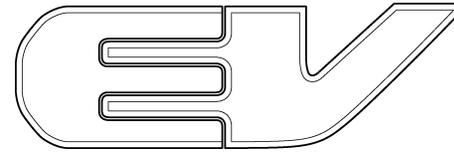




iQ EV



**Electric**  
**2013 Model**  
*Emergency Response Guide*



© 2012 Toyota Motor Corporation  
All rights reserved. This document may not be  
altered without the written permission of Toyota Motor Corporation.

13 Scion iQ EV ERG REV – (09/03/12)

## Foreword

In September 2012, Scion released the 2013 Scion iQ EV electric vehicle in North America. To educate and assist emergency responders in the safe handling of the iQ EV technology, Scion published this iQ EV Emergency Response Guide.

High voltage electricity powers the electric motor, air conditioning (A/C) compressor and inverter/converter. All other automotive electrical devices such as the head lights, radio, and gauges are powered from a separate 12 Volt auxiliary battery. Numerous safeguards have been designed into the iQ EV to help ensure the high voltage, approximately 277.5 Volt, Lithium-ion (Li-ion) Electric Vehicle (EV) battery assembly is kept safe and secure in an accident.

The iQ EV utilizes the following electrical systems:

- Maximum 270 Volts AC
- Nominal 277.5 Volts DC
- Nominal 120/240 Volts AC
- Nominal 300 Volts DC
- Maximum 27 Volts AC
- Nominal 12 Volts DC

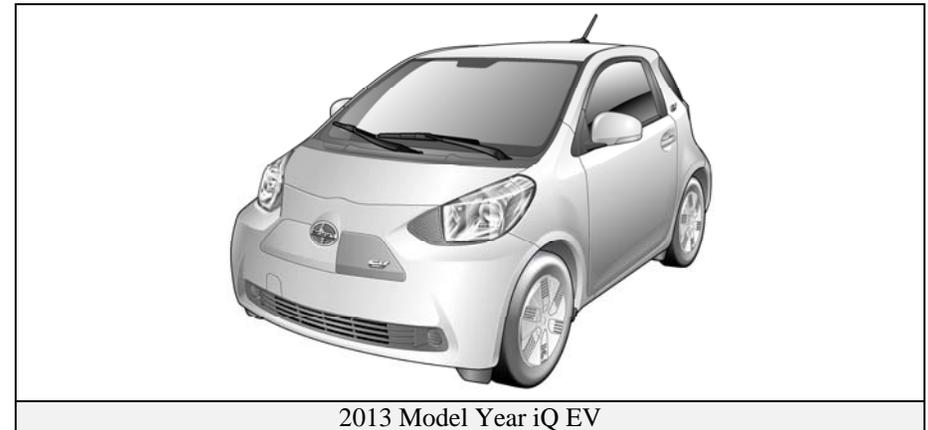
iQ EV features:

- A high voltage Electric Vehicle (EV) battery assembly rated at 277.5 Volts.
- A high voltage motor driven Air Conditioning (A/C) compressor rated at 277.5 Volts.
- An electric vehicle charge cable rated at 120/240 Volts.
- A battery charger assembly with AC 120/240 Volt input and DC 277.5 Volt output.
- A DC/DC converter with a 277.5 Volt input and a 12 Volt output.
- A body electrical system rated at 12 Volts, negative chassis ground.
- Supplemental Restraint System (SRS) – dual stage frontal airbags, knee airbags, front seat side airbags, front seat cushion airbags, side curtain airbags, rear window curtain airbag and front seat belt pretensioners.
- A high voltage Electric Power Steering (EPS) computer rated at 27 Volts.

High voltage electrical safety remains an important factor in the emergency handling of the iQ EV Electric Vehicle. It is important to recognize and understand the disabling procedures and warnings throughout the guide.

Additional topics in the guide include:

- iQ EV identification.
- Major Electric Vehicle 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 an iQ EV vehicle during an incident.

**NOTE:**

Emergency Response Guides for Scion electric, hybrid and alternative fuel vehicles may be viewed at <http://techinfo.toyota.com>.

<b>Table of Contents</b>	<b>Page</b>
About the iQ EV	1
iQ EV Identification	2
Electric Vehicle Component Locations & Descriptions	5
Plug-in Charging System Component Locations & Descriptions	7
Smart Key System	8
Electric Vehicle Operation	10
Electric Vehicle (EV) Battery Assembly	11
Plug-in Charging System (Normal Charging - 120/240 Volt)	12
Plug-in Charging System (Optional Quick Charging - 300 Volt)	14
Remote Climate Control System	16
27 Volt System	18
Low Voltage Battery	19
High Voltage Safety	20
Plug-in Charging Safety (Normal Charging - 120/240 Volt)	21
Plug-in Charging Safety (Optional Quick Charging - 300 Volt)	23
SRS Airbags & Seat Belt Pretensioners	25

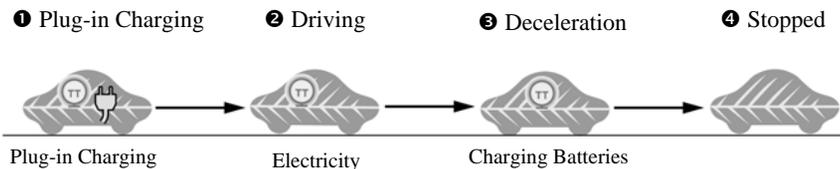
<b>Table of Contents</b>	<b>Page</b>
Emergency Response	27
Extrication	27
Fire	35
Overhaul	36
Recovering of Li-ion EV Battery Assembly	37
Spills	37
First Aid	37
Submersion	38
Roadside Assistance	39
Post-Incident, Tow/Transport, and Storage Guidelines	43

## About the iQ EV

The iQ EV 3-door hatchback is the first electric vehicle for Scion. Electric Vehicle means that the vehicle contains only an electric motor and does not have a gasoline engine for power. Electricity is stored in a high voltage Electric Vehicle (EV) battery assembly for the electric motor.

The following illustration demonstrates how the iQ EV operates in various driving modes.

- 1 Fully charging the EV battery assembly utilizing the charge cable assembly, when the SOC (State of Charge) warning light has come on, will take approximately 7 hours. When the EV battery assembly is charged at charging stations utilizing charge cable assembly, it will take approximately 3 hours.
- 2 During driving, when the Li-ion battery is sufficiently charged, the vehicle will drive using electric power only.
- 3 During deceleration, such as when braking, the vehicle regenerates kinetic energy from the front wheels to produce electricity that recharges the EV battery assembly.
- 4 While the vehicle is stopped, the electric motor is off, however the vehicle remains on and operational.



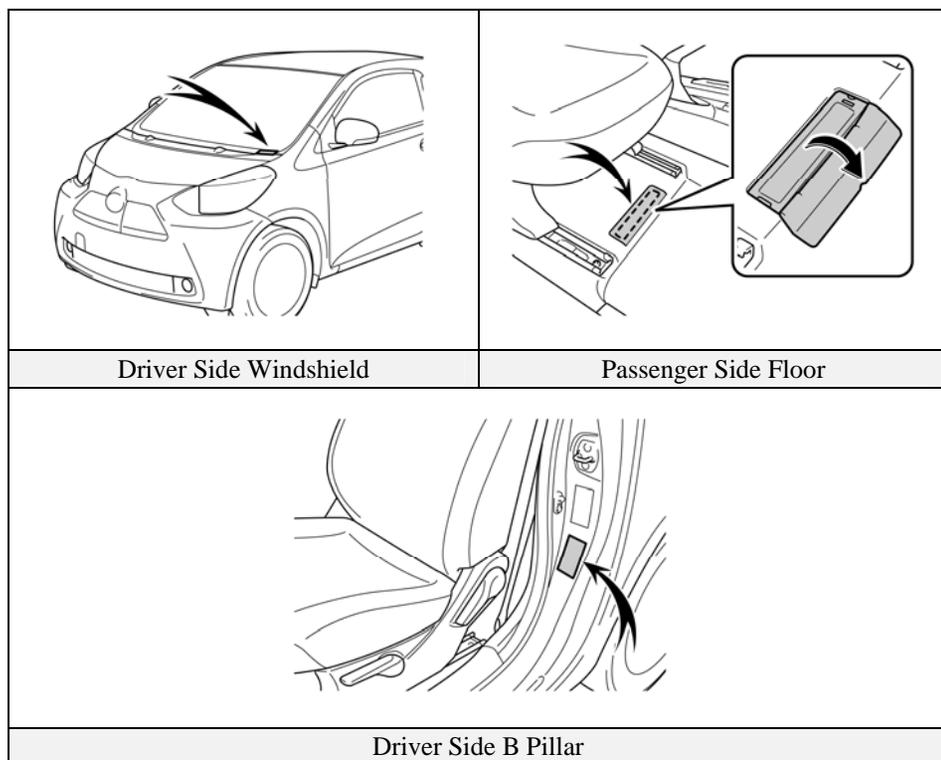
## iQ EV Identification

In appearance, the 2013 model year iQ EV is nearly identical to the conventional, non-electric Scion iQ. The iQ EV is a 3-door hatchback. Exterior, interior, and motor compartment illustrations are provided to assist in identification.

The alphanumeric 17 character Vehicle Identification Number (VIN) is provided in the front windshield cowl, under the passenger side front seat and on the driver side B pillar.

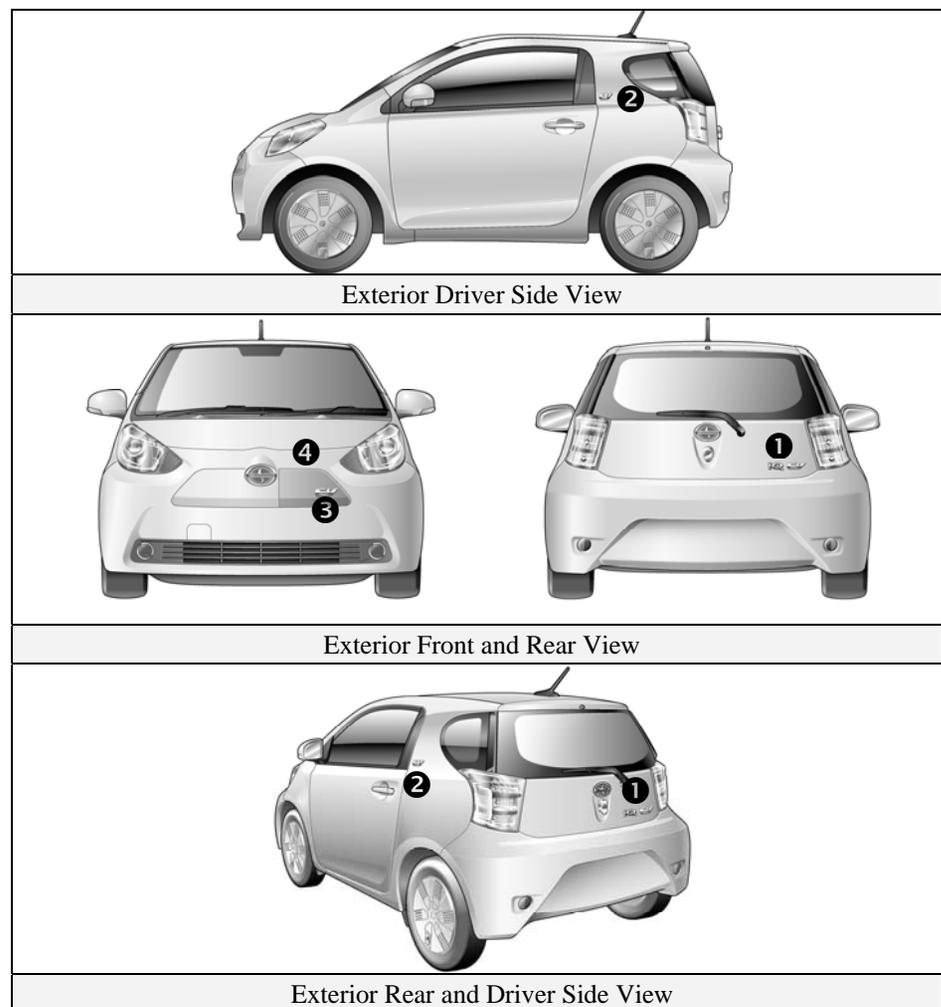
Example VIN: JTNJVXB00C6000000

An iQ EV is identified by the first 8 alphanumeric characters **JTNJVXB0**.



## Exterior

- 1 iQ and EV logos on the back door.
- 2 EV logos on the B pillars.
- 3 EV logo on the recharge inlet door.
- 4 Recharge inlet door located on the driver side front upper grille.



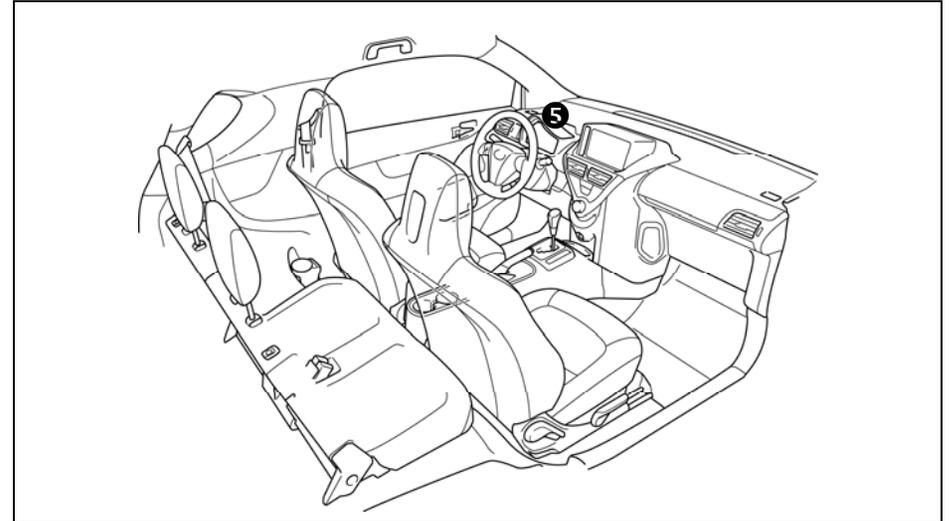
## iQ EV Identification (Continued)

### Interior

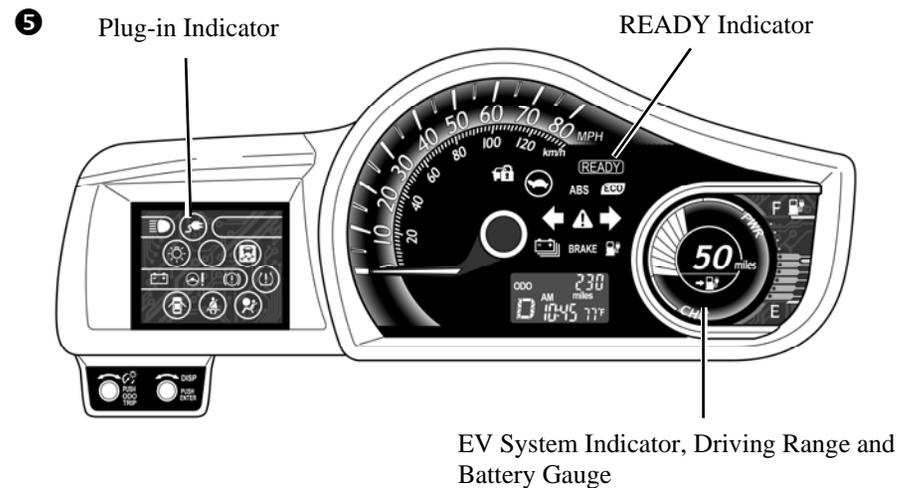
- 5 The instrument cluster (power meter, driving range & battery gauge, **READY** indicator, plug-in indicator and warning lights) located in the dash behind the steering wheel, is different than the one on the conventional, non-electric iQ.

#### NOTE:

If the vehicle is shut off, the instrument cluster gauges will be “blacked out”, not illuminated.



Interior View

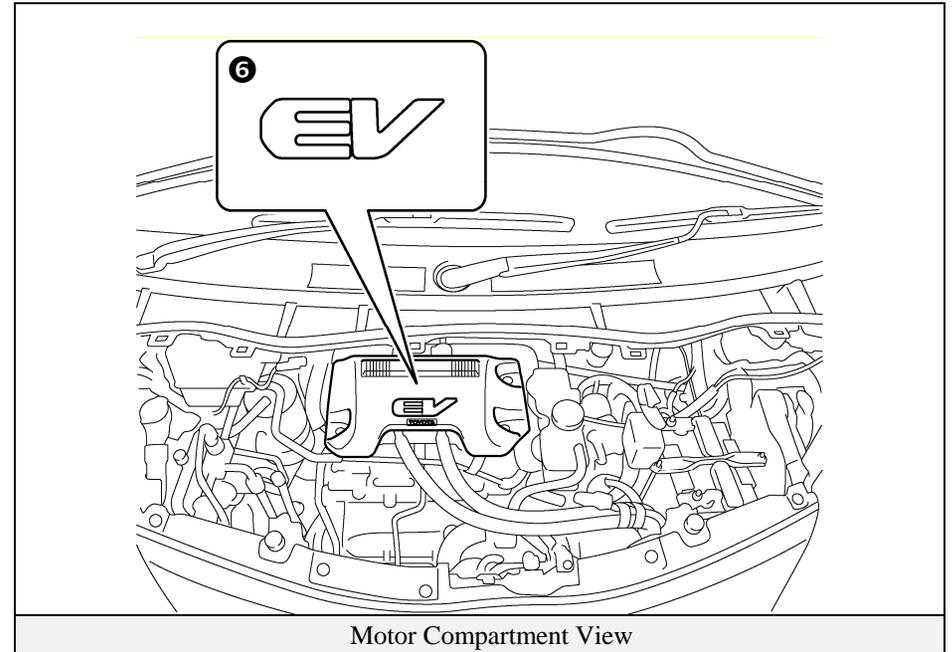


Instrument Cluster View

## iQ EV Identification (Continued)

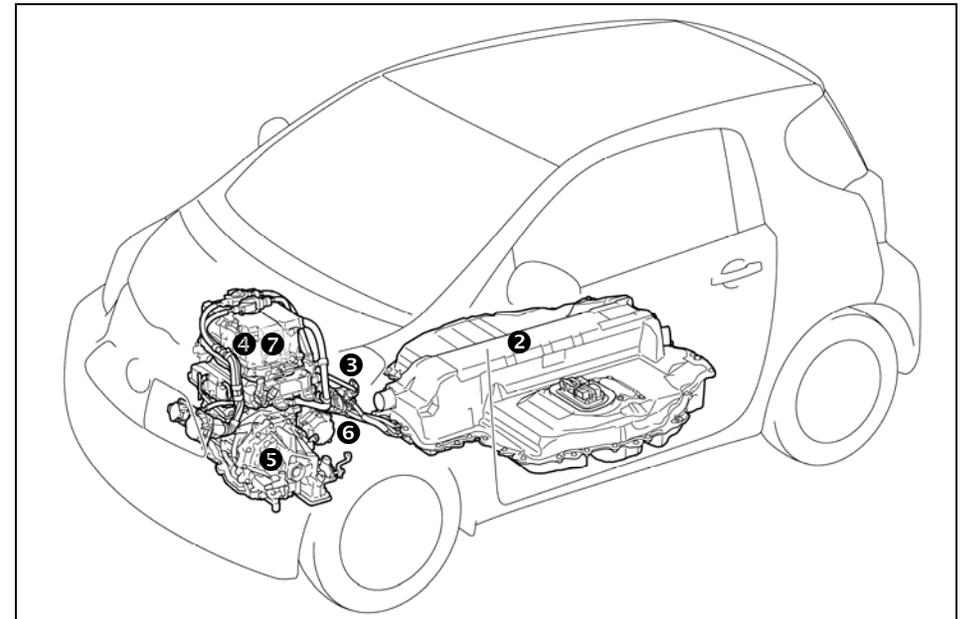
### Motor Compartment

- ⑥ Logo on the plastic cover.

