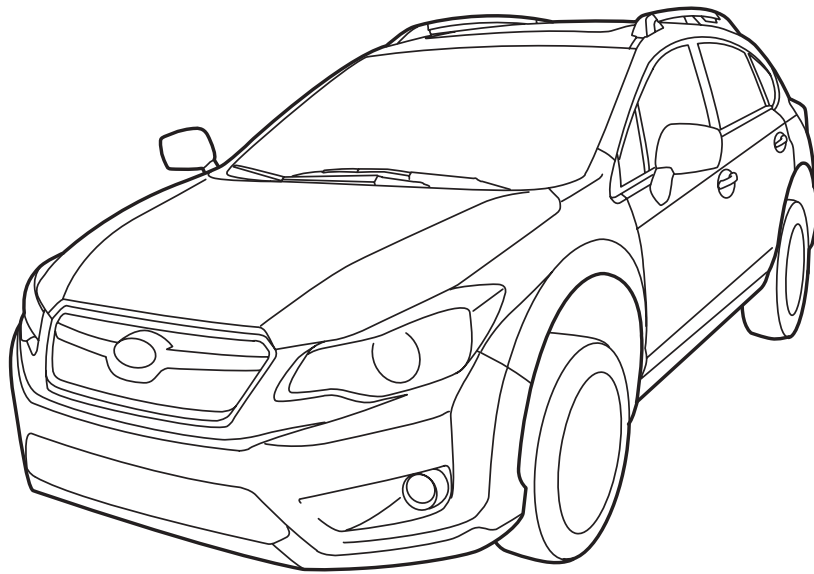


XV Crosstrek Hybrid

Hybrid 2014 Model



Emergency Response Guide



SUBARU

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Foreword

Subaru released the 2014 XV Crosstrek gasoline-electric hybrid vehicle in North America in late 2013. Subaru has prepared this Emergency Response Guide to educate and assist emergency responders in the safe handling of the XV Crosstrek Hybrid technology. Except where noted in this guide, the basic vehicle system and features for the XV Crosstrek Hybrid are the same as those on the conventional, non-hybrid XV Crosstrek.

High voltage electricity powers the drive motor, electric oil pump, drive motor inverter, electric oil pump inverter and DC/DC 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 XV Crosstrek Hybrid to help ensure the high voltage, approximately 100.8 Volt, Nickel Metal Hydride (NiMH) battery is kept safe and secure in an accident.

The XV Crosstrek Hybrid utilizes the following electrical systems:

- Nominal 100.8 Volts AC/DC
- Nominal 12 Volts DC

XV Crosstrek Hybrid Features:

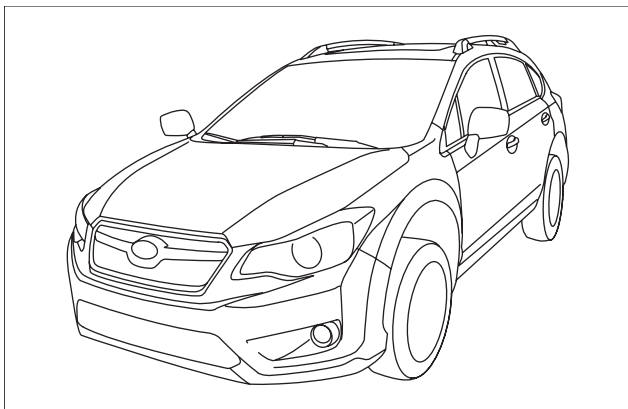
- A high voltage battery rated at 100.8 Volts.
- A high voltage motor driven drive motor rated at 100.8 Volts.
- A high voltage motor driven electric oil pump rated at 100.8 Volts.
- A body electrical system rated at 12 Volts, negative chassis ground.
- Supplemental Restraint System (SRS) - frontal airbags, a driver knee airbag, front seat side airbags, side curtain airbags and front seat belt pretensioners.

High voltage electrical safety remains an important factor in the emergency handling of the XV Crosstrek Hybrid. It is important to recognize and understand the disabling procedures and warnings throughout this guide.

Additional topics in this guide include:

- XV Crosstrek Hybrid identification.
- Hybrid system component locations and descriptions.
- Extrication, fire, recovery, and additional emergency response information.
- Roadside assistance information.

▼ 2014 Model Year XV Crosstrek Hybrid



This guide is intended to assist emergency responders in the safe handling of a XV Crosstrek Hybrid vehicle during an incident.

Emergency Response Guides for Subaru hybrid vehicles may be viewed at:

[U.S.A]

<http://techinfo.subaru.com>

[CANADA]

<http://techinfo.subaru.ca/account/login.html>

Table of Contents

	Page
About the XV Crosstrek Hybrid	1
XV Crosstrek Hybrid Identification	2
Hybrid System Component Locations & Descriptions	6
Keyless Access with Push-button Start System (Optional Equipment)	10
Hybrid System Operation	16
High Voltage Battery	18
Low Voltage Batteries	20
High Voltage Safety	22
SRS Airbags & Seat Belt Pretensioners	24
Emergency Response	27
Extrication	27
Fire	42
Overhaul	43
Recovering/Recycling of High Voltage Battery	45
Spills	46
First Aid	47
Submersion	48
Roadside Assistance	49

About the XV Crosstrek Hybrid

The XV Crosstrek Hybrid is the first gasoline-electric hybrid vehicle for Subaru. There are two hybrid power sources on board the vehicle:

1. Gasoline stored in the fuel tank for the gasoline engine.
2. Electricity stored in a high voltage battery for the drive motor.

The result of combining these two power sources is improved fuel economy and reduced emissions. The gasoline engine also powers a drive motor to charge the high voltage battery; unlike a pure all electric vehicle, the XV Crosstrek Hybrid never needs to be charged from an external electric power source.

Depending on the driving conditions one or both sources are used to power the vehicle. The following information explains how the XV Crosstrek Hybrid operates in various driving modes.

- (1) During light acceleration at low speeds, the vehicle is powered by the drive motor. The gasoline engine is shut off.
- (2) During normal driving, the vehicle is powered mainly by the gasoline engine. The gasoline engine also powers the drive motor to charge the high voltage battery.
- (3) During full acceleration, such as climbing a hill, both the gasoline engine and the drive motor power the vehicle.
- (4) During deceleration, such as when braking, the vehicle regenerates kinetic energy from the wheels to produce electricity that charges the high voltage battery.
- (5) While the vehicle is stopped, the gasoline engine and drive motor may be off, however the system remains on and operational.

Note:

While the vehicle is stopped, the gasoline engine may restart depending on conditions.

XV Crosstrek Hybrid Identification

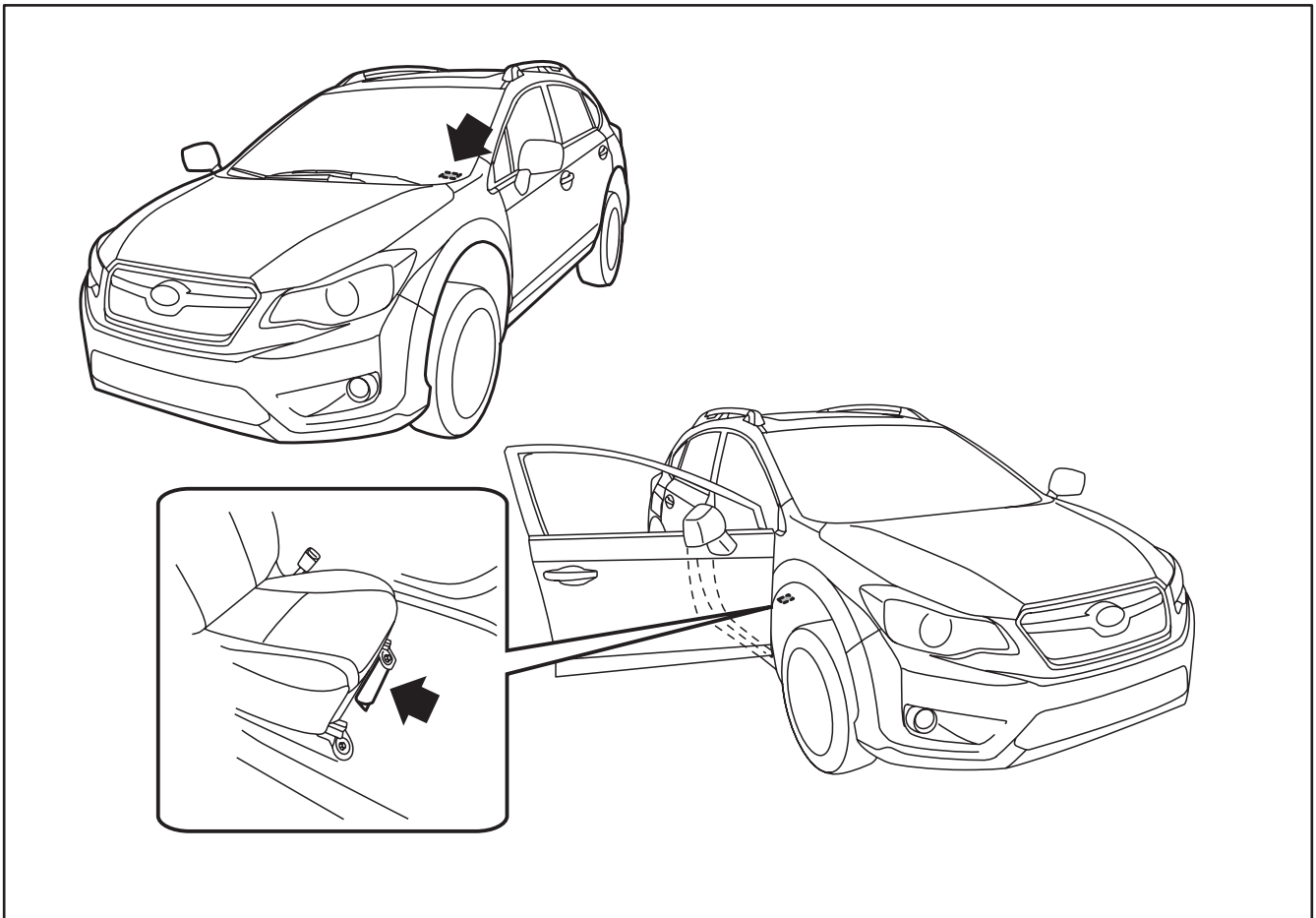
In appearance, the 2014 model year XV Crosstrek Hybrid is nearly identical to the conventional, non-hybrid Subaru XV Crosstrek. The XV Crosstrek Hybrid is a 5-door Sports Utility Vehicle (SUV). Exterior, interior, and engine compartment illustrations are provided to assist in identification.

The alphanumeric 17 character Vehicle Identification Number (VIN) is provided in the front windshield and passenger side floor.

Example VIN: **JF2GPB**-XXXXXX

XV Crosstrek Hybrid is identified by the first 6 alphanumeric characters **JF2GPB**.

▼ Driver Side Windshield and Passenger Side Floor

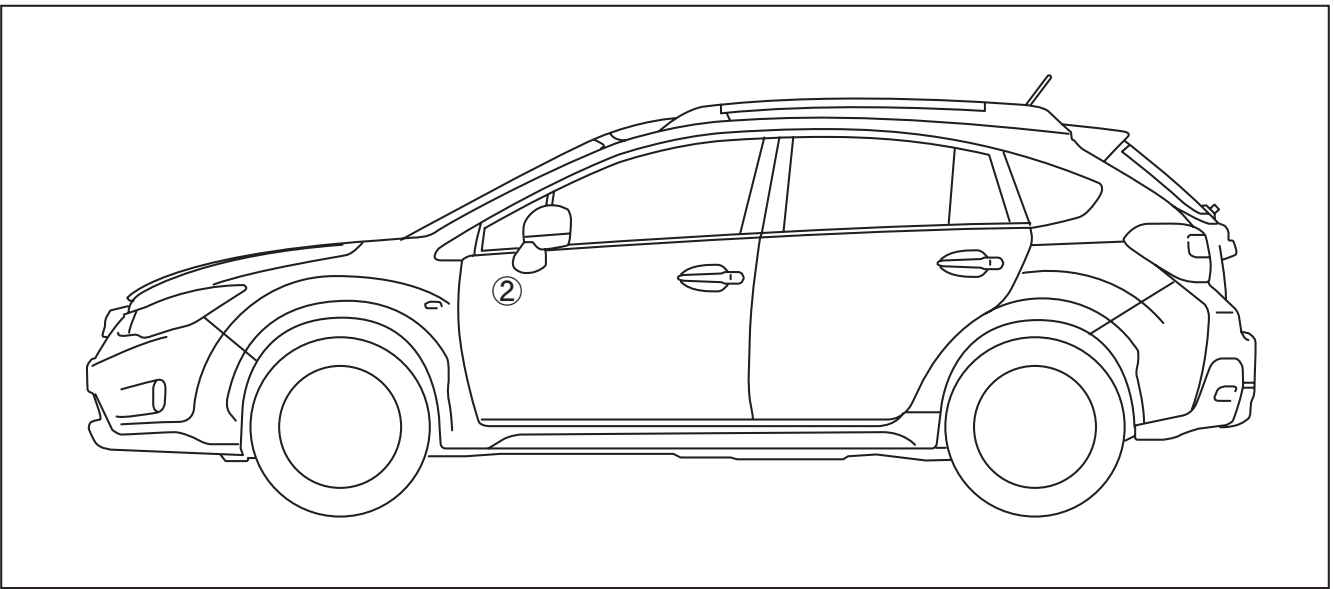


XV Crosstrek Hybrid Identification (Continued)

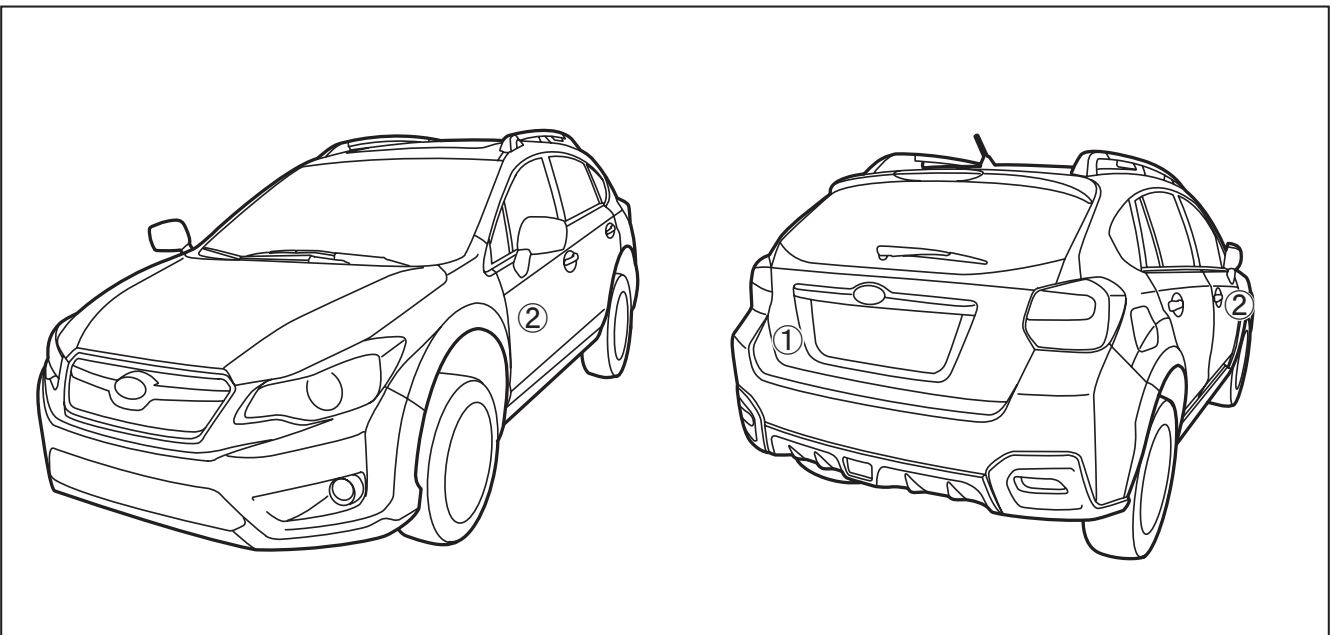
Exterior

- ① SUBARU
HYBRID logo on the left side of the rear gate.
- ② HYBRID logo on each front door.

▼ Exterior Driver Side View



▼ Exterior Front and Rear View

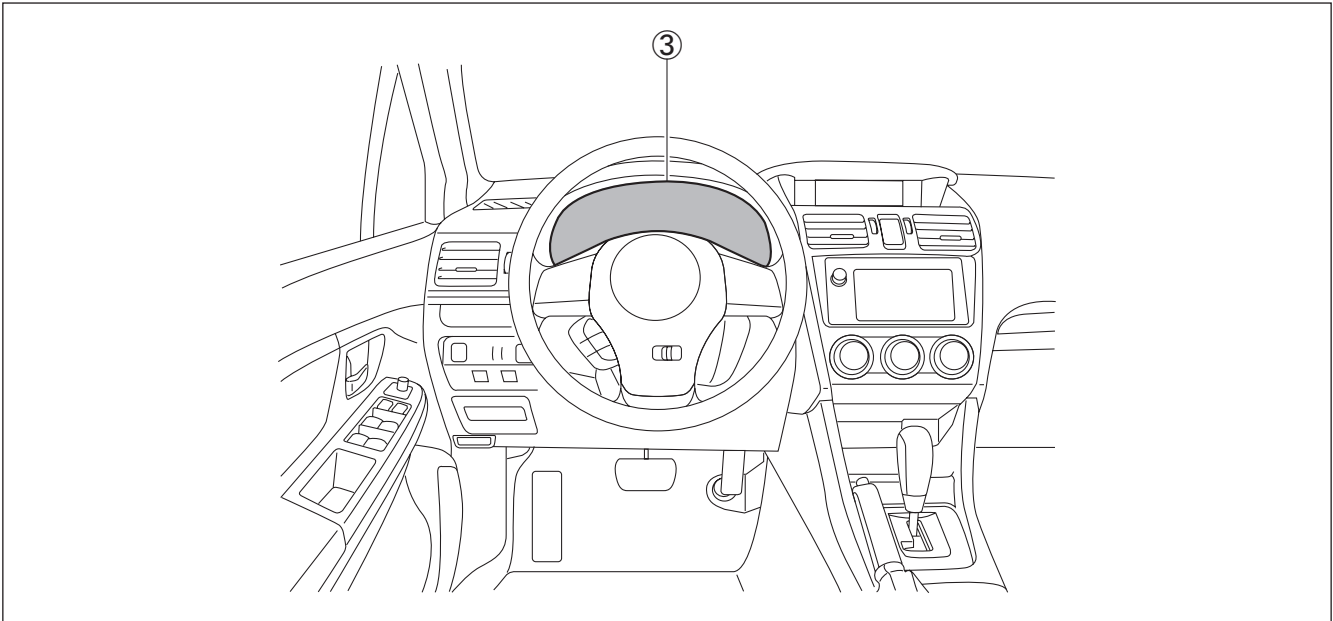


XV Crosstrek Hybrid Identification (Continued)

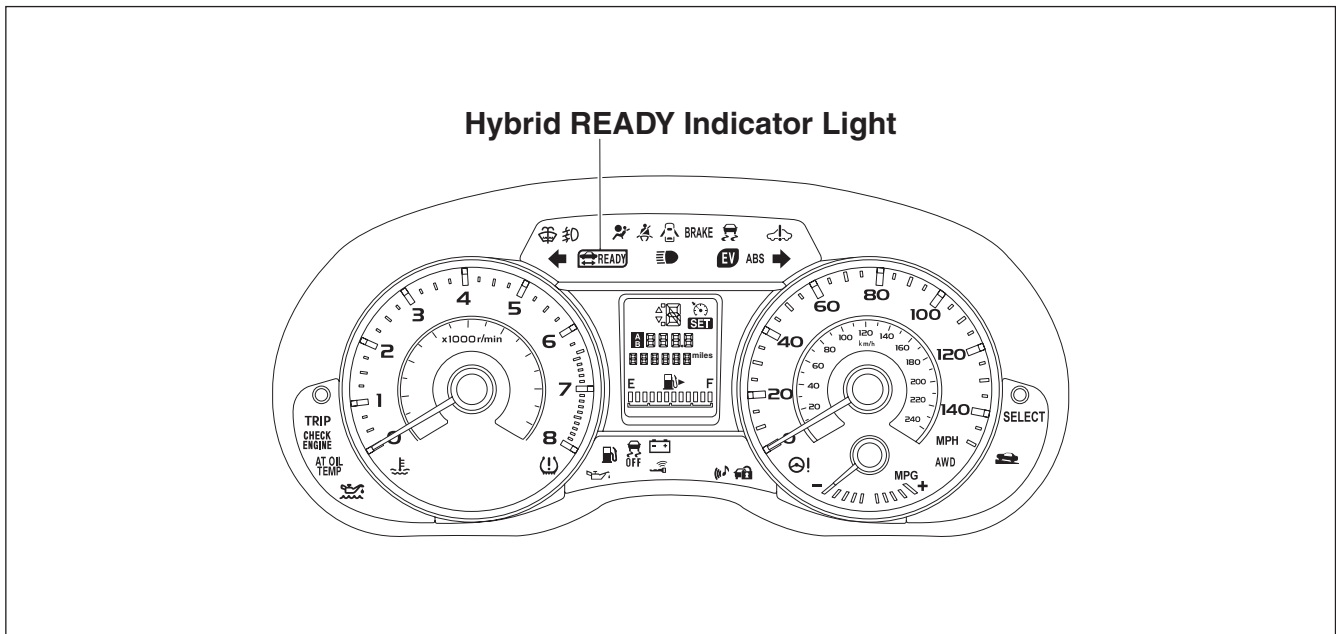
Interior

- Combination meter (hybrid READY indicator light) located in the dash behind the steering wheel.

▼ Interior View



▼ Combination Meter



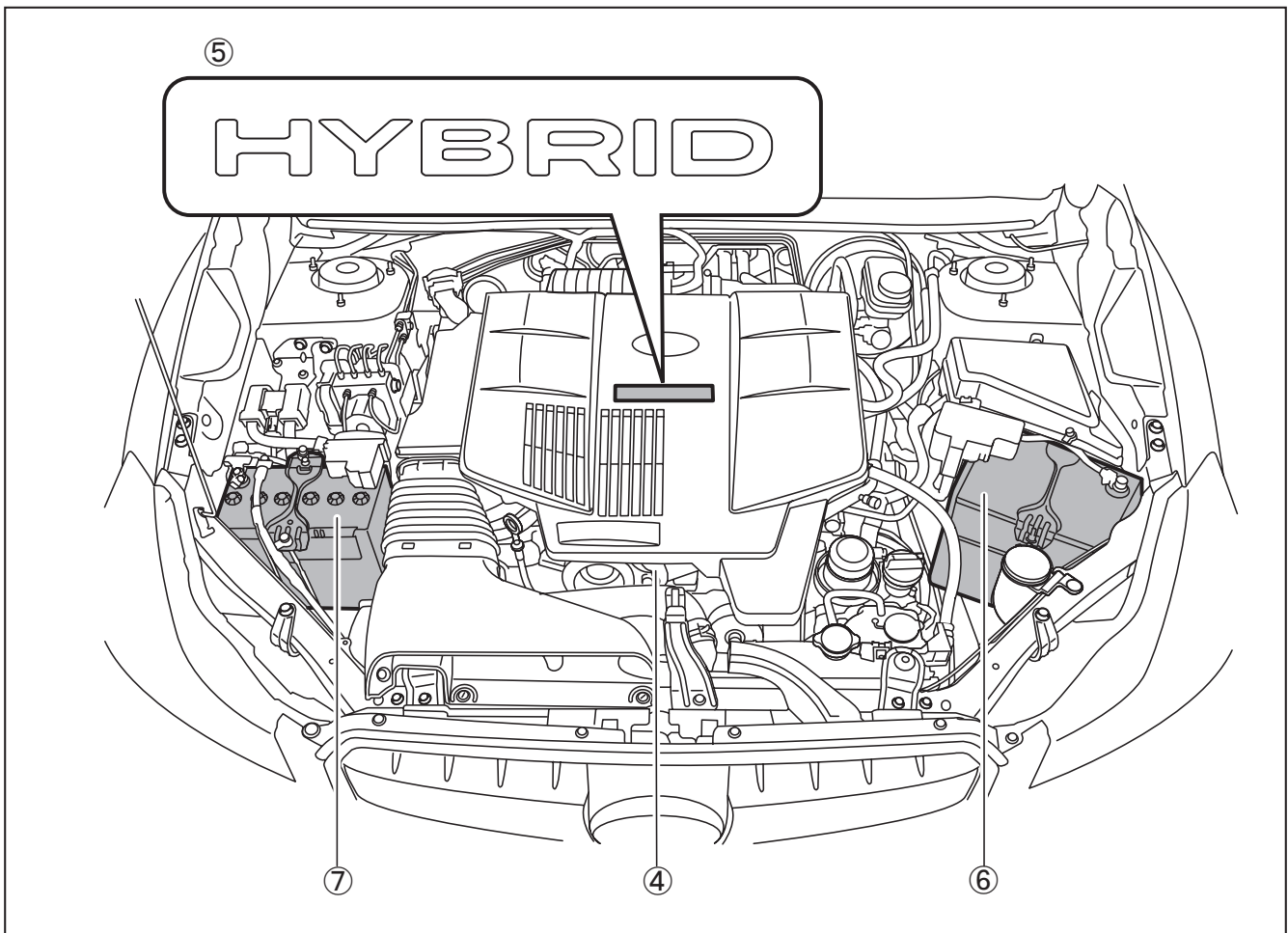
The illustration above is a typical example. For some models, the combination meter may be slightly different than that shown in the illustration.

