbag control unit makes a judgment based on input from the impact sensors, and if the input values meet various threshold requirements, the airbag control unit sends a signal to the high-voltage battery ECU. The battery ECU then turns off the high-voltage battery contactors stopping the flow of electrical current from the high-voltage battery.

When responding to an incident involving a Acura RLX Hybrid, we recommend that emergency personnel follow their organization's standard operating procedures for assessing and dealing with vehicle emergencies.

Given our knowledge of the RLX Hybrid, we also recommend that responders follow the procedures on the following pages to avoid potentially lethal shock by high-voltage.



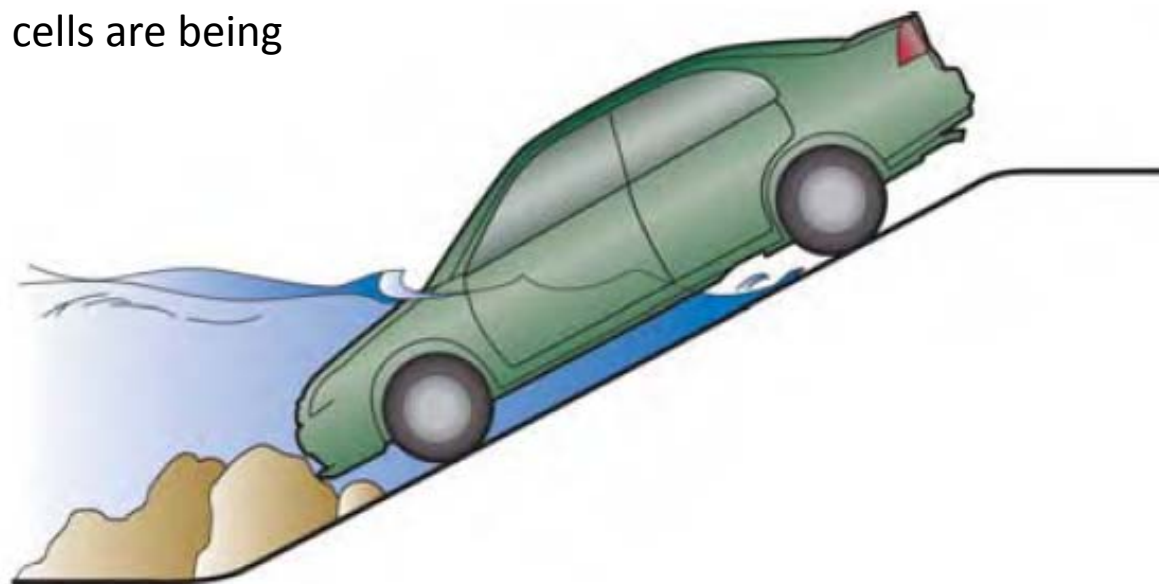
Emergency Procedures

Submerged Vehicle

If a RLX Hybrid is submerged or partly submerged in water, first pull the vehicle out of the water. Then shut down the high-voltage system using one of the two procedures described on the following pages.

Absent severe damage to the vehicle, there is no risk of electric shock from touching the car's body or framework — in or out of the water.

If the high-voltage battery was submerged, you may hear noises from the battery as the cells are being discharged from shorting.



Emergency Procedures

Preventing Current Flow Through High-Voltage Cables

Before attempting to rescue occupants or move a damaged RLX Hybrid, you should reduce the potential for current to flow from the electric motor or the HV battery through the high-voltage cables.

There are ***two recommended methods*** for preventing current flow. These are discussed on the following pages.

Emergency Procedures

BEST METHOD for HV Shutdown

Push and hold the Start/Stop button for 3 seconds.

This simple action turns off the gasoline engine and immediately shuts down the high-voltage system controllers, thereby preventing current flow into the cables. It also cuts power to the airbags and the seat belt tensioners, though these pyrotechnic devices have up to a three minute deactivation time.

To prevent accidental restarting, you must either remove the keyless remote from the vehicle and move it at least 20 feet away or cut or disconnect the 12 volt negative battery cable.