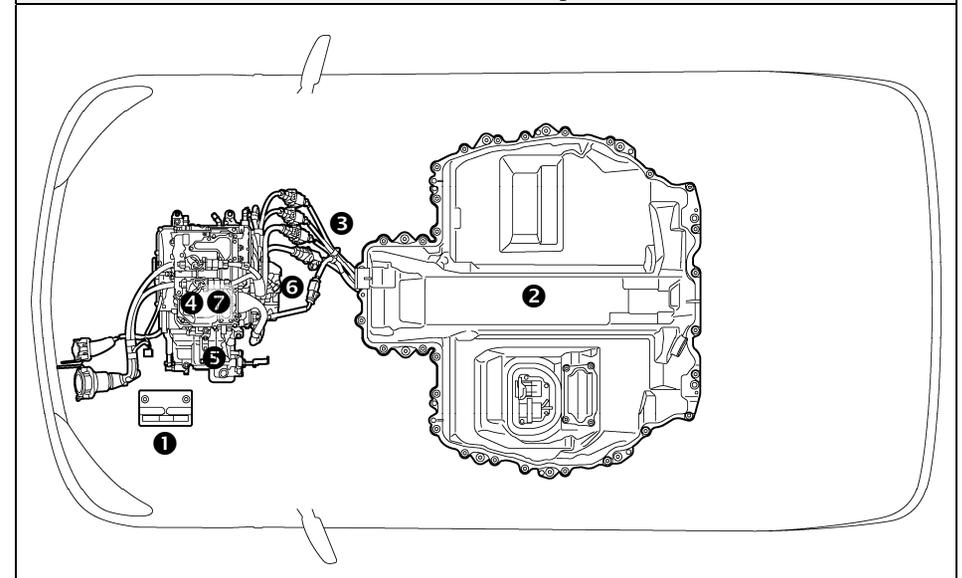


## Electric Vehicle Component Locations & Descriptions

Component	Location	Description
12 Volt Auxiliary Battery ❶	Driver Side of Motor Compartment	A lead-acid battery that supplies power to the low voltage devices.
Electric Vehicle (EV) Battery Assembly ❷	Undercarriage	277.5 Volt Lithium-ion (Li-ion) battery assembly consisting of 150 low voltage (3.7 Volt) cells connected in a series-parallel circuit.
Power Cables ❸	Undercarriage and Motor Compartment	Orange colored power cables carry high voltage Alternating Current (AC) between the charge inlet (for normal charging) and charger assembly, and high voltage Direct Current (DC) between the EV battery assembly, inverter/converter, A/C compressor, and charge inlet (for optional quick charging). These cables also carry 3-phase Alternating Current (AC) between the inverter/converter and electric motor.
Inverter / Converter ❹	Motor Compartment	Inverts the high voltage DC electricity from the EV battery assembly to 3-phase AC electricity to drive the electric motor. The inverter/converter also converts AC electricity from the electric motor (regenerative braking) to DC that recharges the EV battery assembly.
DC/DC Converter for 12 Volt Auxiliary Battery ❺	Inverter / Converter	Converts 277.5 Volts from the EV battery assembly to 12 Volts for low voltage vehicle power.
Electric Motor ❻	Motor Compartment	3-phase high voltage AC permanent magnet electric motor contained in the transaxle and drives the front wheels.
A/C Compressor (with Inverter) ❼	Motor Compartment	3-phase high voltage AC electrically driven motor compressor.



Electric Vehicle Components

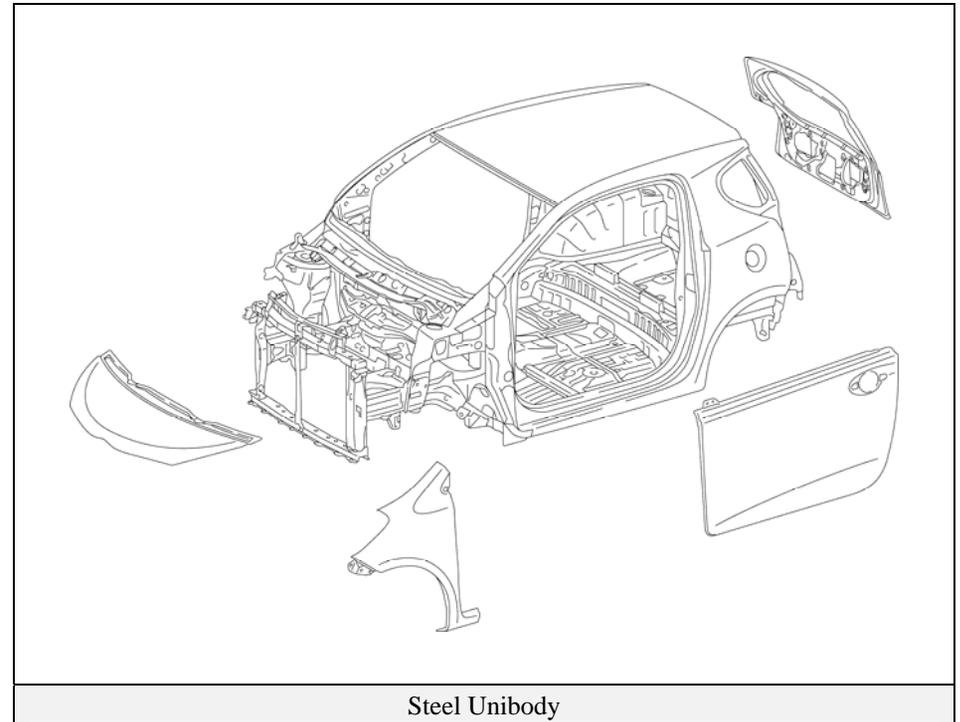


Components (Top View) and High Voltage Power Cables

## Electric Vehicle Component Locations & Descriptions (Continued)

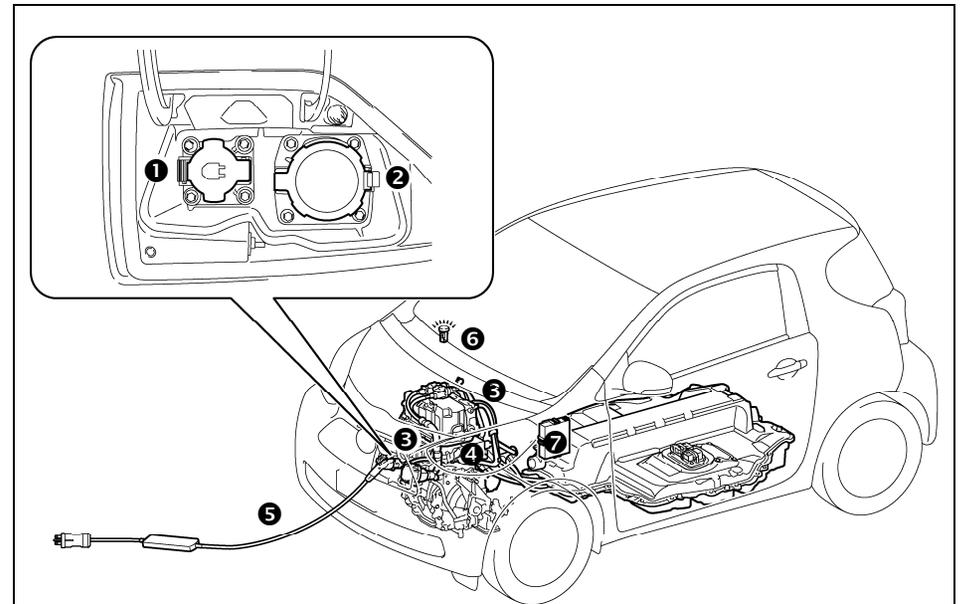
### Key Specifications:

Electric Motor:	63 hp (47 kW), AC Permanent Magnet Motor
Transaxle:	Automatic Only
EV Battery Assembly:	277.5 Volt Sealed Li-ion Battery
Curb Weight:	2,425 lbs/1,100 kg
Frame Material:	Steel Unibody
Body Material:	Steel Panels
Seating Capacity:	4 passengers

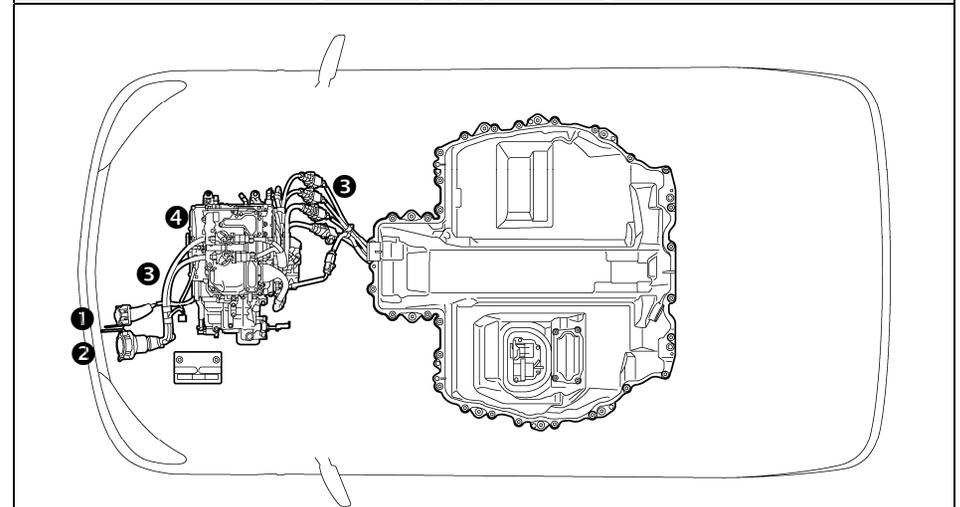


## Plug-in Charging System Component Locations & Descriptions

Component	Location	Description
Charge Inlet (for Normal Charging) ❶	Front Upper Grille	Connects to the charge cable assembly charge connector. Supplies the electrical power from an external power source to the vehicle.
Charge Inlet (for Optional Quick Charging) ❷	Front Upper Grille	Connects to the charge cable assembly charge connector. Supplies the electrical power from an external power source to the vehicle.
Power Cable for Charging ❸	Motor Compartment	<ul style="list-style-type: none"> <li>Connects the charge inlet and charger assembly (for normal charging).</li> <li>Connects the charge inlet and EV battery assembly (for optional quick charging).</li> </ul>
Charger Assembly ❹	Motor Compartment	Boosts the AC power supplied from an external power source and converts it to DC to charge the EV battery assembly.
Charge Cable Assembly ❺	Front Grille	Connects to the charge inlet and supplies power from an external power source to the vehicle.
Charge Indicator ❻	Upper Dash near Passenger Side Windshield	Displays the charging status by illuminating, flashing or turning off.
Battery Charger Controller ❼	Driver Side Footwell	Controls the charger assembly to perform plug-in charging, based on the signals from switches, charging current and charging voltage. Illuminates the charging indicator during plug-in charging.



Plug-in Charging System Components



Plug-in Charging System Components (Top View) and Charge Inlet Power Cables

## Smart Key System

The iQ EV smart key system consists of a smart key transceiver that communicates bi-directionally, enabling the vehicle to recognize the smart key in proximity to the vehicle. Once recognized, the smart key will allow the user to lock and unlock the doors without pushing smart key buttons, and start the vehicle without inserting it into an ignition switch.

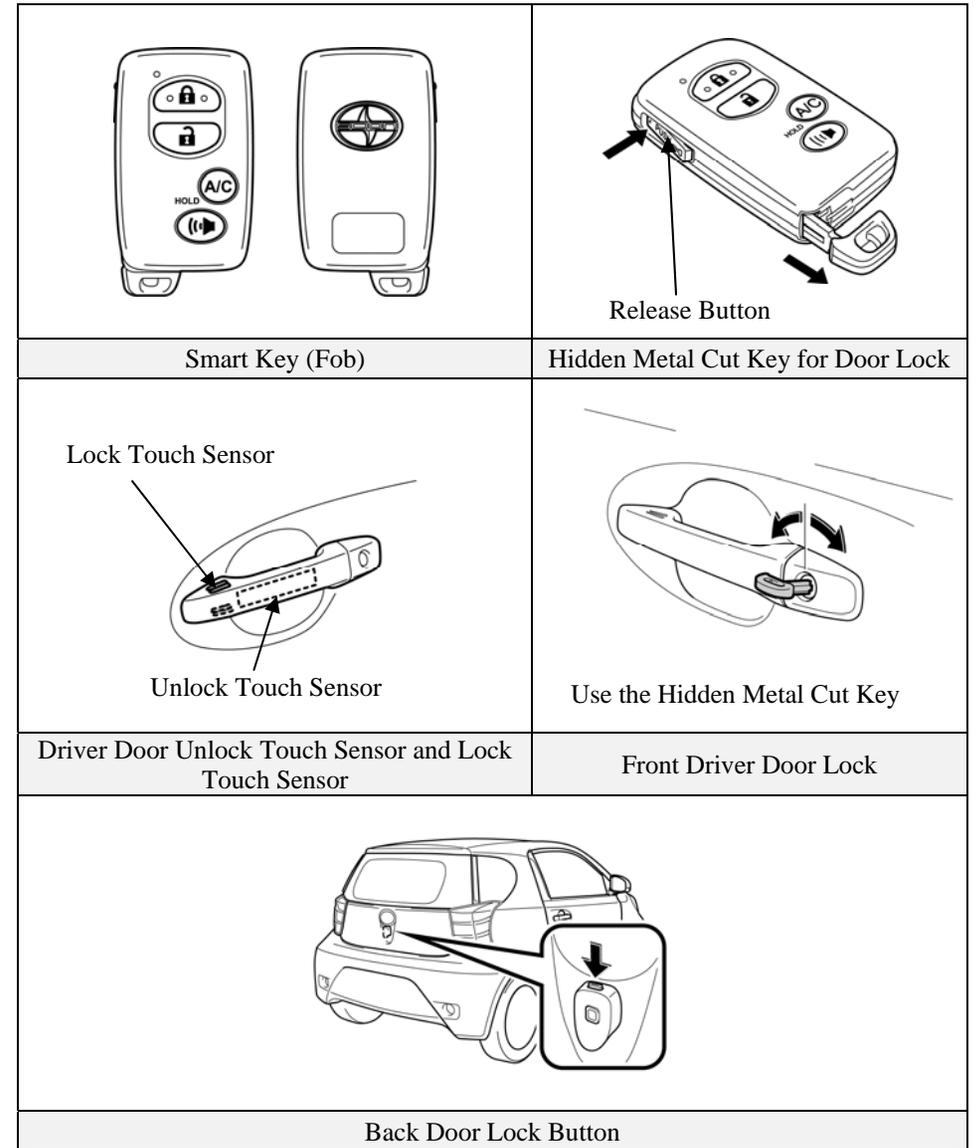
Smart key features:

- Passive (remote) function to lock/unlock the doors and start the vehicle.
- Wireless transmitter buttons to lock/unlock all 3 doors.
- Hidden metal cut key to lock/unlock the doors.

### Door (Lock/Unlock)

There are several methods available to lock/unlock the doors.

- Pushing the smart key lock button will lock all the doors including the back door. Pushing the smart key unlock button once unlocks the driver door, twice unlocks all doors.
- Touching the unlock touch sensor on the backside of the driver door exterior handle, with the smart key in close proximity to the vehicle, unlocks the driver door. Touching the unlock touch sensor on the backside of the front passenger door exterior handle, with the smart key in close proximity to the vehicle, unlocks all the doors. Touching the lock touch sensor on either front door will lock all the doors, or pushing the back door lock button will lock all doors.
- Inserting the hidden metal cut key in the driver door lock and turning clockwise once unlocks the driver door, twice unlocks all doors. To lock all doors turn the key counterclockwise once. Only the driver door contains an exterior door lock for the metal cut key.

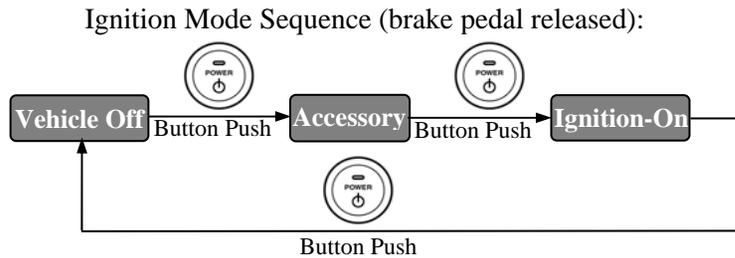


## Smart Key System (Continued)

### Vehicle Starting/Stopping

The smart key has replaced the conventional metal cut key, and the power button with an integrated status indicator light 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, check that the **READY** indicator is illuminated in the instrument cluster.
- If the internal smart key battery is dead, use the following method to start the vehicle.
  1. Touch the Scion 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** indicator 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, placing the gearshift lever in **Park** 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 2 seconds or push the power button 3 times or more in a row. This procedure may be useful at an accident scene in which the **READY** indicator is on, **Park** cannot be selected, and the drive wheels remain in motion.

