

Toyota Prius C - Emergency Response Guide - Part I

In January 2012, Toyota released the 2012 PRIUS c petrol-electric hybrid vehicle. To educate and assist emergency responders in the safe handling of the PRIUS c hybrid technology, Toyota published this PRIUS c Emergency Response Guide.

High voltage electricity powers the electric motor, generator, air conditioning compressor and inverter/converter. All other automotive electrical devices such as the headlights, radio, and gauges are powered from a separate 12 Volt auxiliary battery. Numerous safeguards have been designed into the PRIUS c to help ensure the high voltage, approximately 144 Volt, Nickel Metal Hydride (NiMH) Hybrid Vehicle (HV) battery pack is kept safe and secure in an accident.

The PRIUS c utilizes the following electrical systems:

- Maximum 520 Volts AC
- Nominal 144 Volts DC
- Maximum 27 Volts AC
- Nominal 12 Volts DC

PRIUS c Features:

- A boost converter in the inverter/converter that boosts the available voltage to the electric motor to 520 Volts.
- A high voltage Hybrid Vehicle (HV) battery pack rated at 144 Volts.
- A high voltage motor driven Air Conditioning (A/C) compressor

rated at 144 Volts.

- A body electrical system rated at 12 Volts, negative chassis ground.
- Supplemental Restraint System (SRS) - dual stage frontal airbags, a driver knee airbag, front seat side airbags, front seat cushion airbags, side curtain airbags and front seat belt pretensioners.
- An Electric Power Steering (EPS) assist motor rated at 27 Volts.

High voltage electrical safety remains an important factor in the emergency handling of the PRIUS c Hybrid Synergy Drive. It is important to recognize and understand the disabling procedures and warnings throughout the guide.

Additional topics in the guide include:

- PRIUS c identification.
- Major Hybrid Synergy Drive component locations and descriptions.
- Extrication, fire, recovery, and additional emergency response
- information.
- Roadside assistance information.

This guide is intended to assist emergency responders in the safe handling of a PRIUS c vehicle during an incident.

NOTE: Emergency Response Guides for Toyota hybrid vehicles may be viewed at <http://techinfo.toyota.com>.

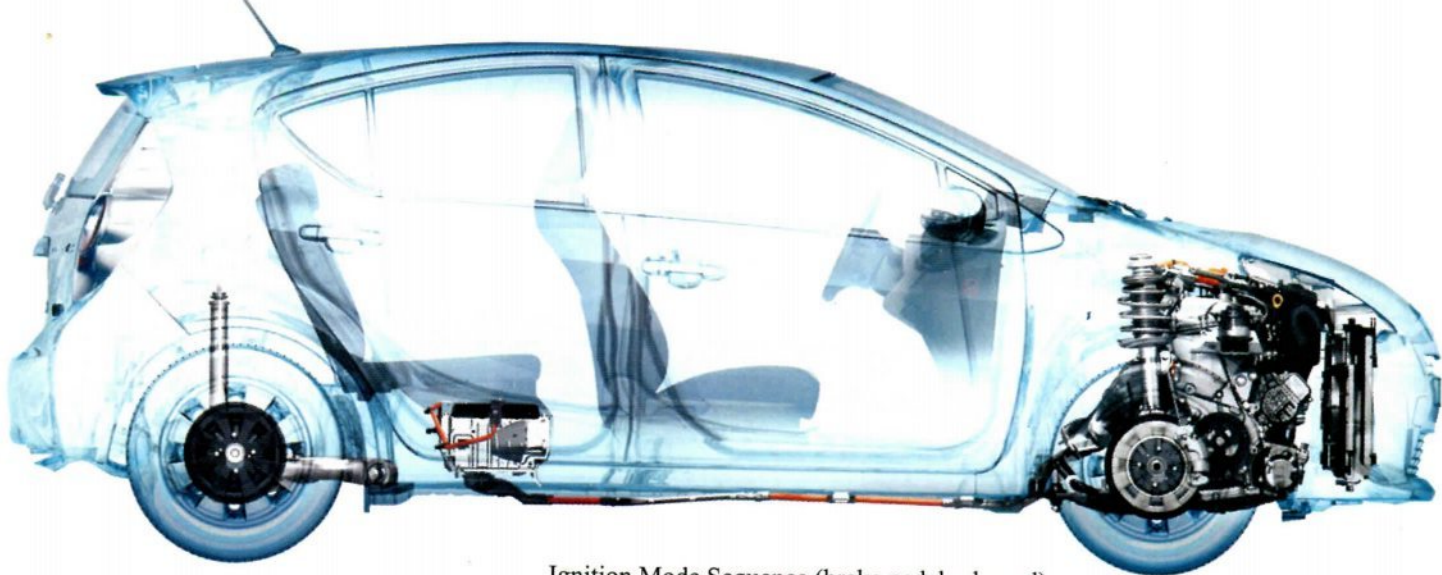
Smart Key System (Optional Equipment)