XV Crosstrek Hybrid Identification (Continued)

Engine Compartment

- ④ 2.0-liter aluminum alloy gasoline engine.
- ⑤ Logo on the plastic engine cover.
- ⑥ 12 Volt auxiliary battery located in the driver side of the engine compartment.
- ⑦ 12 Volt engine restart battery located in the passenger side of the engine compartment.

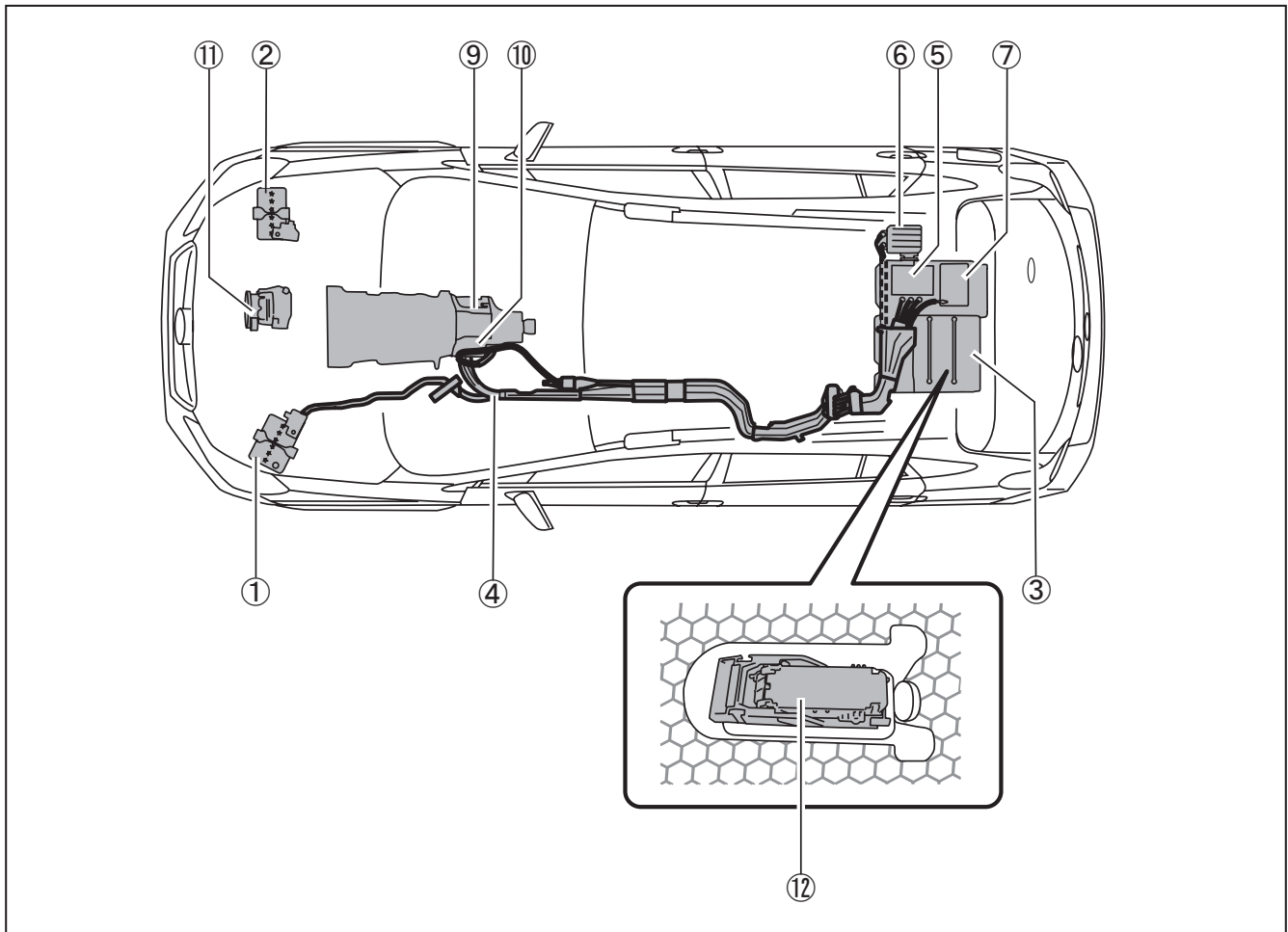
▼ Engine Compartment View



Hybrid System Component Locations & Descriptions

Component	Location	Description
① 12 Volt Auxiliary Battery	Engine Compartment	A lead-acid battery that supplies power to the low voltage devices.
② 12 Volt Engine Restart Battery	Engine Compartment	A lead-acid battery that supplies power to the integrated starter generator.
③ High Voltage Battery	Cargo Area, Mounted to Cross Member behind Rear Seat	100.8 Volt Nickel Metal Hydride (NiMH) battery consisting of 21 low voltage (4.8 Volt) modules connected in series.
④ Power Cables	Undercarriage, Engine Compartment and Cargo Area	Orange colored power cables carry the 3-phase Alternating Current (AC) between the drive motor inverter, electric oil pump inverter, drive motor, and electric oil pump. This cable also carries 12 Volt DC between the DC/DC converter and 12 Volt auxiliary battery.

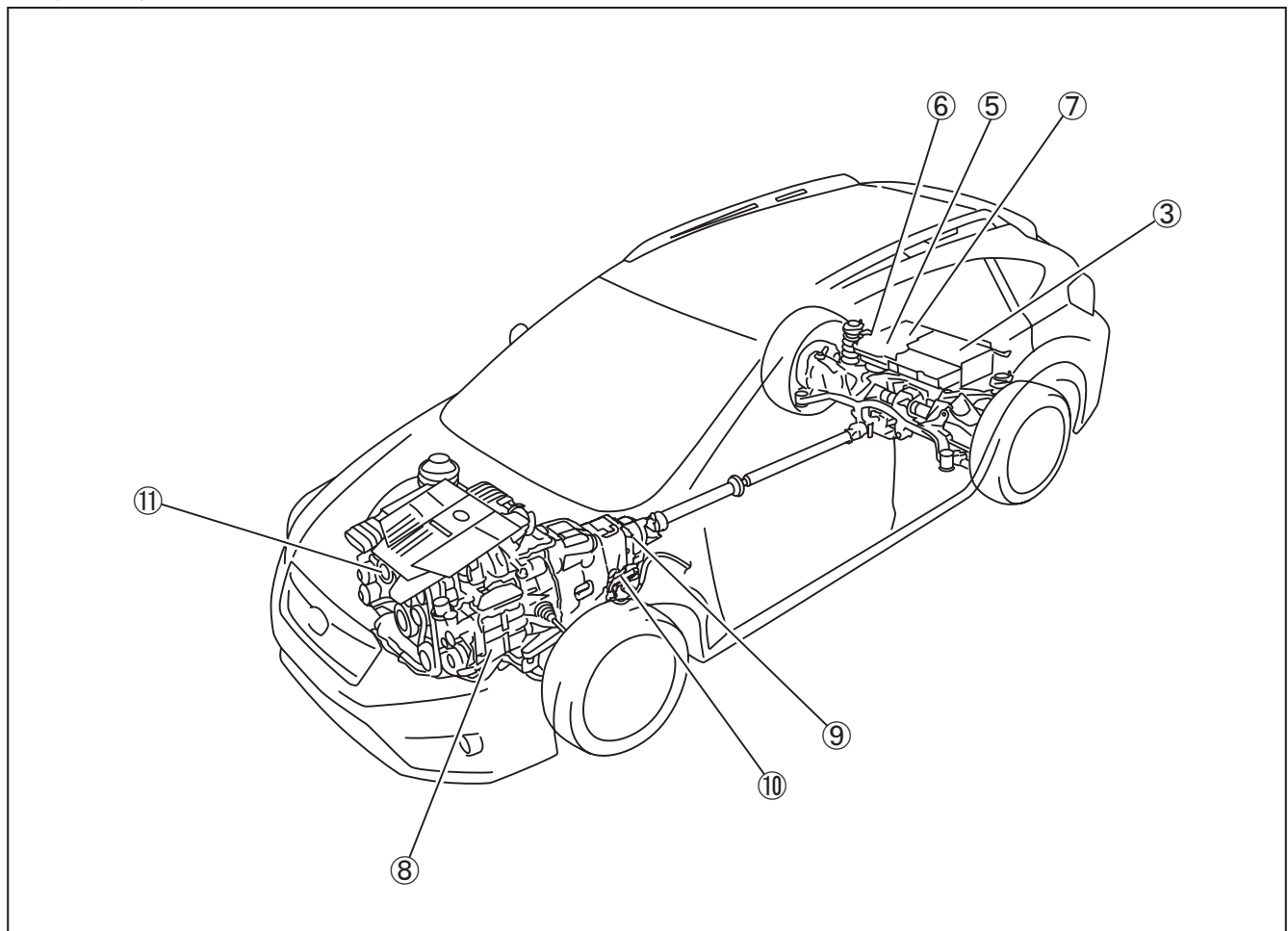
▼ Components (Top View) and Power Cables



Hybrid System Component Locations & Descriptions (Continued)

Component	Location	Description
⑤ Drive Motor Inverter	Cargo Area	Inverts the high voltage electricity from the high voltage battery to 3-phase AC electricity that drives the drive motor.
⑥ Electric Oil Pump Inverter	Cargo Area	Inverts the high voltage electricity from the high voltage battery to 3-phase AC electricity that drives the electric oil pump.
⑦ DC/DC Converter	Cargo Area	Convert high voltage electricity from the high voltage battery to 12 Volt electricity that charges the 12 Volt auxiliary battery.
⑧ Gasoline Engine	Engine Compartment	Provides two functions: 1) Powers vehicle. 2) Powers drive motor to charge the high voltage battery. The engine is started and stopped under control of the vehicle computer.
⑨ Drive Motor	Contained in the rear part of transmission	3-phase high voltage AC permanent magnet electric motor contained in the transmission. It is used to power all wheels. The drive motor also charges the high voltage battery

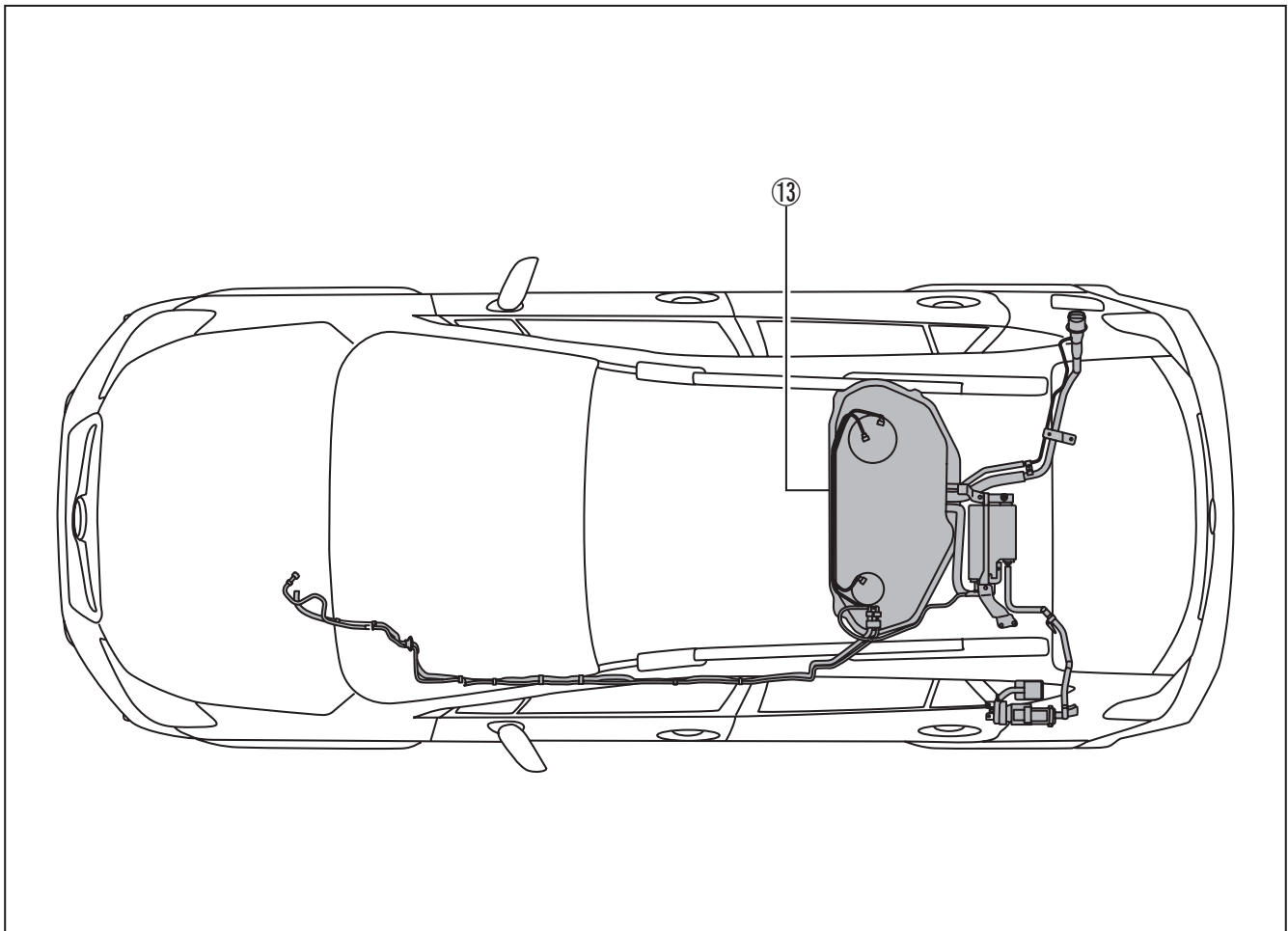
▼ Hybrid System Components



Hybrid System Component Locations & Descriptions (Continued)

Component	Location	Description
⑩ Electric Oil Pump	Located on the left side of the transmission	The electric oil pump is powered by the high voltage battery. It maintains the oil pressure of the transmission.
⑪ Integrated Starter Generator	Engine Compartment	Combines the function of the alternator and the starter. It will restart the engine, during auto start stop mode or EV driving mode.
⑫ Service Disconnect Plug	Cargo Area, located on the left side of the high voltage battery	Used to disable the high voltage system.
⑬ Fuel Tank and Fuel Line	Undercarriage and Left side in cabin	The fuel tank provides gasoline via a fuel line to the engine. The fuel line is routed left side in cabin.

▼ Fuel Tank and Fuel Line



Hybrid System Component Locations & Descriptions (Continued)

Key Specifications

Gasoline Engine : 148 hp (110 kW), 2.0-liter Aluminum Alloy Engine

Electric Motor : 13 hp (10 kW), Permanent Magnet Motor

Transmission : Automatic Only (continuously variable transmission)

HV Battery : 100.8 Volt Sealed NiMH Battery

Curb Weight : 3,440 ~ 3,484 lbs/1,560~1,580 kg

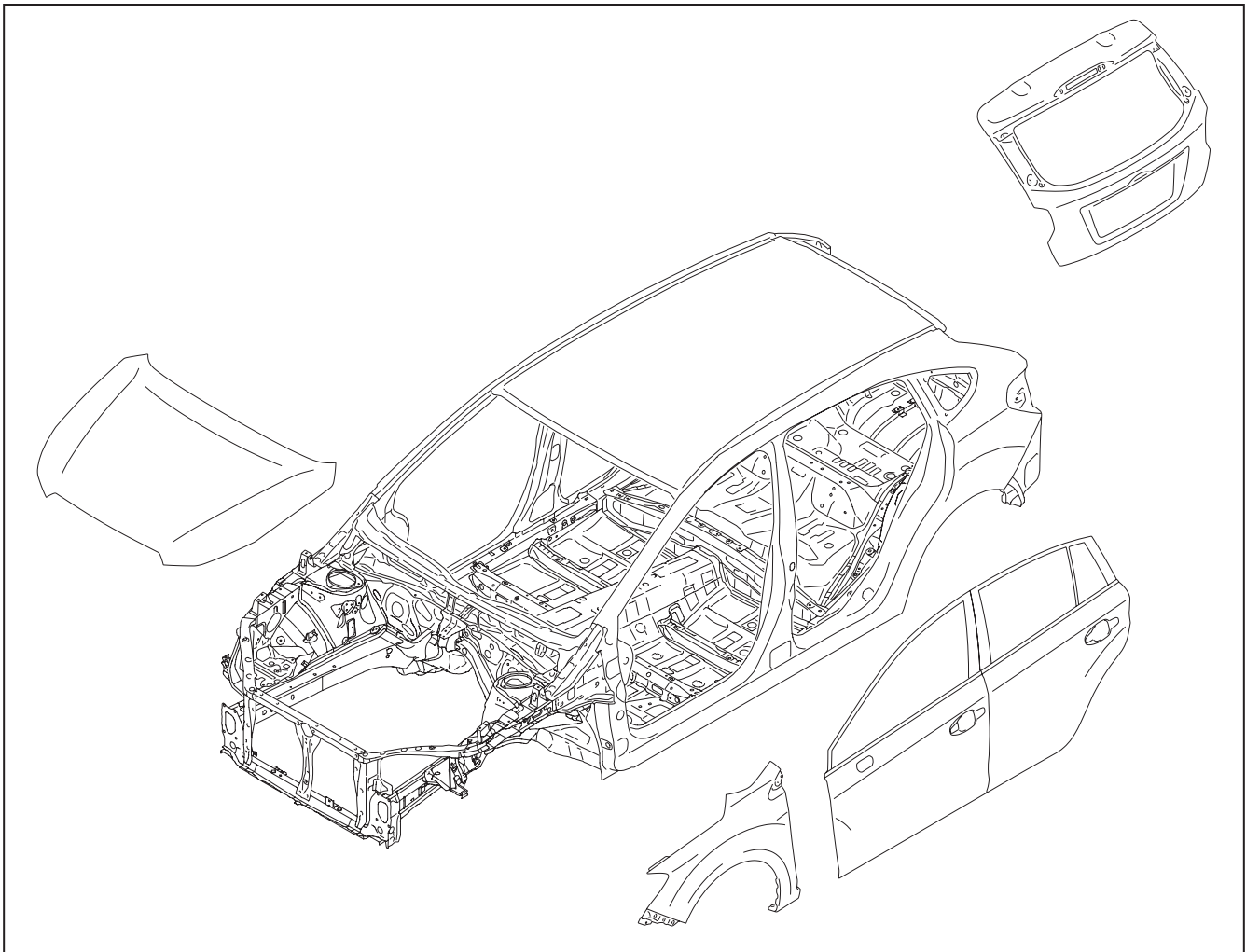
Fuel Tank : 13.7 gals/52.0 liters

Frame Material : Steel Unibody

Body Material : Steel Panels

Seating Capacity : 5 passenger

▼ Steel Unibody



Keyless Access with Push-button Start System (Optional Equipment)

The keyless access with push-button start system allows you to perform the following functions when you are carrying the access key.

- Locking and unlocking of the doors and rear gate.
- Starting and stopping the hybrid system.

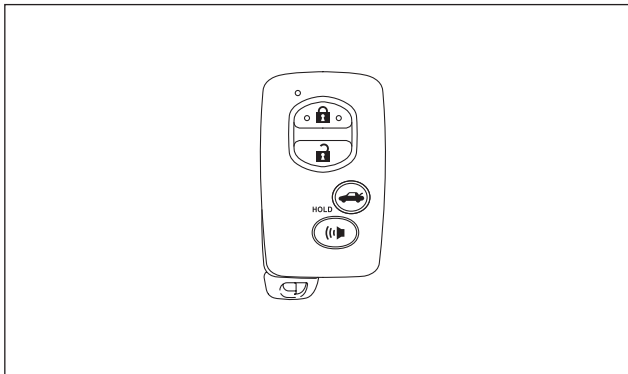
Locking and unlocking by the remote keyless entry system can also be controlled with the buttons on the access key.

A mechanical key is attached to each access key. The mechanical key is used for the following operations.

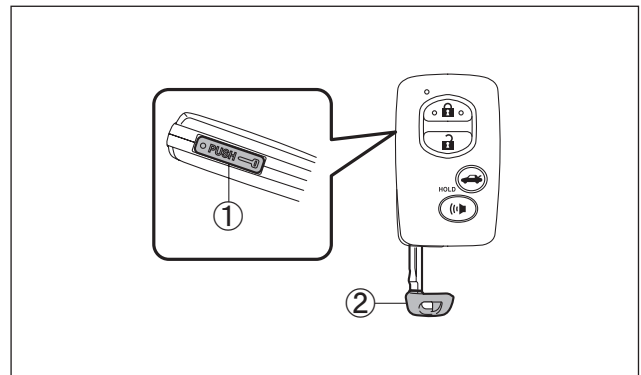
- Locking and unlocking the driver's door.
- Locking and unlocking the glove box.

While pressing the release button of the access key, take out the mechanical key.

▼ Access Key



▼ Mechanical Key



① Release Button

② Mechanical Key

Locking and Unlocking with “Keyless Access” Entry Function

■ Operating Ranges

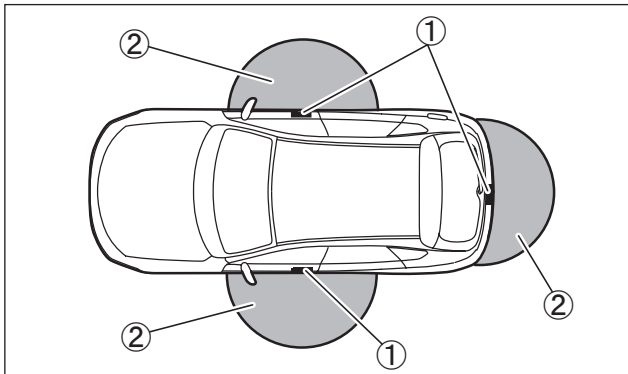
The operating ranges of the door and rear gate locking/unlocking functions are approximately 16 to 32 in (40 to 80 cm) from the respective door handles and the rear gate ornament.

When the access key is within either of the operating ranges of the front doors, the LED indicator on the access key flashes. When the keyless access functions are disabled, the LED indicator does not flash unless a button on the access key is pressed.

Note:

- If the access key is placed too close to the vehicle body, the keyless access function may not operate properly. If it does not operate properly, repeat the operation from further away.
- When you lock the doors and rear gate using the keyless access function, turn the push-button ignition switch off. It is not possible to lock the doors and rear gate using the keyless access function when the push-button ignition switch is on the “ACC” or “ON” position.

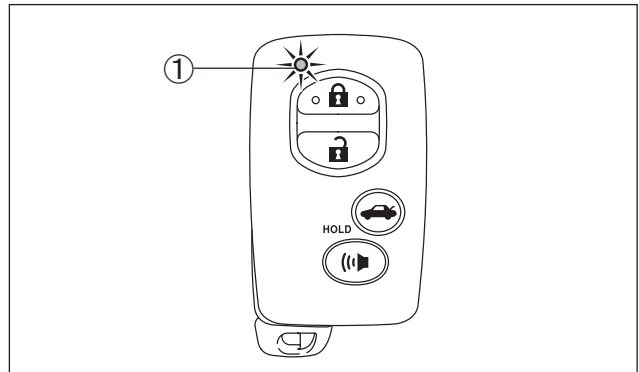
▼ Operating Ranges



① Antenna

② Operating Range

▼ LED Indicator



① LED Indicator

Locking and Unlocking with “Keyless Access” Entry Function (Continued)

■ Unlocking

Carry the access key, and grip the door handle.

- When the driver’s door handle is gripped, only the driver’s door will be unlocked.
- When the front passenger’s door handle is gripped, all doors including the rear gate will be unlocked. Also, an electronic chirp will sound twice and the hazard warning flashers will flash twice.

Note:

If the door handle is gripped with a gloved hand, the door lock may not be released.

■ Opening Rear Gate

Carry the access key, and press the rear gate opener button. Only the rear gate will be unlocked and opened. Also, an electronic chirp will sound twice and the hazard warning flashers will flash twice.