Ignition Mode	Power Button Indicator Light
Off	Off
Accessory	Amber
Ignition-On	Amber
Brake Pedal Depressed	Green
Vehicle Started (READY-ON)	Off
Malfunction	Blinking Amber

<p>Power Button with Integrated Status Indicator Light</p>	<p>Ignition Modes (Brake Pedal Released)</p>
<p>Starting Sequence (Brake Pedal Depressed)</p>	<p>Smart Key Recognition (When Smart Key Battery is Dead)</p>

## Electric Vehicle Operation

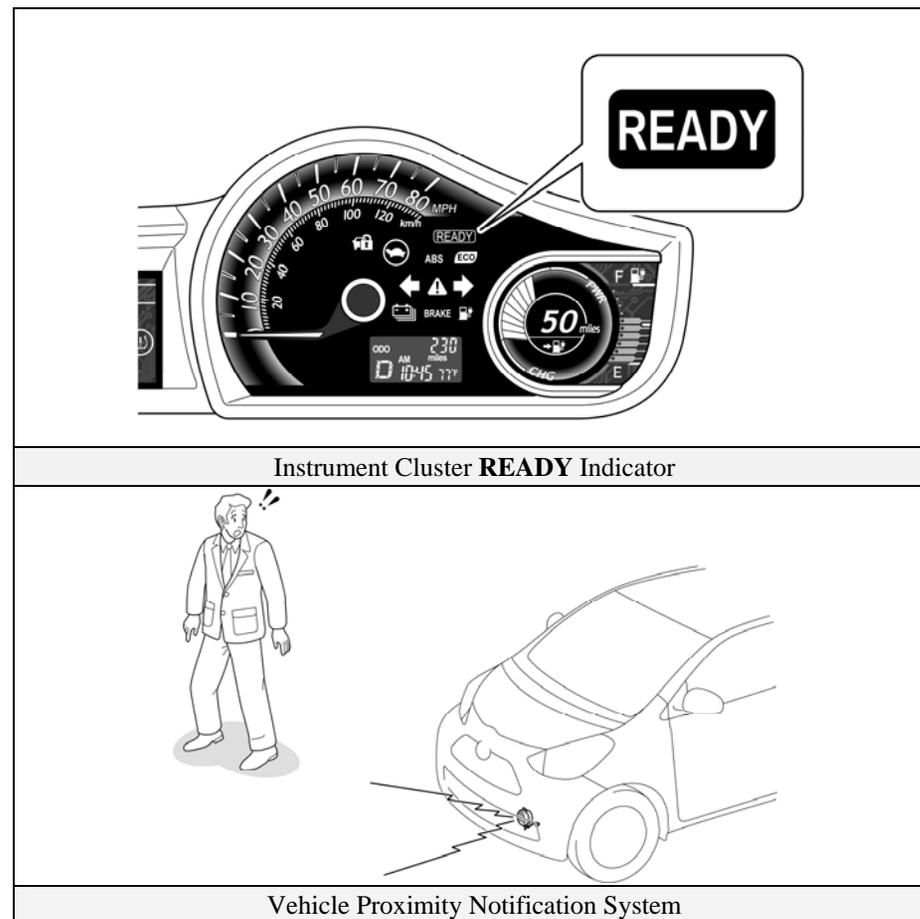
Once the **READY** indicator is illuminated in the instrument cluster, the vehicle may be driven. However, as there is no gasoline engine, no sound will be produced from the vehicle. It is important to recognize and understand the **READY** indicator provided in the instrument cluster. When lit, it informs the driver that the vehicle is on and operational even though the motor compartment is silent.

### Vehicle Operation

- With the iQ EV, the system is operational while the **READY** indicator is on.
- Never assume that the vehicle is shut off just because the motor compartment is silent. Always look for the **READY** indicator status. The vehicle is shut off when the **READY** indicator is off.

### Vehicle Proximity Notification System

The iQ EV has a vehicle proximity notification system that emits a sound when the vehicle is driven at speeds less than 15 mph (25 km/h). The sound is intended to notify pedestrians that the vehicle is approaching.



## Electric Vehicle (EV) Battery Assembly

The iQ EV features a high voltage Electric Vehicle (EV) battery assembly that contains sealed Lithium-ion (Li-ion) battery cells.

### EV Battery Assembly

- The EV battery assembly is enclosed in a case and is rigidly mounted under the floor. The case is isolated from high voltage.
- The EV battery assembly consists of 150 low voltage (3.7 Volt) Li-ion battery cells connected in series-parallel to produce approximately 277.5 Volts. Each Li-ion battery cell is non-spillable and sealed in a case.
- The electrolyte used in the Li-ion battery cells is a flammable organic electrolyte. The electrolyte is absorbed into the battery cell separator and will not normally leak, even in a collision.

EV Battery Assembly	
Battery assembly voltage	277.5 V
Number of Li-ion battery cells in the battery	150
Li-ion battery cell voltage	3.7 V
Li-ion battery cell dimensions Length x Width x Height	4.13 x 5.83 x 1.04 in. (105 x 148 x 27 mm)
Li-ion cell weight	1.60 lbs (726 g)
Li-ion battery assembly dimensions Length x Width x Height	48 x 53 x 13 in. (1226 x 1355 x 335 mm)
Li-ion battery assembly weight	485 lbs (220 kg)

### Components Powered by the EV Battery Assembly

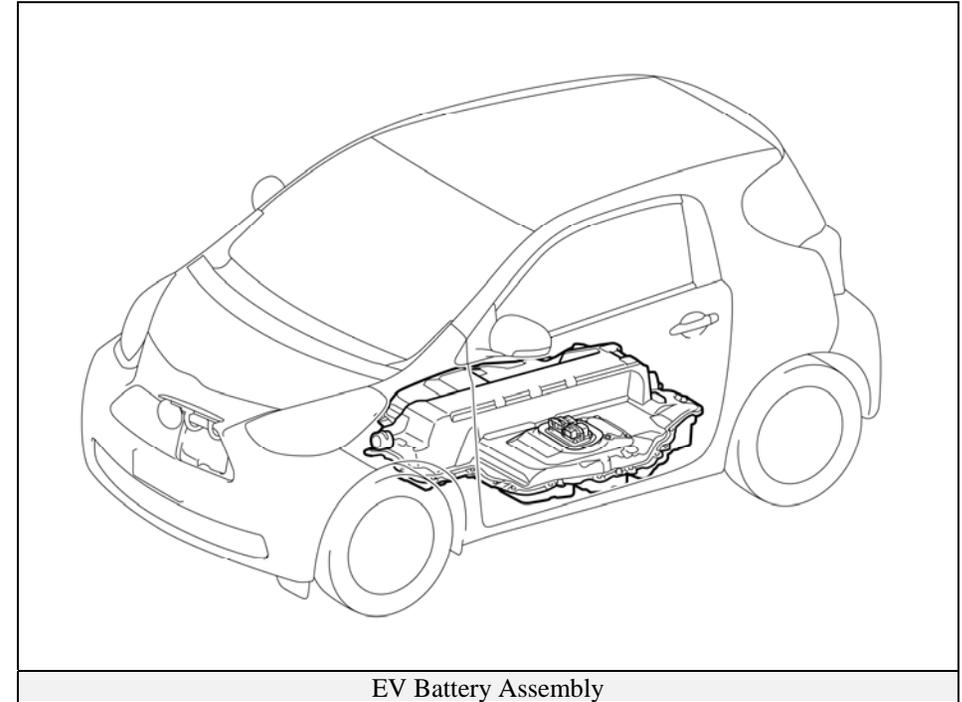
- Electric Motor
- Inverter/Converter
- DC-DC Converter for 12 Volt
- Power Cables
- A/C Compressor

### EV Battery Assembly Recovery

- If recovery of the EV battery assembly is necessary, please contact:

United States: (800) 331-4331

Canada: (888) TOYOTA 8 [(888) 869-6828]



## Plug-in Charging System (Normal Charging - 120/240 Volt)

The plug-in charging system uses a charger assembly to convert AC power supplied via the charge cable assembly to DC power that can be used to charge the EV battery assembly. The charging system uses refined charging control to ensure battery durability and prevent fires due to overcharging.

The external power supplied by the charge cable assembly is converted by the charger assembly to the approximately 277.5 Volts DC used to charge the EV battery assembly.

### NOTE:

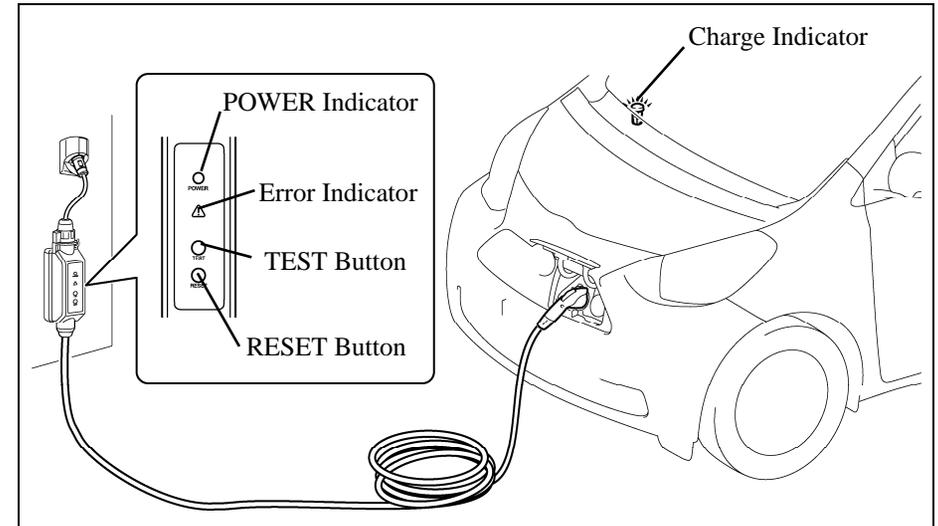
Since the operation of the plug-in charging system allows high voltage electrical flow when the vehicle is shut off, it is important to recognize how the system is activated, deactivated, and disabled.

### System Activation:

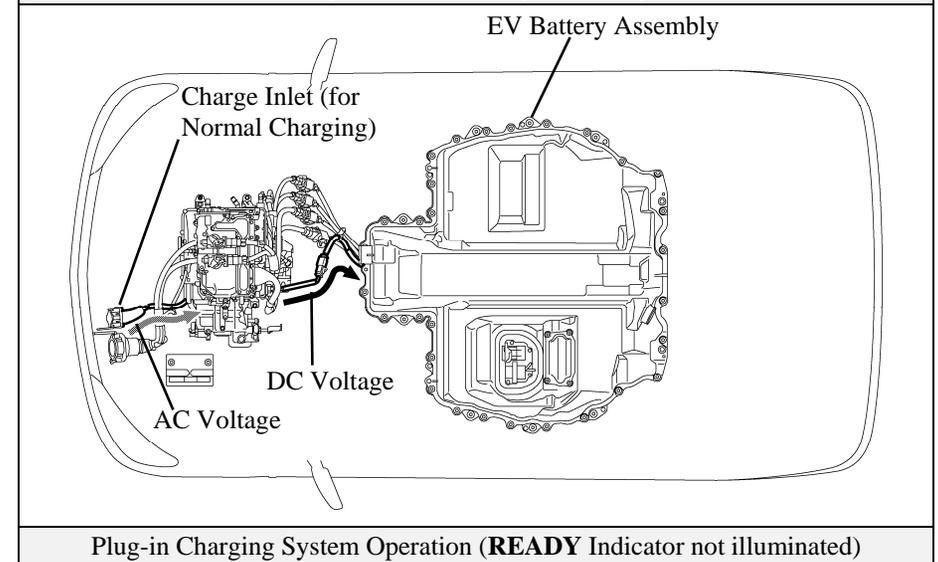
The following steps provide a simplified explanation on how to charge the vehicle.

1. Confirm that the vehicle is off and in **Park**.
2. Connect the charge cable assembly to a suitable 120/240 Volt external power outlet.
3. Confirm the presence of power and test the CCID (Charging Circuit Interrupter Device).
4. Connect the charge cable assembly to the vehicle charge inlet connector (for normal charging) on the left (as viewed from the front).
5. Confirm that the vehicle's charge indicator illuminates.

When charging, the high voltage cables are energized. External power flows from the charge inlet, its voltage is then boosted and it is provided to the EV battery assembly, inverter/converter and A/C compressor. Fully charging the EV battery assembly, when the SOC (State of Charge) warning light has come on, will take approximately 7 hours. When the EV battery assembly is charged at charging stations, it will take approximately 3 hours. Charging will stop automatically.



Normal Charge Cable Assembly and Charge Indicator



Plug-in Charging System Operation (**READY** Indicator not illuminated)

## Plug-in Charging System (Normal Charging - 120/240 Volt Continued)

### System Deactivation:

The following steps explain how to stop charging.

1. Disconnect the charge cable assembly connector from the vehicle.  
To disconnect it, push the lock release button on the top of the connector and pull it away from the vehicle.
2. Close the charge inlet cap and recharge inlet door.
3. Disconnect the plug of the charge cable assembly from the electrical outlet.

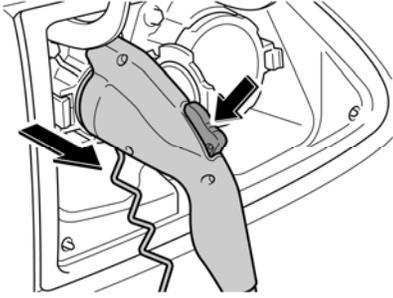
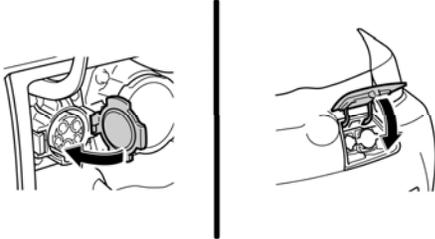
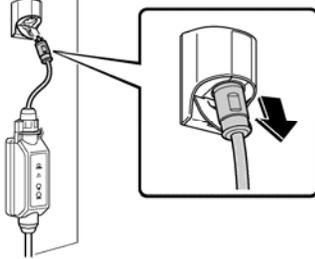
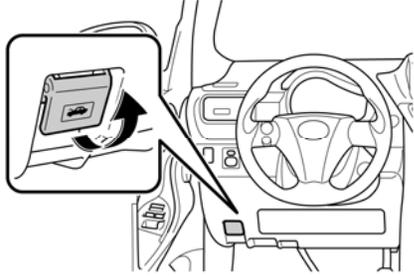
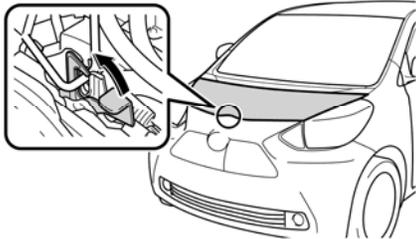
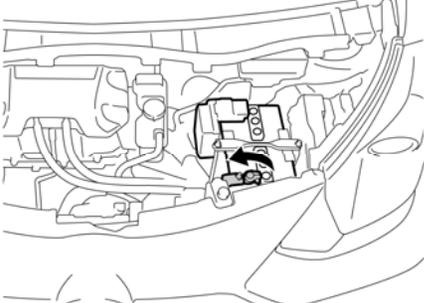
When the charging system is deactivated, high voltage cables are de-energized and the high voltage electrical flow stops in the charge cable assembly and vehicle.

### System Disabling:

To disable the charging system, disconnect the 12 Volt auxiliary battery after performing the above deactivation procedure.

### **⚠️ WARNING:**

- *The high voltage system, including the charging system, may remain powered for up to 10 minutes after the vehicle is shut off, disabled, or charging stops. To prevent serious injury or death from severe burns or electric shock, avoid touching, cutting, or breaching any orange high voltage power cables or high voltage components.*
- *To prevent serious injury or death, shut off the utility circuit supplying power to the charge cable assembly before disconnecting it if the CCID or charge cable assembly are submerged in water.*

	
<p>Disconnect Charge Cable Connector</p>	<p>Close Charge Inlet Cap and Recharge Inlet Door</p>
	
<p>Disconnect Plug</p>	<p>Remote Hood Lock Release</p>
	
<p>Hood Latch Release</p>	<p>Disconnect 12 V Auxiliary Battery Mounted in Motor Compartment (Driver Side)</p>

## Plug-in Charging System (Optional Quick Charging - 300 Volt)

The optional quick charging system enables the EV battery assembly to be charged at charging stations for electric vehicles. Both the vehicle and a charging station precisely control the charging, preventing a fire caused by overcharging.

### NOTE:

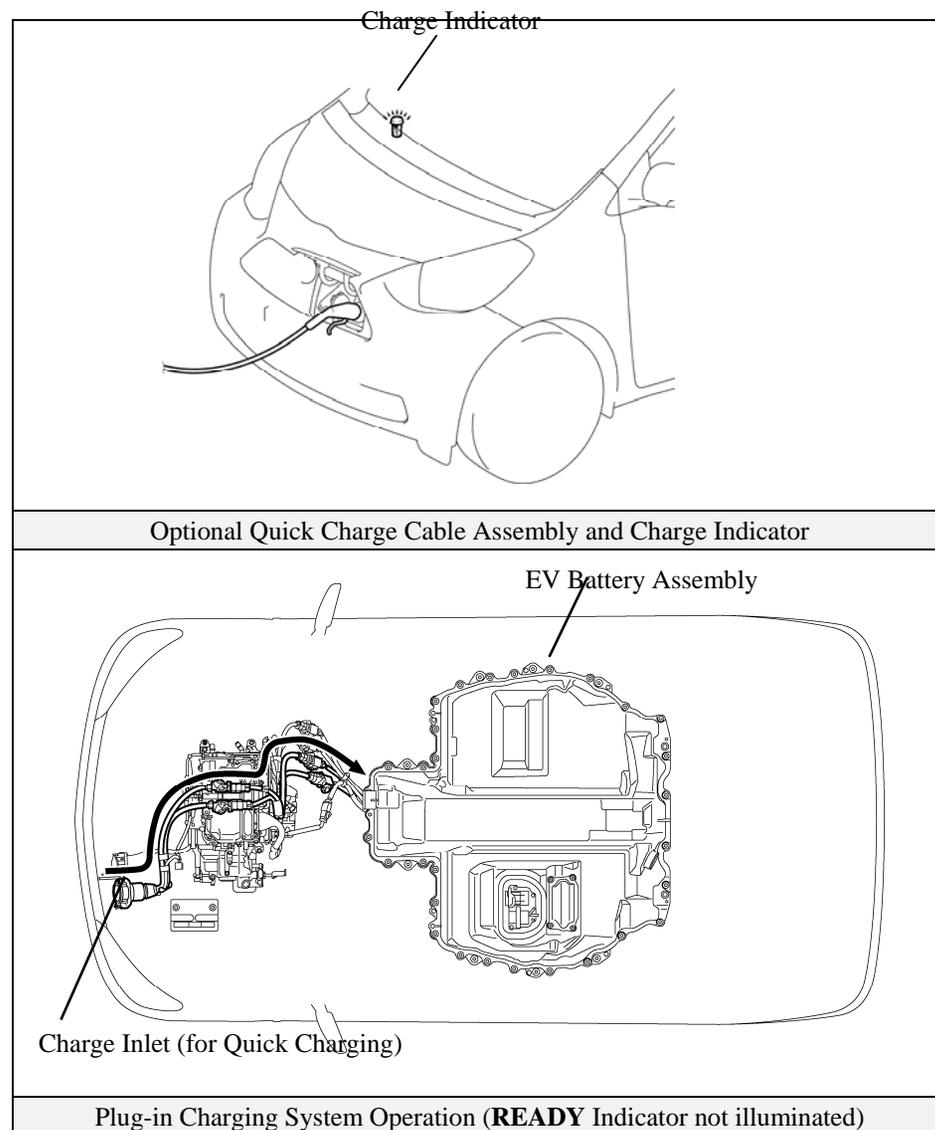
Since the operation of the plug-in charging system allows high voltage electrical flow when the vehicle is shut off, it is important to recognize how the system is activated, deactivated, and disabled.

### System Activation:

The following steps provide a simplified explanation on how to charge the vehicle.

1. Confirm that the vehicle is off and in **Park**.
2. Connect the charge cable assembly to the vehicle charge inlet connector (for quick charging) on the right (as viewed from the front).
3. Start charging according to the instructions provided by the quick charger's manufacturer.
4. Confirm that the vehicle's charge indicator illuminates.