Push and hold the start/stop button for 3 seconds

Emergency Procedures

SECOND-BEST METHOD for HV Shutdown

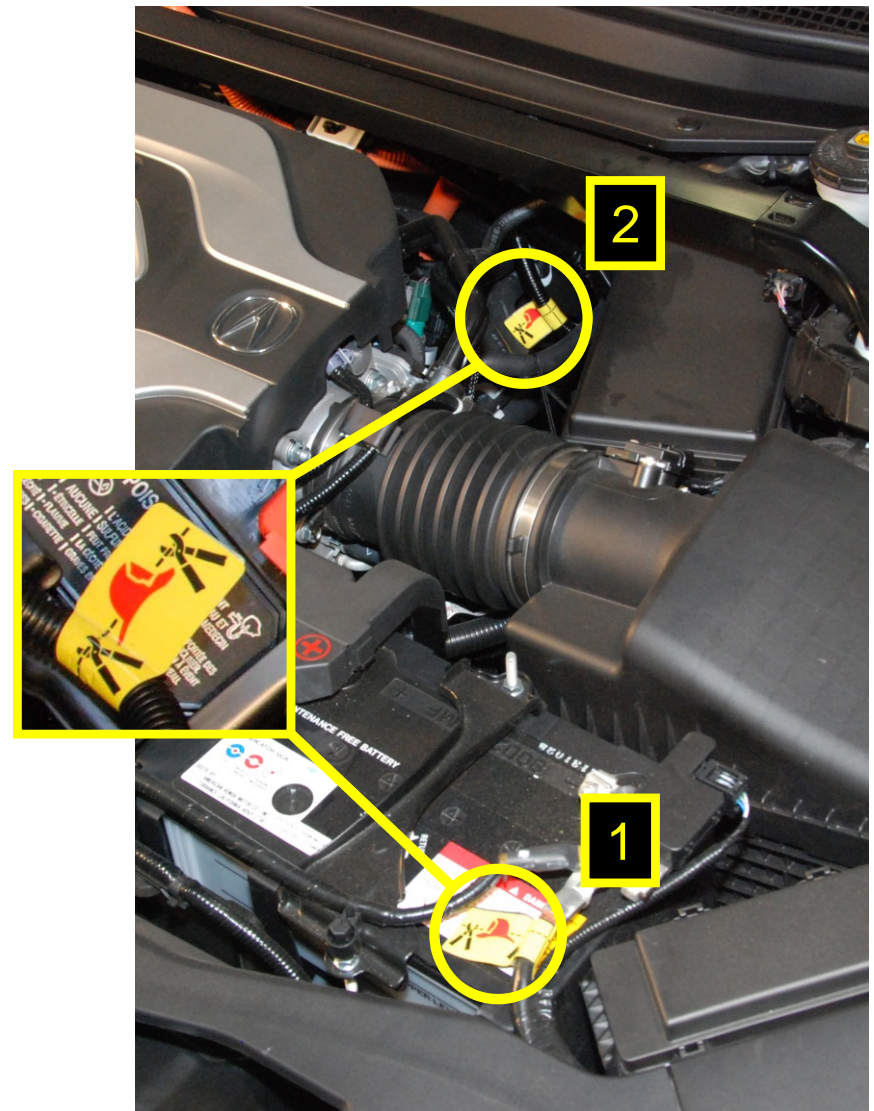
Locate and cut the negative 12-volt battery cable and the DC to DC Converter cable.

Together, cutting the negative 12-volt battery cable and cutting the DC to DC Converter cable turns off the gasoline engine and immediately shuts down the high-voltage system controllers, thereby preventing current flow into the high-voltage cables.

1. Locate the cut point labels shown. Cut the negative battery cable first (1), then cut the DC to DC Converter cable (2).

When cutting the DC to DC Converter Cable, do not allow the cutting tool to contact any surrounding metal parts; electrical arcing could occur which can ignite any flammable vapors.

NOTE: If you cannot perform either method to stop the engine and prevent current flow into the high-voltage cables, use extreme care and do not touch damaged cables as they may be “hot.”