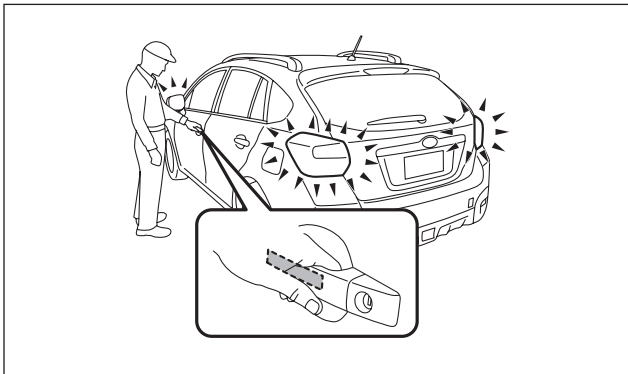
■ Locking with the Door Lock Sensor

Carry the access key, close all doors including the rear gate and touch the door lock sensor on the door handle. All doors including the rear gate will be locked. Also, an electronic chirp will sound once and the hazard warning flashers will flash once.

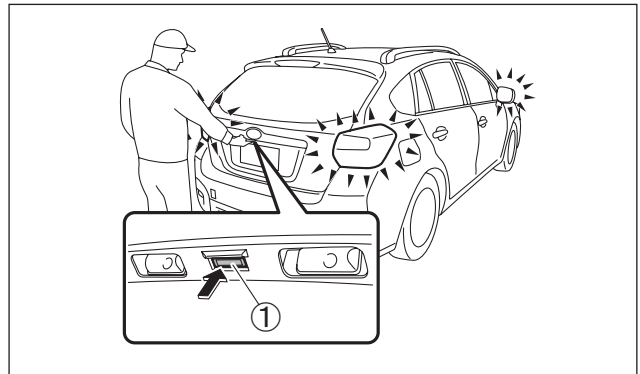
■ Locking with the Rear Lock Button

Carry the access key, close all doors including the rear gate and press the rear lock button. The rear gate and all doors will be locked. Also, an electronic chirp will sound once and the hazard warning flashers will flash once.

▼ Unlocking

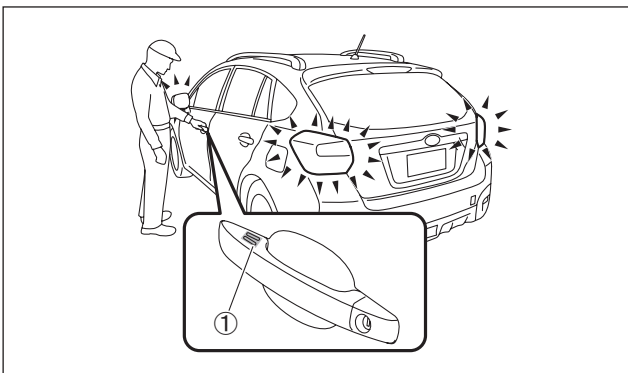


▼ Opening Rear Gate



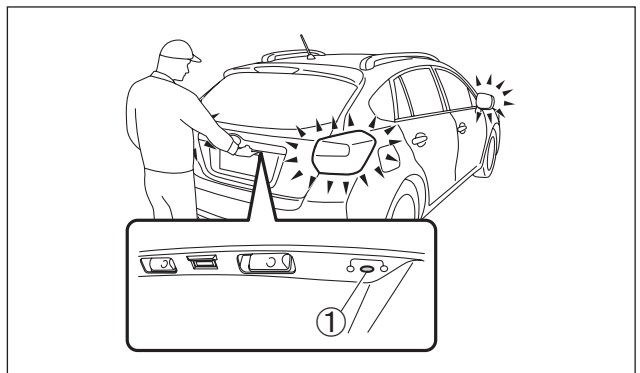
① Rear Gate Opener Button

▼ Locking with the Door Lock Sensor



① Door Lock Sensor

▼ Locking with the Rear Lock Button



① Rear Lock Button

Remote Keyless Entry System

■ Transmitter

The access key is used as the transmitter for the remote keyless entry system.

The remote keyless entry system has the following functions.

- Locking and unlocking the doors (and rear gate) without a key.
- Unlocking the rear gate without a key.

The operable distance of the remote keyless entry system is approximately 30 feet (10 meters).

However, this distance will vary depending on environmental conditions. The system's operable distance will be shorter in areas near a facility or electronic equipment emitting strong radio waves such as a power plant, broadcast station, TV tower, or remote controller of home electronic appliances.

Note:

The remote keyless entry system will not be activated when the push-button ignition switch is in any position other than the "OFF" position.

■ Locking the Doors

Press the lock/arm button to lock all doors and rear gate. An electronic chirp will sound once and the hazard warning flashers will flash once.

If any of the doors (or the rear gate) is not fully closed, an electronic chirp will sound five times and the hazard warning flashers will flash five times to alert you that the doors (or the rear gate) are not properly closed. When you close the door, it will automatically lock and then an electronic chirp will sound once and the hazard warning flashers will flash once.

■ Unlocking the Doors

Press the unlock/disarm button to unlock the driver's door. An electronic chirp will sound twice and the hazard warning flashers will flash twice. To unlock all doors and the rear gate (5-door), briefly press the unlock/disarm button a second time within 5 seconds.

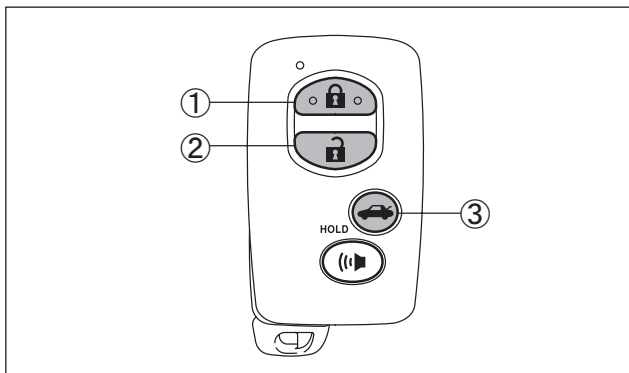
Note:

If the interval between the first and second presses of the unlock/disarm button (for unlocking of all of the doors and the rear gate) is extremely short, the system may not respond.

■ Unlocking the Rear Gate

Pressing the rear gate unlock button unlocks the rear gate. An electronic chirp will sound twice and the hazard warning flashers will flash twice.

▼ Access Key



① Lock/arm button

② Unlock/disarm button

③ Rear gate unlock button

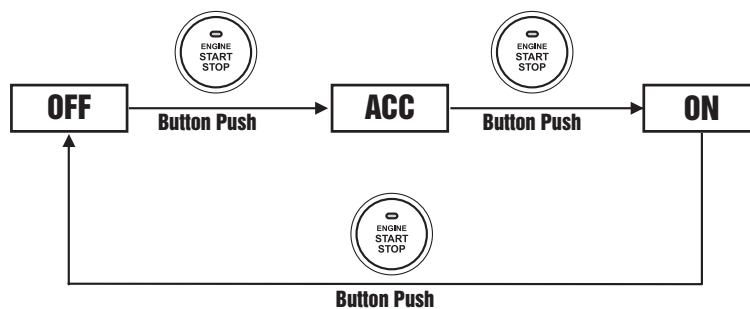
Vehicle Starting/Stopping

The access key has replaced the conventional mechanical key, and the push-button ignition switch with operation indicator has replaced the ignition switch.

The access 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 push-button ignition switch operates the “ACC” position, the second push operates the “ON” position, and the third push turns it OFF again.

Power Status Sequence (brake pedal released):



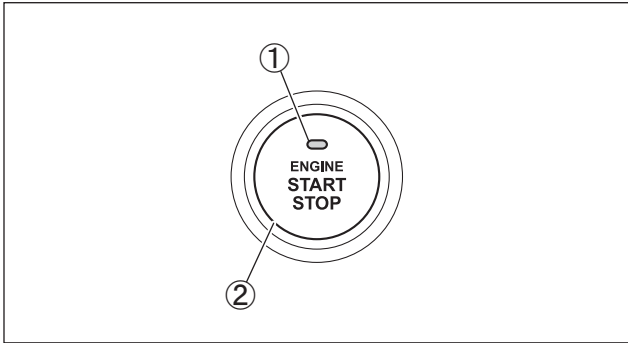
- Starting the vehicle takes priority over all other ignition modes. When the push-button ignition switch is pushed once while depressing the brake pedal, the engine will start. Starting the engine starts the hybrid system. To verify the vehicle has started, check that the operation indicator is off and the hybrid READY indicator light is illuminated in the combination meter.
- If the internal access key battery is dead, use the following method to start the vehicle.
 1. Hold the access key with the buttons facing you, and touch the push-button ignition switch with it.
 2. When the communication between the access key and the vehicle is completed, a chime (ding) will sound. At the same time, the status of the push-button ignition switch changes to either of the following.
 - When the keyless access with push-button start system is deactivated: “ACC”
 - Under other conditions: “ON”
- Once the vehicle has started and is on and operational (hybrid READY indicator light-ON), the vehicle is shut off by bringing the vehicle to a complete stop and then depressing the push-button ignition switch once.
- To shut off the vehicle before coming to a stop in an emergency, performing any one of the following two procedures:
 - The push-button ignition switch is pressed and held for 3 seconds or longer.
 - The push-button ignition switch is pressed briefly 3 times or more in succession.

These procedures may be useful at an accident scene in which the hybrid READY indicator light is on, Park position cannot be selected, and the wheels remain in motion.

Keyless Access with Push-button Start System (Optional Equipment - Continued)

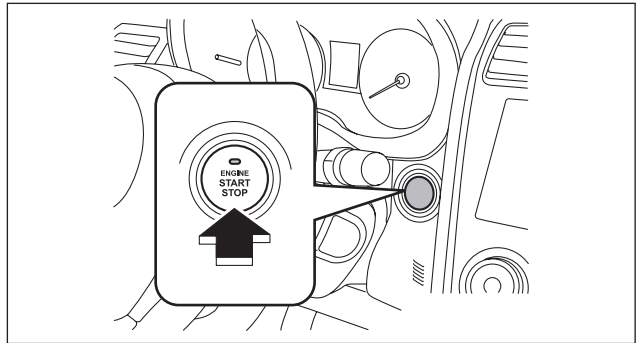
Power status	Operation Indicator color	Operation
OFF	Turned off	Power is turned off.
ACC	Orange	The following systems can be used: audio and accessory power outlet.
ON	Orange (while hybrid system is stopped)	All electrical systems can be used.
	Turned off (while hybrid system is running)	

▼ Push-button Ignition Switch with Operation Indicator

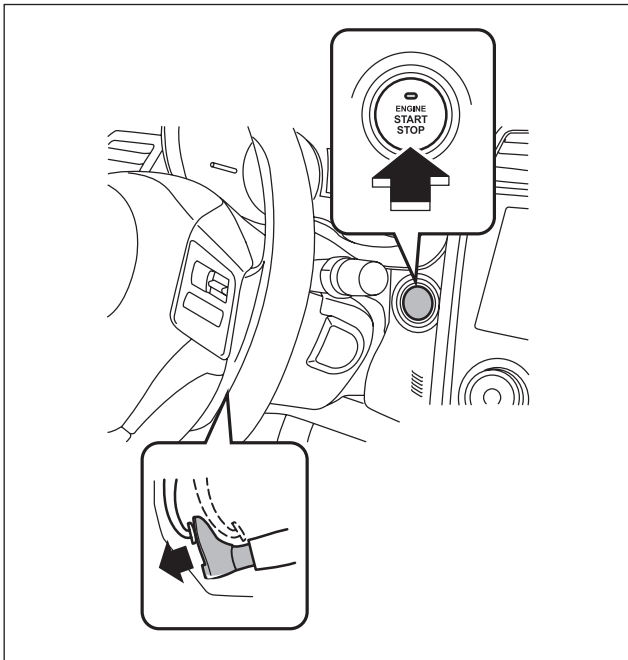


- ① Operation Indicator
- ② Push-button Ignition Switch

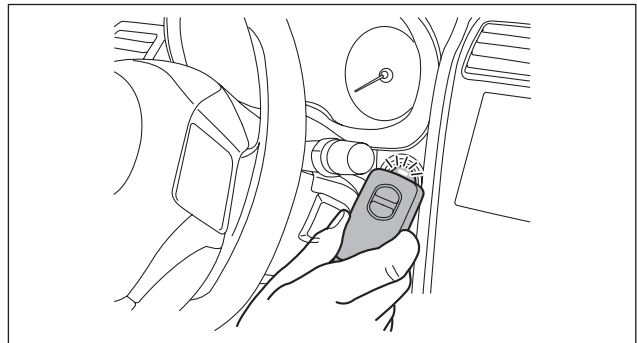
▼ Power Status Sequence (Brake Pedal Released)



▼ Starting Sequence (Brake Pedal Depressed)



▼ Access Key Recognition (When Access Key Battery is Dead)



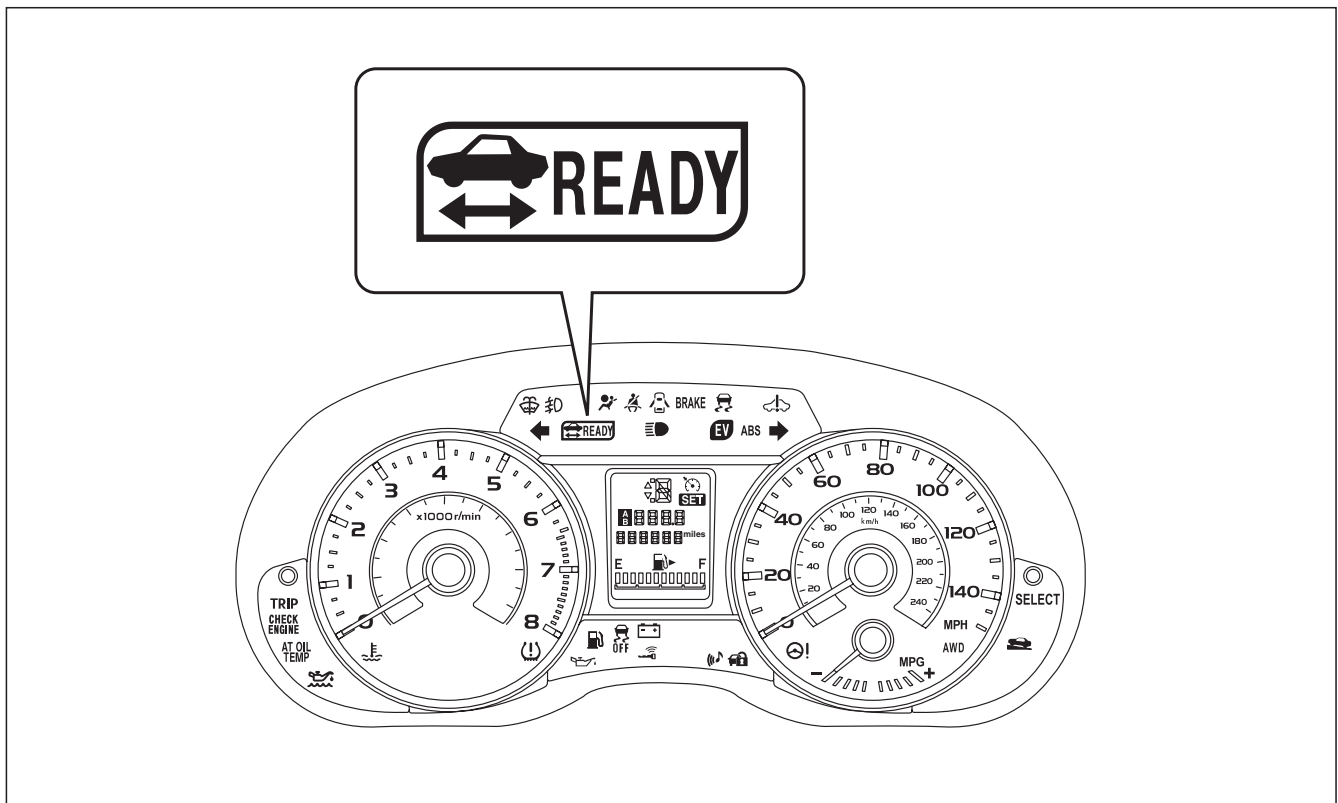
Hybrid System Operation

Once the hybrid READY indicator light is illuminated in the combination meter, the vehicle may be driven. However, the gasoline engine does not idle like a typical automobile and will start and stop automatically. It is important to recognize and understand the hybrid READY indicator light provided in the combination meter. When lit, it informs the driver that the vehicle is on and operational even though the gasoline engine may be off and the engine compartment is silent.

Vehicle Operation

- With the XV Crosstrek Hybrid, the gasoline engine may stop and start at any time while the hybrid READY indicator light is on.
- Never assume that the vehicle is shut off just because the engine is off. Always look for the hybrid READY indicator light status. The vehicle is shut off when the hybrid READY indicator light is off.
- The vehicle may be powered by:
 1. The drive motor only.
 2. The gasoline engine only.
 3. A combination of both the drive motor and the gasoline engine.

▼ Combination Meter Hybrid READY Indicator Light

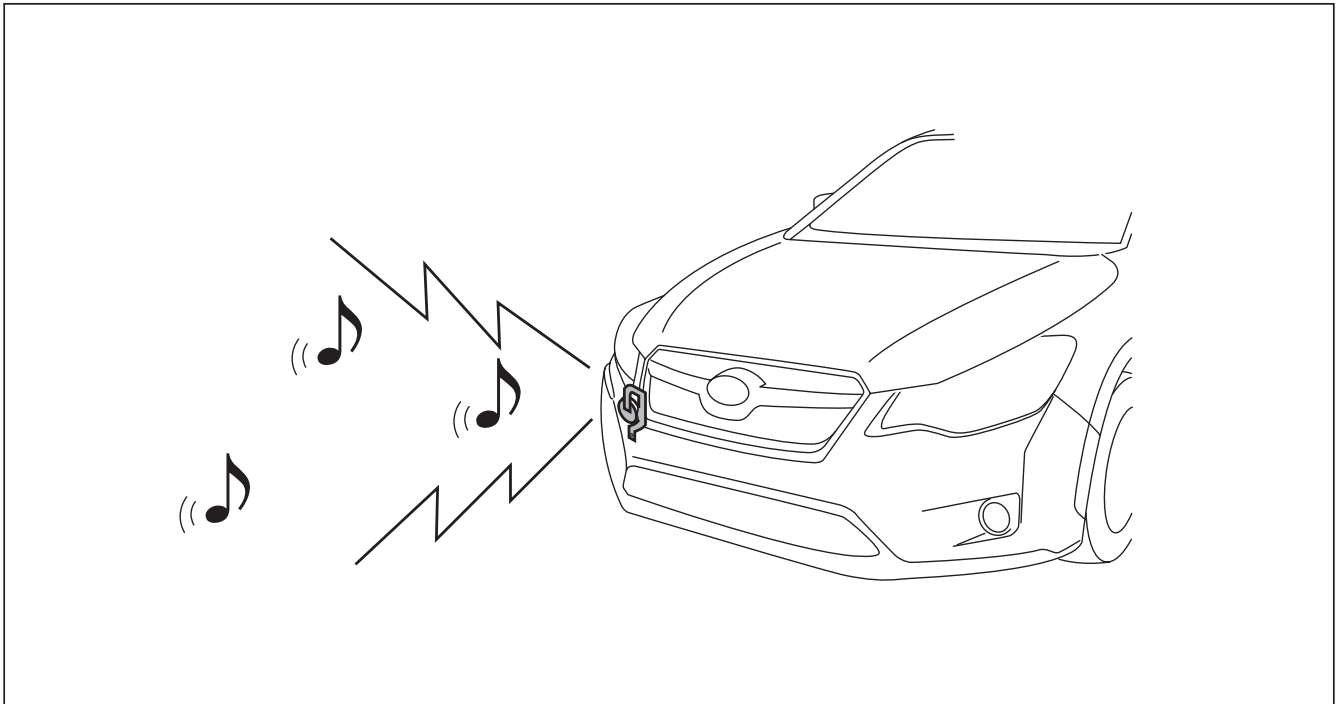


The illustration above is a typical example. For some models, the combination meter may be slightly different than that shown in the illustration.

Pedestrian Alert System

A feature on the XV Crosstrek Hybrid is the pedestrian alert system that emits a sound when the vehicle is driven using only the electric motor at speeds less than 15 mph (24 km/h). The sound is intended to notify pedestrians that the vehicle is approaching.

▼ Pedestrian Alert System



High Voltage Battery

The XV Crosstrek Hybrid features a high voltage battery that contains sealed Nickel Metal Hydride (NiMH) battery modules.

High Voltage Battery

- The high voltage battery assembly is enclosed in a metal case and is rigidly mounted to the cross member in the cargo area behind the rear seat. The metal case is isolated from high voltage and concealed by a cargo area panel in the cabin area.
- The high voltage battery consists of 21 low voltage (4.8 Volt) NiMH battery modules connected in series to produce approximately 100.8 Volts. Each NiMH battery module is non-spillable and in a sealed case.
- The electrolyte used in the NiMH battery module is an alkaline mixture of potassium and sodium hydroxide. The electrolyte is absorbed into the battery cell plates and will not normally leak, even in a collision.

High Voltage Battery	
High voltage battery voltage	100.8 V
Number of NiMH battery modules in pack	21
NiMH battery module voltage	4.8 V
NiMH battery module dimensions	ϕ1.3×10 in (ϕ32×255 mm)
NiMH battery module weight	1.5 lbs (0.7 kg)
High voltage battery dimensions	20×15×7 in (505×370×172 mm)
High voltage battery weight	54 lbs (24.5 kg)

Note: Values in inches have been rounded

High Voltage Battery (Continued)

Components Powered by the High Voltage Battery

- Drive Motor
- Drive Motor Inverter
- Power Cables
- Electric Oil Pump Inverter
- Electric Oil pump
- DC/DC Converter

High Voltage Battery Recycling

- The high voltage battery is recyclable. Contact the nearest Subaru dealer or:

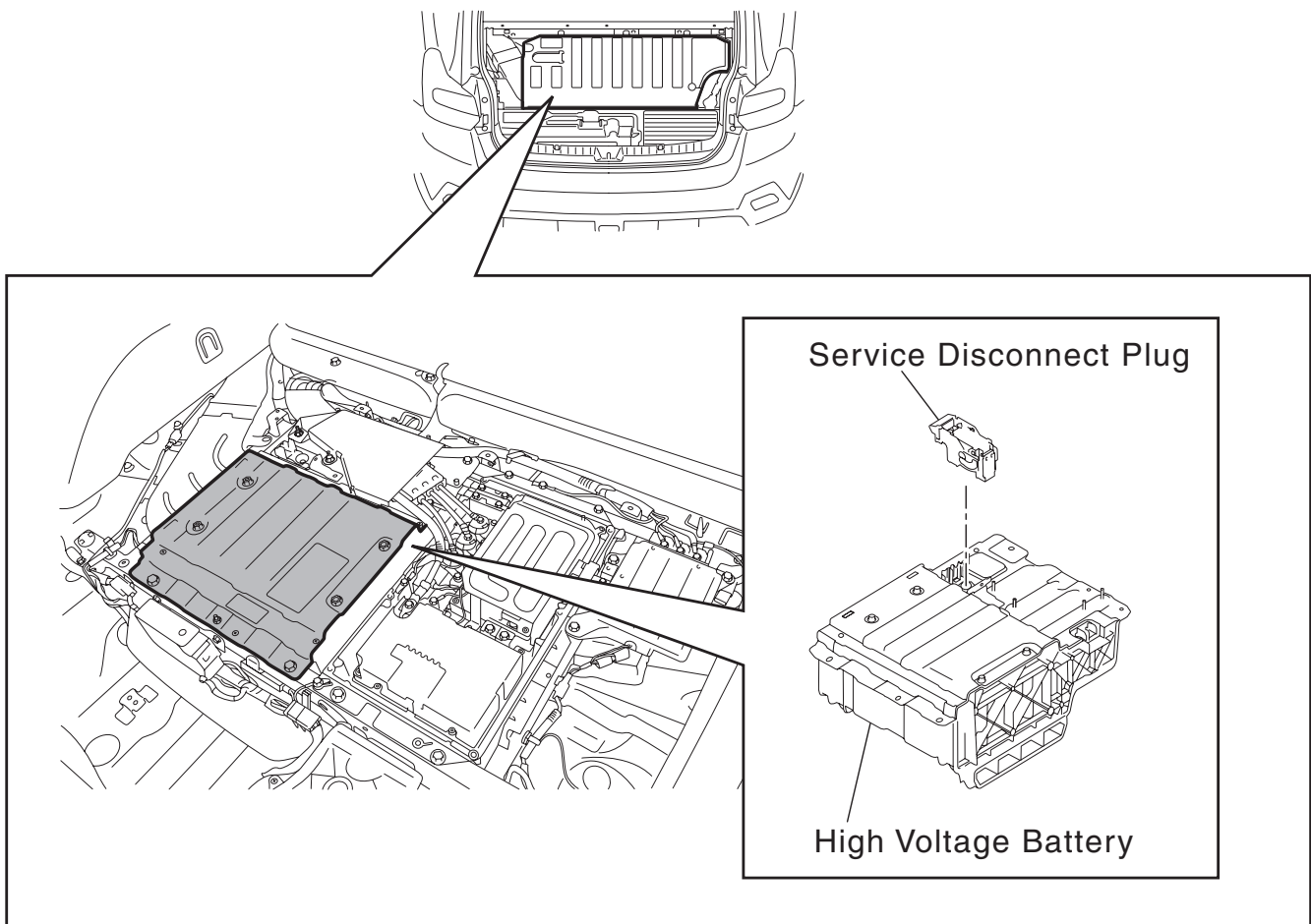
[Residents in U.S.A]