Charging takes approximately 15 minutes from **EMPTY** state (the battery remaining warning indicator is on) to 80% of full charge. Additionally, when the charge time reaches 60 minutes, the charging automatically stops.



## Plug-in Charging System (Optional Quick Charging - 300 Volt Continued)

### System Deactivation:

The following steps explain how to stop charging.

1. Operate the EV charger at a charging station to stop charging.
2. Remove the quick charging connector by referring to the instructions provided by the quick charger's manufacturer. For the procedure to return the charging connector to the charger holder, refer to the quick charger's instructions manual.
3. Close the charge inlet cap and recharge inlet door.

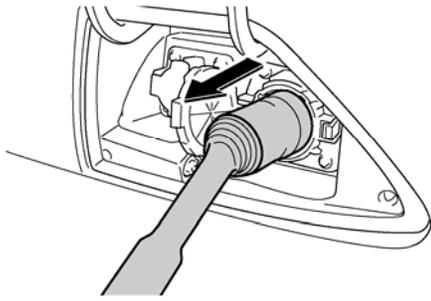
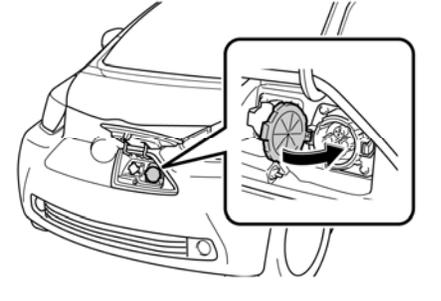
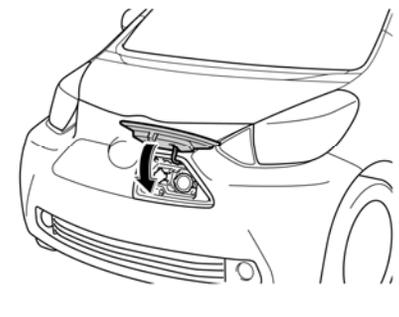
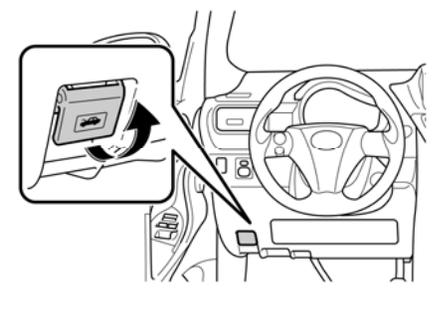
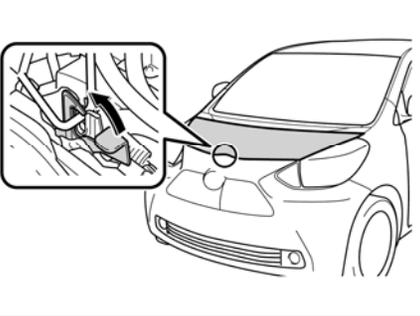
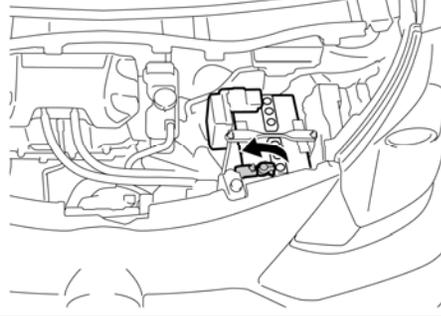
When the charging is stopped, high voltage electric current in the charge cable is cut off, the relays on the vehicle are turned off and the connection between the battery and inlet is cut off.

### System Disabling:

To disable the charging system, disconnect the 12 Volt auxiliary battery after performing the above deactivation procedure.

### **⚠️WARNING:**

- *The high voltage system, including the charging system, may remain powered for up to 10 minutes after the vehicle is shut off, disabled, or charging stops. To prevent serious injury or death from severe burns or electric shock, avoid touching, cutting, or breaching any orange high voltage power cables or high voltage components.*
- *To prevent serious injury or death, shut off the utility circuit supplying power to the charge cable assembly before disconnecting it if the charge cable assembly are submerged in water.*

	
<p>Disconnect Charge Cable Connector</p>	<p>Close Charge Inlet Cap</p>
	
<p>Close Recharge Inlet Door</p>	<p>Pull Hood Lock Release</p>
	
<p>Hood Latch Release</p>	<p>Disconnect 12 V Auxiliary Battery Mounted in Motor Compartment (Driver Side)</p>

## Remote Climate Control System

The remote climate control system is provided to enhance occupant comfort by heating or cooling the vehicle cabin while the vehicle is shut off and the remaining charge level of the EV battery assembly is equivalent to 8/10 or greater on the SOC (State of Charge) gauge and normal charge cable assembly is connected. The remote climate control system cannot be operated while optional quick charging is being performed.

The remote climate control system is similar to a remote engine start system used in a conventional gasoline vehicle to precondition the vehicle cabin while the vehicle is parked. To heat or cool the vehicle cabin, the iQ EV utilizes power from the EV battery assembly to operate the high voltage A/C compressor. The system can be activated remotely by pushing the smart key A/C button and will operate for up to 10 minutes when certain conditions are met.

### NOTE:

Since the operation of the remote climate control system allows high voltage electrical flow, it is important to recognize how the system is activated, deactivated, and disabled.

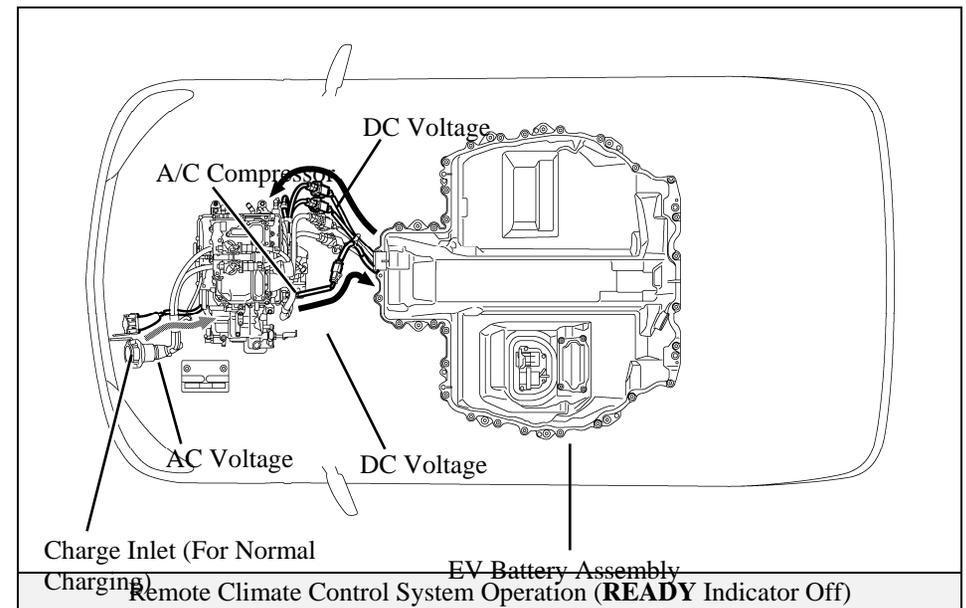
### System Activation:

When the remote climate control system is activated, the high voltage cables are energized. High voltage flows from the EV battery assembly to the A/C compressor. The system can operate when all of the following operating conditions are met:

- The SOC (State of Charge) gauge is 8/10 or greater.
- The charge cable assembly is connected. (for normal charging)
- All doors and hood are closed.
- The vehicle Power switch is off.
- The brake pedal is not being depressed.
- The shift position is **Park**.
- There is no malfunction in high voltage system.

The following points can be used to confirm that the remote climate control system is operating:

- Air is flowing from the interior vehicle vents, and blower fan noise, cooling fan noise or compressor noise is heard.
- The charge cable assembly is connected and the charge indicator is illuminated.
- The instrument cluster lights are on, the **READY** indicator is off, and all of the conditions in the preceding list are met.



## Remote Climate Control System (Continued)

### System Deactivation:

When the system is deactivated, the air conditioning system stops. The system is deactivated when any one of the following conditions occurs:

- When the system has operated for more than about 10 minutes.
- The ignition mode changed to Accessory, Ignition-On or READY-ON.
- When a door is opened, the hood is opened, or the brake pedal is depressed.
- When the smart key A/C button is pushed twice within 3 seconds.
- A shift position other than **Park** is selected.
- When the operating conditions are not met.
- A malfunction is detected in the high voltage system.

### NOTE:

It is possible to operate the remote climate control system and perform plug in charging of EV battery assembly at the same time.

### **WARNING:**

*The high voltage system, including the charging system, may remain powered for up to 10 minutes after the vehicle is shut off, disabled, charging stops, or the remote climate control system stops. 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.*

### System Disabling:

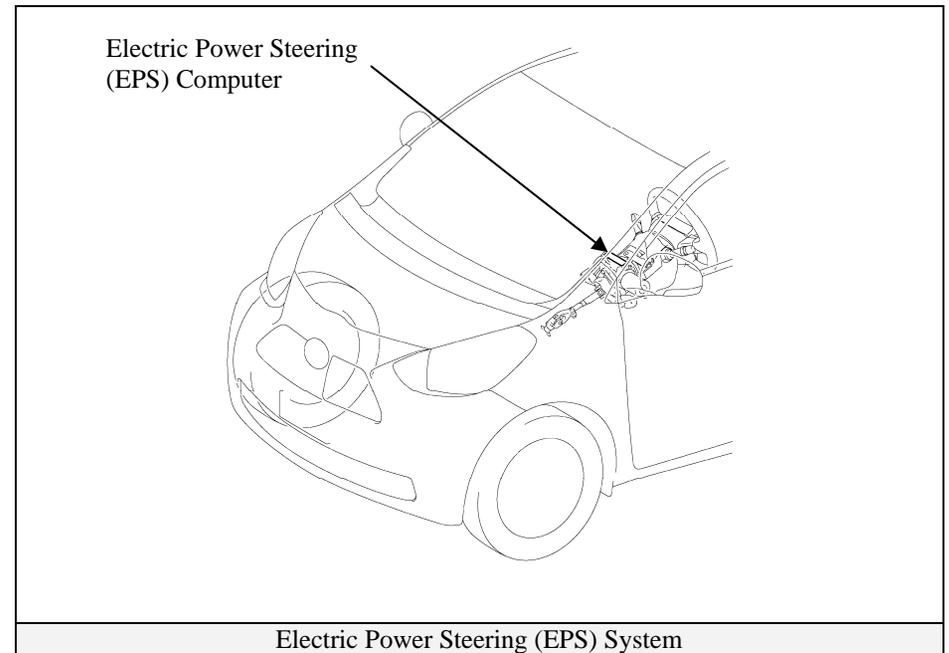
Operation of the remote climate control system can be disabled by disconnecting the charge cable assembly (see page 13 for illustration). Perform the following steps to remove the charge cable assembly.

1. Disconnect the charge cable assembly (for normal charging) connector from the vehicle. To disconnect it, push the lock release button on the top of the connector and pull it away from the vehicle.
2. Close the charge inlet cap and recharge inlet door.
3. Disconnect the plug of the charge cable assembly from the electrical outlet.

## 27 Volt System

The Electric Power Steering (EPS) computer generates 27 Volts from the 12 Volt system.

**NOTE:**  
27 Volts AC has a higher arc potential than 12 Volts DC.



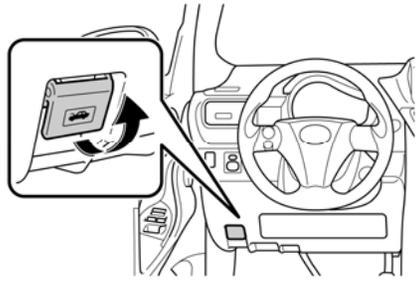
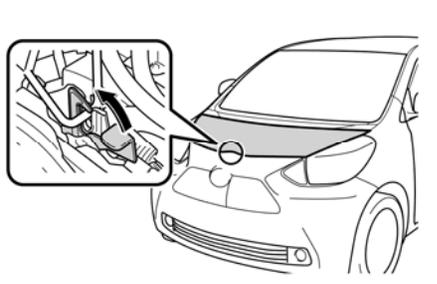
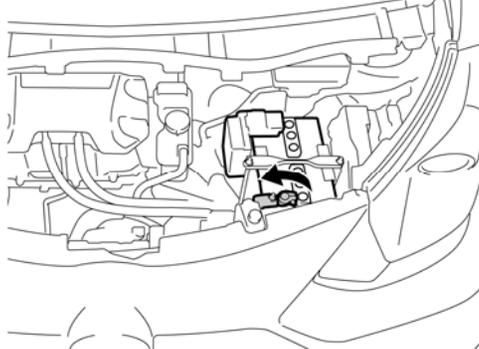
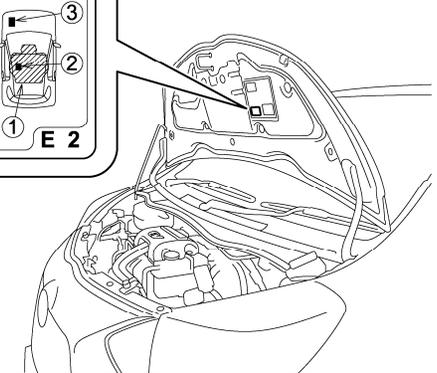
# Low Voltage Battery

## Auxiliary Battery

- The iQ EV contains a sealed lead-acid 12 Volt battery. This 12 Volt auxiliary battery powers the vehicle electrical system similar to a conventional vehicle. As with other conventional vehicles, the negative terminal of the auxiliary battery is grounded to the metal chassis of the vehicle.
- The auxiliary battery is located in the motor compartment.

### NOTE:

An under hood label shows the location of the EV battery assembly (traction battery) and 12 Volt auxiliary battery.

									
Pull Hood Lock Release	Hood Latch Release								
									
Disconnect 12 V Auxiliary Battery Mounted in Motor Compartment (Driver Side)									
<table border="1"><thead><tr><th data-bbox="1140 995 1339 1044">BATTERY LOCATION</th><th data-bbox="1350 995 1654 1044">EMPLACEMENT DES BATTERIES</th></tr></thead><tbody><tr><td data-bbox="1140 1044 1339 1092">① Lithium-ion Battery (Traction Battery)</td><td data-bbox="1350 1044 1654 1092">① Batterie Lithium-ion (Batterie de traction)</td></tr><tr><td data-bbox="1140 1092 1339 1141">② Service Plug (For service staffs)</td><td data-bbox="1350 1092 1654 1141">② Shunt (à manipuler par un professionnel)</td></tr><tr><td data-bbox="1140 1141 1339 1190">③ Lead Acid Battery (Auxiliary Battery for accessories, lights, etc.)</td><td data-bbox="1350 1141 1654 1190">③ Batterie à acide et plomb (Batterie auxiliaire pour les feux, les accessoires, etc.)</td></tr></tbody></table> 		BATTERY LOCATION	EMPLACEMENT DES BATTERIES	① Lithium-ion Battery (Traction Battery)	① Batterie Lithium-ion (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	EMPLACEMENT DES BATTERIES								
① Lithium-ion Battery (Traction Battery)	① Batterie Lithium-ion (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

The EV battery assembly powers the high voltage electrical system with DC electricity. Positive and negative orange colored high voltage power cables are routed from the EV battery assembly, under the vehicle floor pan, and to the inverter/converter. 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 and A/C compressor). The following systems are intended to help keep occupants in the vehicle and emergency responders safe from high voltage electricity:

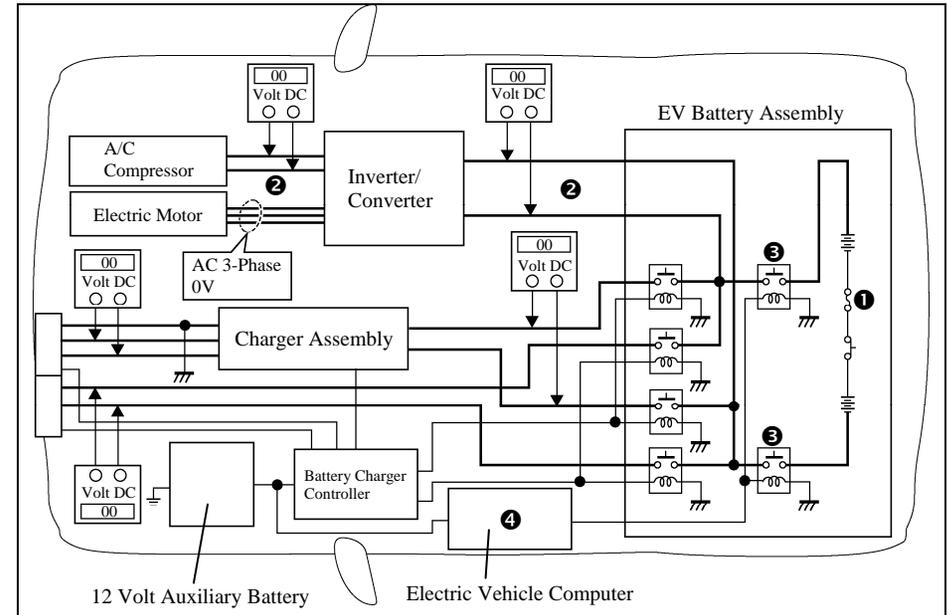
### High Voltage Safety System

- High voltage fuses ❶ provide short circuit protection in the EV battery assembly.
- Positive and negative high voltage power cables ❷ connected to the EV battery assembly are controlled by 12 Volt normally open relays (system main relays ❸). When the vehicle is shut off, the relays stop electrical flow from leaving the EV battery assembly.

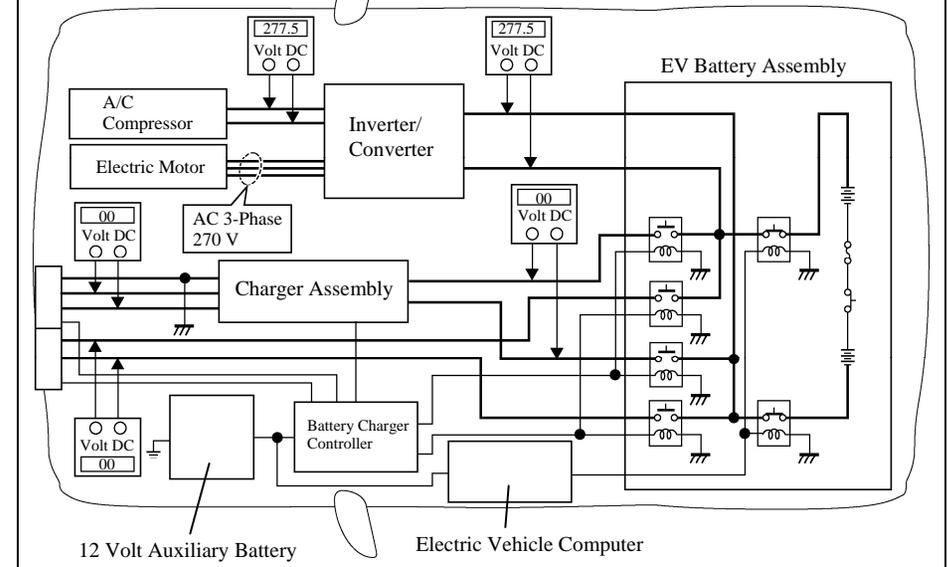
### ⚠WARNING:

*The high voltage system, including the charging system, may remain powered for up to 10 minutes after the vehicle is shut off, disabled, or charging stops. To prevent serious injury or death from severe burns or electric shock, avoid touching, cutting, or breaching any orange high voltage power cables or high voltage components.*

- Both positive and negative power cables ❷ 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 the high voltage components.
- A ground fault monitor in the electric vehicle computer ❹ continuously monitors for high voltage leakage to the metal chassis while the vehicle is running. If a malfunction is detected, the electric vehicle computer ❹ will illuminate the master warning light ⚠ in the instrument cluster and indicate “CHECK EV SYSTEM” on the multi-information display.