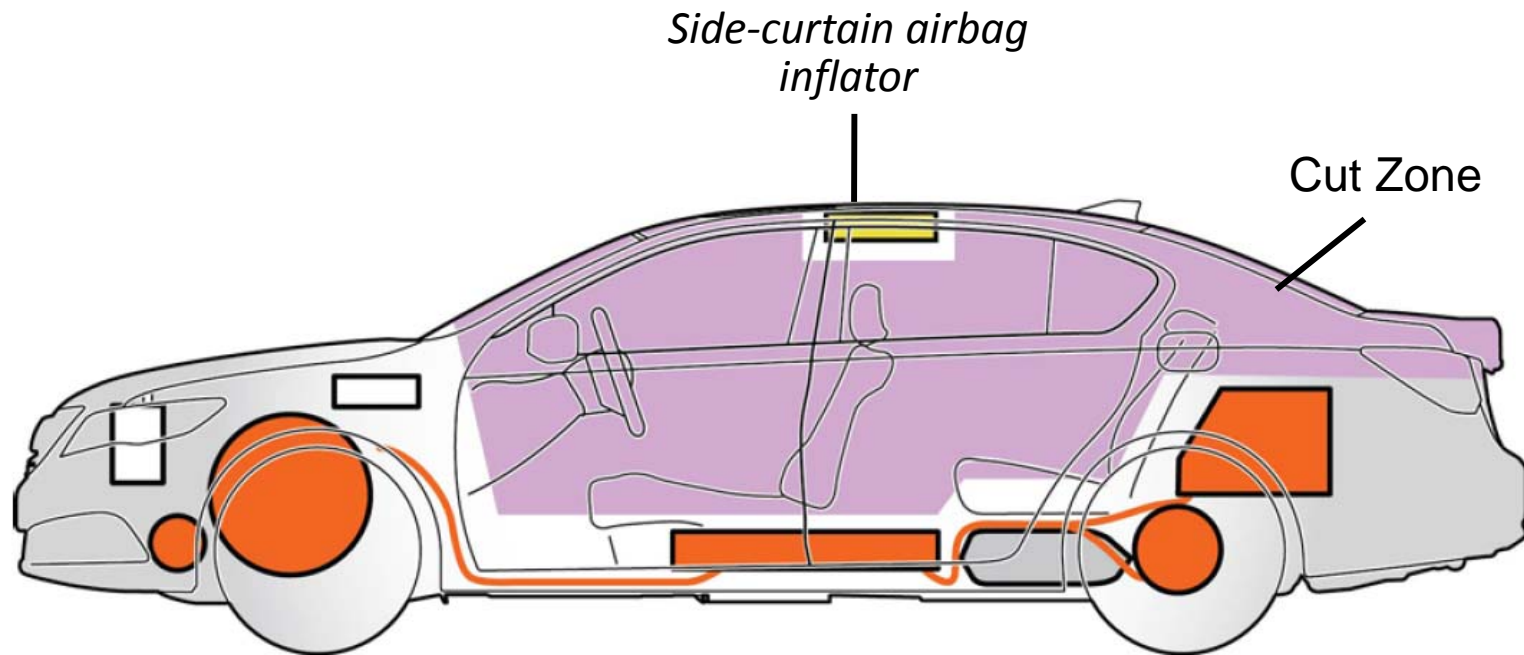


Cut the negative 12V battery cable and then cut the DC to DC Converter cable.

Emergency Procedures

Extricating Occupants

If you need to cut the vehicle body, or use Jaws-of-Life equipment to remove occupants, be sure to stay within the cut zone indicated in the illustration below.



Emergency Towing & Repairs

Emergency Towing

The only approved method is to use a flat bed tow truck. Towing or rolling the vehicle with the front and/or rear wheels on the ground can drive the electric motors and produce electricity, thus resulting in a potential source of electric shock even when the high-voltage system is turned off.

Dealer Inspection and Repair

A damaged RLX Hybrid should be taken directly to a Acura dealer for a thorough inspection and, if appropriate, any necessary repairs.

High-Voltage Battery Recycling

The high-voltage lithium-ion battery requires special handling and disposal. Contact an authorized Acura dealer or American Honda at (800) 555-3497 for instructions.

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