SOA Customer Dealer Service : 1-800-782-2783

[Residents in CANADA]

SCI Customer Support : 1-800-894-4212

▼ High Voltage Battery



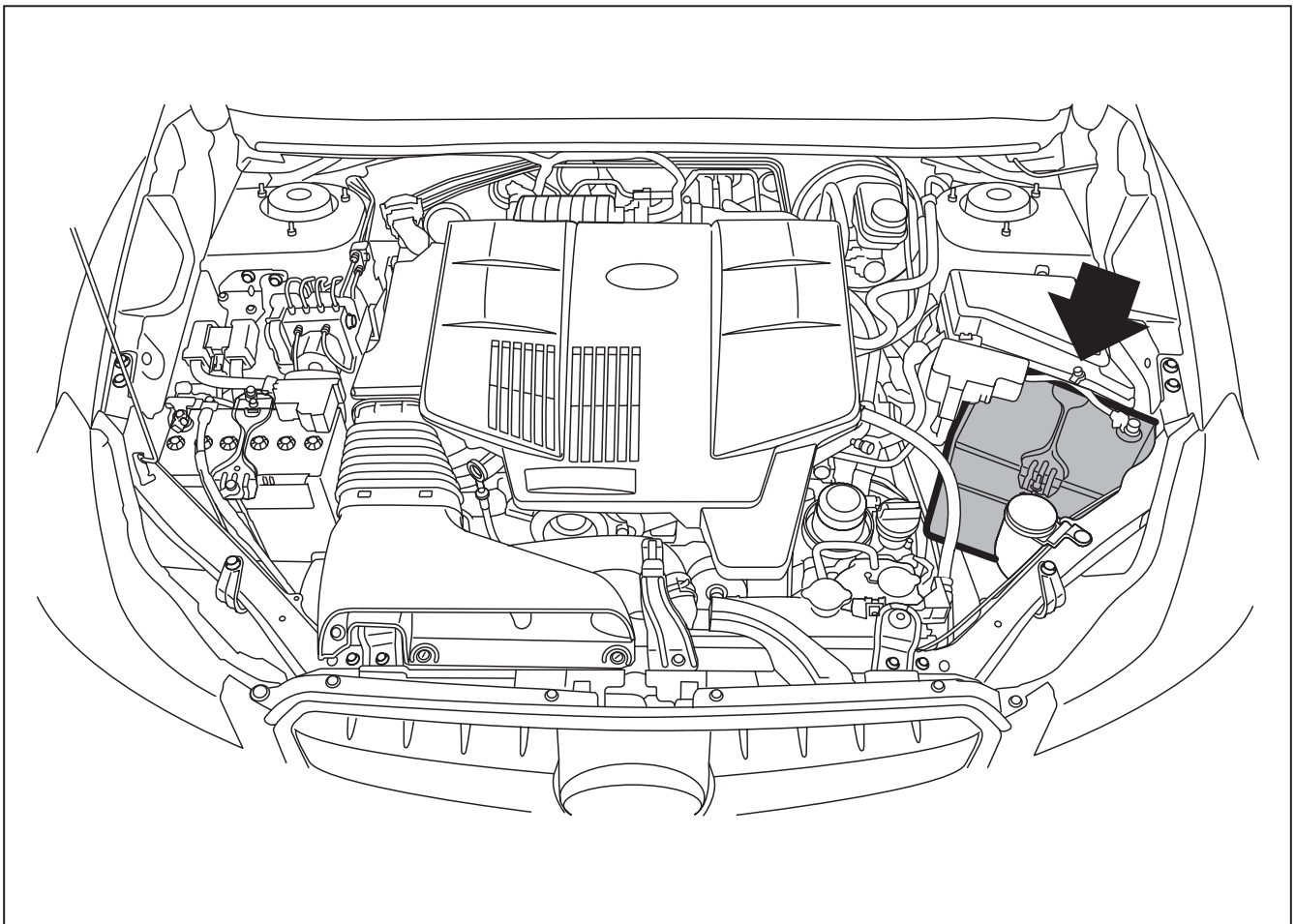
Low Voltage Batteries

The XV Crosstrek Hybrid contains two sealed lead-acid 12 Volt batteries.

12 Volt Auxiliary 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 12 Volt auxiliary battery is grounded to the metal chassis of the vehicle.
- The 12 Volt auxiliary battery is located in the driver side of the engine compartment.

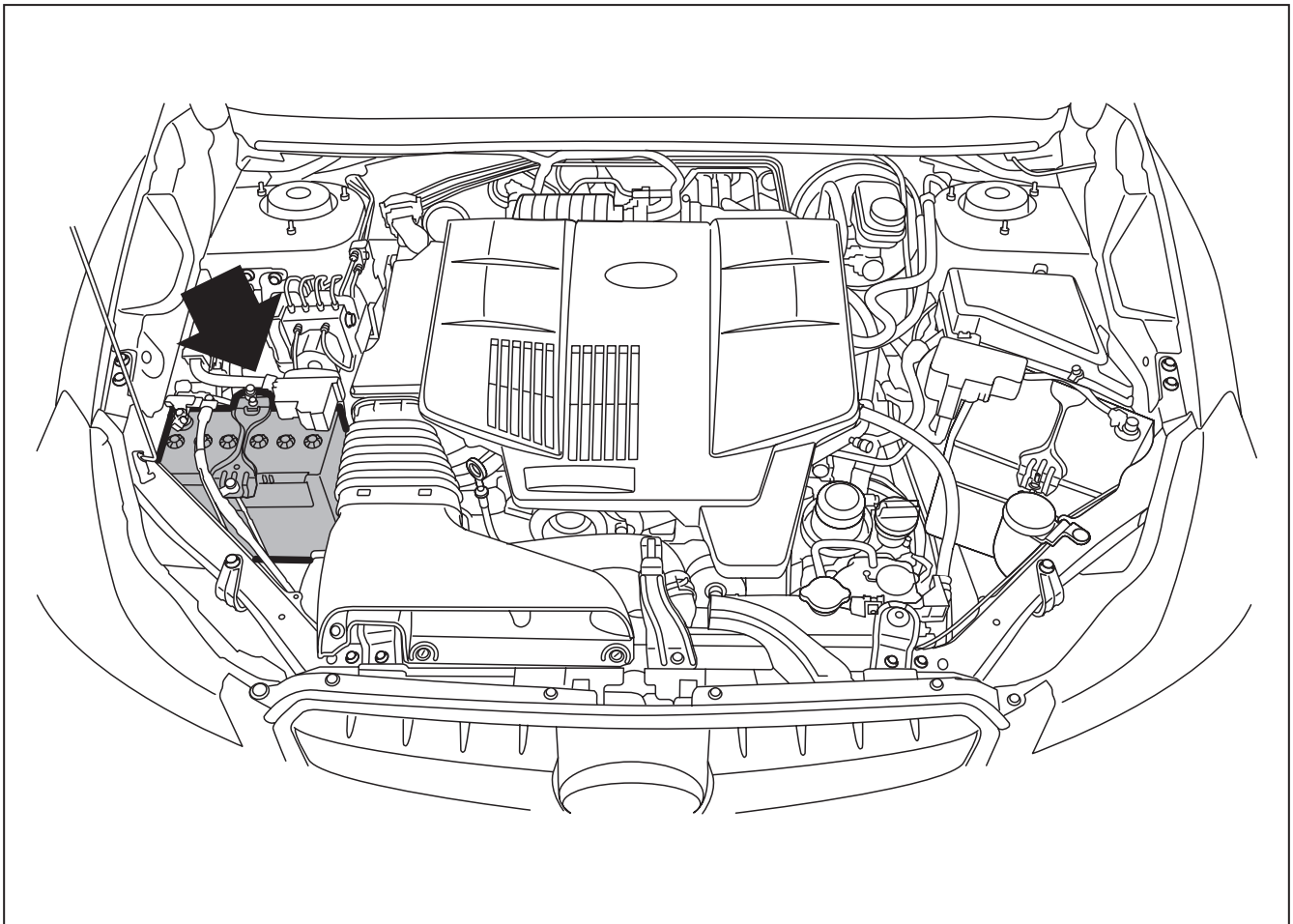
▼ 12 Volt Auxiliary Battery



12 Volt Engine Restart Battery

- The 12 Volt engine restart battery powers the integrated starter generator. The integrated starter generator combines with the function of the alternator and the starter. It will restart the engine, during auto start stop mode or EV driving mode.
- The 12 Volt engine restart battery is located in the passenger side of the engine compartment.

▼ 12 Volt Engine Restart Battery

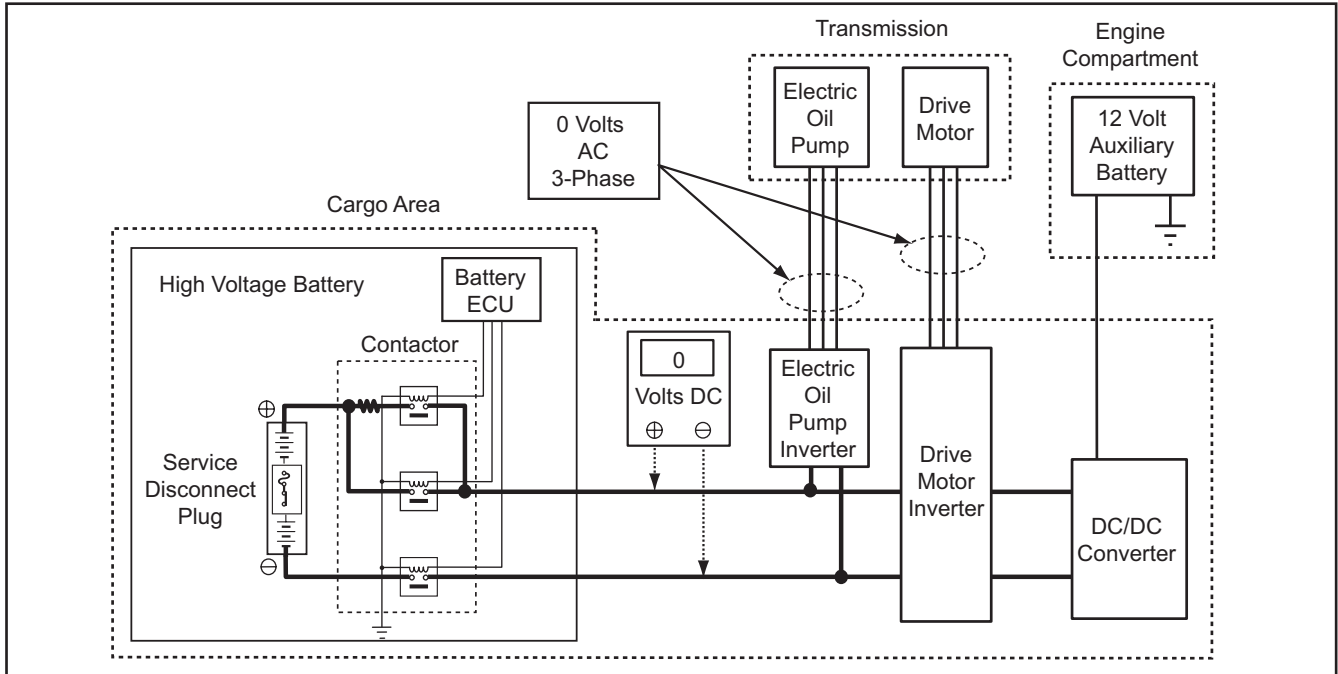


High Voltage Safety

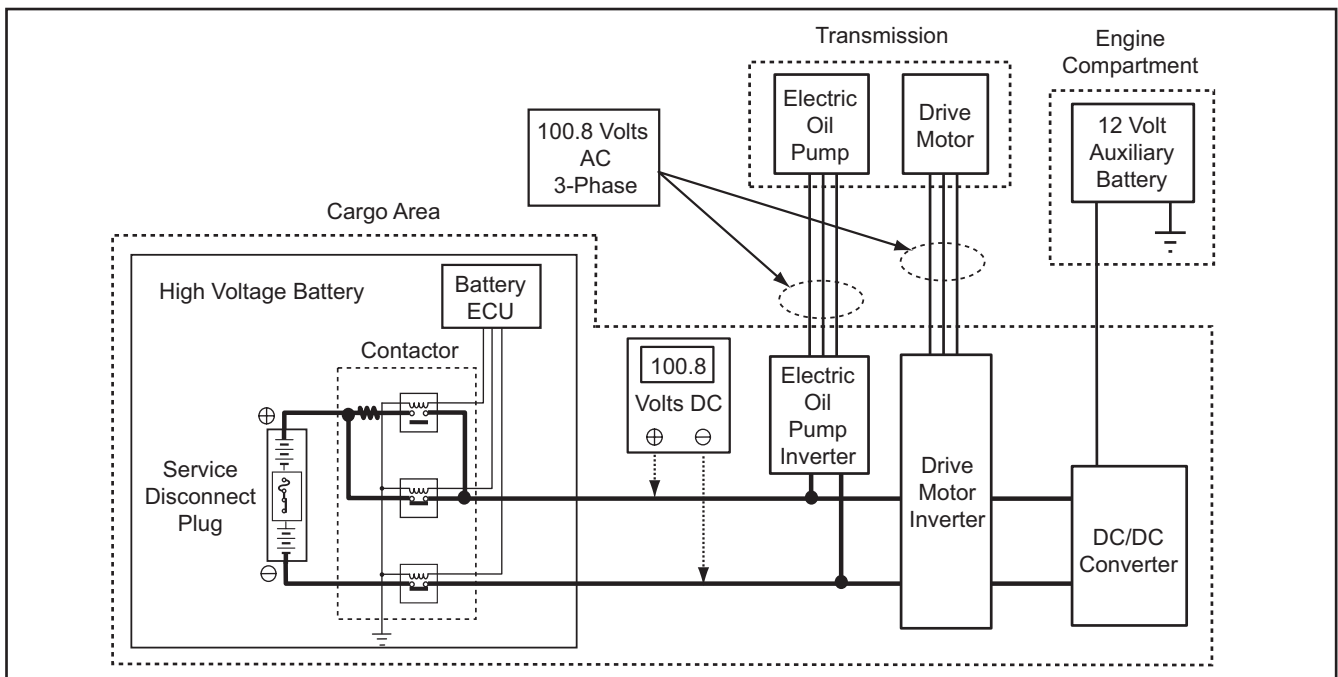
The high voltage safety system is designed to help keep occupants in the vehicle and emergency responders safe from high voltage electricity:

High Voltage Safety System

▼ Vehicle Shut Off (Hybrid READY Indicator Light-OFF)



▼ Vehicle On and Operational (Hybrid READY Indicator Light-ON)



High Voltage Safety System (Continued)

There are several Safety Systems incorporated into the Subaru XV Crosstrek Hybrid vehicle designed to prevent injury from contact with high voltage.

1. The cases and covers which are placed on the high voltage system equipment, battery and wiring are incorporated to help prevent inadvertent contact with those components by humans.
2. The high voltage system is completely isolated from the vehicle body. However, if a situation occurs where the insulation or integrity is damaged, as in a collision, there are provisions to automatically disconnect the components from the high voltage battery.
3. Disconnecting high voltage from the high voltage battery to the system.

Note:

In all cases of disconnection, the system remains powered for up to 10 minutes.

There are two methods of disconnecting the high voltage from the battery to the system:

- **MANUAL OPERATION:**

By removing the service disconnect plug located on the high voltage battery case. Use of insulated rubber gloves is required for this operation even if the high voltage battery has been isolated.

- **AUTOMATIC OPERATION:**

- Turning off the key type ignition switch or push button ignition switch
- Impact sensors will automatically isolate the high voltage battery when a collision is detected.

Note:

When the impact sensors are activated, the high voltage system remains disconnected until the system is reset by a Subaru technician using the Subaru Select Monitor. The vehicle, unless damaged severely, may be driven in a limited manner using the gasoline engine only during this time.

4. The high voltage components are either labeled or orange colored to help identify them. The power cables and connectors are identified by their orange color. Additionally, the battery and other components are labeled with High Voltage warnings and handling precautions. Always stay clear of orange cables and connectors, and other high voltage components. Always adhere to the warnings on these components. The use of insulated rubber gloves is required when working on or near these components.

 **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 colored power cable or high voltage component.

SRS Airbags & Seat Belt Pretensioners

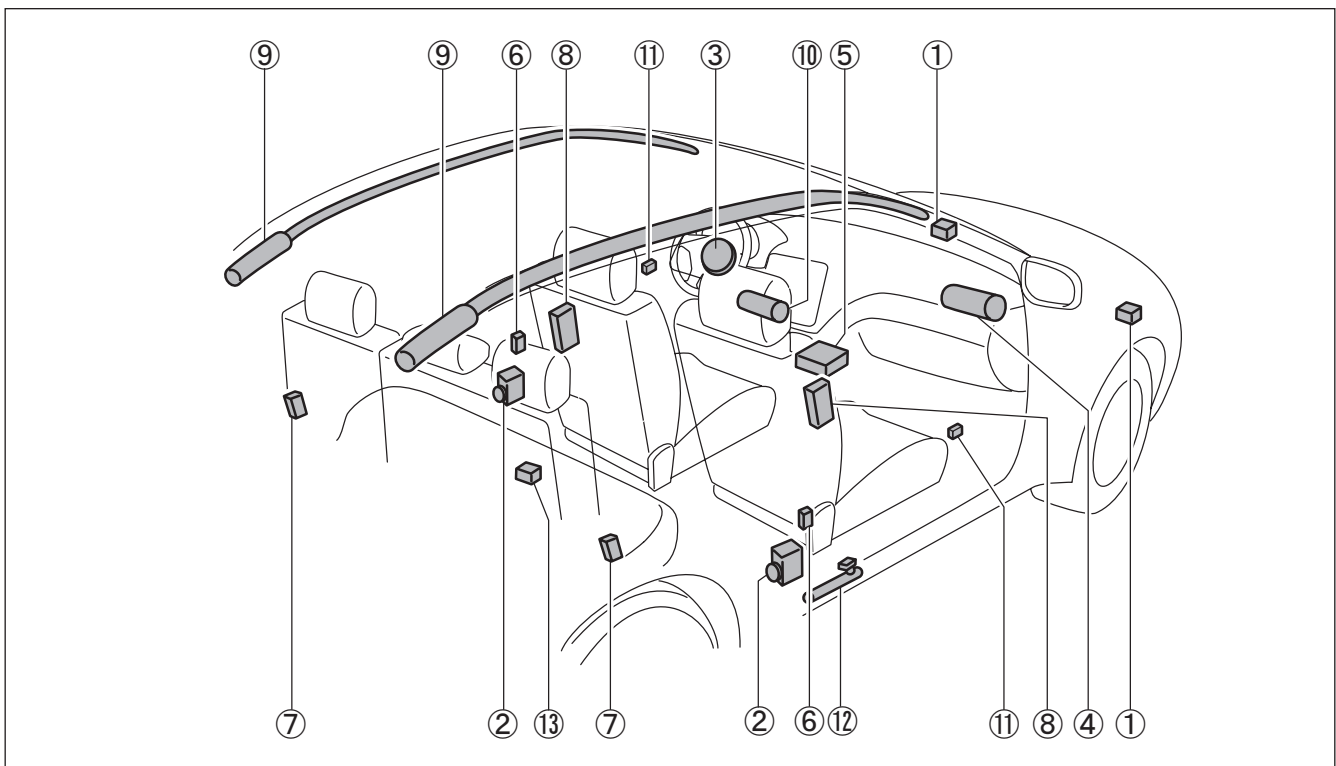
Standard Equipment

- Front sub sensors (2) are mounted in the engine compartment ① as illustrated.
- Seat belt pretensioners are mounted near the base of the center pillars ② .
- Frontal airbag module (driver's side) ③ is mounted in the center position of the steering wheel.
- Frontal airbag module (passenger's side) ④ is integrated into the dashboard and deploys through the top of the dashboard.
- The airbag control module ⑤ , which contains an impact sensor and rollover sensor, is mounted on the floor pan underneath the instrument panel.
- Side airbag sensors (2) are mounted near the base of the center pillars. ⑥
- Curtain airbag sensors (2) are mounted near the rear wheel house. ⑦
- Side airbag modules ⑧ are mounted in the front seatbacks.
- Curtain airbag modules ⑨ are mounted along the outer edge inside the roof rails.
- Knee airbag module ⑩ is mounted on the bottom of the steering column.
- Front door impact sensors (2) are mounted inside the base of the front doors. ⑪
- Lap belt pretensioner is mounted near the base of the passenger's side center pillar. ⑫
- Satellite safing sensor ⑬ is mounted under the rear center seat.