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



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

## Plug-in Charging Safety (Normal Charging - 120/240 Volt)

The EV battery assembly can be charged using power from an external power outlet. AC power is supplied to the charge inlet by the charge cable assembly and sent to the charger assembly. There are basically 2 circuits in the charger assembly: One is an AC/DC converter circuit and the other is a booster circuit used to boost the charger input voltage to 277.5 Volts. DC power from the charger assembly is used to charge the EV battery assembly. To provide information about the charging status, the battery charger controller illuminates the charge indicator on the dash during charging.

The following systems are intended to help keep vehicle occupants and emergency responders safe from high voltage electricity:

### Plug-in Charging System Safety System

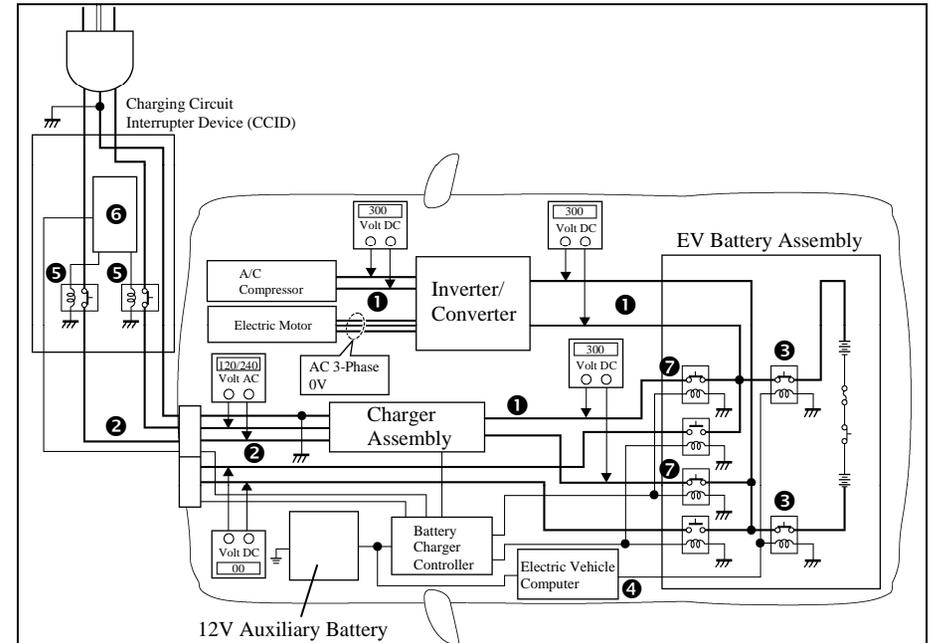
- The battery charger controller monitors the charging system based on information from various sensors. If the electric vehicle computer detects a malfunction, charging is stopped, relays are opened, and the charge indicator flashes for approximately 10 seconds and turns off.

#### **WARNING:**

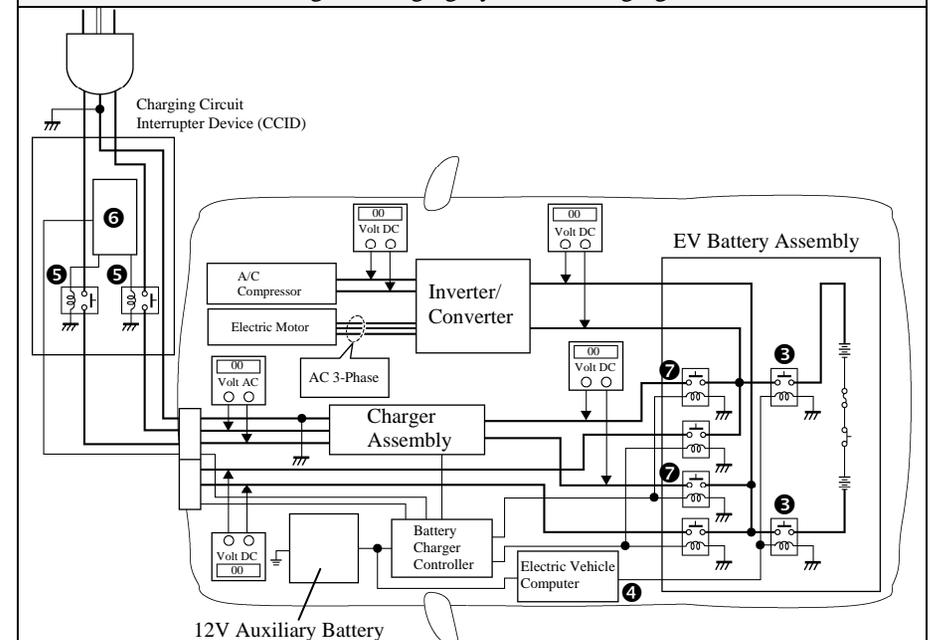
*The high voltage system, including the charging system, may remain powered for up to 10 minutes after the vehicle is shut off, disabled, or charging stops. To prevent serious injury or death from severe burns or electric shock, avoid touching, cutting, or breaching any orange high voltage power cable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

## Plug-in Charging Safety (Normal Charging - 120/240 Volt - Continued)

- The AC cables ② are connected to the charger assembly. The high voltage DC power cables ① from the charger assembly are connected to the EV battery assembly and are controlled by 12 Volt normally open relays (charge relays for normal charging ⑦, EV system main relays ③ and AC leakage cut relays ⑤). When charging is not being performed, or the remote climate control system is not operating, the charge relays for normal charging ⑦ and EV system main relays ③ turn off to block current between the EV battery assembly to the charger assembly, and the relays ⑤ in the CCID (Charging Circuit Interrupter Device) turn off to stop the supply of household power to the vehicle.
- Both the high voltage power cables ① and the AC 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 the high voltage components.
- The ground fault monitors in the electric vehicle computer ④ and CCID ⑥ continuously monitor for high voltage leakage to the metal chassis while the vehicle is charging. If a malfunction is detected, the CCID will illuminate its error light ⚠.
- The CCID contains a power light, an error light ⚠, a TEST button, and a reset button. When the charge cable assembly is connected to a 120/240 Volt outlet, the power light illuminates. The TEST and RESET buttons function like a conventional residential GFCI (Ground Fault Circuit Interrupter). Pushing the TEST button opens the relays ⑤, and pushing the RESET button resets the circuit.



Plug-in Charging System – Charging



Plug-in Charging System – Charge Completed or Malfunctioning

## Plug-in Charging Safety (Optional Quick Charging - 300 Volt)

The optional quick charging function is provided on the IQ EV as an option. The battery charger controller and a charging station each monitor the charging state by bi-directionally exchanging information. The battery charger controller illuminates the charge indicator on the dash to provide the user with charge state information while charging is being performed.

The following systems are intended to help keep vehicle occupants and emergency responders safe from high voltage electricity:

### Plug-in Charging System Safety System

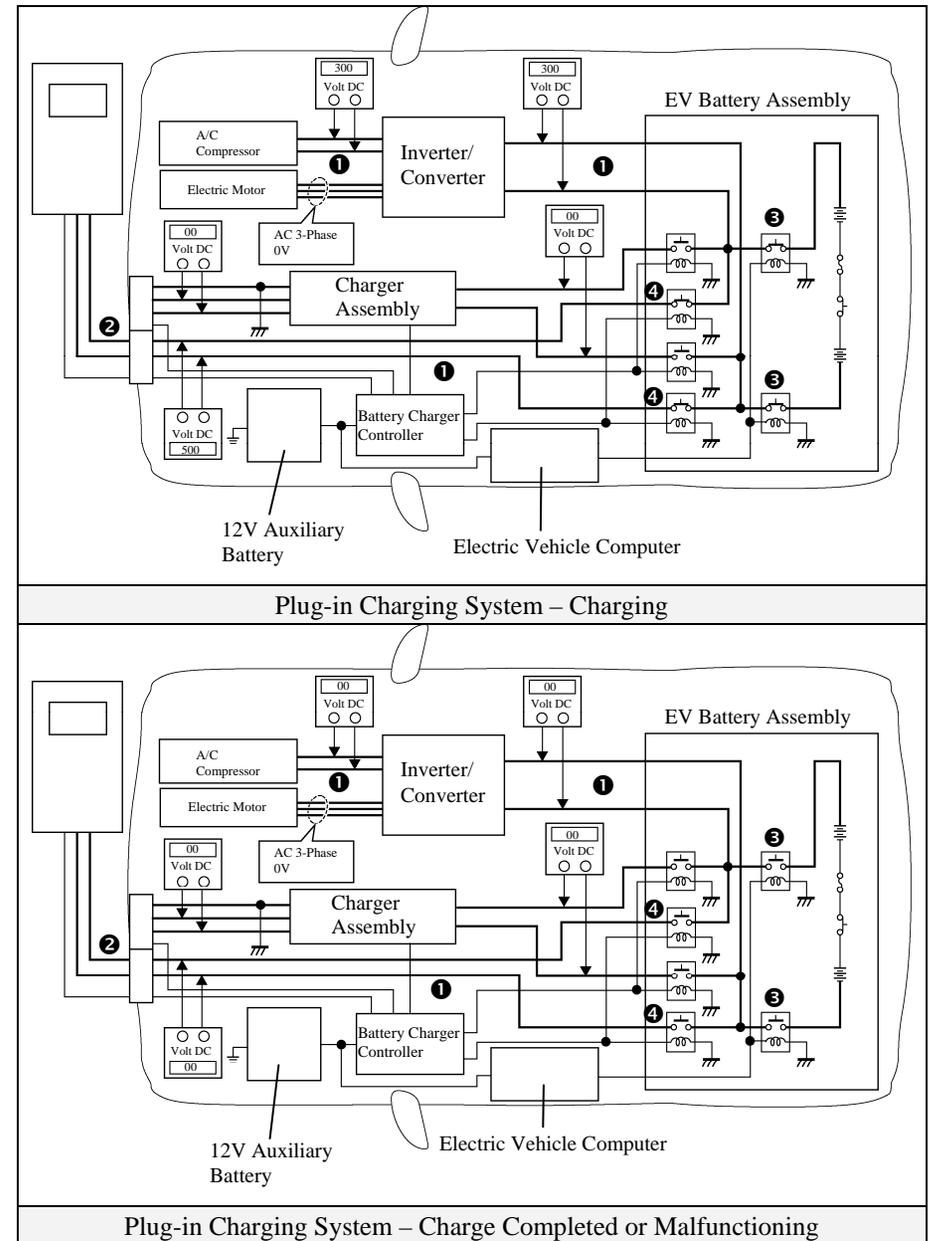
The battery charger controller and a charging station monitor the charging system based on information from various sensors. If the battery charger controller or a charging station detects a malfunction, charging is stopped, the relays are opened, and the charge indicator flashes for approximately 10 seconds and turns off.

#### **WARNING:**

*The high voltage system, including the charging system, may remain powered for up to 10 minutes after the vehicle is shut off, disabled, or charging stops. 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.*

## Plug-in Charging Safety (Optional Quick Charging - 300 Volt - Continued)

- The optional quick charge cable ❷ is connected to the EV battery assembly under the control of the 12 Volt normally open relays (charger relays for quick charging ❹ and EV system main relays ❸). When charging is finished or a malfunction is detected, the charge relays for quick charging ❹ and EV system main relays ❸ cut off the electric current to the EV battery assembly. Also, the charging station stops the power supply to the vehicle.
- Both the high voltage power cables ❶ and the charge cables ❷ 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 the high voltage components.
- The ground fault monitor mounted in the charging station constantly monitors the high voltage leakage to the metal chassis while charging is being performed. When a malfunction is detected, the power supply is stopped and the charging station transmits a charge stop signal to the battery charger controller on the vehicle. The battery charger controller turns off the charge relays for quick charging ❹ and transmits a system main relays ❸ off signal to the electric vehicle computer.
- If the power supply from the charging station does not stop for some reasons even after charging is completed, the charge cable cannot disconnect from the vehicle to prevent electric shock. In this case, first shut off the power of the charging station and then disconnect the cable.



## SRS Airbags & Seat Belt Pretensioners

The iQ EV features two new types of airbags that may be new to responders.

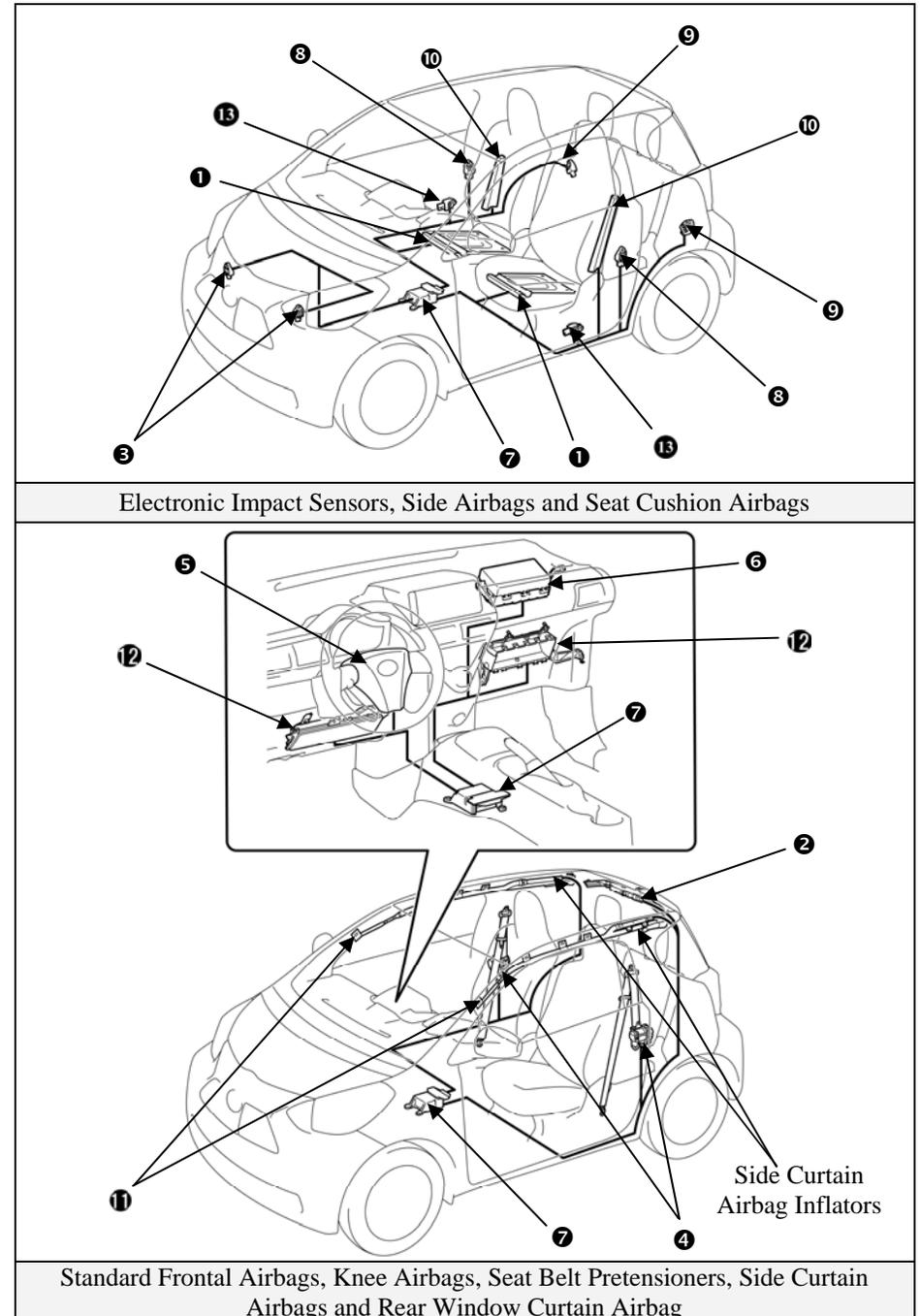
First, front seat cushion airbags ① are located and deploy within the front seat cushions. Second, a rear window curtain airbag ② is located in rear roof and deploys downward in line with the rear window.