Vehicle Starting/Stopping

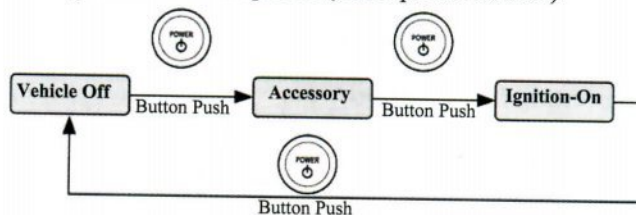
The smart key has replaced the conventional metal cut key, and the power button has replaced the ignition switch. The smart key only needs to be in proximity to the vehicle to allow the system to function.

- With the brake pedal released, the first push of the power button operates the accessory mode, the second push operates the ignition-on mode, and the third push turns the ignition off again.
- Starting the vehicle takes priority over all other ignition modes and is accomplished by depressing the brake pedal and pushing the power button once. To verify the vehicle has started, and the READY light is illuminated in the instrument cluster.



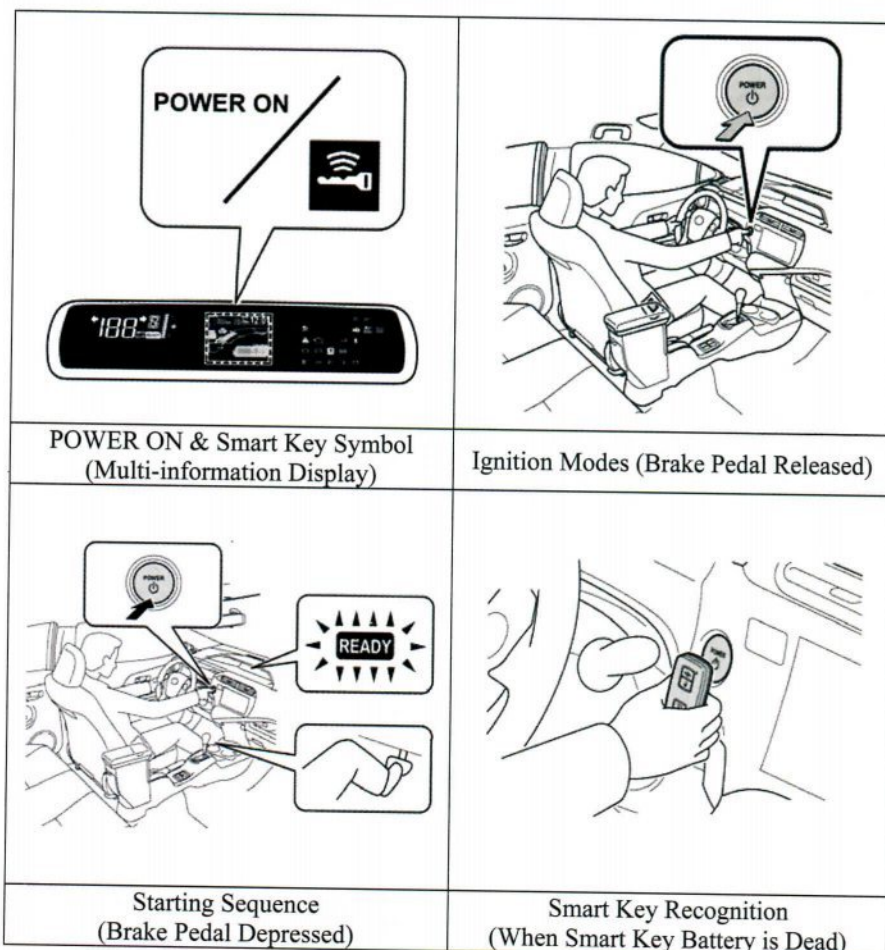


Ignition Mode Sequence (brake pedal released):



- If the internal smart key battery is dead, use the following method to start the vehicle.
- 1. Touch the Toyota emblem side of the smart key to the power button.
- 2. Within the 10 seconds after the buzzer sounds, push the power button with the brake pedal depressed (the READY light will illuminate).
- Once the vehicle has started and is on and operational (READY-ON), the vehicle is shut off by bringing the vehicle to a complete stop and then depressing the power button once.
- To shut off the vehicle before coming to a stop in an emergency, push and hold down the power button for more than 3 seconds. This procedure may be useful at an accident scene in which the READY indicator is on, park (P) cannot be selected, and the drive wheels remain in motion.