⚠ WARNING:

The SRS may remain powered for up to 60 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



Standard Equipment (Continued)

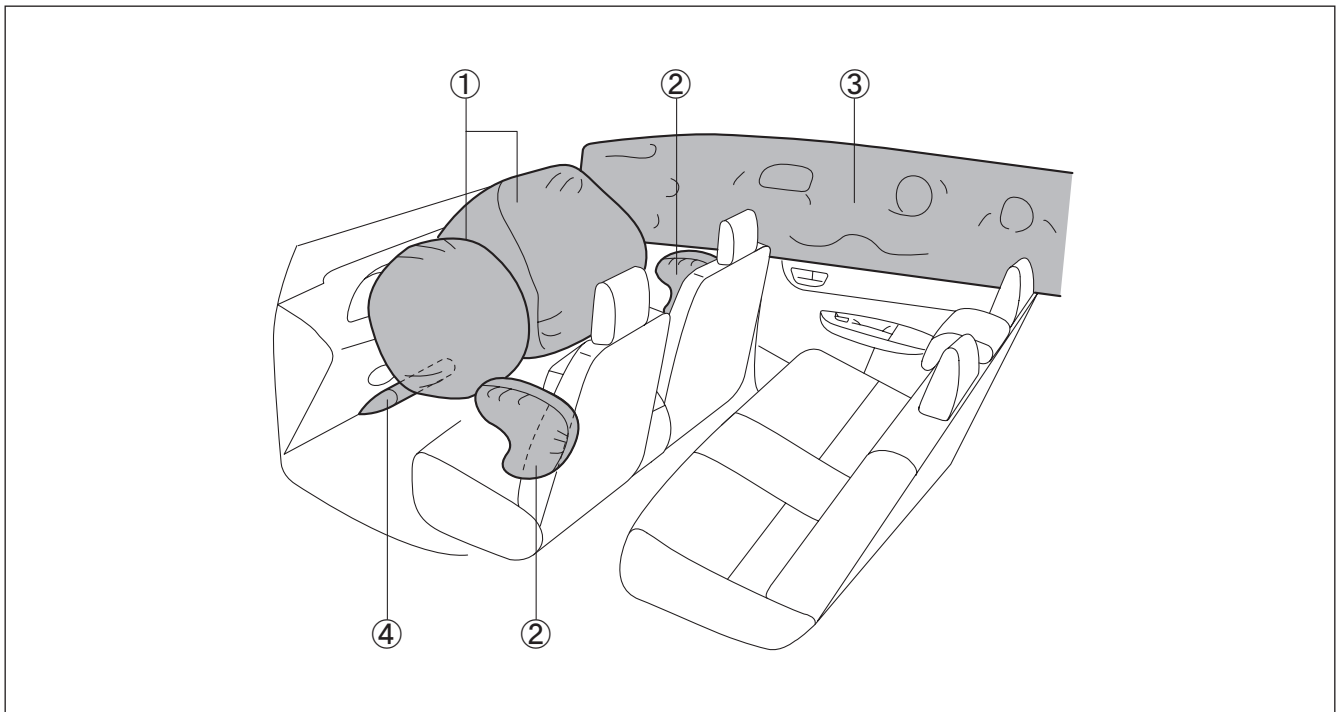
Note:

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

The knee airbag (driver's side only) is designed to deploy simultaneously with the frontal airbag. The XV Crosstrek Hybrid is equipped with a standard front passenger occupant detection system that may prohibit the deployment of the front passenger frontal airbag. If the front passenger occupant detection system prohibits deployment during an SRS event, the 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, Side, Curtain Airbags

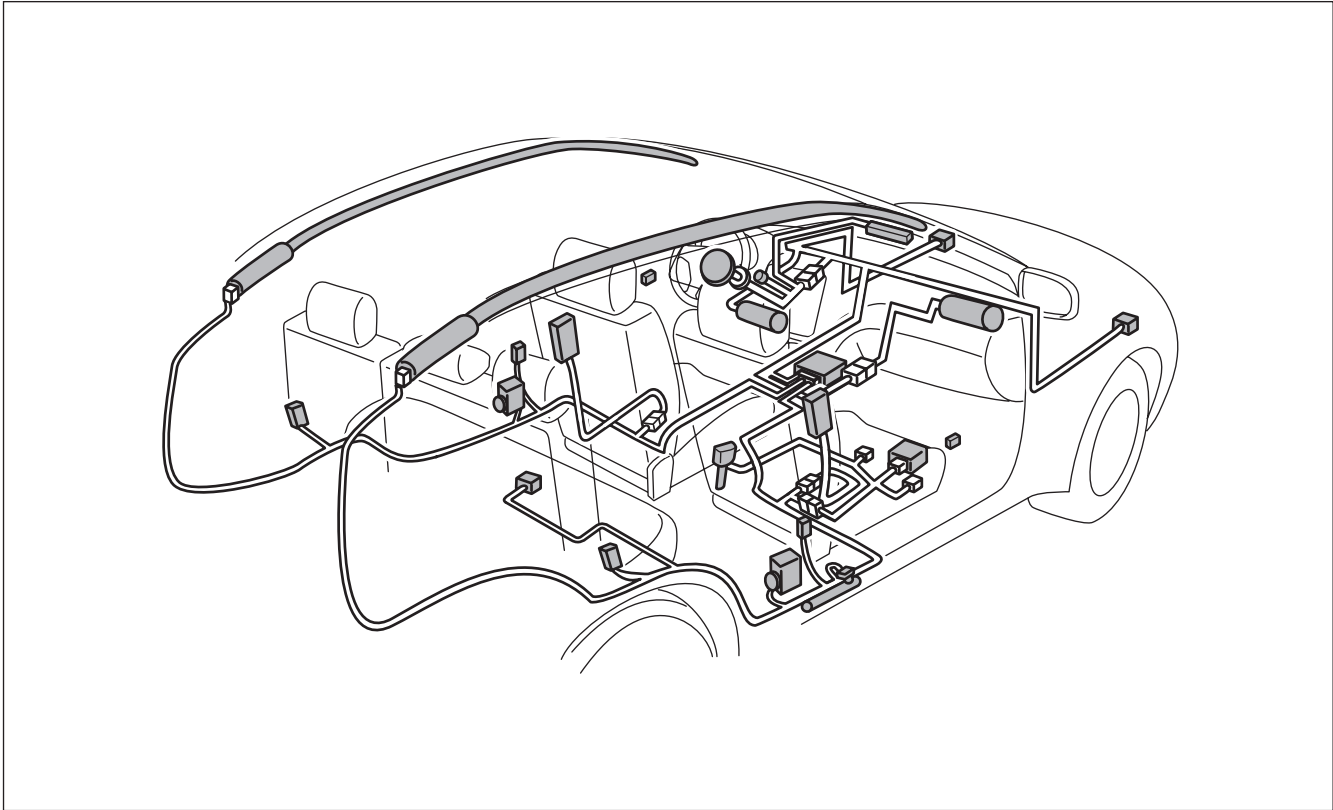


- ① Frontal Airbag
- ② Side Airbag

- ③ Curtain Airbag
- ④ Knee Airbag

Standard Equipment (Continued)

▼ Airbag System Wiring



Emergency Response

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

WARNING:

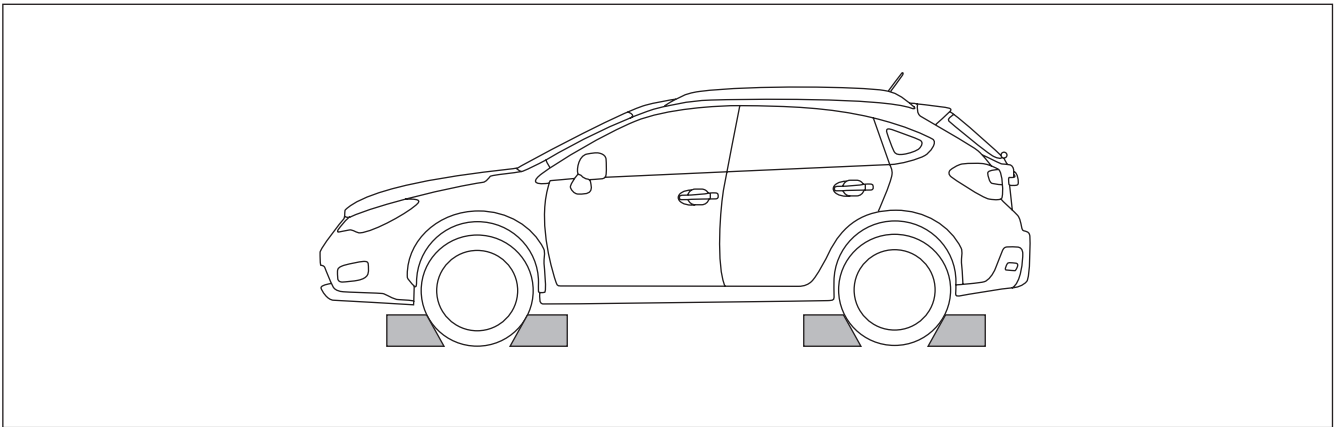
- *Never assume the XV Crosstrek Hybrid is shut off simply because it is silent.*
- *Always observe the combination meter for the hybrid READY indicator light status to verify whether the vehicle is on or shut off. The vehicle is shut off when the hybrid READY indicator light is off.*
- *Failure to shut 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

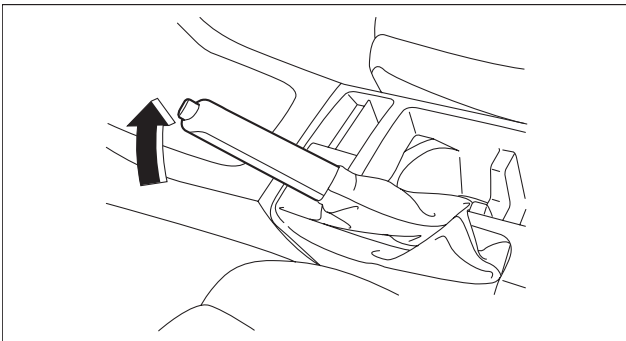
■ Immobilize Vehicle

Chock wheels and set the parking brake.
Shift the select lever to the Park position.

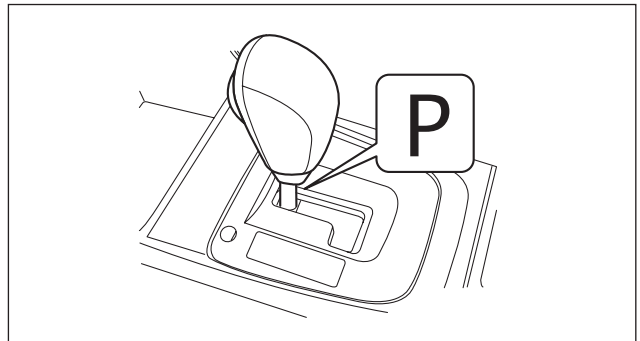
▼ Chock Wheels



▼ Set Parking Brake



▼ Select Lever in Park



Extrication (Continued)

■ Disable Vehicle

Performing any one of the following three procedures will shut the vehicle off and disable the high voltage battery, SRS, and gasoline fuel pump.

Procedure #1

Mechanical Ignition Key System (Standard Equipment):

Note:

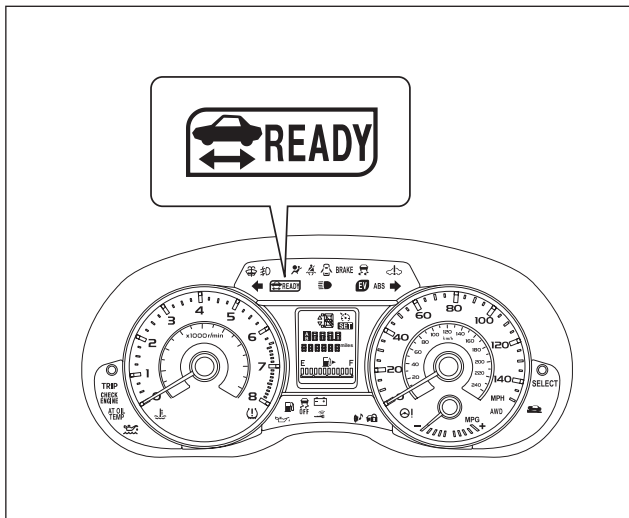
Before shutting off the vehicle and disconnecting the 12 Volt auxiliary battery, if necessary, lower the windows, unlock the doors and open the rear gate as required. Once the 12 Volt auxiliary battery is disconnected, power controls will not operate.

1. Confirm the status of the hybrid READY indicator light in the combination meter.
2. If the hybrid READY indicator light 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.

Note:

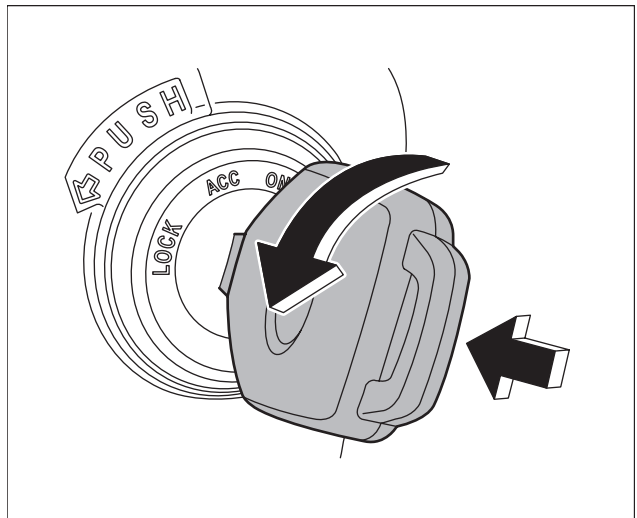
If the ignition switch will not move from the "LOCK" (off) position to the "ACC" position, turn the steering wheel slightly to the left and right as you turn the ignition switch.

▼ Hybrid READY Indicator Light



The illustration above is a typical example. For some models, the combination meter may be slightly different than that shown in the illustration.

▼ Turn Ignition Key Off

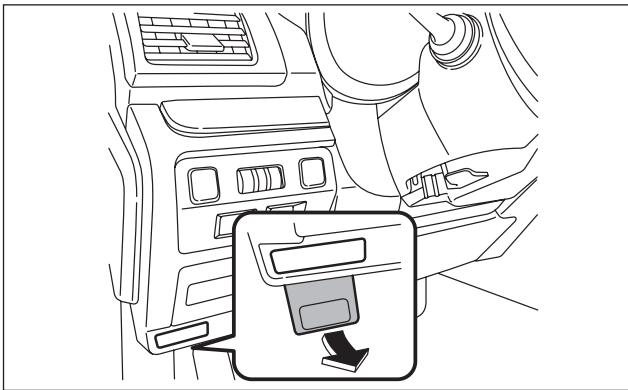


Emergency Response (Continued)

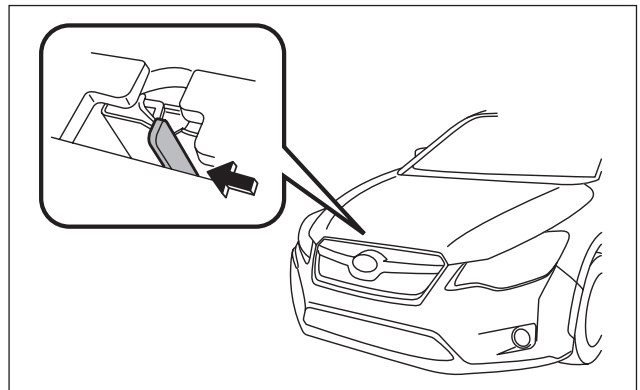
Extrication (Continued)

3. Open the hood.
4. Disconnect the battery ground terminal of both the 12 Volt auxiliary battery and the 12 Volt engine restart battery in the engine compartment.

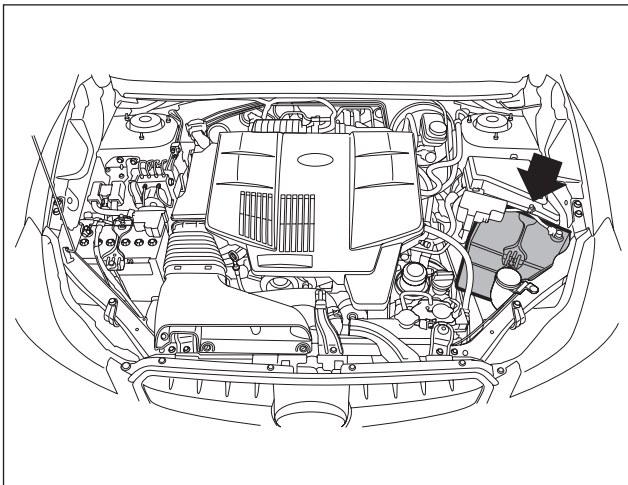
▼ Hood Release Knob



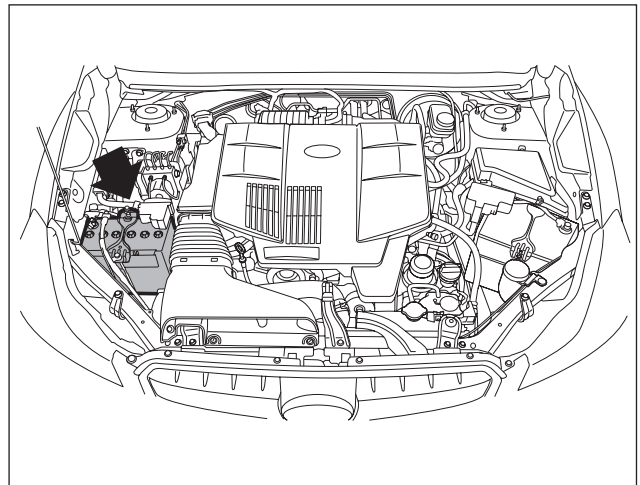
▼ Hood Latch Release



▼ 12 Volt Auxiliary Battery



▼ 12 Volt Engine Restart Battery



Extrication (Continued)

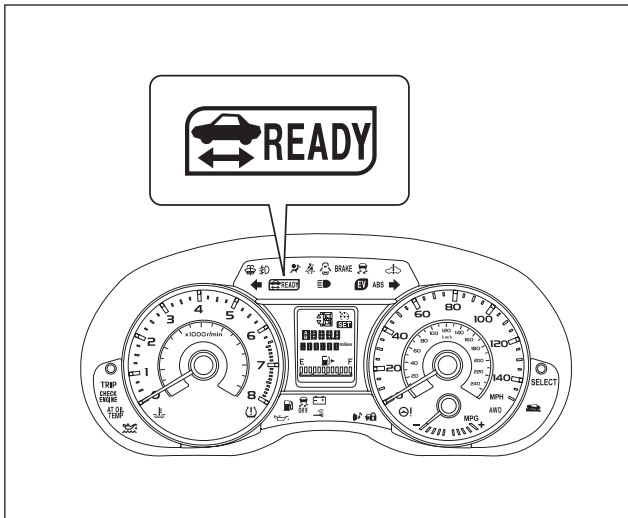
Keyless Access with Push-button Start System (Optional Equipment):

Note:

Before shutting off the vehicle and disconnecting the 12 Volt auxiliary battery, if necessary, lower the windows, unlock the doors and open the rear gate as required. Once the 12 Volt auxiliary battery is disconnected, power controls will not operate.

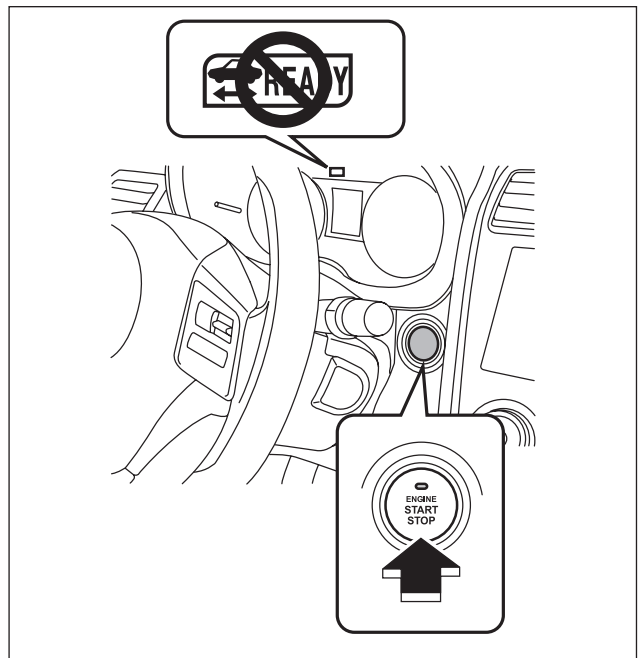
1. Confirm the status of the hybrid READY indicator light in the combination meter.
2. If the hybrid READY indicator light is illuminated, the vehicle is on and operational. Shut off the vehicle by pushing the push-button ignition switch once.
3. The vehicle is already shut off if the combination meter lights and the hybrid READY indicator light are not illuminated. Do not push the push-button ignition switch because the vehicle may start.
4. If the access key is easily accessible, keep it at least 16 feet (5 meters) away from the vehicle.

▼ Hybrid READY Indicator Light



The illustration above is a typical example. For some models, the combination meter may be slightly different than that shown in the illustration.

▼ Shut Off Vehicle (Hybrid READY Indicator Light-OFF)

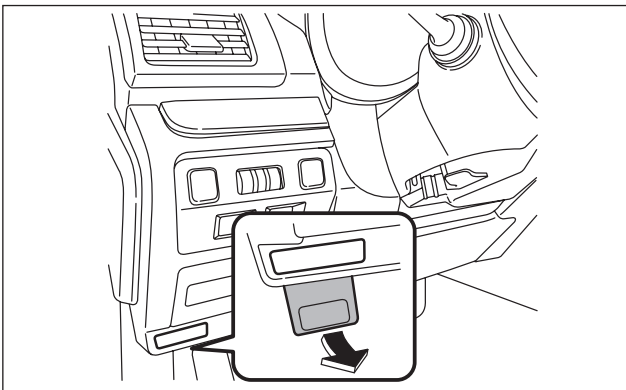


Emergency Response (Continued)

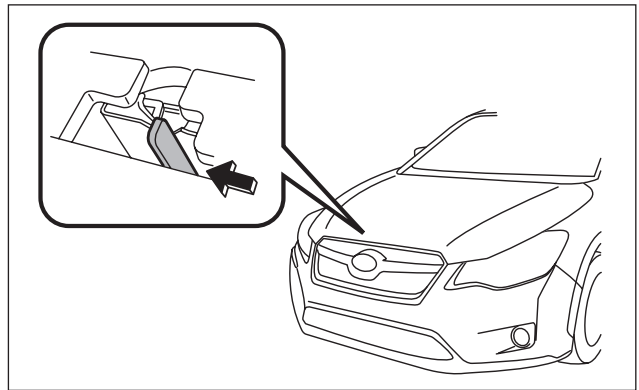
Extrication (Continued)

5. Open the hood.
6. Disconnect the battery ground terminal of both the 12 Volt auxiliary battery and the 12 Volt engine restart battery in the engine compartment.

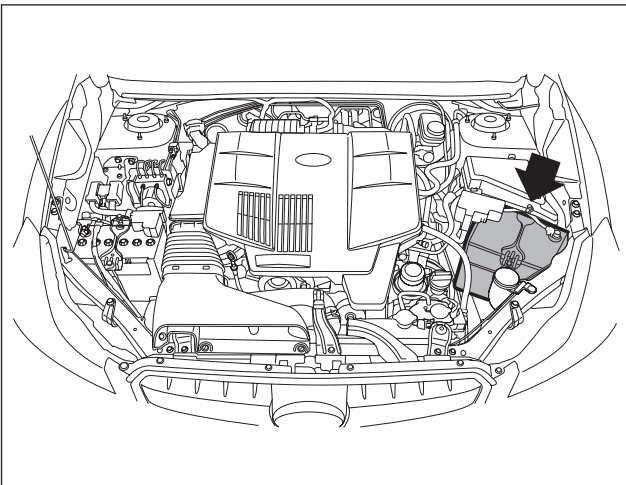
▼ Hood Latch Release



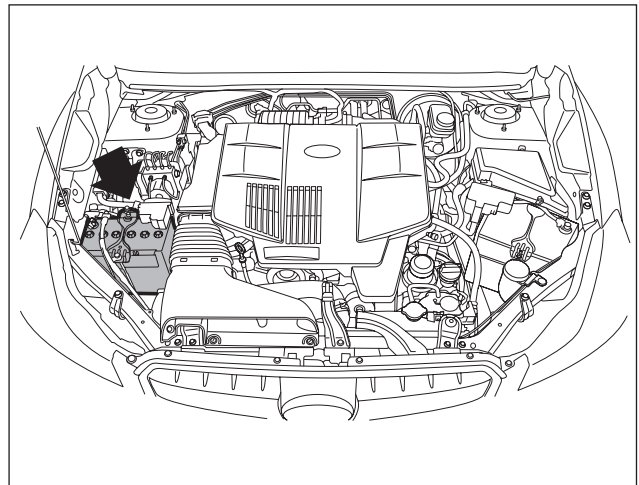
▼ Hood Release Knob



▼ 12 Volt Auxiliary Battery



▼ 12 Volt Engine Restart Battery



Extrication (Continued)

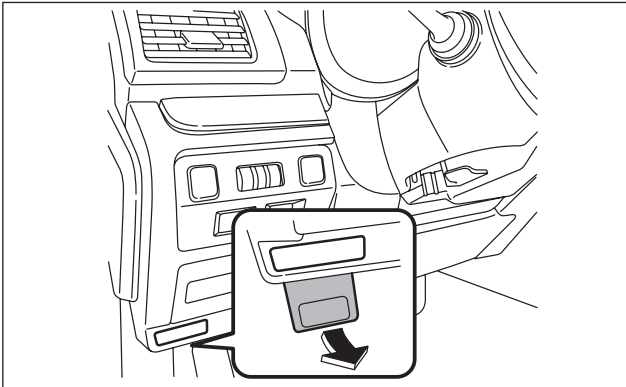
Procedure #2 (Alternate if push-button ignition switch or ignition key is inaccessible)

Note:

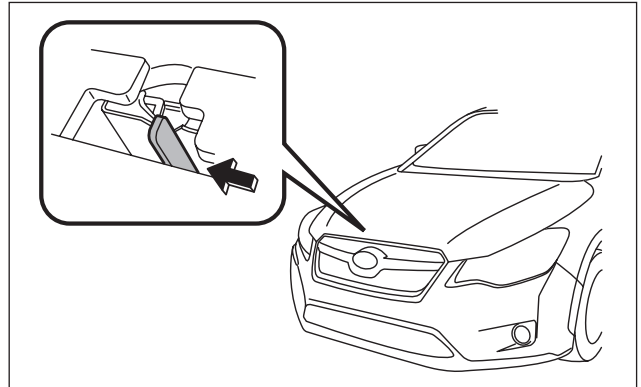
Before shutting off the vehicle and disconnecting the 12 Volt auxiliary battery, if necessary, lower the windows, unlock the doors and open the rear gate as required. Once the 12 Volt auxiliary battery is disconnected, power controls will not operate.