### Standard Equipment

- Electronic frontal impact sensors (2) are mounted in the motor compartment ③ as illustrated.
- Front seat belt pretensioners are mounted near the base of the B-pillars. ④
- A frontal dual stage driver airbag ⑤ is mounted in the steering wheel hub.
- A frontal dual stage passenger airbag ⑥ is integrated into the dashboard and deploys through the top of the dashboard.
- The SRS computer ⑦, which contains an impact sensor and a rollover sensor, is mounted on the floor pan underneath the shift lever.
- Front electronic side impact sensors (2) are mounted near the base of the B-pillars. ⑧
- Rear electronic impact sensors (2) are mounted on the rear side of the cargo area. ⑨
- Front seat side airbags ⑩ are mounted in the front seatbacks.
- Side curtain airbags ⑪ are mounted along the outer edge inside the roof rails.
- Front knee airbags (2) ⑫ are mounted on the lower portion of the dash.
- Front door electronic side impact sensors (2) are mounted inside the base of the front doors. ⑬

### WARNING:

*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.*



## SRS Airbags & Seat Belt Pretensioners (Continued)

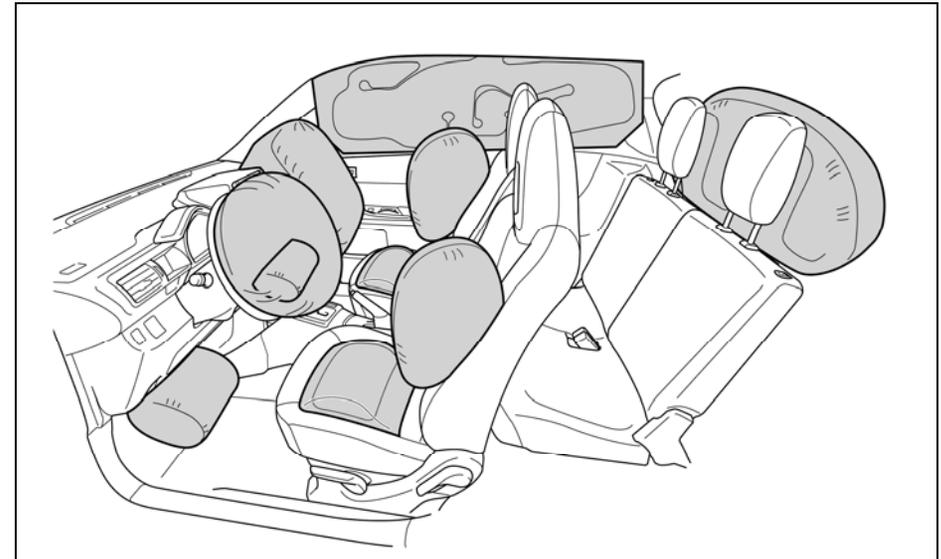
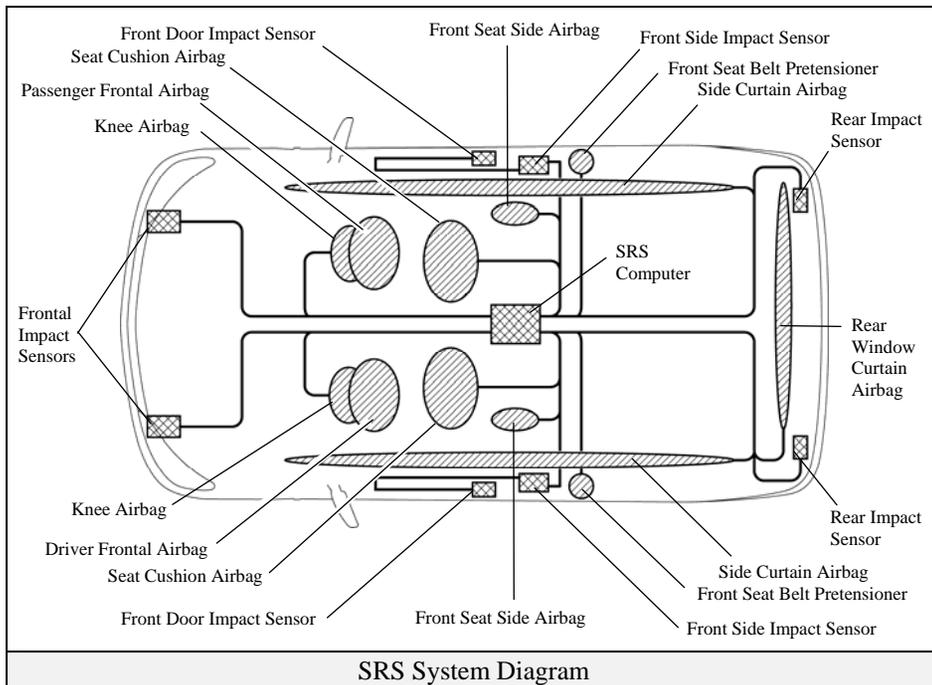
### Standard Equipment (Continued)

**NOTE:**

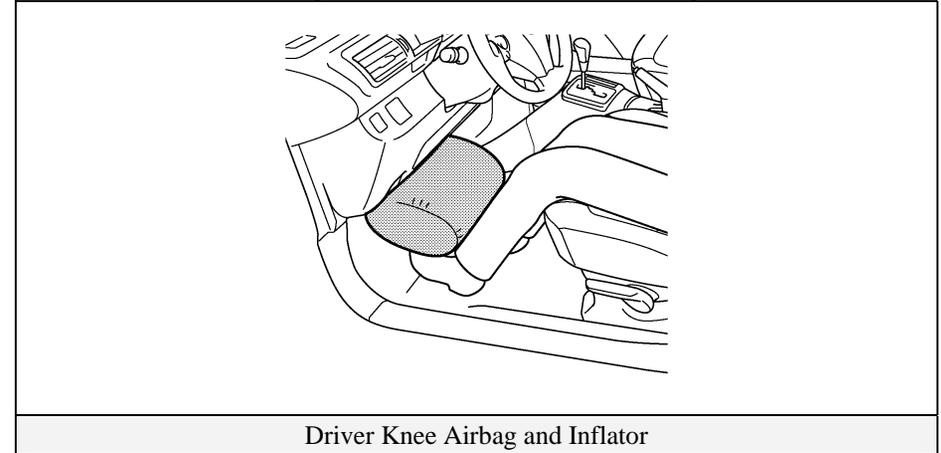
The front seatback mounted side airbags and the side curtain airbags may deploy independently of each other.

The iQ EV is equipped with a standard front passenger occupant classification system that may prohibit the deployment of the front passenger frontal airbag, passenger knee airbag, seat cushion airbag and seat belt pretensioner. If the front passenger occupant classification system prohibits deployment during an SRS event, the front passenger SRS will not re-arm nor deploy.

Electronic side impact sensors are installed in each front door to aid in side collision detection accuracy.



Frontal, Knee, Front Seatback Mounted Side, Front Seat Cushion and Side Curtain Airbags and Rear Window Curtain Airbag



Driver Knee Airbag and Inflator

## Emergency Response

On arrival, emergency responders should follow their standard operating procedures for vehicle incidents. Emergencies involving the iQ EV 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 iQ EV 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 and remote climate control system are shut off when the **READY** indicator is off and the instrument cluster lights are out.*
- *When the instrument cluster lights are on, there is a possibility that the A/C compressor is operating.*
- *Failure to shut off and disable the vehicle before emergency response procedures are performed may result in serious injury or death from unintentional deployment of the SRS or severe burns and electric shock from the high voltage electrical system.*

### Extrication

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



## Emergency Response (Continued)

### Extrication (Continued)

- Disable Vehicle

**Perform these steps first if the charge cable assembly is connected to the vehicle.**

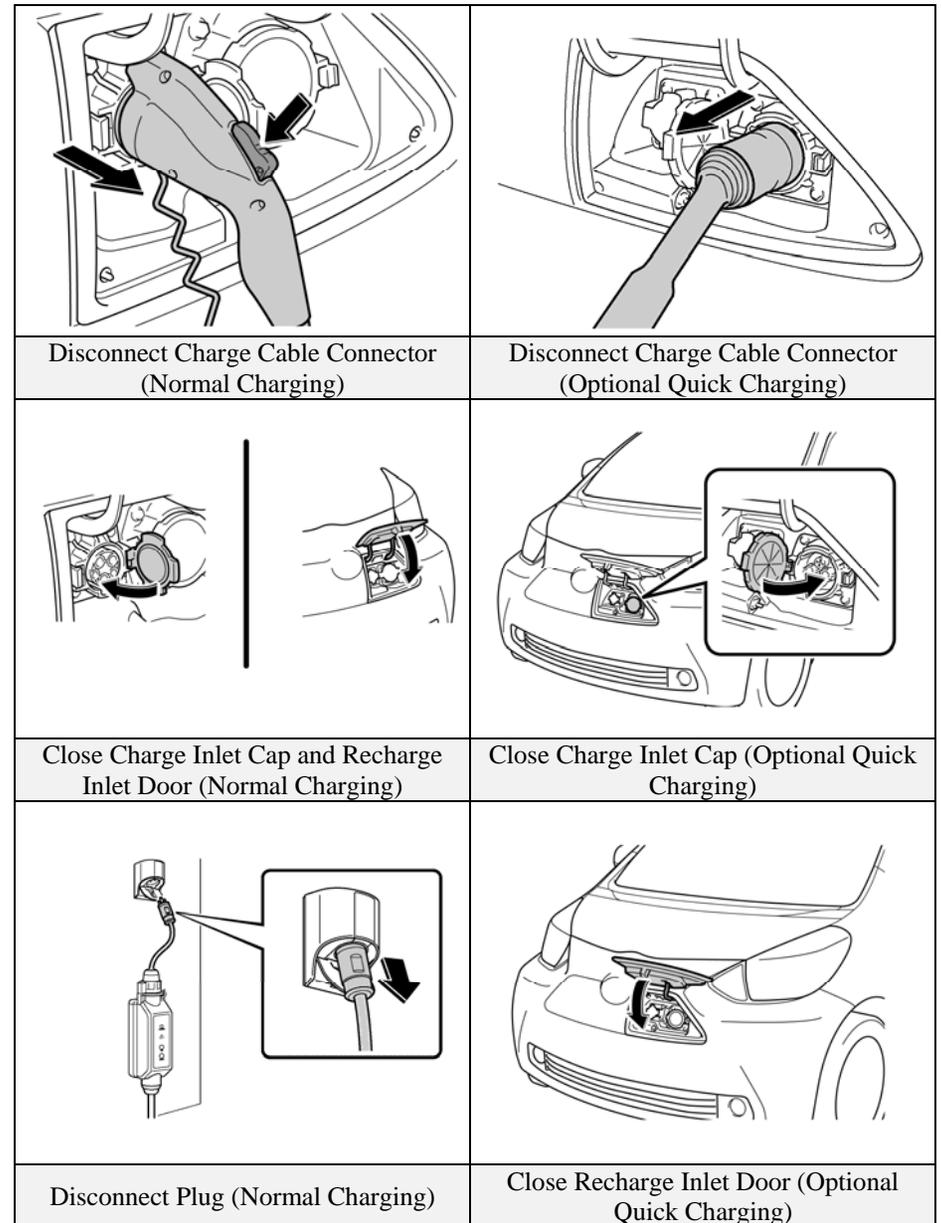
#### **Normal Charging:**

1. Disconnect the charge cable assembly connector from the vehicle. To disconnect it, push the lock release button on the top of the connector and pull it away from the vehicle.
2. Close the charge inlet cap and recharge inlet door.
3. Disconnect the plug of the charge cable assembly from the electrical outlet.

#### **Optional Quick Charging:**

1. Operate the EV charger at a charging station to stop charging.
2. Remove the quick charging connector by referring to the instructions provided by the quick charger's manufacturer. For the procedure to return the charging connector to the charger holder, refer to the quick charger's instructions manual.
3. Close the charge inlet cap and recharge inlet door.

Performing either of the following two procedures will shut the vehicle off and disable the EV battery assembly, SRS and remote climate control system.



## Emergency Response (Continued)

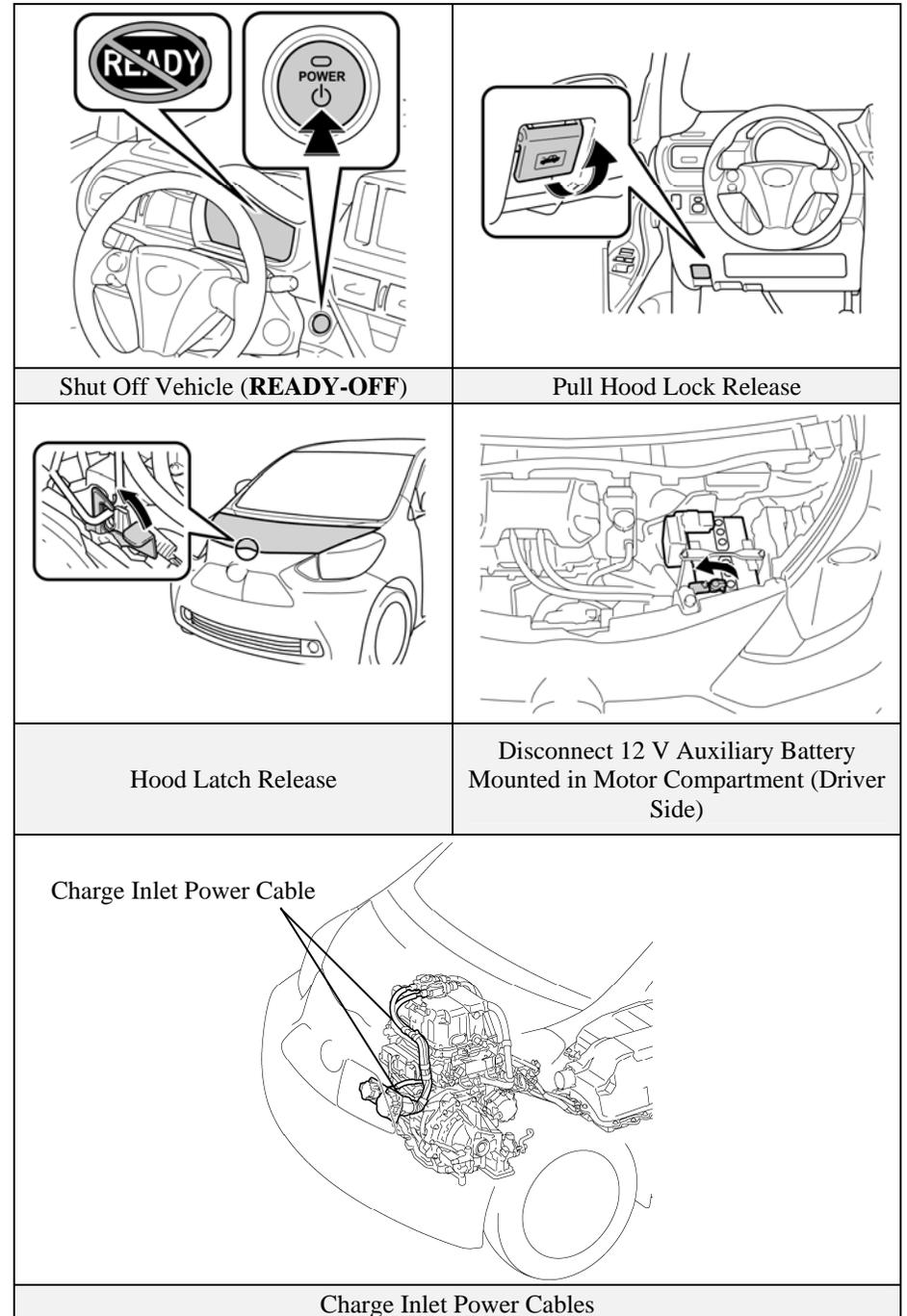
### Extrication (Continued)

#### Procedure #1

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. If the smart key cannot be found, disconnect the 12 Volt auxiliary battery in the motor compartment to prevent accidental restarting of the vehicle and operation of the remote climate control system.

#### NOTE:

The iQ EV has orange charge inlet power cables that are energized during charging. When gaining access to the motor compartment, do not cut or pry in the area of the charge inlet power cables that are routed behind the front upper grille.



## Emergency Response (Continued)

### Extrication (Continued)

#### Procedure #2 (Alternate if power button is inaccessible)

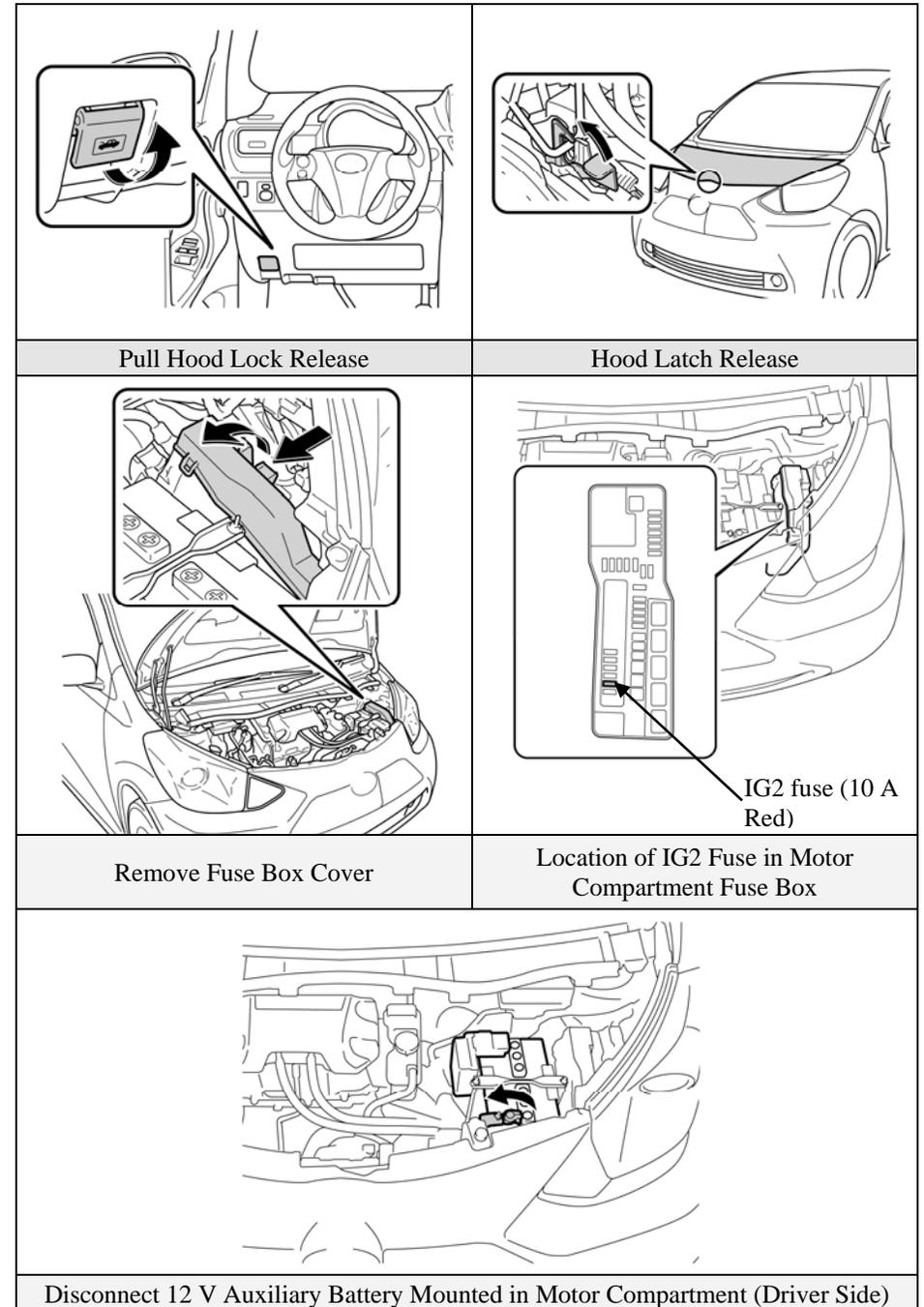
1. Open the hood.
2. Remove the fuse box cover.
3. Remove the **IG2** fuse (10 A red colored) in the motor compartment fuse box (refer to illustration). If the correct fuse cannot be recognized, pull all fuses in the fuse box.
4. Disconnect the 12 Volt auxiliary battery located in the motor compartment.

#### 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, including the charging system, may remain powered for up to 10 minutes after the vehicle is shut off, disabled, or charging stops. 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 or SRS are disabled.*



## Emergency Response (Continued)

### Extrication (Continued)

- Stabilize Vehicle

Crib at (4) points directly under the front and rear pillars.

Do not place cribbing under the high voltage power cables or EV battery assembly to prevent damage.

NOTE:

The iQ EV 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 valve core will release the air in the tire.

- Access Patients

#### Glass Removal

Use normal glass removal procedures as required.