Ignition Mode	Multi-information Display (Instrument Cluster)
Off	-
Accessory	POWER ON
Ignition-On	POWER ON
Brake Pedal Depressed	Smart Key Symbol
Vehicle Started (READY-ON)	-
Malfunction	Warning Message



Low Voltage Battery

Auxiliary Battery

- The PRIUS c contains a sealed lead-acid 12 Volt battery. The 12 Volt auxiliary battery powers the vehicle's electrical system similar to a conventional vehicle. As with conventional vehicles, the negative terminal of the auxiliary battery is grounded to the metal chassis of the vehicle.
- The auxiliary battery is located under the passenger side rear seat.

- NOTE: An under hood label shows the location of the HV battery (traction battery) and 12 Volt auxiliary battery.

High Voltage Safety

The HV battery pack powers the high voltage electrical system with DC electricity. Positive and negative orange colored high voltage power cables are routed from the battery pack, under the vehicle floor pan, to the inverter/converter. The inverter/converter contains a circuit that boosts the HV battery voltage from 144 to 520 Volts DC. The inverter/converter creates 3-phase AC to power the motor. Power cables are routed from the inverter/converter to each high voltage motor (electric motor, electric generator, and A/C compressor). The following systems are intended to help keep occupants in the vehicle and emergency responders safe from high voltage electricity:

High Voltage Safety System

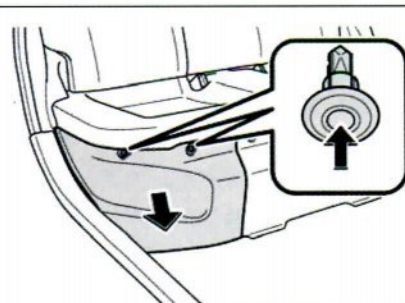
- A high voltage fuse ① provides short circuit protection in the HV battery pack.

- Positive and negative high voltage power cables ② connected to the HV battery pack are controlled by 12 Volt normally open relays ③. When the vehicle is shut off, the relays stop electrical flow from leaving the HV battery pack.

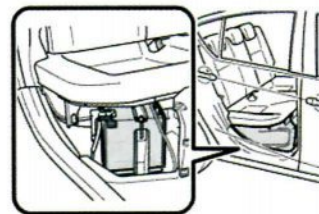
WARNING: The high voltage system may remain powered for up to 10 minutes after the vehicle is shut off or disabled. To prevent serious injury or death from severe burns or electric shock, avoid touching, cutting, or breaching any orange high voltage power cable or high voltage component.

- Both positive and negative power cables ② are insulated from the metal body. High voltage electricity flows through these cables and not through the metal vehicle body. The metal vehicle body is safe to touch because it is insulated from high voltage components.

- A ground fault monitor ④ continuously monitors for high voltage leakage to the metal chassis while the vehicle is running. If a malfunction is detected, the hybrid vehicle computer ④ will illuminate the master warning light in the instrument cluster and indicate "Check Hybrid System" on the multi-information display.