1. Open the hood.

▼ Hood Release Knob



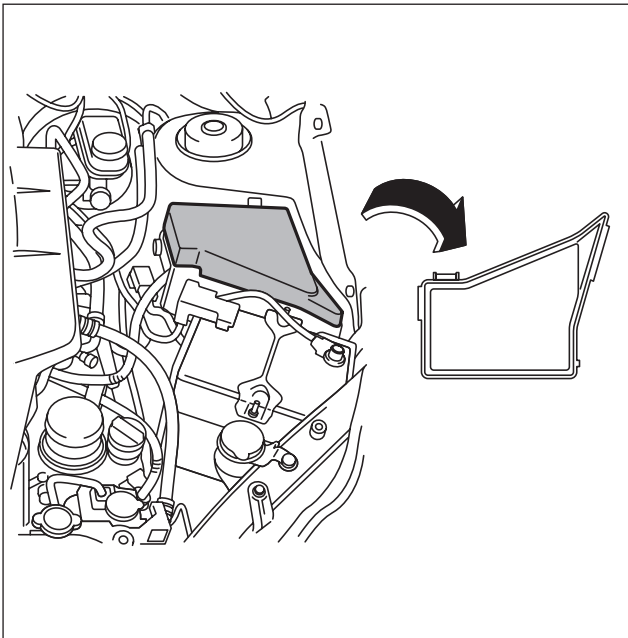
▼ Hood Latch Release



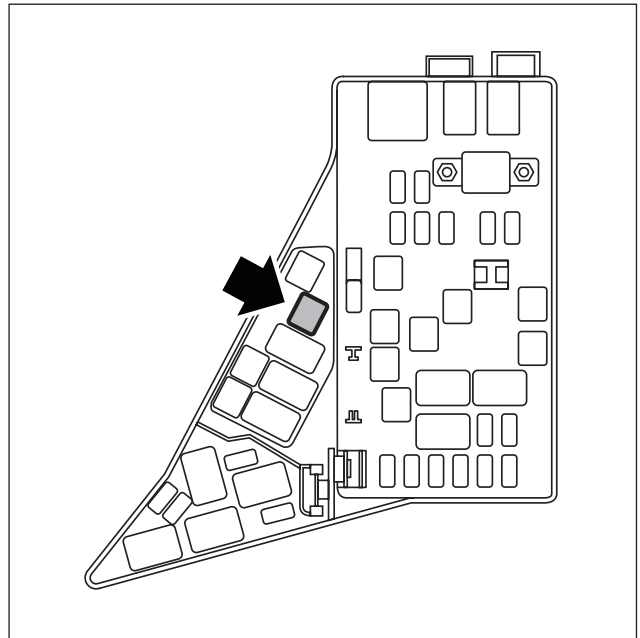
Extrication (Continued)

2. Remove the fuse box cover.
3. Remove the SBF No.14 fuse (30 A) in the engine compartment fuse box (refer to illustration). If the correct fuse cannot be recognized, pull all fuses in the fuse box.
4. Disconnect the battery ground terminal of both the 12 Volt auxiliary battery and the 12 Volt engine restart battery in the engine compartment.

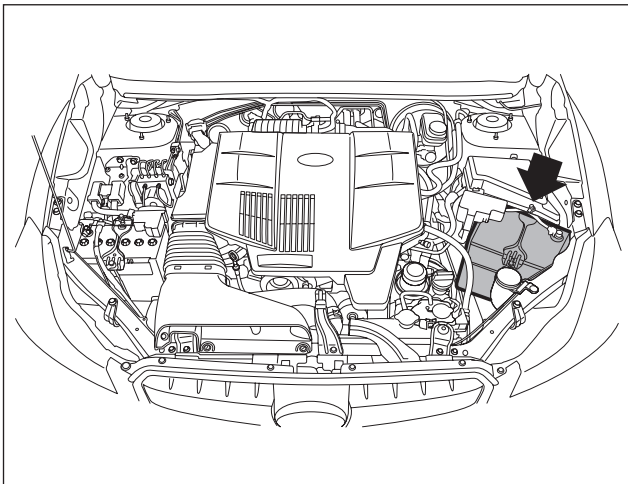
▼ Fuse Box Cover



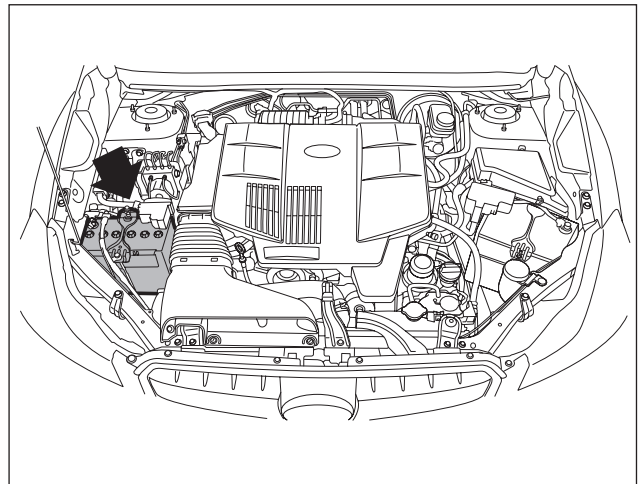
▼ SBF No.14 Fuse (30A) in Engine Compartment Fuse Box



▼ 12 Volt Auxiliary Battery



▼ 12 Volt Engine Restart Battery



Emergency Response (Continued)

Extrication (Continued)

Procedure#3 (Alternate if the Procedure#1 and the Procedure#2 cannot be carried out)

Note:

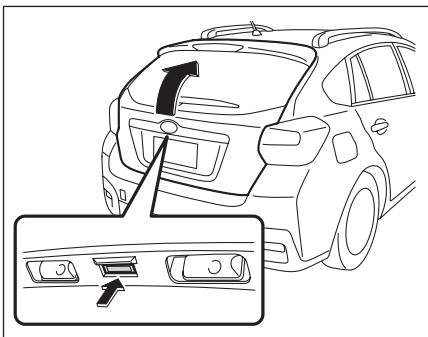
Before shutting off the vehicle and disconnecting the 12 Volt auxiliary battery, if necessary, lower the windows, unlock the doors and open the rear gate as required. Once the 12 Volt auxiliary battery is disconnected, power controls will not operate.

1. Open the rear gate and then lift the cargo area lid.
2. Wear insulated rubber gloves and then remove the service disconnect plug (refer to illustration).

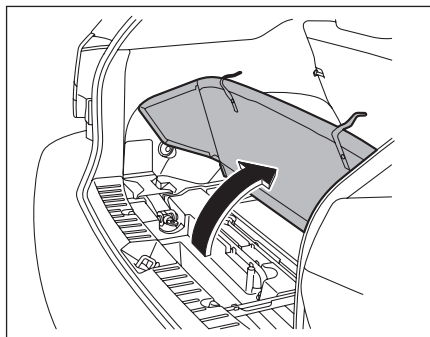
- ① Pull the lever up until it hits the stopper.
 - ② Raise the lever while pushing the lock (A).
- Note:** The lever is locked in place, which is vertical.

- ③ Pull the service disconnect plug out from the high voltage battery.

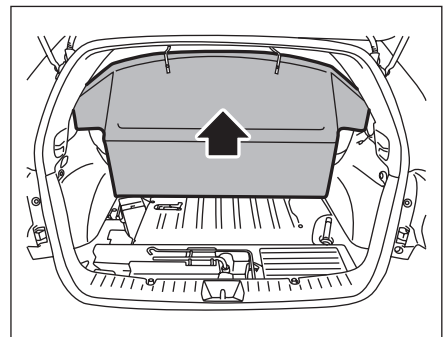
▼ Rear Gate Opener Button



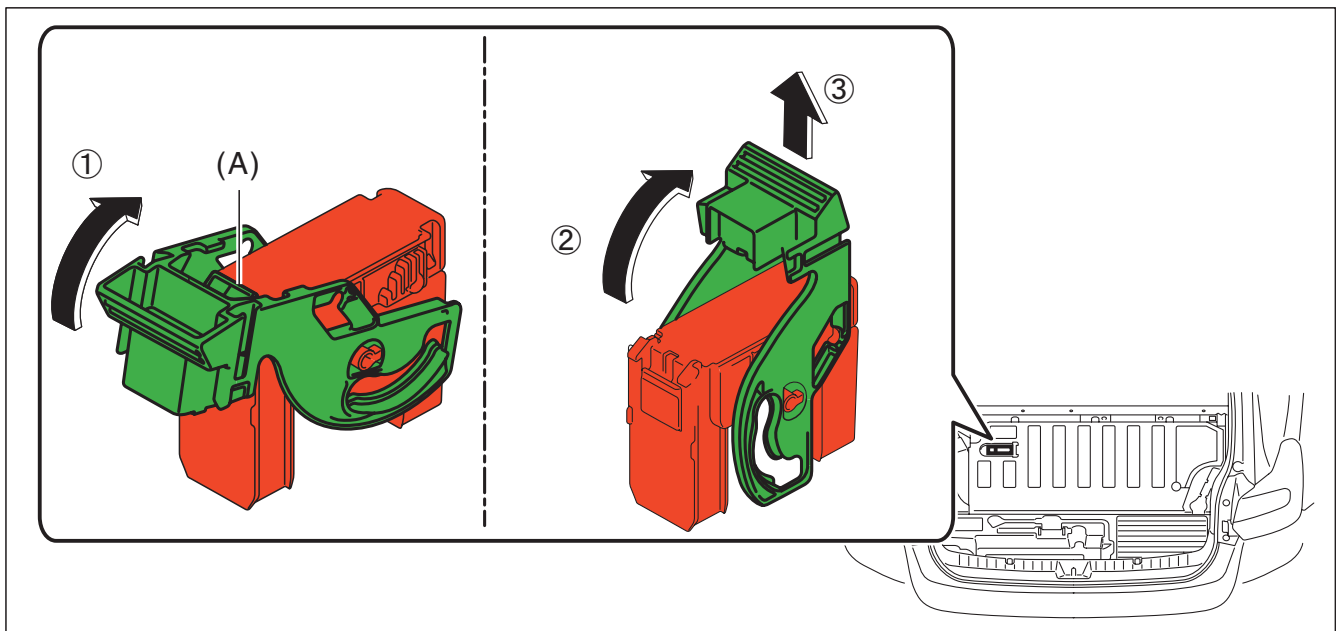
▼ Open the Cargo Area Lid



▼ Lift the Cargo Area Lid



▼ Service Disconnect Plug



(A) Lock

Emergency Response (Continued)

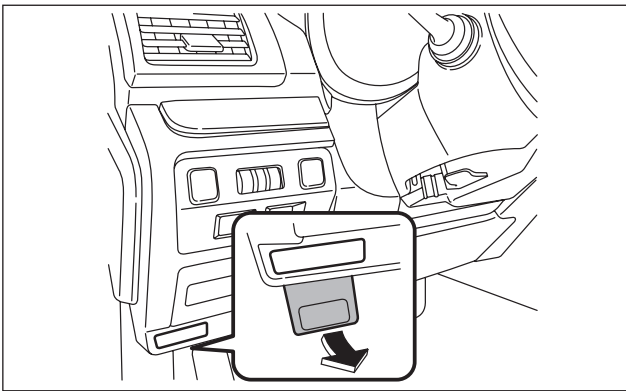
Extrication (Continued)

3. Open the hood.
4. Disconnect the battery ground terminal of both the 12 Volt auxiliary battery and the 12 Volt engine restart battery in the engine compartment.

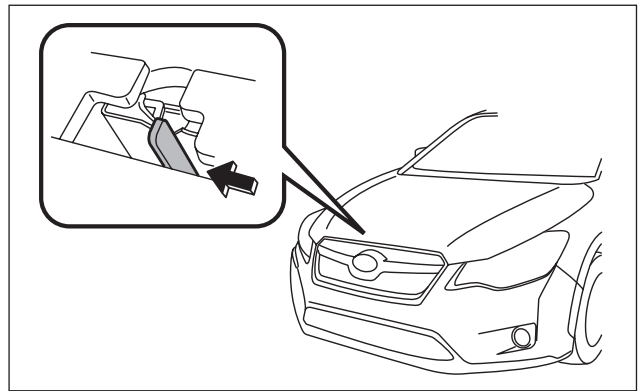
WARNING:

- You must wear insulated rubber gloves to prevent serious injury or death from severe burns or electric shock.
- Be sure to carry the service disconnect plug on your person after you remove it to prevent another person from re-connecting it by mistake.
- 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 colored power cable or high voltage component.
- Before touching any high voltage parts, wiring, terminals or connector after the service disconnect plug has been removed, wait more than 10 minutes for the high voltage charge in the condenser to dissipate.
- The SRS may remain powered for up to 60 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.

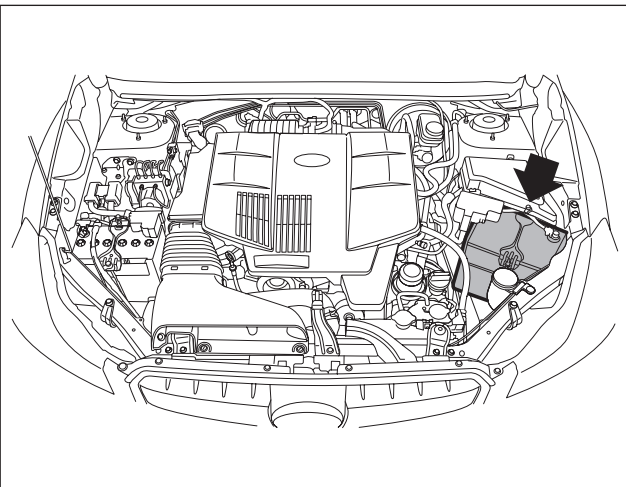
▼ Hood Release Knob



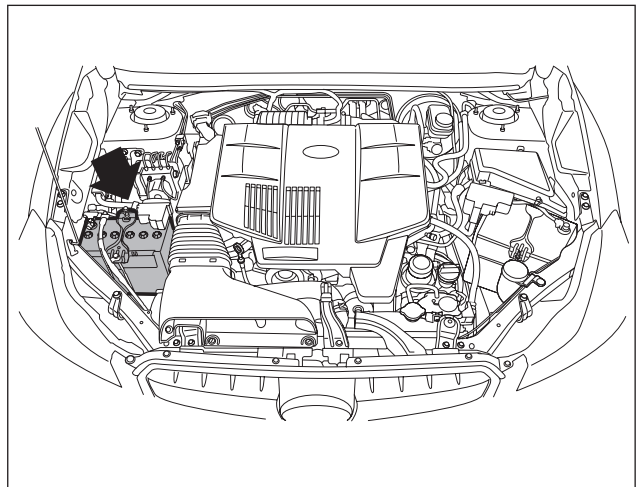
▼ Hood Latch Release



▼ 12 Volt Auxiliary Battery



▼ 12 Volt Engine Restart Battery



Extrication (Continued)

■ Stabilize Vehicle

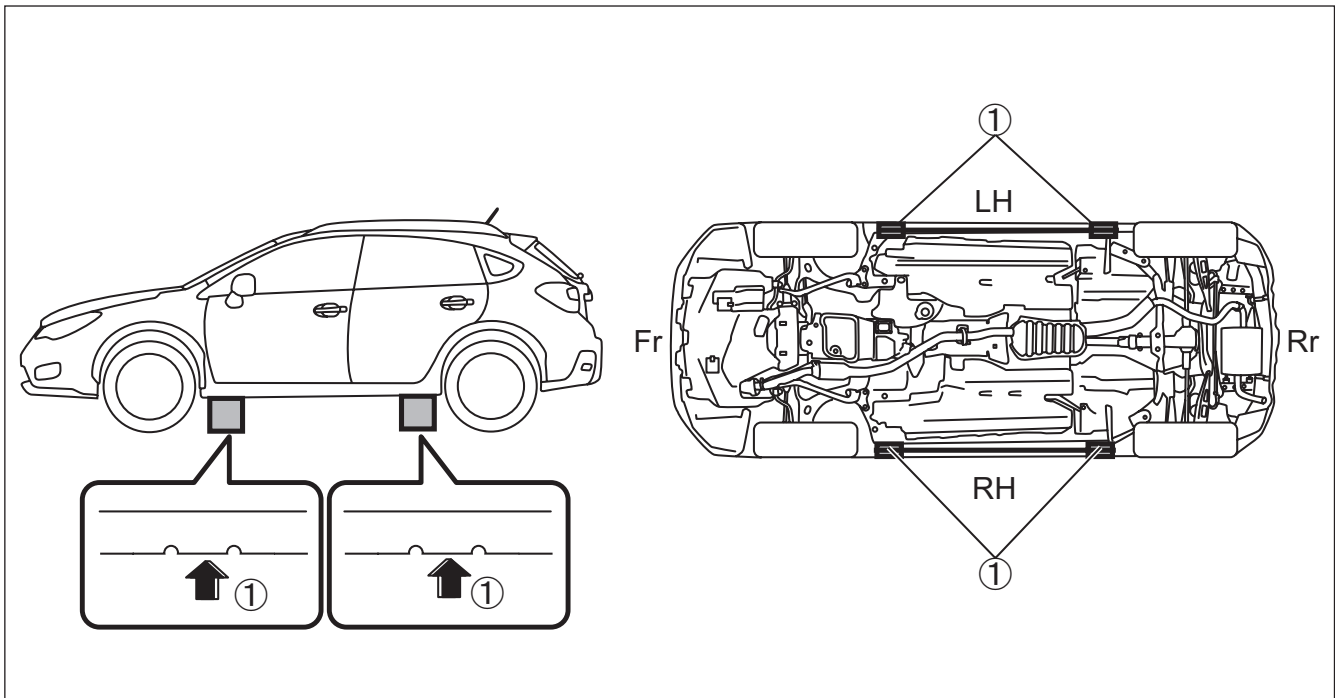
Crib at (4) points directly under the front and side sills.

Do not place cribbing under the orange colored power cables, exhaust system, or fuel system.

Note:

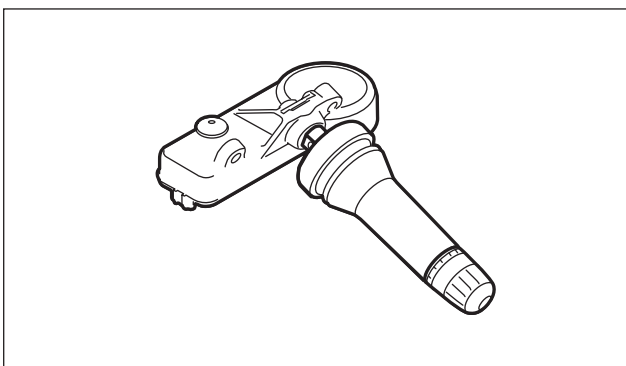
The XV Crosstrek Hybrid is equipped with a tire pressure monitoring system that by design prevents pulling the valve stem with integral transmitter from the wheel. Snapping the valve stem with pliers or removing the valve cap and Schrader valve will release the air in the tire.

▼ Cribbing Points

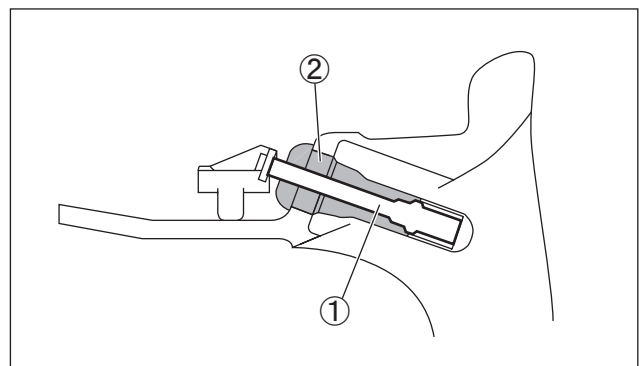


① Cribbing Points

▼ Valve Stem with Integral Transmitter



▼ Valve Stem with Integral Transmitter Installed on Wheel



① Metal

② Rubber

Extrication (Continued)

■ 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 airbags automatically deploy within a fraction of a second of being triggered.

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.

Roof Removal

The XV Crosstrek Hybrid is equipped with curtain airbags.

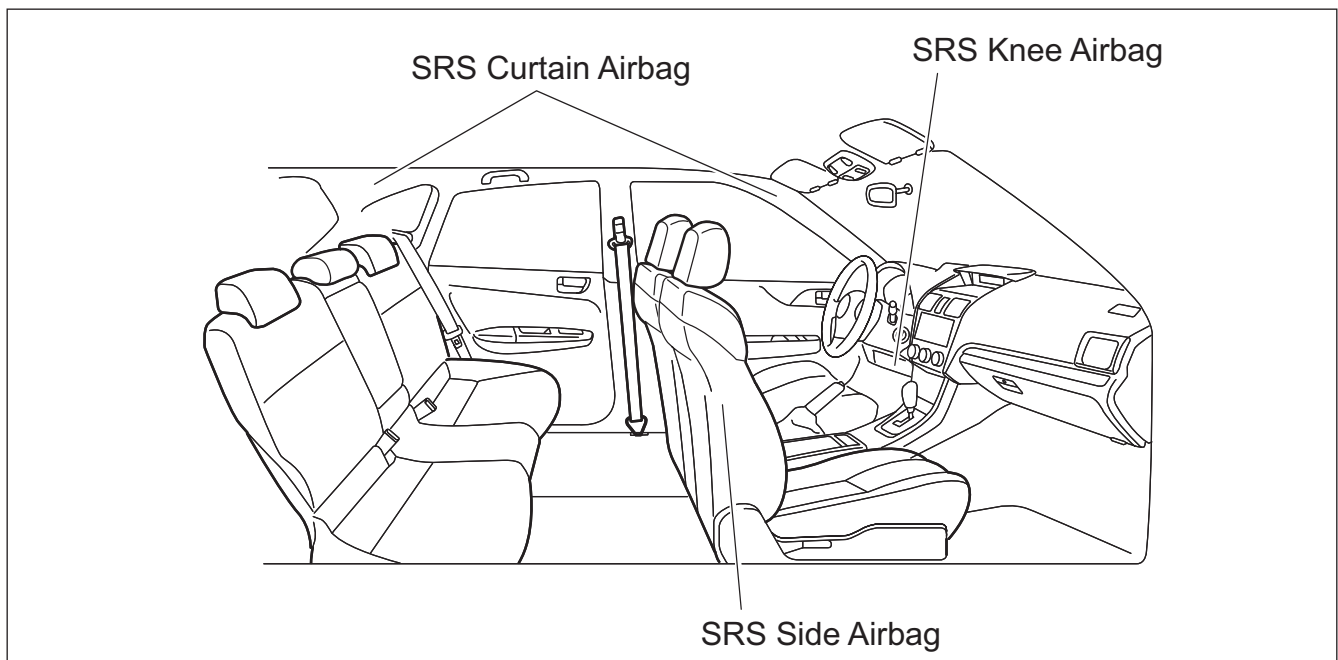
When undeployed, total roof removal is not recommended.

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 curtain airbags, inflators, and wiring harness.

Note:

The curtain airbags may be identified as illustrated on this page (additional component details on page 24).

▼ Side, Curtain, and Knee Airbag Identifiers



Emergency Response (Continued)

Extrication (Continued)

Dash Displacement

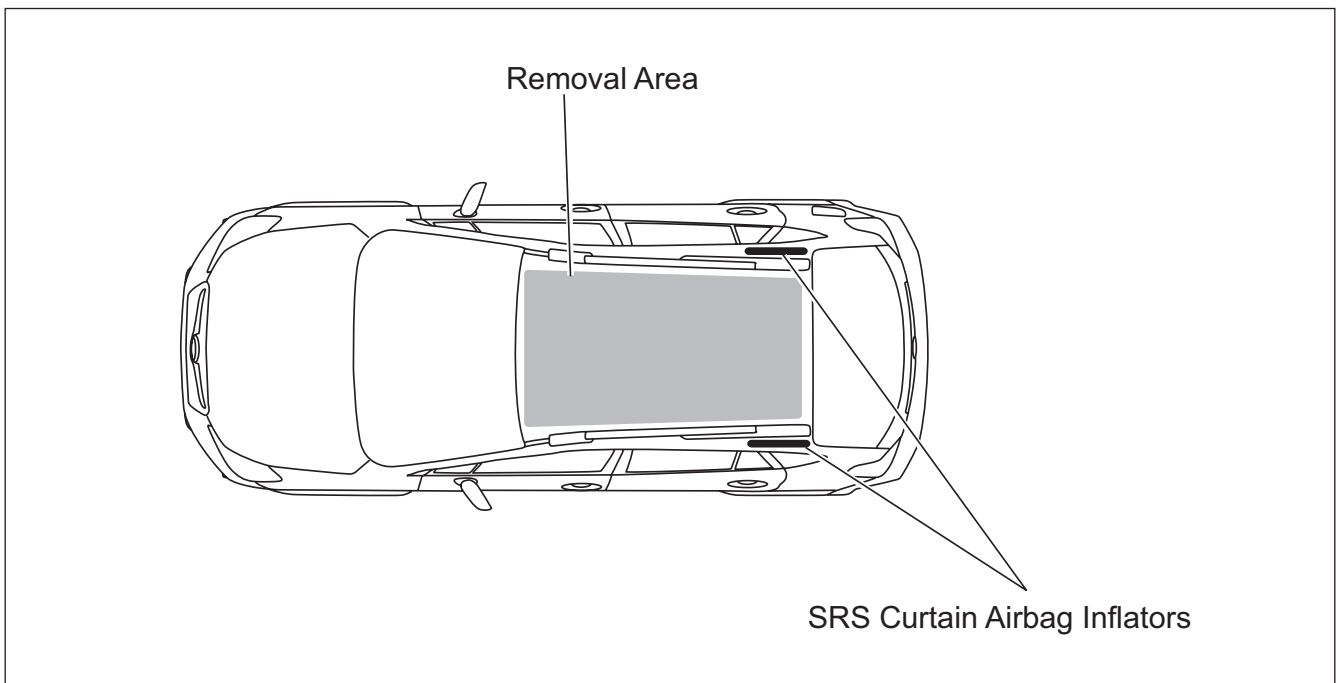
The XV Crosstrek Hybrid is equipped with curtain airbags. When undeployed, total roof removal is not recommended to avoid breaching the side curtain airbags, inflators, and wiring harness.