Types of glazing found on the iQ EV

- Laminated front windshield
- Tempered front side windows
- Tempered rear window

#### SRS Awareness

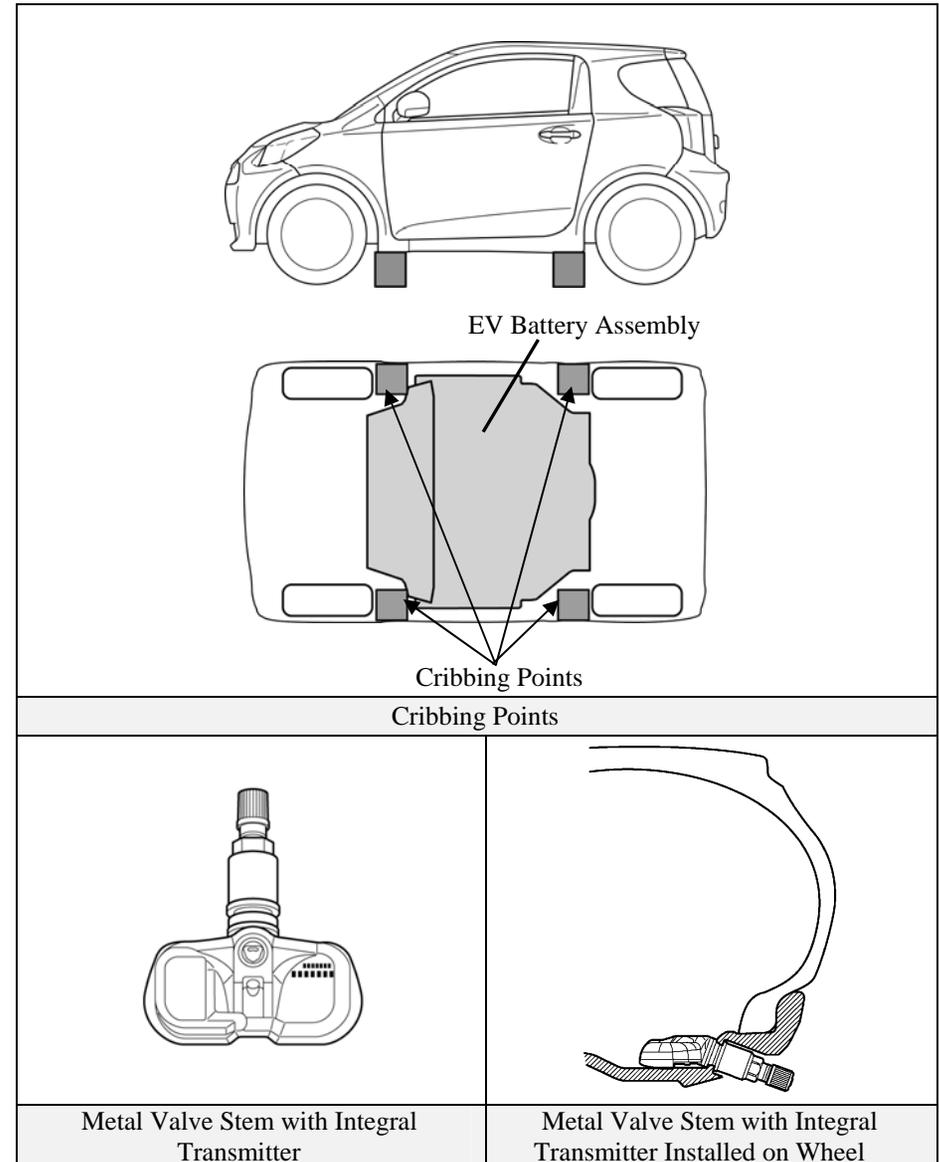
Responders need to be cautious when working in close proximity to undeployed airbags and seat belt pretensioners. Frontal dual stage airbags automatically ignite both stages within a fraction of a second.

#### 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.



## Emergency Response (Continued)

### Extrication (Continued)

#### Roof Removal

The iQ EV is equipped with side curtain airbags and a rear window curtain airbag.

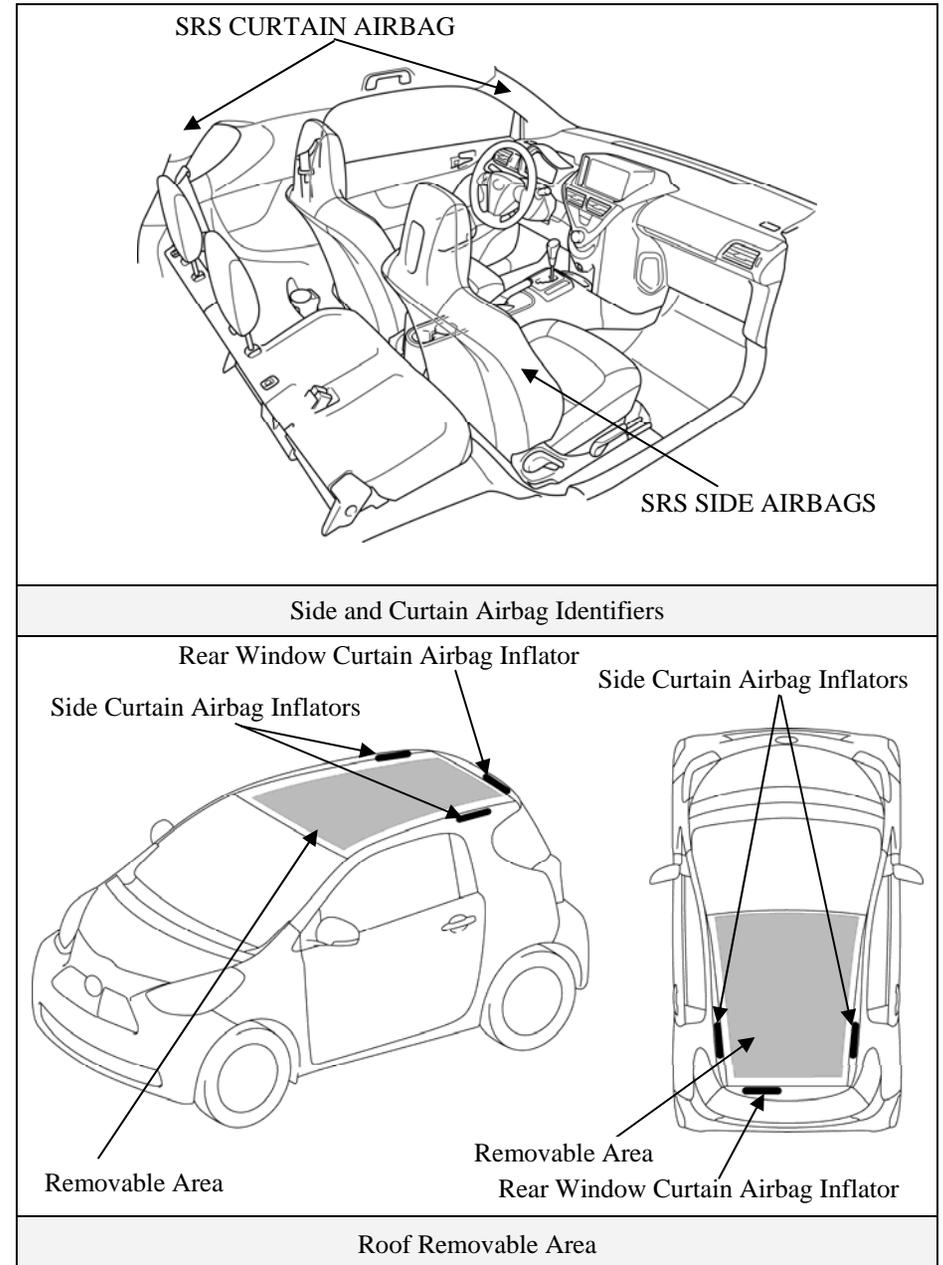
When undeployed, total roof removal is not recommended. Patient access through the roof can be performed by cutting the roof center section inboard of the roof rails as illustrated. This would avoid breaching the side curtain airbags, inflators, and wiring harness.

#### NOTE:

The side curtain airbags may be identified as illustrated on this page (additional component details on page 25).

#### Dash Displacement

The iQ EV is equipped with side curtain airbags. When undeployed, total roof removal is not recommended to avoid breaching the side curtain airbags, inflators, and wiring harness. As an alternative, dash displacement may be performed by using a Modified Dash Roll.



## Emergency Response (Continued)

### Extrication (Continued)

#### NOTE:

The EV battery assembly is mounted to the undercarriage close to the outer edge of the rocker panel and pinch weld.

#### **⚠ WARNING:**

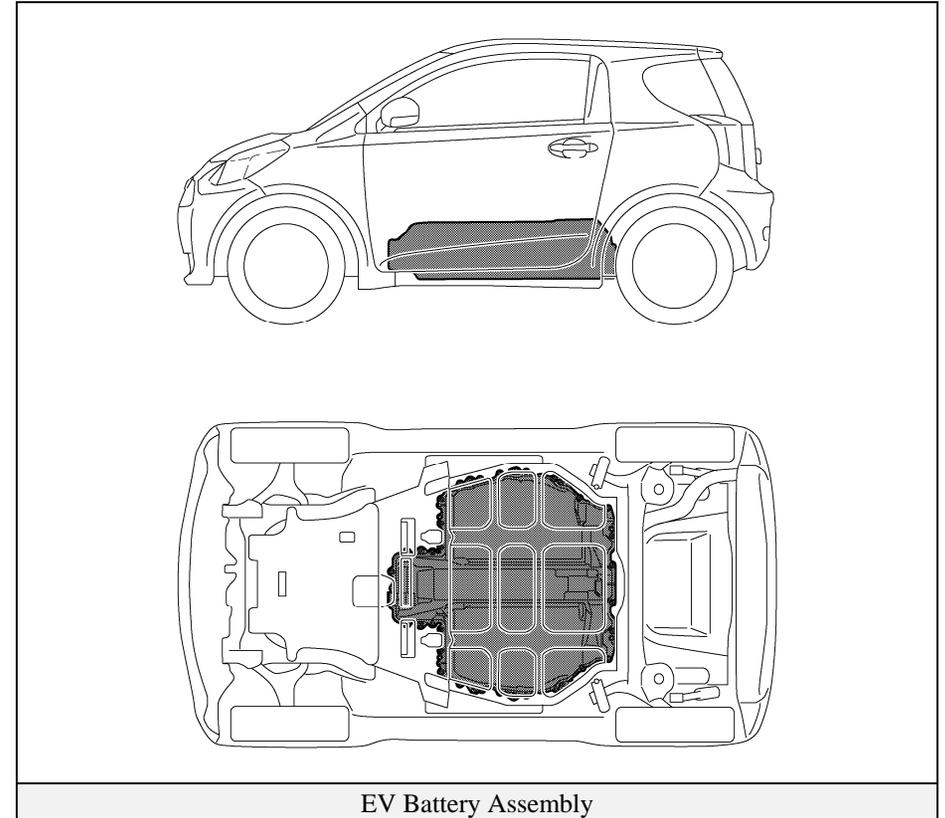
*To prevent serious injury or death from severe burns or electric shock, do not cut the rocker panel shown by the shaded area in the illustration to prevent breaching of the EV battery assembly.*

#### Rescue Lift Air Bags

Responders should not place cribbing or rescue lift air bags under the high voltage power cables or the EV battery assembly.

#### **⚠ WARNING:**

*The EV battery assembly is mounted to undercarriage. To prevent serious injury or death from severe burns or electric shock when using rescue lift airbags, make sure that the rescue lift airbags do not directly contact with the EV battery assembly.*

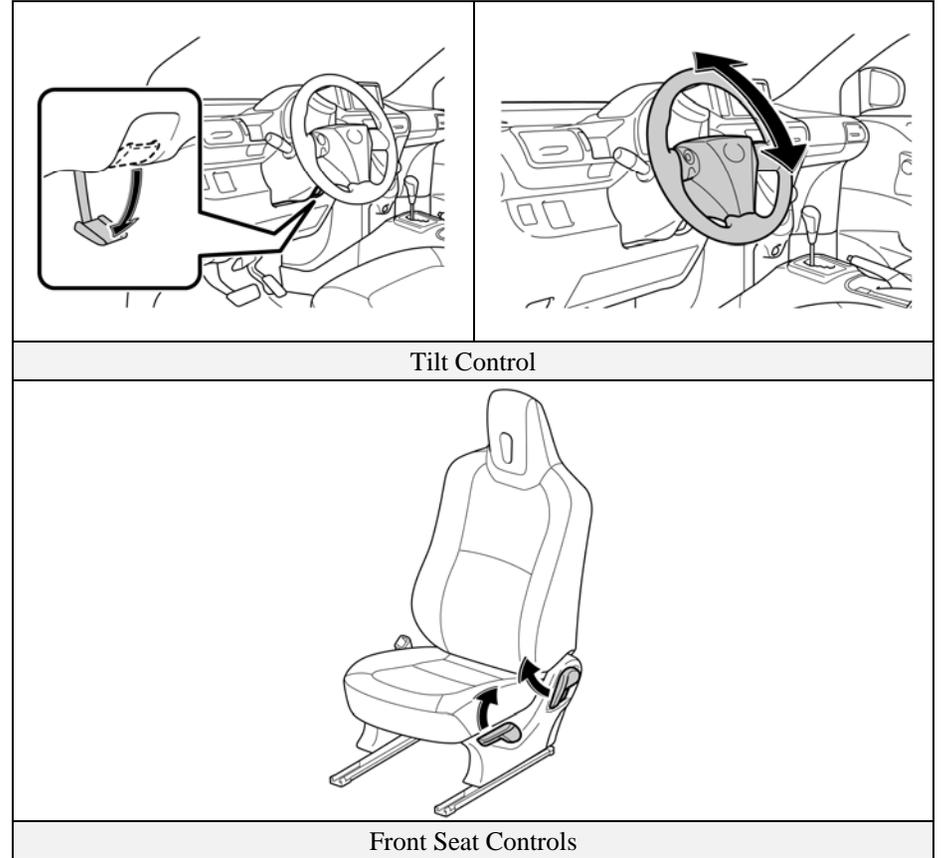


## Emergency Response (Continued)

### Extrication (Continued)

Repositioning Steering Wheel and Front Seats

Tilt steering wheel and seat controls are shown in the illustrations.



## Emergency Response (Continued)

### Fire

Approach and extinguish a fire using proper vehicle fire fighting practices as recommended by NFPA, IFSTA, or the National Fire Academy (USA).

- **Extinguishing Agent**  
Water has been proven to be a suitable extinguishing agent.
- **Initial Fire Attack**  
Perform a fast, aggressive fire attack.  
Divert the runoff from entering watershed areas.  
Attack teams may not be able to identify an iQ EV until the fire has been knocked down and overhaul operations have commenced.
- **Fire When Vehicle Charging**  
When extinguishing a fire when charging, the vehicle and charge cable assembly may come in contact with water. As soon as possible, shut off the power to the electrical outlet before disconnecting the charge cable assembly. Perform the charge cable assembly disconnection procedure contained in the Extrication section on page 28.
- **Fire in the EV Battery Assembly**  
Should a fire occur in the Li-ion EV battery assembly, attack crews should utilize a water stream or fog pattern to extinguish any fire within the vehicle *except* for the EV battery assembly.

### **WARNING:**

- *The Li-ion battery electrolyte is a flammable organic electrolyte that is damaging to human tissues. To avoid injury by coming in contact with the electrolyte, wear proper personal protective equipment.*
- *Burning batteries may irritate the eyes, nose, and throat. To prevent injury, wear personal protective equipment suitable for organic solvents including SCBA.*
- *The battery cells are contained within a case and accessibility is limited.*
- *To avoid serious injury or death from severe burns or electric shock, **never** breach or remove the high voltage battery assembly cover under any circumstance including fire.*
- *To prevent serious injury or death, shut off the utility circuit supplying power to the charge cable assembly before disconnecting it if the CCID or charge cable assembly are submerged in water.*

When allowed to burn themselves out, the iQ EV Li-ion battery cells burn and are reduced to a combination of ashes and metal components.

#### *Offensive Fire Attack*

Flooding a Li-ion EV battery assembly with copious amounts of water at a safe distance will effectively control the EV battery assembly fire by cooling the adjacent Li-ion battery cells to a point below their ignition temperature. The remaining cells on fire, if not extinguished by the water, will burn themselves out.

## Emergency Response (Continued)

### Fire (Continued)

#### *Defensive Fire Attack*

If the decision has been made to fight the fire using a defensive attack, the fire attack crew should pull back a safe distance and allow the Li-ion battery cells to burn themselves out. During this defensive operation, fire crews may utilize a water stream or fog pattern to protect exposures or to control the path of smoke.

### Overhaul

During overhaul, immobilize and disable the vehicle if not already done. Refer to illustrations on page 27, 28, 29 and 30. The EV battery assembly cover should **never** be breached or removed under any circumstances including fire. Doing so may result in severe electrical burns, shock, or electrocution.

- Immobilize Vehicle
  - Chock the wheels and set the parking brake.
  - Move the shift lever to the **Park** position.
- Disable Vehicle

**Perform these steps first if the charge cable assembly is connected to the vehicle.**

#### **Normal Charging:**

1. Shut off the utility circuit supplying power to the charge cable assembly.
2. Disconnect the charge cable assembly connector from the vehicle. To disconnect it, push the lock release button on the top of the connector and pull it away from the vehicle.
3. Close the charge inlet cap and recharge inlet door.
4. Disconnect the plug of the charge cable assembly from the electrical outlet.

#### **Optional Quick Charging:**

1. Shut off the utility circuit supplying power to the charge cable assembly.
2. Operate the EV charger at a charging station to stop charging.
3. Remove the quick charging connector by referring to the instructions provided by the quick charger's manufacturer. For the procedure to return the charging connector to the charger holder, refer to the quick charger's instructions manual.
4. Close the charge inlet cap and recharge inlet door.

Performing either of the following two procedures will shut the vehicle off and disable the EV battery assembly, SRS and remote climate control system.

### Procedure #1

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. If the smart key cannot be found, disconnect the 12 Volt auxiliary battery in the motor compartment to prevent accidental restarting of the vehicle.

### Procedure #2 (Alternate if power button is inaccessible)

1. Open the hood.
2. Remove the fuse box cover.
3. Remove the **IG2** fuse (10 A red colored) in the motor compartment fuse box as illustrated on page 30. If the correct fuse cannot be recognized, pull all fuses in the fuse box.
4. Disconnect the 12 Volt auxiliary in the motor compartment.

#### 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, including the charging system, may remain powered for up to 10 minutes after the vehicle is shut off, disabled, or charging stops. 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, recharging or remote climate control system are disabled.*

## Emergency Response (Continued)

### Recovering of Li-ion EV Battery Assembly

For information regarding recovery of the EV battery assembly, contact:

United States: (800) 331-4331

Canada: (888) TOYOTA 8 [(888) 869-6828]

### Spills

The iQ EV contains some of the same common automotive fluids used in other non-electric Scion vehicles, with the exception of the Li-ion electrolyte used in the EV battery assembly. The electrolyte used in the Li-ion battery cells is a flammable organic electrolyte. The electrolyte is absorbed into the battery cell separators, even if the battery cells are crushed or cracked, it is unlikely that liquid electrolyte will leak. Any liquid electrolyte that leaks from a Li-ion battery cell quickly evaporates.