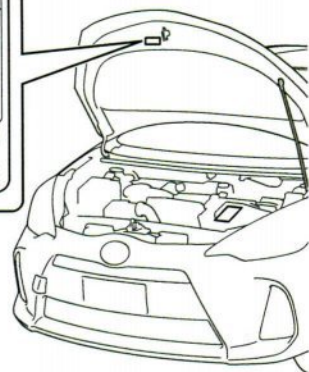


Remove the Cover

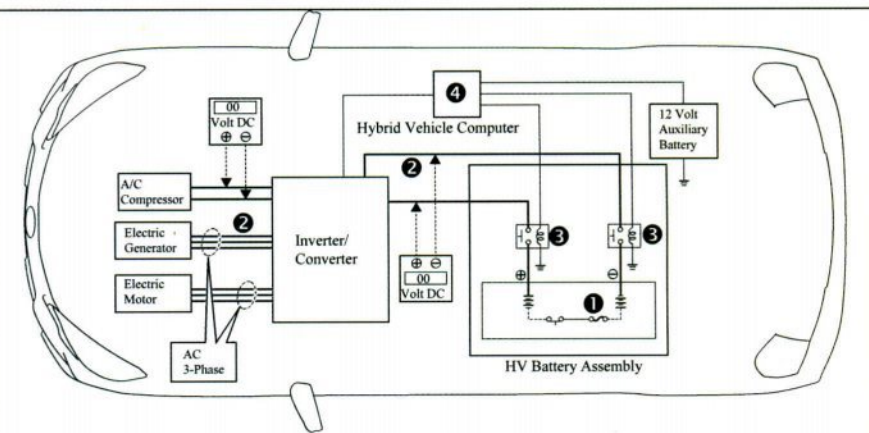


12 Volt Auxiliary Battery Mounted Under Passenger Side Rear Seat

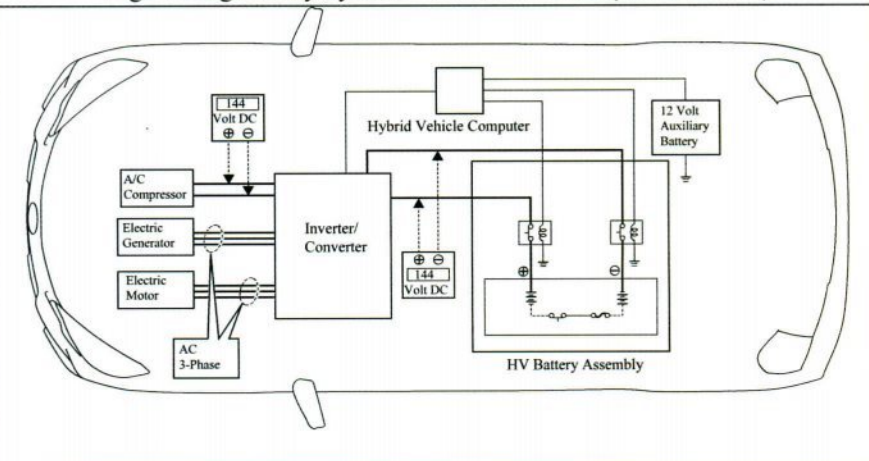
BATTERY LOCATION	EMPLACEMENT DES BATTERIES
① Nickel-Metal Hydride Battery (Traction Battery)	① Batterie à l'hydruure de nickel métallique (Batterie de traction)
② Service Plug (For service staffs)	② Shunt (à manipuler par un professionnel)
③ Lead Acid Battery (Auxiliary Battery for accessories, lights, etc.)	③ Batterie à acide et plomb (Batterie auxiliaire pour les feux, les accessoires, etc.)



Battery Location Label



High Voltage Safety System – Vehicle Shut Off (READY-OFF)



High Voltage Safety System – Vehicle On and Operational (READY-ON)

Emergency Response

On arrival, emergency responders should follow their standard operating procedures for vehicle incidents. Emergencies involving the PRIUS c may be handled like other automobiles except as noted in these guidelines for Extrication, Fire, Overhaul, Recovery, Spills, First Aid, and Submersion.

WARNING:

- Never assume the PRIUS c is shut off simply because it is silent.
- Always observe the instrument cluster for the READY indicator status to verify whether the vehicle is on or shut off. The vehicle is shut off when the READY indicator is off.
- Failure to shut off and disable the vehicle before emergency response procedures are performed may result in serious injury or death from the unintentional deployment of the SRS or severe burns and electric shock from the high voltage electrical system.

Extrication

Immobilize Vehicle

- Chock wheels and set the parking brake.
- Move the shift lever to the Park position.

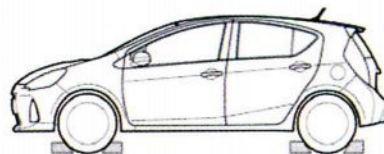
Disable Vehicle

- Performing either of the following two procedures will shut the vehicle off and disable the HV battery pack, SRS, and gasoline fuel pump.

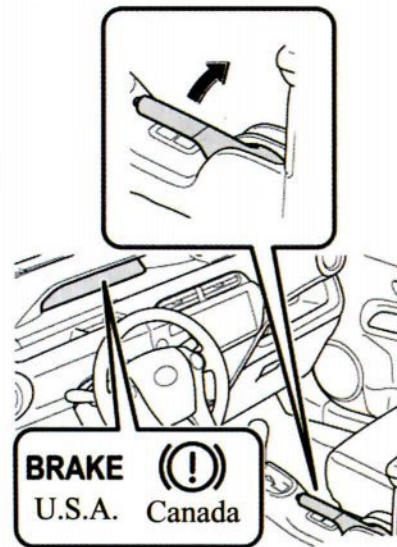
Procedure #1

Mechanical Ignition Key System (Standard Equipment):