As an alternative, dash displacement may be performed by using a “Modified Dash Roll Technique”.

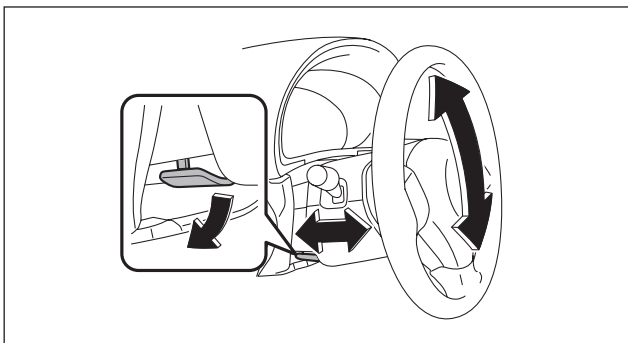
Rescue Lift Airbags

Responders should not place cribbing or rescue lift airbags under the orange colored power cables, exhaust system, or fuel system.

▼ Roof Removal Area



▼ Tilt and Telescoping Control



Emergency Response (Continued)

Extrication (Continued)

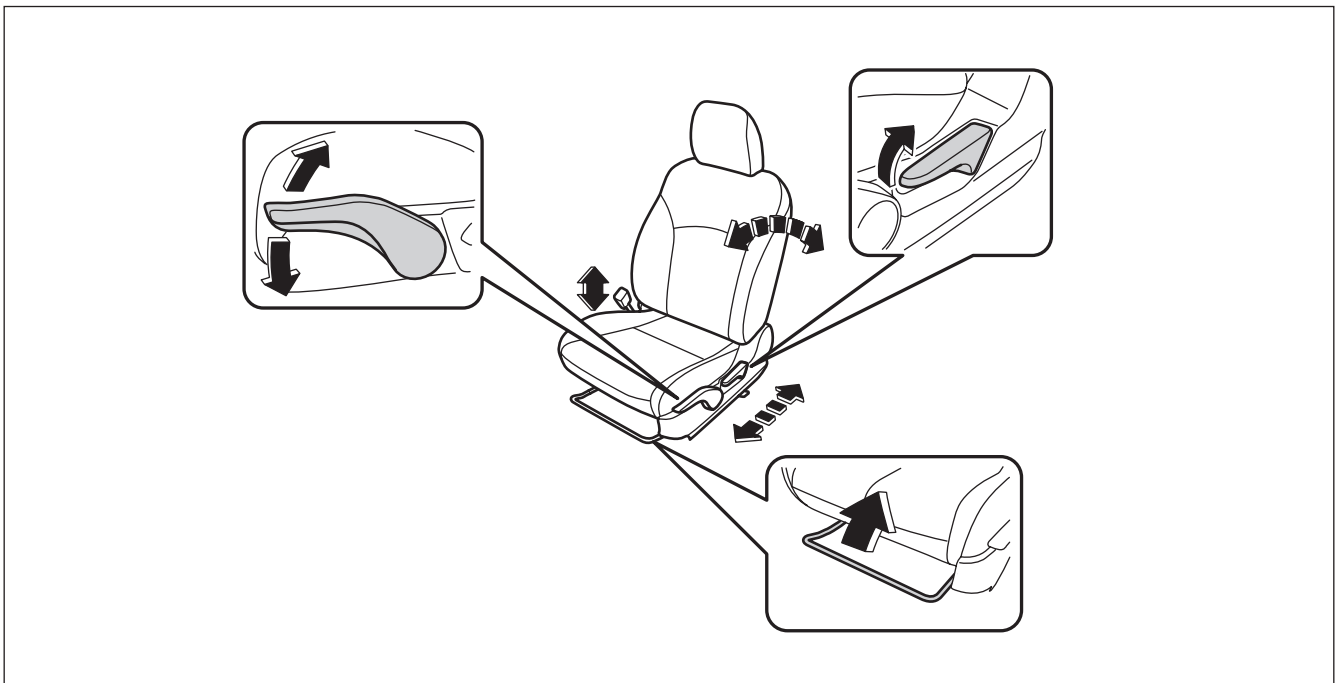
Repositioning Steering Wheel and Front Seat

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

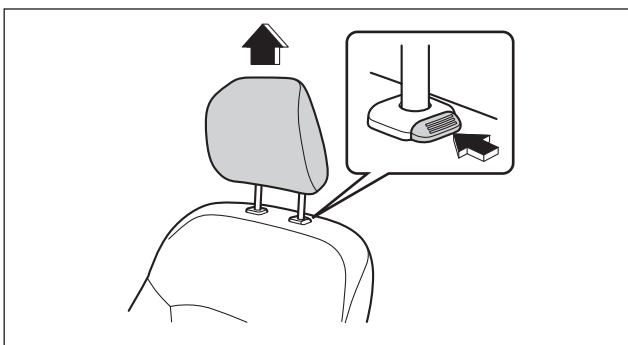
Head Restraint Removal

Push the release button and lift to remove the head restraint.

▼ Front Seat Controls



▼ Remove the Head Restraint



Extrication (Continued)

Notes at the time of vehicle cutting

 **WARNING:**

- *Do not touch orange colored power cables, and high voltage parts to prevent serious injury and death from severe burns or electric shock. If you must touch them, you must wear insulated rubber gloves and insulate any exposed terminals or wires using an insulating tape.*
- *Only cut the vehicle using a hydraulic or sparkless cutter because serious injury or death to the rescuer and/or passenger could occur.*
- *If you must perform work on or near the SRS, please confirm that 60 seconds of elapsed has occurred after either the vehicle is shut off or the battery ground terminal of the 12 Volt auxiliary battery has been disconnected because the SRS airbag system may remain powered for up to 60 seconds.*

Extrication (Continued)



Location where electrical shock by high voltage may occur.

Do not cut because of the risk of electrical shocks from high voltage.



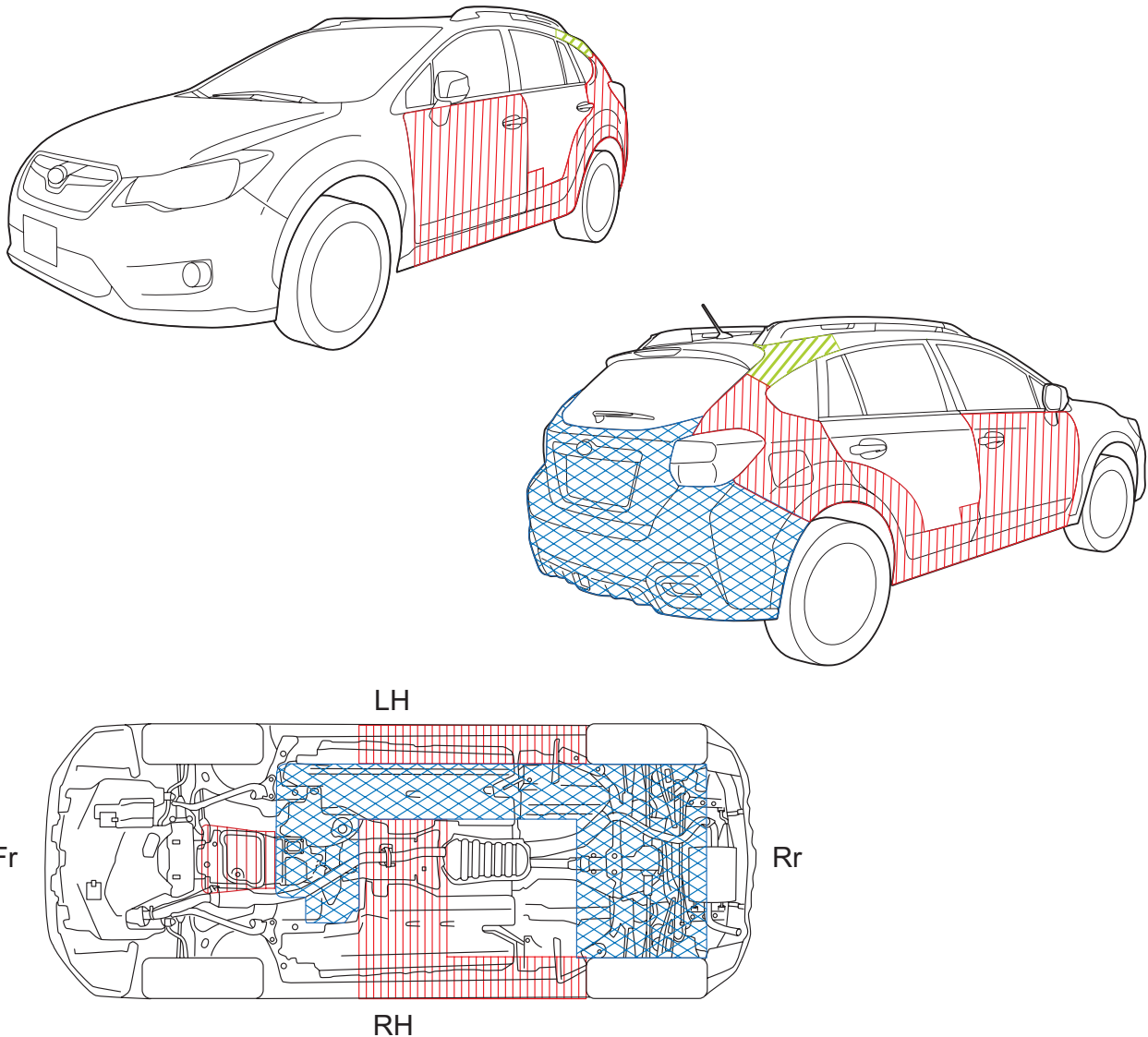
Location where the curtain airbag may deploy.

Do not cut because there is equipment which generates high pressure gas for curtain airbag deployment in this location but if the curtain airbag has already deployed, it is possible to cut.



Location where the side airbag and the curtain airbag may deploy.

Do not cut in this area because the side airbag and curtain airbag may deploy by short circuit or impact. But if more than 60 seconds has elapsed since disconnecting the ground terminal of the 12V Auxiliary battery, it is OK to cut in this area.



Fire

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

■ Extinguishing Agent

Water has been proven to be a suitable extinguishing agent.

■ Initial Fire Attack

Perform a fast, aggressive fire attack.

Divert the runoff to prevent it from entering watershed areas.

Attack teams may not be able to identify a XV Crosstrek Hybrid until the fire has been knocked down and overhaul operations have commenced.

■ Fire in the High Voltage Battery

Should a fire occur in the NiMH high voltage battery, attack crews should utilize a water stream or fog pattern to extinguish any fire within the vehicle except for the high voltage battery.

WARNING:

- *The NiMH battery electrolyte is a caustic alkaline (pH 13.5) that is damaging to human tissues. To avoid injury caused by coming in contact with the electrolyte, wear proper personal protective equipment.*
- *The battery modules are contained within a metal 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 cover under any circumstance including fire.*

When allowed to burn themselves out, the XV Crosstrek Hybrid NiMH battery modules burn rapidly and can quickly be reduced to ashes except for the metal component.

Offensive Fire Attack

Normally, flooding an NiMH high voltage battery with copious amounts of water at a safe distance will effectively control the high voltage battery fire by cooling the adjacent NiMH battery modules to a point below their ignition temperature. The remaining modules on fire, if not extinguished by the water, will burn themselves out.

However, flooding the XV Crosstrek Hybrid high voltage battery is not recommended due to the battery case design and location preventing the responder from properly applying water through the available vent openings safely. Therefore, it is recommended that the incident commander allow the XV Crosstrek Hybrid high voltage battery to burn itself out.

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 NiMH battery modules 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. The high voltage battery 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 wheels and set the parking brake.
Shift the select lever to the Park position.

■ Disable Vehicle

Performing any one of the following three procedures will shut the vehicle off and disable the high voltage battery, SRS, and gasoline fuel pump.

Procedure #1

Mechanical Ignition Key System (Standard Equipment):

Note:

Before shutting off the vehicle and disconnecting the 12 Volt auxiliary battery, if necessary, lower the windows, unlock the doors and open the rear gate as required. Once the 12 Volt auxiliary battery is disconnected, power controls will not operate.

1. Confirm the status of the hybrid READY indicator light in the combination meter.
2. If the hybrid READY indicator light 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.

Note:

If the ignition switch will not move from the "LOCK" (off) position to the "ACC" position, turn the steering wheel slightly to the left and right as you turn the ignition switch.

3. Open the hood.
4. Disconnect the battery ground terminal of both the 12 Volt auxiliary battery and the 12 Volt engine restart battery in the engine compartment.

Keyless Access with Push-button Start System (Optional Equipment):

Note:

Before shutting off the vehicle and disconnecting the 12 Volt auxiliary battery, if necessary, lower the windows, unlock the doors and open the rear gate as required. Once the 12 Volt auxiliary battery is disconnected, power controls will not operate.

1. Confirm the status of the hybrid READY indicator light in the combination meter.
2. If the hybrid READY indicator light is illuminated, the vehicle is on and operational. Shut off the vehicle by pushing the push-button ignition switch once.
3. The vehicle is already shut off if the combination meter lights and the hybrid READY indicator light are not illuminated. Do not push the push-button ignition switch because the vehicle may start.
4. If the access key is easily accessible, keep it at least 16 feet (5 meters) away from the vehicle.
5. Open the hood.
6. Disconnect the battery ground terminal of both the 12 Volt auxiliary battery and the 12 Volt engine restart battery in the engine compartment.

Overhaul (Continued)

Procedure #2 (Alternate if push-button ignition switch or ignition key is inaccessible)

Note:

Before shutting off the vehicle and disconnecting the 12 Volt auxiliary battery, if necessary, lower the windows, unlock the doors and open the rear gate as required. Once the 12 Volt auxiliary battery is disconnected, power controls will not operate.

1. Open the hood.
2. Remove the fuse box cover.
3. Remove the SBF No.14 fuse (30 A) in the engine compartment fuse box as illustrated on page 33. If the correct fuse cannot be recognized, pull all fuses in the fuse box.
4. Disconnect the battery ground terminal of the 12 Volt auxiliary battery and the 12 Volt engine restart battery in the engine compartment.

Procedure#3 (Alternate if the Procedure#1 and the Procedure#2 cannot be carried out)

Note:

Before shutting off the vehicle and disconnecting the 12 Volt auxiliary battery, if necessary, lower the windows, unlock the doors and open the rear gate as required. Once the 12 Volt auxiliary battery is disconnected, power controls will not operate.

1. Open the rear gate and then remove the lid in cargo area. See the illustrations in page 34.
2. Wear insulated rubber gloves and then remove the service disconnect plug.
 - (1) Pull the lever up until it hits the stopper.
 - (2) Raise the lever while pushing the lock.

Note:

The lever is locked in place, which is vertical.

- (3) Pull the service disconnect plug out from the High Voltage Battery.
3. Open the hood.
4. Disconnect the battery ground terminal of both the 12 Volt Auxiliary Battery and the 12 Volt Engine Restart Battery in the engine compartment.

Overhaul (Continued)

 **WARNING:**

- *You must wear insulated rubber gloves to prevent serious injury or death from severe burns or electric shock.*
- *Be sure to carry the service disconnect plug on your person after you remove it to prevent another person from re-connecting it by mistake.*
- *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 colored power cable or high voltage component.*
- *Before touching any high voltage parts, wiring, terminals or connector after the service disconnect plug has been removed, wait more than 10 minutes for the high voltage charge in the condenser to dissipate.*
- *The SRS may remain powered for up to 60 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.*

Recovering/Recycling of High Voltage Battery

Clean up of the high voltage battery can be accomplished by the vehicle recovery crew without further concern of runoff or spillage. For information regarding recycling of the high voltage battery, contact the nearest Subaru dealer, or:

[Residents in U.S.A]

SOA Customer Dealer Service : 1-800-782-2783

[Residents in CANADA]

SCI Customer Support : 1-800-894-4212

Spills

The XV Crosstrek Hybrid contains the same common automotive fluids used in other non-hybrid Subaru vehicles, with the exception of the NiMH electrolyte used in the high voltage battery. The NiMH battery electrolyte is a caustic alkaline (pH 13.5) that is damaging to human tissues. The electrolyte, however, is absorbed in the cell plates and will not normally spill or leak out even if a battery module is cracked. A catastrophic crash that would breach both the metal battery pack case and a battery module would be a rare occurrence.

Similar to the use of baking soda to neutralize a lead-acid battery electrolyte spill, a dilute boric acid solution or vinegar can be used to neutralize a NiMH battery electrolyte spill.

Note:

Electrolyte leakage from the high voltage battery is unlikely due to its construction and the amount of available electrolyte contained within the NiMH modules. Any spillage would not warrant a declaration as a hazardous material incident. Responders should follow the recommendations as outlined in this emergency response guide.

In an emergency, the NiMH battery part number G9280-47170 manufacturer's Material Safety Data Sheet (MSDS) is available. Please refer to the attached document.

Handle NiMH electrolyte spills require using the following Personal Protective Equipment (PPE):

Splash shield or safety goggles. Fold down helmet shields are not acceptable for acid or electrolyte spills.

Rubber, latex or nitrile gloves.

Apron suitable for alkaline.

Rubber boots.

Neutralize NiMH Electrolyte:

Use a boric acid solution or vinegar.

Boric acid solution - 800 grams boric acid to 20 liters water or 5.5 ounces boric acid to 1 gallon of water.

First Aid

Emergency responders may not be familiar with a NiMH 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.

 **WARNING:**

The NiMH battery electrolyte is a caustic alkaline (pH 13.5) that is damaging to human tissues. To avoid injury by coming in contact with the electrolyte, wear proper personal protective equipment.

■ **Wear Personal Protective Equipment (PPE)**

Splash shield or safety goggles. Fold down helmet shields are not acceptable for acid or electrolyte spills.

Rubber, latex or nitrile gloves.

Apron suitable for alkaline.

Rubber boots.

■ **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**

No toxic gases are emitted under normal conditions.

■ **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.

■ **Ingestion**

Do not induce vomiting.

Allow the patient to drink large quantities of water to dilute the electrolyte (never give water to an unconscious person).

If vomiting occurs spontaneously, keep the patient's head lowered and forward to reduce the risk of asphyxiation.

Transport patients to the nearest emergency medical care facility.

Submersion

Do not touch the service disconnect plug, high voltage parts and wiring to prevent electric shock when the vehicle is submerged.

Please shut off the hybrid system using the “Emergency Response” procedure beginning on page 27 after completely pulling the vehicle out of the water.

■ Access Patients

Use the “Emergency Response” procedure beginning on page 27 to stabilize the vehicle and shut off the hybrid system and then perform a rescue operation.

■ Vehicle Recovery

If a hybrid vehicle is fully or partially submerged in water, emergency responders may not be able to determine if the vehicle has been automatically disabled. Orange colored power cables, service disconnect plug and high voltage components should never be touched, cut or breached. The XV Crosstrek Hybrid may be handled by following these recommendations:

1. Remove the vehicle from the water.
2. Drain the water from the vehicle if possible.
3. Follow the immobilizing and disabling procedures on page 27.

Roadside Assistance

Roadside assistance for the Subaru XV Crosstrek Hybrid may be handled like conventional Subaru vehicles except as noted in the following pages.

Select Lever

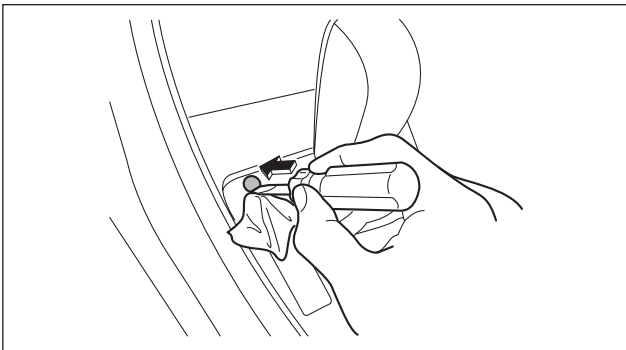
- Similar to many Subaru vehicles, the XV Crosstrek Hybrid uses a select lever as shown in the illustration.
- If the 12 Volt auxiliary battery is dead or the battery ground terminal of the 12 Volt auxiliary battery has been disconnected, the select lever cannot be moved out of the Park position.
- If the shift lever cannot be moved out of Park position, a shift lock release button is provided under the cover near the select lever as shown in the illustration.

Steering Lock

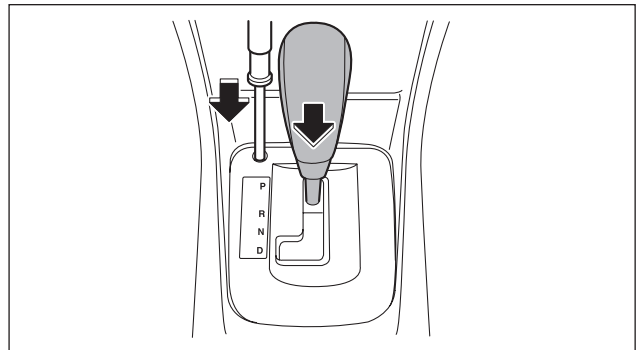
For models with “keyless access with push-button start system”:

- If the 12 Volt auxiliary battery is dead, the steering lock touch sensitive release is cancelled. After jump starting the 12 Volt auxiliary battery in the engine compartment, you can cancel the steering lock by touching the steering wheel. See the instructions and illustrations on page 60 for more details.
- If the operation indicator is flashing in green, the hybrid system start procedure was performed, but the steering is still locked. While turning the steering wheel right and left slightly, depress the brake pedal and push the push-button ignition switch.

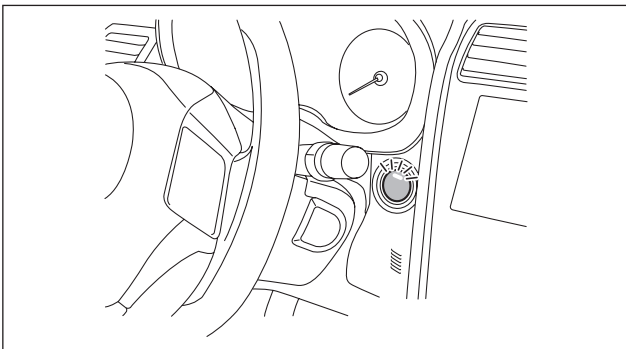
▼ Remove the Cover



▼ Push in Shift Lock Release



▼ Operation Indicator



Towing

If towing is necessary, it is best done by SUBARU dealer or a commercial towing service. Observe the following procedures for safety.

⚠ WARNING:

Never tow AWD models with the front wheels raised off the ground while the rear wheels are on the ground, or with the rear wheels raised off the ground while the front wheels are on the ground. This will cause the vehicle to spin away due to the operation or deterioration of the center differential.

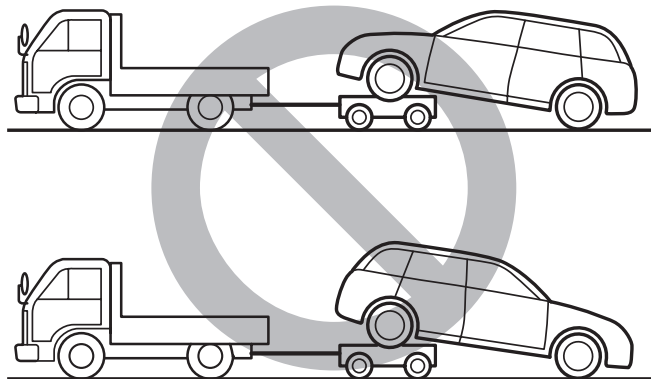
■ Towing with all wheels on the ground

The towing hooks should be used only in an emergency (e.g., to free a stuck vehicle from mud, sand or snow).

Note:

- Use only the specified towing hook and tie-down hook. Never use suspension parts or other parts of the body for towing or tie-down purposes.
- To prevent deformation to the front bumper and the towing hook, do not apply excessive lateral load to the towing hook.

▼ Prohibited Methods



Towing (Continued)

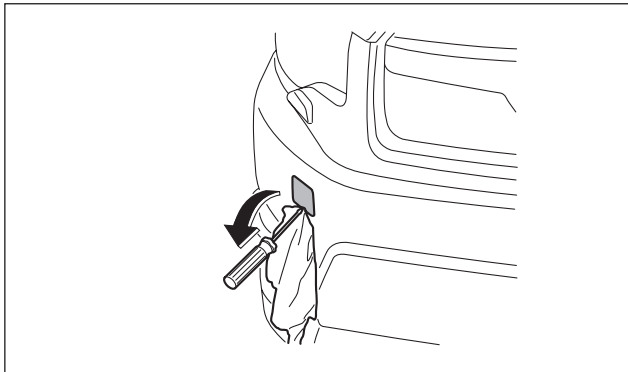
Front towing hook:

1. Take the towing hook and screwdriver out of the tool bucket. Take the jack handle out of the cargo area.
 2. Cover the tip of a flat-head screwdriver with vinyl tape or cloth so that it will not scratch the bumper. Insert the flat-head screwdriver into the cutout of the cover and pry open the cover.
 3. Screw the towing hook into the threaded hole until its thread can no longer be seen.
 4. Tighten the towing hook securely using the jack handle.
- After towing, remove the towing hook from the vehicle and stow it in the tool bucket. Fit the towing hook cover on the bumper.