#### **WARNING:**

- *The Li-ion battery contains organic electrolyte. Only a small amount may leak from the batteries which may irritate the eyes, nose, throat, and skin.*
- *Contact with the vapor produced by the electrolyte may irritate the nose and throat.*
- *To avoid injury by coming in contact with the electrolyte or vapor, wear personal protective equipment for organic electrolyte including SCBA or protective mask for organic gases.*

In an emergency, the Li-ion battery part number G9280-74010 manufacturer's Product Safety Data Sheet (PSDS) is available by contacting:

United States: CHEMTREC at (800) 424-9300

Canada: CANUTEC at \*666 or (613) 996-6666 (collect)

- Handle Li-ion electrolyte spills using the following Personal Protective Equipment (PPE):
  - Splash shield or safety goggles. Fold down helmet shields are not acceptable for electrolyte spills.
  - Rubber gloves or gloves suitable for organic solvents.
  - Apron suitable for organic solvents.

Rubber boots or boots suitable for organic solvents.

Protective mask for organic gases or SCBA.

- Absorbent
  - Suitable absorbent for an organic solvent.

### First Aid

Emergency responders may not be familiar with Li-ion electrolyte exposure when rendering aid to a patient. Exposure to the electrolyte is unlikely except in a catastrophic crash or through improper handling. Utilize the following guidelines in the event of exposure.

- Wear Personal Protective Equipment (PPE)
  - Splash shield or safety goggles. Fold down helmet shields are not acceptable for electrolyte spills.
  - Rubber gloves or gloves suitable for organic solvents.
  - Apron suitable for organic solvents.
  - Rubber boots or boots suitable for organic solvents.
  - Protective mask for organic gases or SCBA.
- Absorption
  - Perform gross decontamination by removing affected clothing and properly disposing of the garments.
  - Rinse the affected areas with water for 20 minutes.
  - Transport patients to the nearest emergency medical care facility.
- Inhalation in Non-Fire Situations
  - Contact with the vapor produced by the electrolyte may irritate the nose and throat. In severe cases such as confined spaces, move exposed patients to a well ventilated area.
  - Transport patients to the nearest emergency medical care facility.
- Inhalation in Fire Situations
  - Toxic gases are given off as by-products of combustion. All responders in the Hot Zone should wear the proper PPE for fire fighting including SCBA.
  - Move a patient from the hazardous environment to a safe area and administer oxygen.
  - Transport patients to the nearest emergency medical care facility.

## Emergency Response (Continued)

### First Aid (Continued)

- Ingestion
  - Do not induce vomiting, unless instructed by the doctor.
  - If vomiting occurs naturally, avoid aspiration.
  - Transport patients to the nearest emergency medical care facility.

### Submersion

A submerged electric vehicle does not have a high voltage potential on the metal vehicle body, and is safe to touch.

#### Access Patients

Responders can access the patient and perform normal extrication procedures. High voltage orange color coded power cables and high voltage components should never be touched, cut, or breached.

#### Vehicle Recovery

If an electric vehicle is fully or partially submerged in water, emergency responders may not be able to determine if the vehicle has been automatically disabled. The iQ EV may be handled by following these recommendations:

**Perform these steps first if the charge cable assembly is connected to the vehicle (see illustrations on page 28)**

#### Normal Charging:

1. Shut off the utility circuit supplying power to the charge cable assembly.
2. Disconnect the charge cable assembly connector from the vehicle. To disconnect it, push the lock release button on the top of the connector and pull it away from the vehicle.
3. Close the recharge inlet cap and recharge inlet door.
4. Disconnect the plug of the charge cable assembly from the external power outlet.

5. Remove the vehicle from the water.
6. Drain the water from the vehicle if possible.
7. Follow the immobilizing and disabling procedure on page 27, 28, 29 and 30.

#### Optional Quick Charging:

1. Shut off the utility circuit supplying power to the charge cable assembly.
2. Operate the EV charger at a charging station to stop charging.
3. Remove the quick charging connector by referring to the instructions provided by the quick charger's manufacturer. For the procedure to return the charging connector to the charger holder, refer to the quick charger's instructions manual.
4. Close the recharge inlet cap and recharge inlet door.

#### **WARNING:**

*To prevent serious injury or death, shut off the utility circuit supplying power to the charge cable assembly before disconnecting it if the charge cable assembly are submerged in water.*

5. Remove the vehicle from the water.
6. Drain the water from the vehicle if possible.
7. Follow the immobilizing and disabling procedure on page 27, 28, 29 and 30.

#### **WARNING:**

*To prevent serious injury or death, shut off the utility circuit supplying power to the charge cable assembly before disconnecting it if the CCID or charge cable assembly are submerged in water.*

## Roadside Assistance

Roadside assistance for the iQ EV may be handled like conventional Scion vehicles except as noted in the following pages.

Scion Roadside Assistance is available during the basic warranty period by contacting:

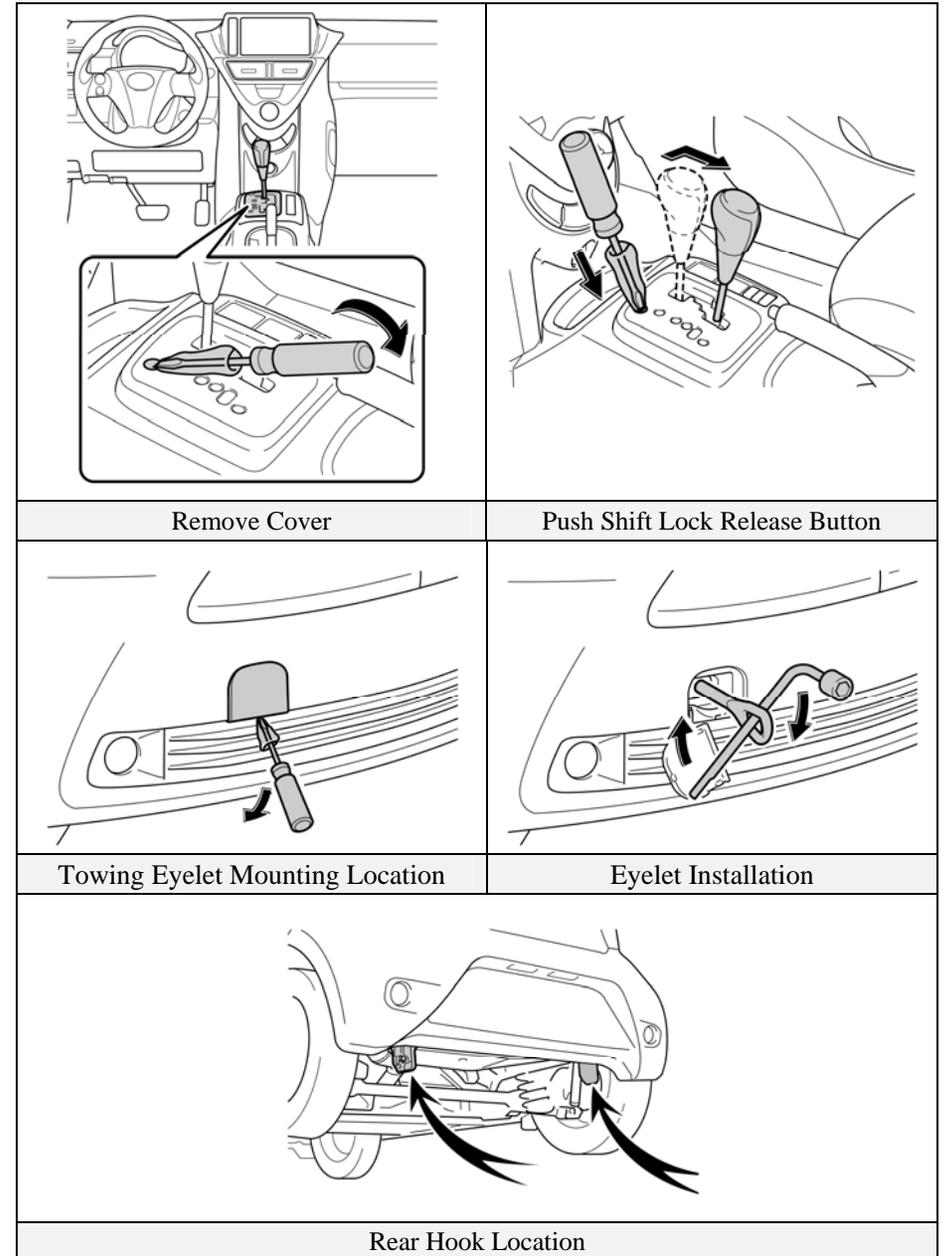
United States: (800) 297-0486

Canada: (888) TOYOTA 8 [(888) 869-6828]

### Towing

The iQ EV 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 Electric Vehicle components.

- A flat bed trailer is the preferred method of towing.
- The vehicle may be shifted out of **Park** into **Neutral** by changing the power mode to ignition-on, depressing the brake, then moving the gated shift lever to **N**.
- 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 temporarily towed using a cable or chain secured to the emergency towing eyelet or rear hooks. This should only be attempted on hard, paved roads for short distance at low speeds (below 18 mph (30 km/h)). The eyelet is located in the cargo area, refer to the illustration on page 41.



## Roadside Assistance (Continued)

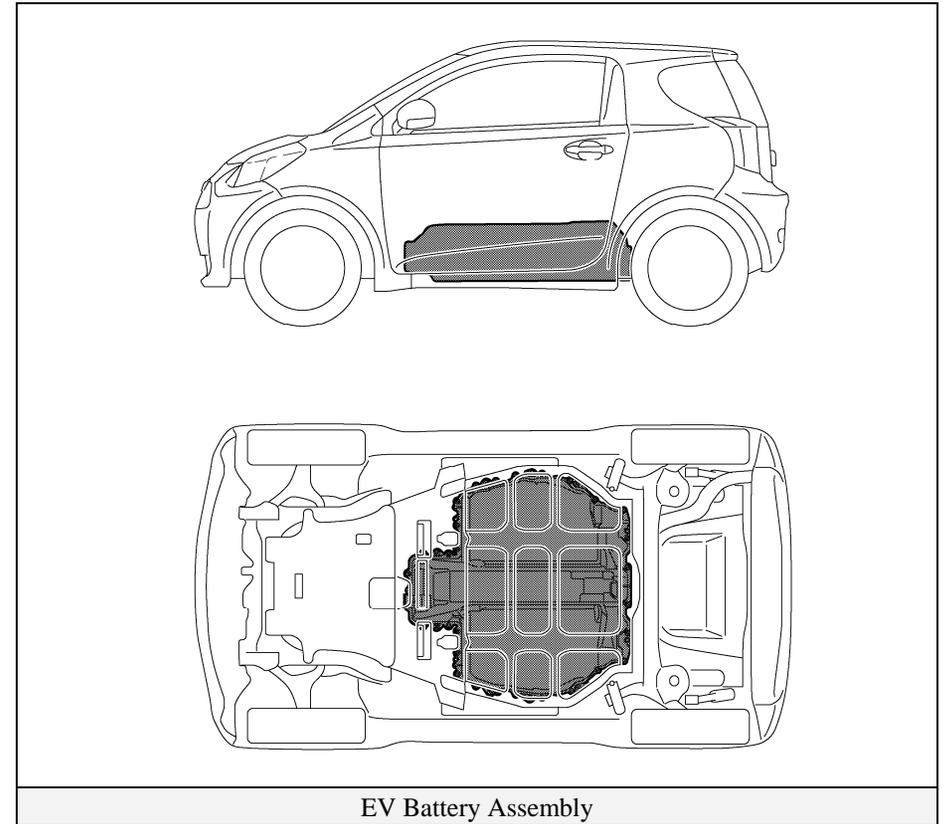
### Towing (Continued)

**NOTE:**

The iQ EV has the EV battery assembly mounted to the undercarriage.

**⚠ WARNING:**

*To prevent serious injury or death from severe burns or electric shock, do not allow anything to contact the EV battery assembly during towing.*

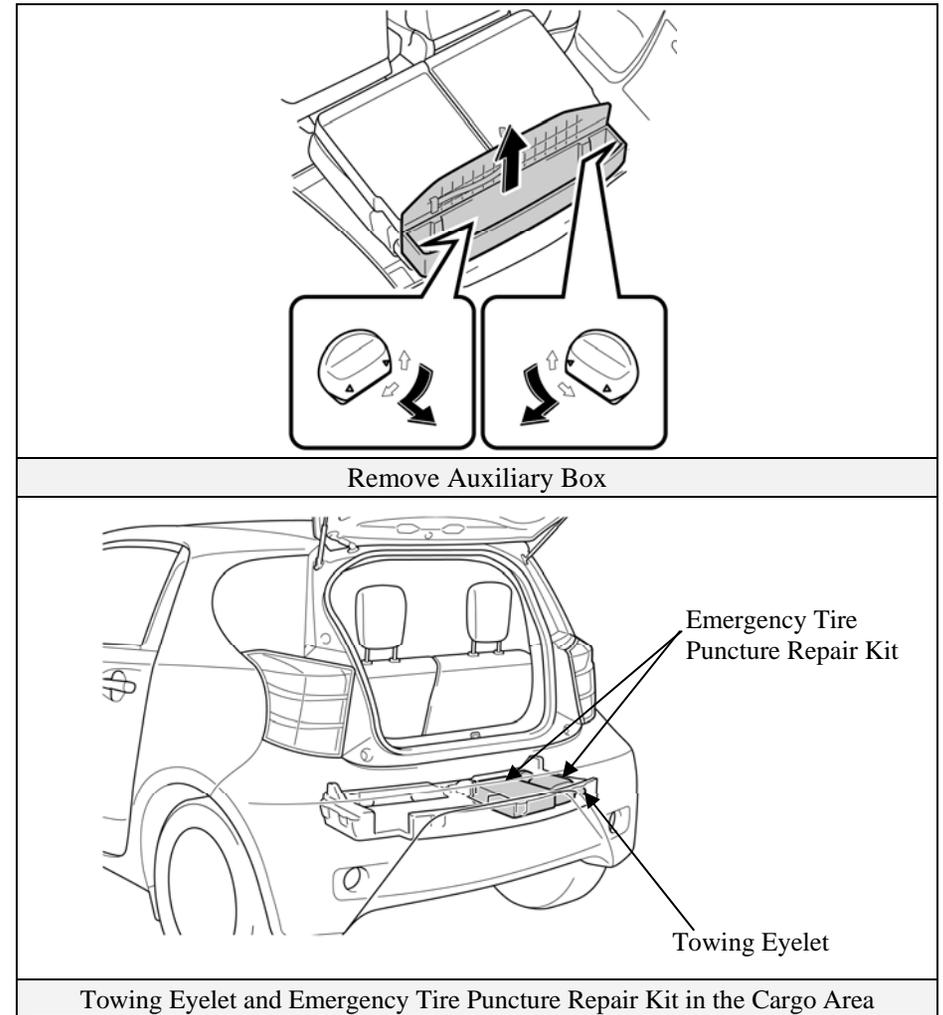


EV Battery Assembly

## Roadside Assistance (Continued)

### Emergency Tire Puncture Repair Kit

The towing eyelet and emergency tire puncture repair kit are provided as shown.



## Roadside Assistance (Continued)

### 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.

The 12 Volt auxiliary battery is located in the motor compartment.

- Open the hood.
- Connect the positive jumper cable to the positive terminal following the numbered sequence.
- Connect the negative jumper cable to the negative terminal following the numbered sequence.
- Place the smart key in proximity to the interior of the vehicle, depress the brake pedal and push the power button.

#### 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.

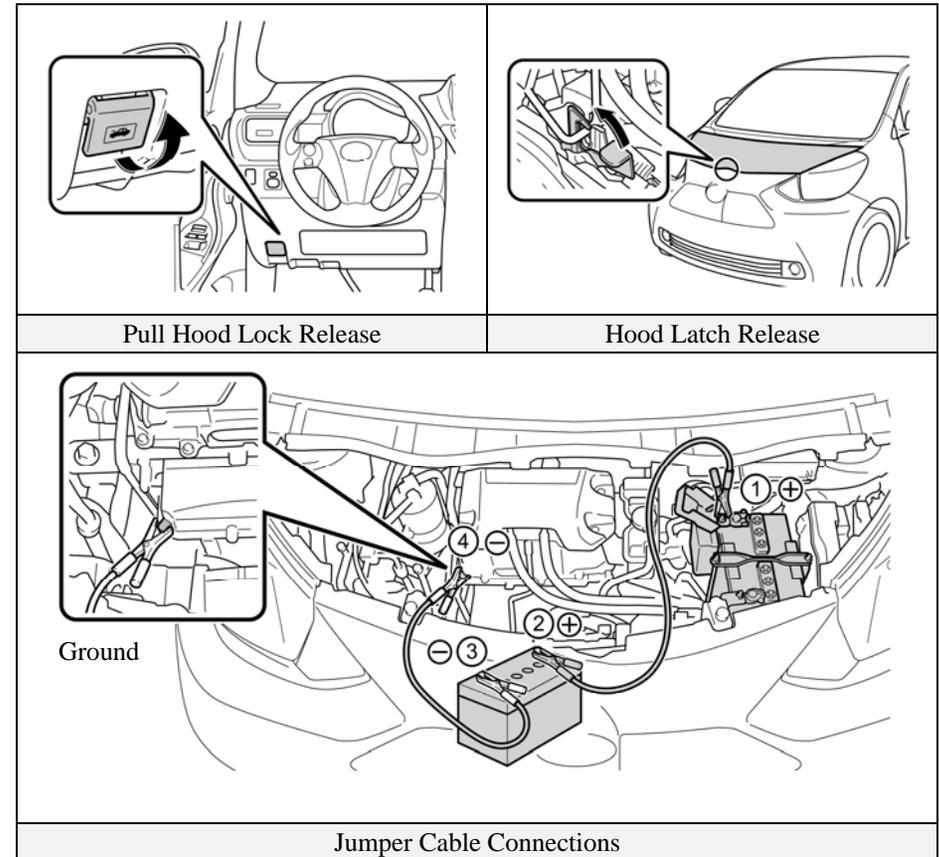
If the smart key internal battery is dead, touch the Scion emblem side of the smart key to the power button during the start sequence. See the instructions and illustrations on page 9 for more details.

- The high voltage EV battery assembly cannot be jump started.

### Immobilizer

The iQ EV is equipped with a standard immobilizer system.

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



## **Post-Incident, Tow/Transport, and Storage Guidelines**

The National Highway Traffic Safety Administration (NHTSA) has developed interim guidance for Electric and Hybrid-Electric Vehicles Equipped with High Voltage Batteries.

- Always assume the high voltage (HV) battery and associated components are energized and fully charged.
- Exposed electrical components, wires, and HV batteries present potential HV shock hazards.
- Venting/off-gassing HV battery vapors are potentially toxic and flammable.
- Physical damage to the vehicle or HV battery may result in immediate or delayed release of toxic and/or flammable gases and fire.

For details of the guidance for handling a vehicle post incident, tow/transport, and storage, please refer to the latest guidance from NHTSA for “guidance for Electric and Hybrid-Electric Vehicles Equipped With High Voltage Batteries”.