1. Confirm the status of the READY indicator in the instrument cluster.
2. If the READY indicator is illuminated, the vehicle is on and operational. Shut off the vehicle by turning the ignition key off, removing the ignition key and placing it on the dash.
3. Disconnect the



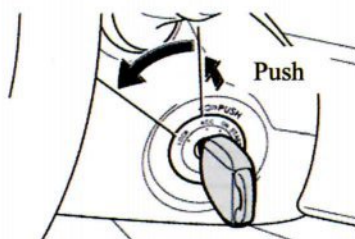
Chock Wheels



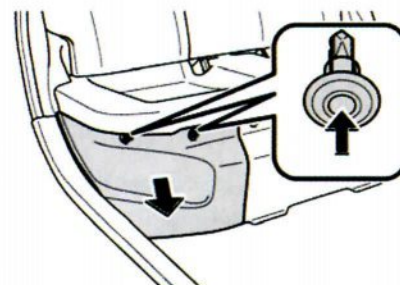
Set Parking Brake



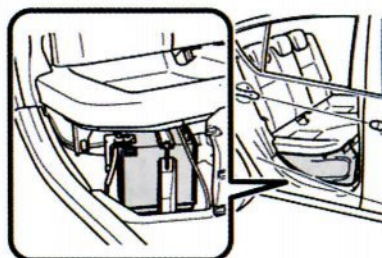
Shift Lever in Park



Turn Ignition Key Off



Remove Battery Cover



12 Volt Auxiliary Battery

Smart Key System (Optional Equipment):

1. Confirm the status of the READY indicator in the instrument cluster.
2. If the READY indicator is illuminated, the vehicle is on and operational. Shut off the vehicle by pushing the power button once.
3. The vehicle is already shut off if the instrument cluster lights and the READY indicator are not illuminated. Do not push the power button because the vehicle may start.
4. If the smart key is easily accessible, keep it at least 16 feet (5 meters) away from the vehicle.
5. Disconnect the 12 Volt auxiliary battery under the passenger side rear seat to prevent accidental restarting of the vehicle.