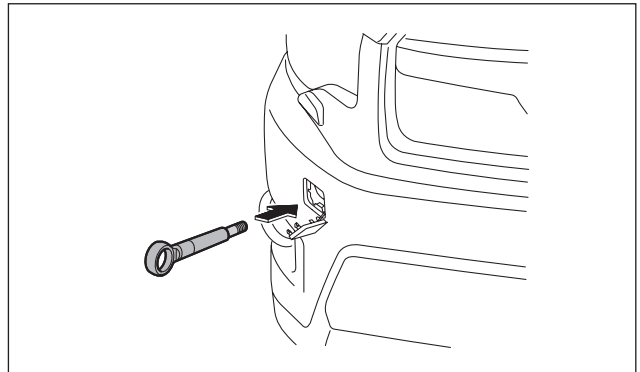
WARNING:

- Do not use the towing hook except when towing the vehicle.
- Be sure to remove the towing hook after towing. Leaving the towing hook mounted on the vehicle could interfere with proper operation of the SRS airbag system in a collision and a collision detected (refer to page 23 for more details).

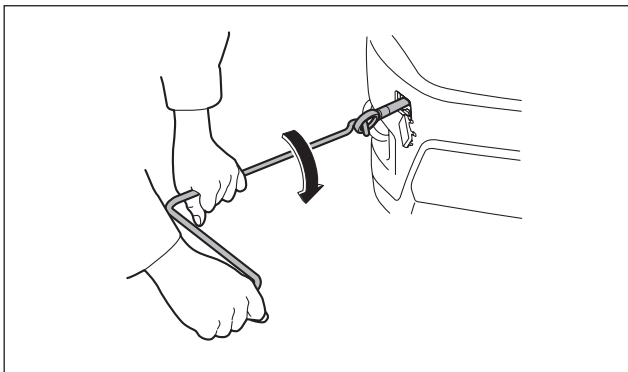
▼ Front Towing Hook Cover



▼ Front Towing Hook Mounting Location



▼ Front Towing Hook Installation



Towing (Continued)

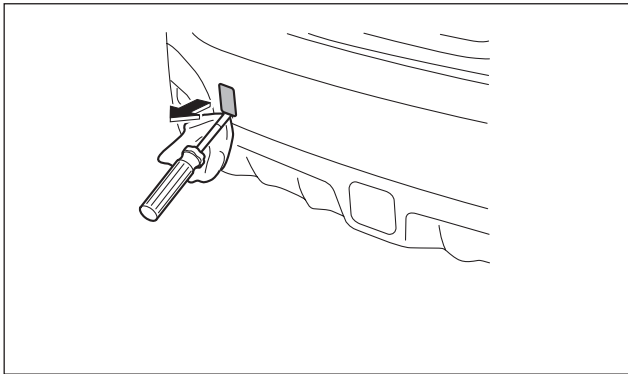
Rear towing hook:

1. Take the towing hook and screwdriver out of the tool bucket. Take the jack handle out of the cargo area.
 2. Pry off the cover on the rear bumper using a screwdriver, and you will find a threaded hole for attaching the towing hook.
 3. Screw the towing hook into the threaded hole until its thread can no longer be seen.
 4. Tighten the towing hook securely using the jack handle.
- After towing, remove the towing hook from the vehicle and stow it in the tool bucket. Fit the towing hook cover on the bumper.

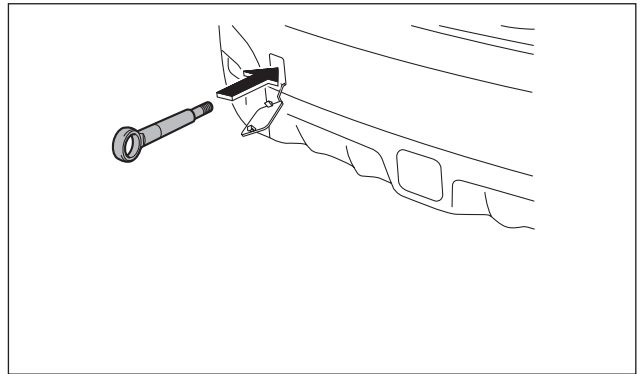
WARNING:

- Do not use the towing hook except when towing the vehicle.
- Be sure to remove the towing hook after towing. Leaving the towing hook mounted on the vehicle could interfere with proper operation of the SRS airbag system in a collision and a collision detected (refer to page 23 for more details).

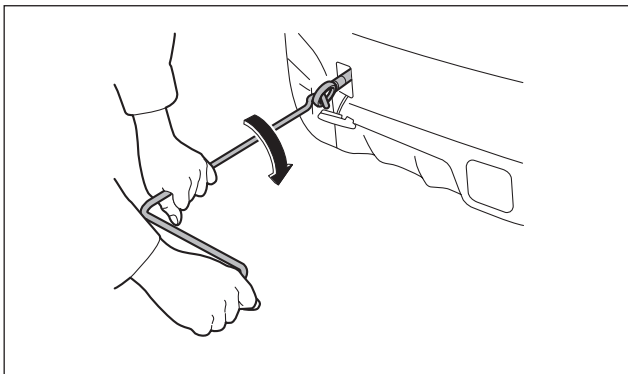
▼ Rear Towing Hook Cover



▼ Rear Towing Hook Mounting Location



▼ Rear Towing Hook Installation



Towing (Continued)

Front tie-down hooks:

The front tie-down hooks are located between each of the front tires and the front bumper.

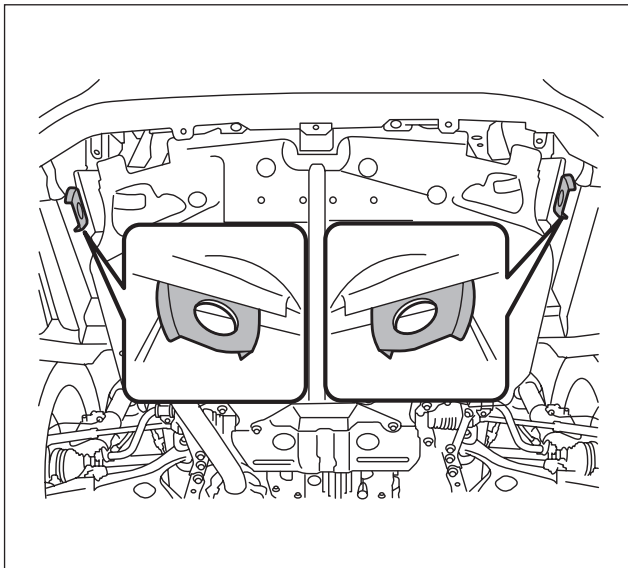
Rear tie-down holes:

The rear tie-down holes are located near each of the jack-up reinforcements.

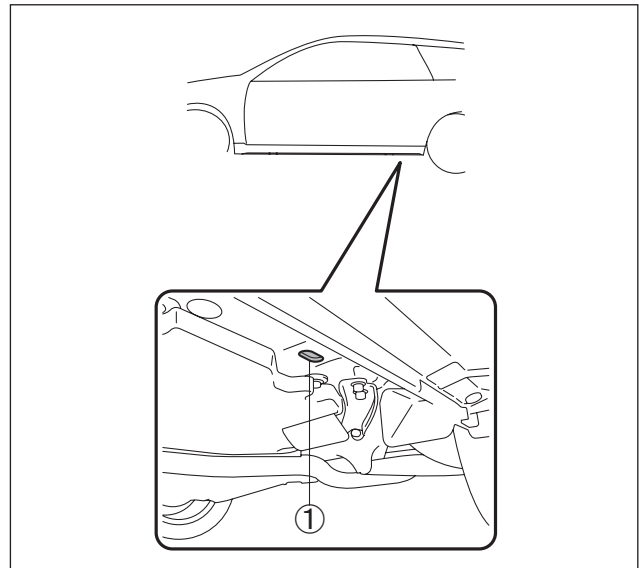
⚠ WARNING:

Use the rear tie-down holes only for downward anchoring. If they are used to anchor the vehicle in any other direction, cables may slip out of the holes, possibly causing a dangerous situation.

▼ Front Tie-down Hooks



▼ Rear Tie-down Holes



① Rear Tie-down Hole

Towing (Continued)

■ Using a flat-bed truck

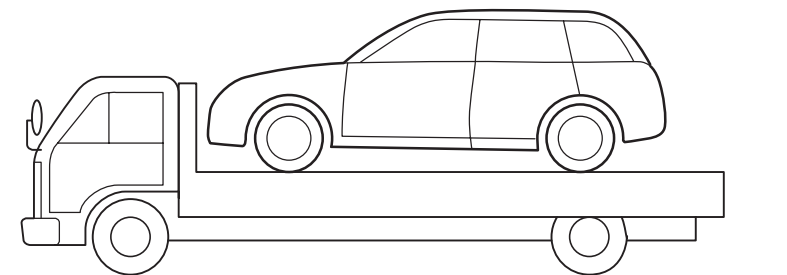
This is the best way to transport the vehicle. Use the following procedures to ensure safe transportation.

1. Shift the select lever into the Park position.
2. Pull up the parking brake lever firmly.
3. Secure the vehicle onto the carrier properly with safety chains. Each safety chain should be equally tightened and care must be taken not to pull the chains so tightly that the suspension bottoms out.

Note:

If the vehicle has a front underspoiler and rear underspoiler (both optional), be careful not to scrape them when placing the vehicle on the carrier and when removing the vehicle from the carrier.

▼ Using a Flat-bed Truck



Towing (Continued)

■ Towing with all wheels on the ground

1. Release the parking brake and shift the select lever to the Neutral position.
2. The ignition switch or push-button ignition switch should be in the "ACC" position while the vehicle is being towed.
3. Take up slack in the towline slowly to prevent damage to the vehicle.

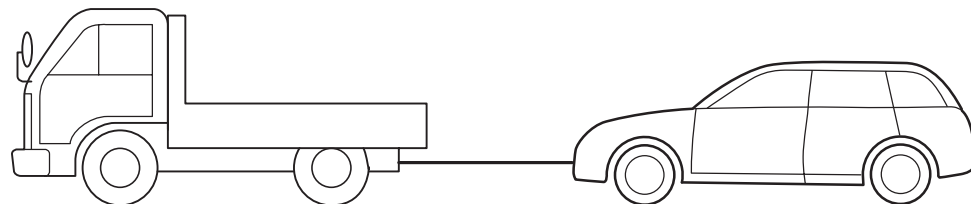
⚠ **WARNING:**

- *Never turn the ignition switch to the "LOCK" (off) position or push the push-button ignition switch to the "OFF" position while the vehicle is being towed because the steering wheel and the direction of the wheels will be locked.*
- *Remember that the brake booster and power steering do not function when the hybrid system is not running. Because the hybrid system is turned off, it will take greater effort to operate the brake pedal and steering wheel.*

Note:

- If transmission failure occurs, transport the vehicle on a flat-bed truck.
- Do not run the hybrid system while the vehicle is being towed using this method. Transmission damage could result if the vehicle is towed with the engine running.
- The traveling speed must be limited to less than 20 mph (30 km/h) and the traveling distance to less than 31 miles (50 km). For greater speeds and distances, transport the vehicle on a flat-bed truck.

▼ Towing with All Wheels on the Ground

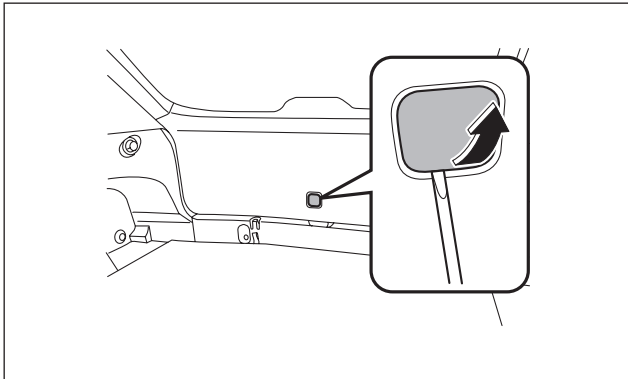


Rear Gate

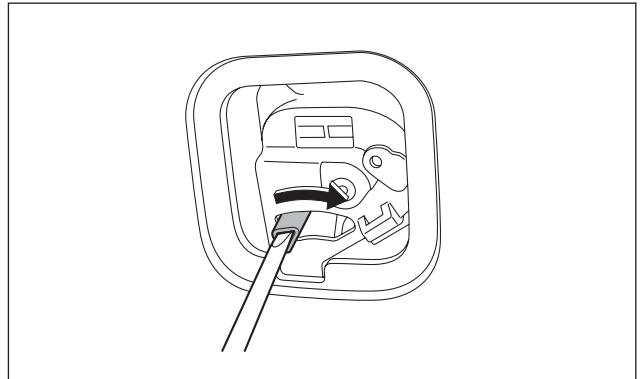
In the event that you cannot open the rear gate by operating the rear gate opener button, you can open it from inside the cargo area.

1. Remove the access cover at the bottom-center of the rear gate trim.
2. Locate the rear gate open lever behind the rear gate trim panel. Never operate the rear gate open lever with fingers because doing so may cause an injury. Always use a flat blade screwdriver or similar tool.
3. To open the rear gate, move the lever to the right using the flat blade screwdriver or similar tool.

▼ Remove the Access Cover



▼ Turn the Lever

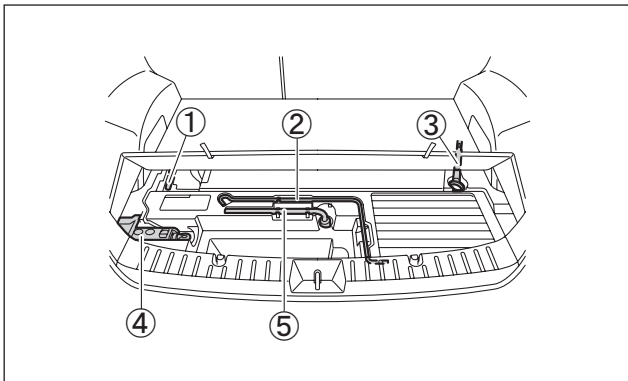


Maintenance Tools

The XV Crosstrek Hybrid is equipped with the following maintenance tools.

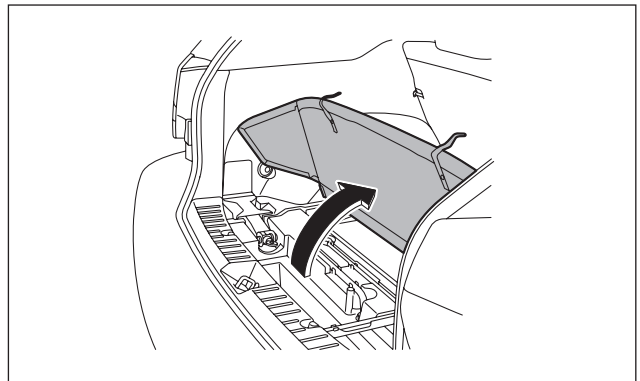
- Jack
- Jack handle
- Screwdriver
- Towing hook (eye bolt)
- Wheel nut wrench

▼ Tool Locations

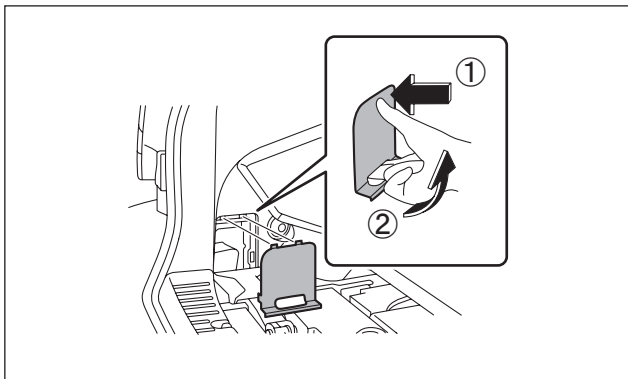


- ① Screwdriver
- ② Jack handle
- ③ Towing hook (eye bolt)
- ④ Jack
- ⑤ Wheel nut wrench

▼ To Take Out the Tools

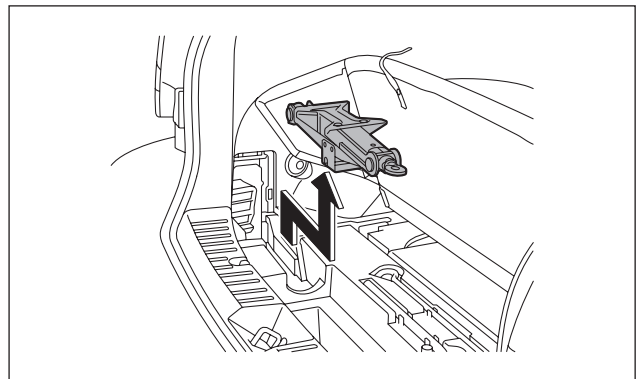


▼ Remove the Jack Cover



- ① Press the cover lightly
- ② Pull out the cover

▼ To Take Out the Jack



Jump Starting

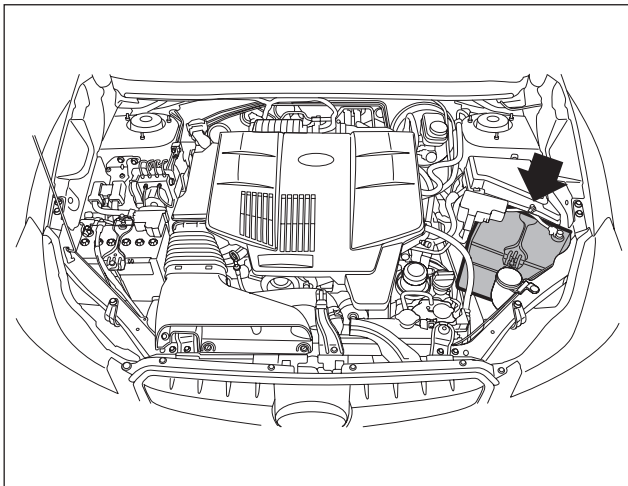
The 12 Volt auxiliary battery may be jump started if the vehicle does not start and the combination meter is dim or off after depressing the brake pedal and pushing the push-button ignition switch or turning the ignition switch.

The 12 Volt auxiliary battery is located in the driver side of the engine compartment.

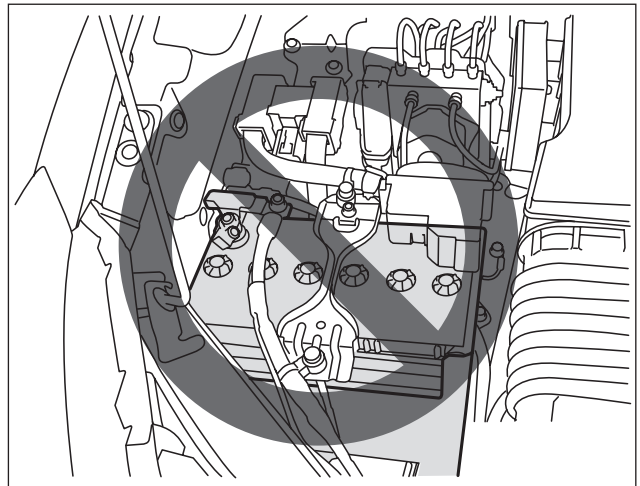
⚠ WARNING:

- Do not connect the jumper cable to the 12 Volt engine restart battery.
- Never connect jumper cables between the 12 Volt engine restart battery and the 12 Volt auxiliary battery.

▼ 12 Volt Auxiliary Battery



▼ 12 Volt engine restart battery

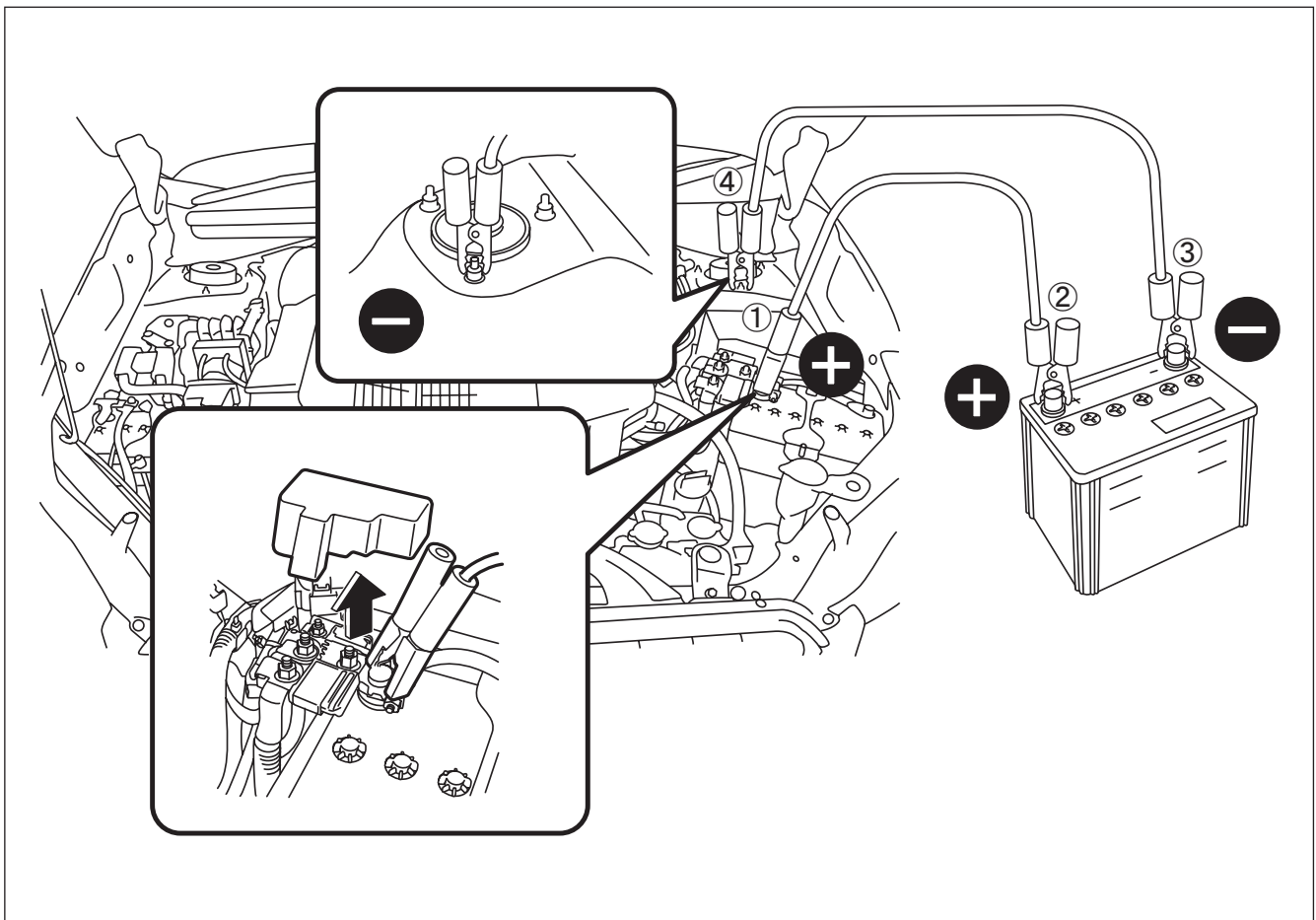


Jump Starting (Continued)

■ Jump Starting a Dead 12 Volt Auxiliary Battery

1. Make sure the booster battery is 12 Volts and the negative terminal is grounded.
2. If the booster battery is in another vehicle, do not let the two vehicles touch.
3. Turn off all unnecessary lights and accessories.
4. Connect the jumper cables exactly in the sequence described:
 - ① Connect one jumper cable to the positive (+) terminal on the 12 Volt auxiliary battery.
 - ② Connect the other end of the jumper cable to the positive (+) terminal of the booster battery.
 - ③ Connect one end of the other cable to the negative (-) terminal of the booster battery.
 - ④ Connect the other end of the cable to the strut mounting nut of the vehicle being jumped.Make sure that the cables are not near any moving parts and that the cable clamps are not in contact with any other metal.
5. Start the engine of the vehicle with the booster battery and run it at moderate speed. Then start the hybrid system of the vehicle that has the discharged battery.
6. When finished, carefully disconnect the cables in exactly the reverse order.

▼ Jump Starting a Dead 12 Volt Auxiliary Battery



Jump Starting (Continued)

For models with “keyless access with push-button start system”:

After the 12 Volt auxiliary battery is discharged or replaced, initialization of the steering lock system may be required to start the hybrid system. In this case, perform the following procedure to initialize the steering lock.

- (1) Push the push-button ignition switch to the “OFF” position.
- (2) Open and close the driver’s door.
- (3) Wait for approximately 10 seconds.

When the steering is locked, the initialization is completed.