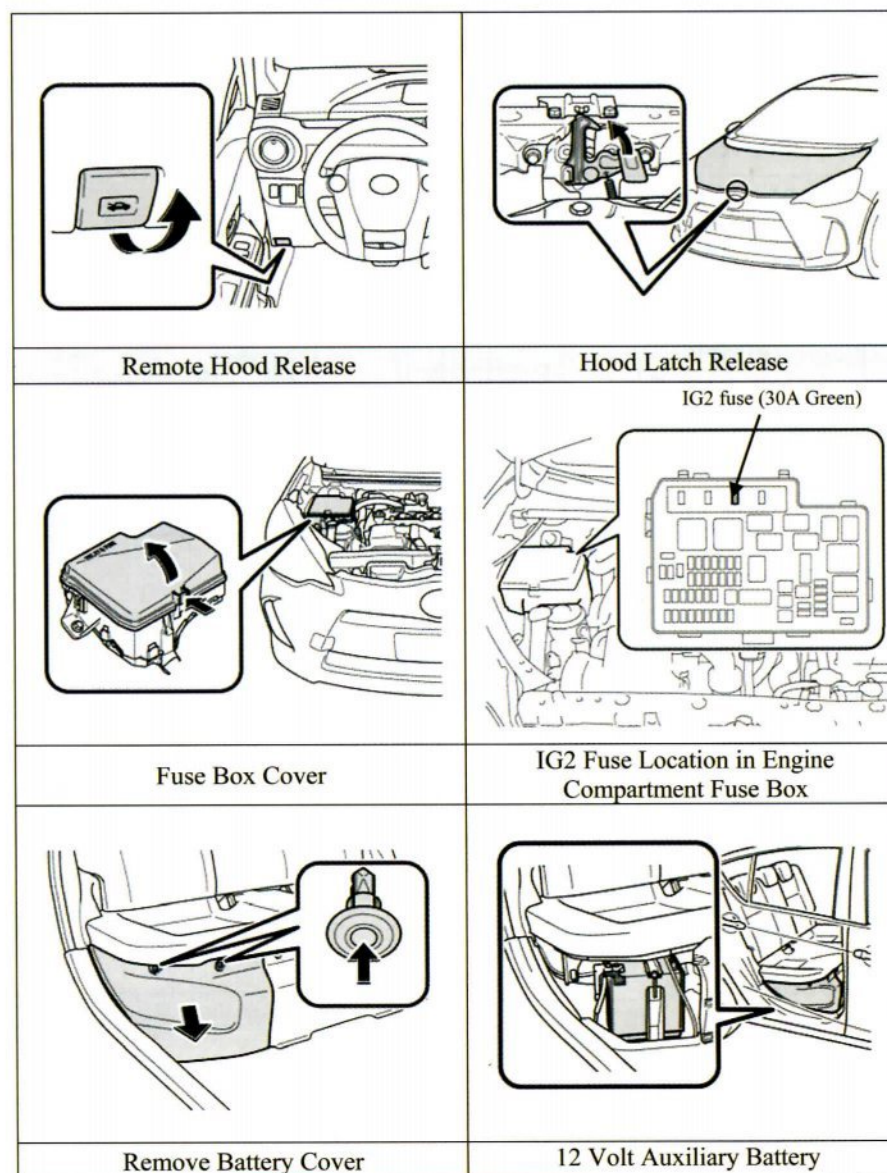
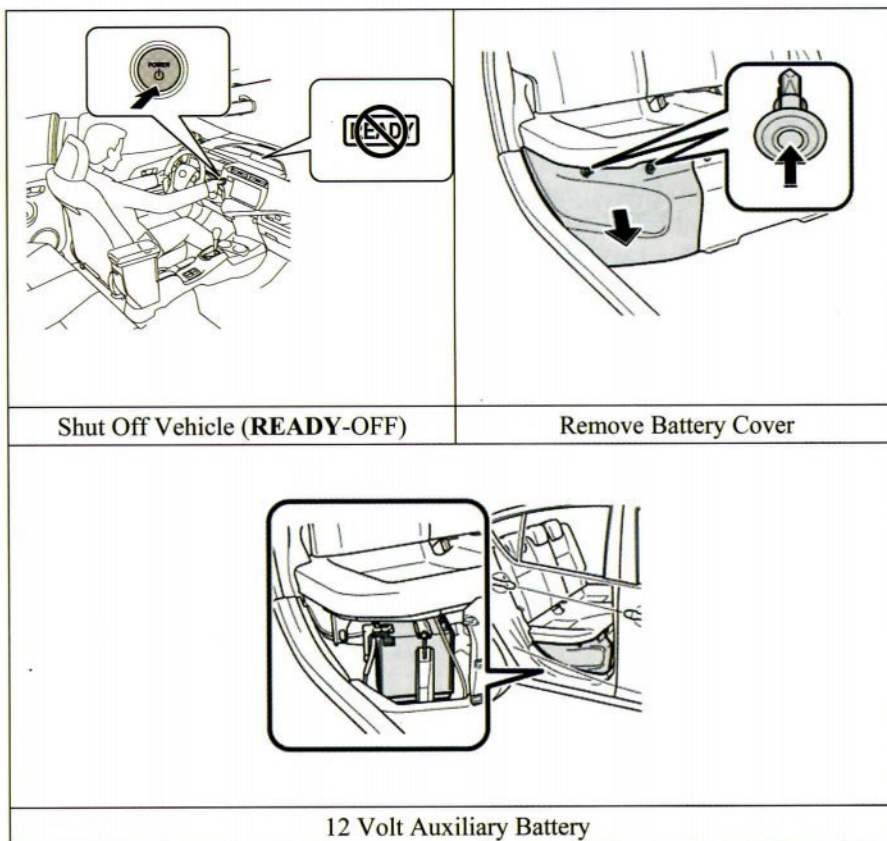
Procedure #2 (Alternate if power button or ignition key is inaccessible)

1. Open the hood and remove the fuse box cover.
2. Remove the IG2 fuse (30A green colored) in the engine compartment fuse box (refer to illustration). If the correct fuse cannot be recognized, pull all fuses in the fuse box.
3. Disconnect the 12 Volt auxiliary battery under the passenger side rear seat.

NOTE: Before disconnecting the 12 Volt auxiliary battery, if necessary, lower the windows, unlock the doors and open the back door as required. Once the 12 Volt auxiliary battery is disconnected, power controls will not operate.

WARNING:

- The high voltage system may remain powered for up to 10 minutes after the vehicle is shut off or disabled. To prevent serious injury or death from severe burns or electric shock, avoid touching, cutting, or breaching any orange high voltage power cable or high voltage component.
- The SRS may remain powered for up to 90 seconds after the vehicle is shut off or disabled. To prevent serious injury or



death from unintentional SRS deployment, avoid breaching the SRS components.

- If none of the disabling procedures can be performed, proceed with caution as there is no assurance that the high voltage electrical system, SRS, or fuel pump are disabled.

Stabilize Vehicle

- Crib at (4) points directly under the front and rear pillars. Do not place cribbing under the high voltage power cables, exhaust system, or fuel system.

NOTE: The PRIUS c is equipped with a tire pressure warning system that by design prevents pulling the metal valve stem with integral transmitter from the wheel. Snapping the valve stem with pliers or removing the valve cap and Schrader valve will release the air in the tire.

Access Patients

- Glass Removal - Use normal glass removal procedures as required.
- SRS Awareness - Responders need to be cautious when working in close proximity to undeployed airbags and seat belt pretensioners. Front dual stage airbags automatically ignite both stages within a fraction of a second.
- Door Removal/Displacement - Doors can be removed by conventional rescue tools such as hand, electric, and hydraulic tools. In certain situations, it may be easier to pry back the vehicle body to expose and unbolt the hinges.

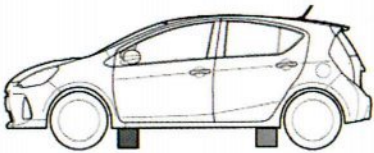
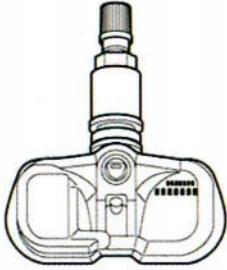
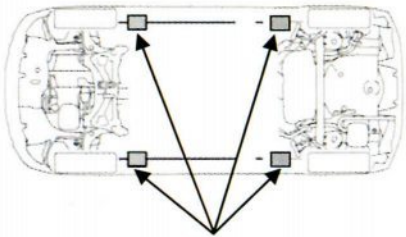
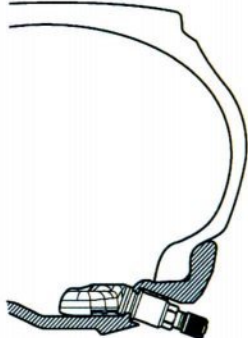
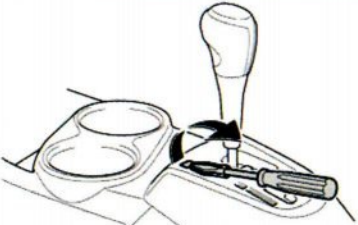
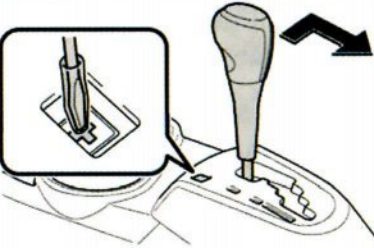
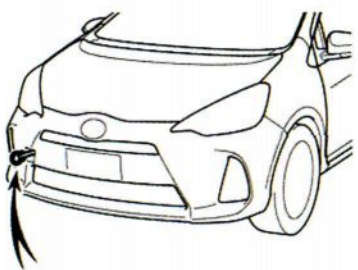
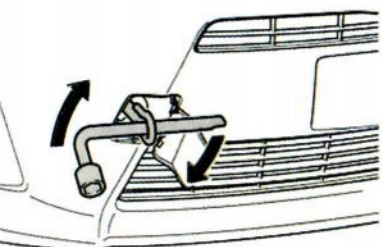
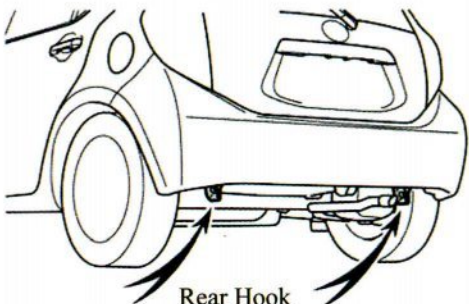
NOTE: To prevent accidental airbag deployment when performing front door removal/displacement, ensure the vehicle is shut off and the 12 Volt auxiliary battery is disconnected.

Roadside Assistance

Roadside assistance for the Toyota PRIUS c may be handled like conventional Toyota vehicles except as noted in the following pages.

Shift Lever

Similar to many Toyota vehicles, the PRIUS c uses a gated shift lever as shown in the illustration. However, the PRIUS c shift lever includes a B position, allowing enhanced engine

	
 <p style="text-align: center;">Cribbing Points</p>	<p style="text-align: center;">Metal Valve Stem with Integral Transmitter</p> 
<p style="text-align: center;">Cribbing Points</p>	<p style="text-align: center;">Metal Valve Stem with Integral Transmitter Installed on Wheel</p>
	
<p style="text-align: center;">Remove Cover</p>	<p style="text-align: center;">Push in Shift Lock Release</p>
	
<p style="text-align: center;">Towing Eyelet Mounting Location</p>	<p style="text-align: center;">Eyelet Installation</p>
	
<p style="text-align: center;">Rear Hook Location</p>	

braking when driving down a steep grade.

Towing

The PRIUS c is a front wheel drive vehicle and it must be towed with the front wheels off the ground. Failure to do so may cause serious damage to Hybrid Synergy Drive components.

- A flat bed trailer is the preferred method of towing.
- With the brake pedal released, turn the ignition-on. Then, move the shift lever from the P position to the N position with the brake pedal depressed.
- If the shift lever cannot be moved out of Park, a shift lock release button is provided under the cover near the shift lever as shown in the illustration.
- If a tow truck is not available, in an emergency the vehicle may be moved using a cable or chain secured to the emergency towing eyelet or rear tow hook for short distances at low speeds (below 18 mph (30km/h)). The eyelet is located with the tools in the cargo area of the vehicle.

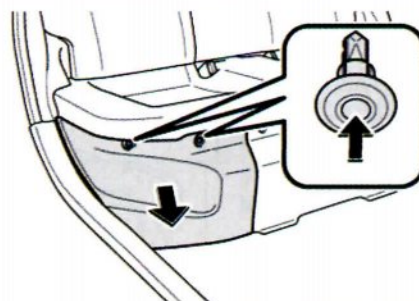
Jump Starting

The 12 Volt auxiliary battery may be jump started if the vehicle does not start and the instrument cluster gauges are dim or off after depressing the brake pedal and pushing the power button or turn the mechanical ignition key.

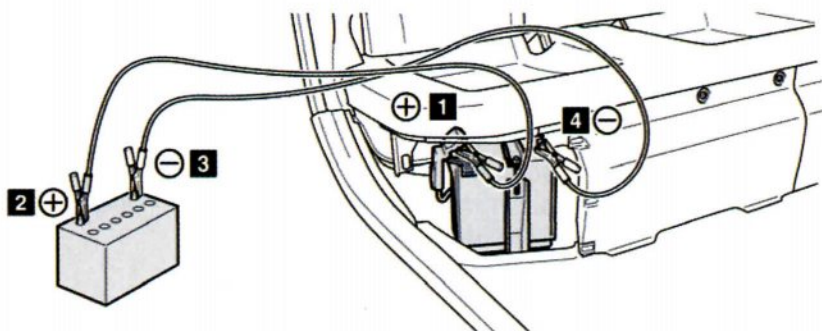
The 12 Volt auxiliary battery is located under the passenger side rear seat.

- Open the passenger side rear door and remove the battery cover.
- Connect the positive jumper cable to the positive terminal.
- Connect the negative jumper cable to the negative terminal.
- Place the smart key in proximity to the interior of the vehicle, depress the brake pedal, and push the power button or turn the mechanical ignition key.

NOTE: If the vehicle does not recognize the smart key after connecting the booster battery to the vehicle, open and close the driver door when the vehicle is shut off.



Remove Battery Cover




Jumper Cable Connections

If the smart key internal battery is dead, touch the Toyota emblem side of the smart key to the power button during the start sequence.

- The high voltage HV battery pack cannot be jump started.

Immobiliser

The PRIUS c is equipped with an optional immobiliser system.

- The vehicle can be started only with a registered smart key or mechanical ignition key. 

PRODUCT RECALL | PRODUCT RECALL | PRODUCT RECALL

PRA number: 2014/14482

Product Information/Product Description: JG Cruze Sedan

Identifying features: MY10 Holden JG Cruze – Manufactured in Korea

Affected Build Range is from:
KL3JA695JAK500834 to KL3JF69RJAK774710

Affected Production Dates: 03 FEB 2009 to 23 FEB 2011

What are the defects?

Sections of hose delivering brake fluid from the Hydraulic Brake Control Modulator to the left-hand and right-hand front Brake Calipers may have been twisted during vehicle assembly. Stresses in the twisted hose may result in a slow brake fluid leak.

What are the hazards?

If a leak is not detected visually, the vehicle operator may notice the brake pedal begin to feel softer over successive applications. This may cause a gradual increase in vehicle stopping distance and pose an accident hazard.

Where the product was sold: Nationally

Traders who sold this product ALL HOLDEN DEALERS NATIONALLY

Supplier: GM Holden Ltd

Holden will write to all affected customers to notify them of required action.