



2018 LEAF

Roadside Assistance Guide



Zero Emission

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Foreword

This manual describes roadside assistance operations and related warnings and cautions for this vehicle. This vehicle is an electrically driven vehicle equipped with a high voltage battery pack.

Failure to follow recommended practices during emergency responses may cause death or serious personal injury.

Please read this manual in advance in order to understand the features of this vehicle and to help you deal with roadside assistance operations in which this vehicle is involved. Follow the procedures in order to help assure a safe and successful roadside assistance operation.

This manual is periodically updated. If you are not sure whether you have the most recent version of this manual, we urge you to contact Nissan Electric Vehicle Customer Services via the Nissan European websites.

You may see various symbols in this manual. These should be interpreted as follows:



This symbol is used to inform you of an operation which could result in death or serious personal injury if instructions are not followed.

Example: Touching high voltage components without using the appropriate protective equipment may result in electrocution.



This symbol is used to inform you of an operation which may cause death or serious personal injury if instructions are not followed.



This symbol is used to inform you of an operation which may cause personal injury or component damage if instructions are not followed.

Please note that there may be differences between the specifications described in this manual and the actual vehicle specification due to specification changes during the lifetime of the vehicle.

1. About The Nissan LEAF®

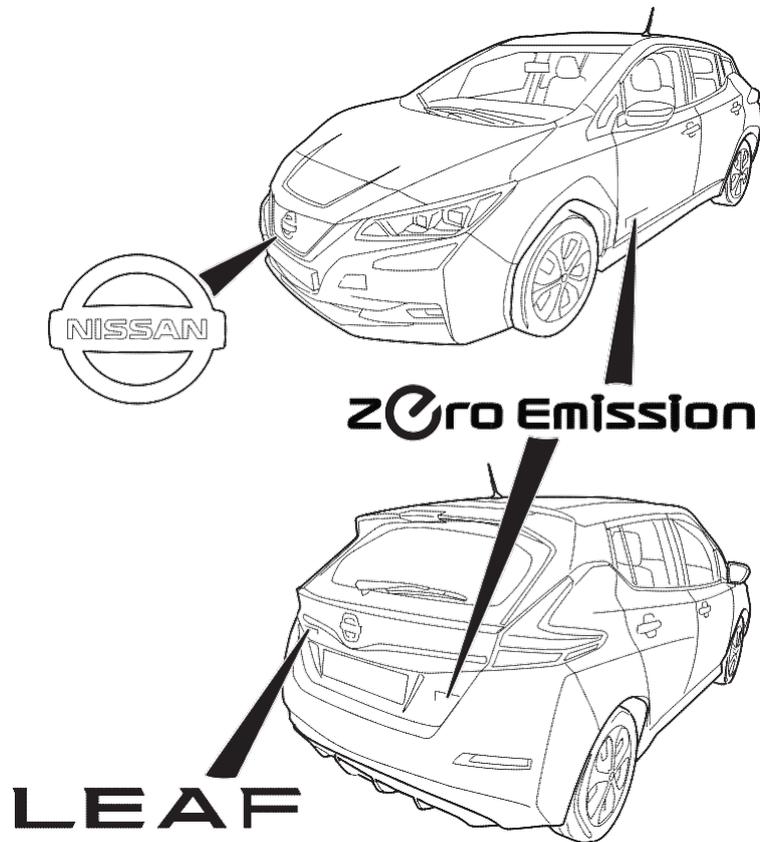
This vehicle uses two types of batteries. One is a 12V battery that is of the same type as the battery in vehicles powered by internal combustion engines. The other one is the (high-voltage) Lithium-ion (Li-ion) battery that delivers the electrical power for the traction motor that propels the vehicle. The Li-ion battery is encased in steel and mounted underneath the vehicle.

The vehicle must be plugged-in in order for the Li-ion battery to be recharged. Additionally, the vehicle system can recharge the Li-ion battery by converting driving force into electricity while the vehicle is decelerating or while being driven downhill. This is referred to as 'regenerative charging'. This vehicle is considered to be an environmentally friendly vehicle because it does not emit any exhaust gases.

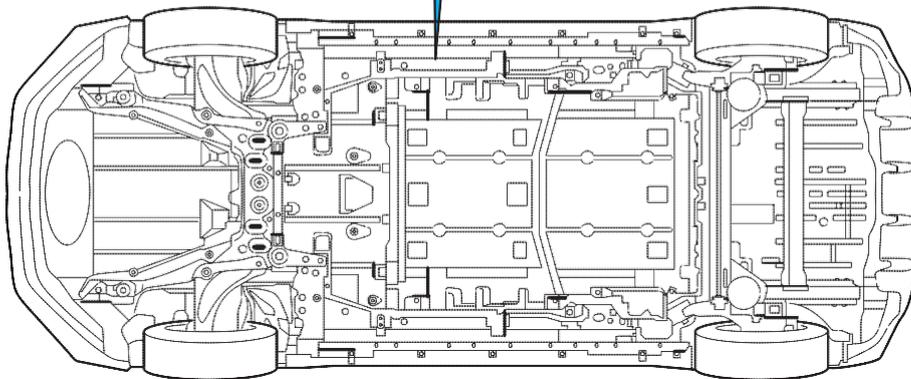
1.1 LEAF Identification

1.1.1 Exterior

The specific exterior identification features are indicated as follows:

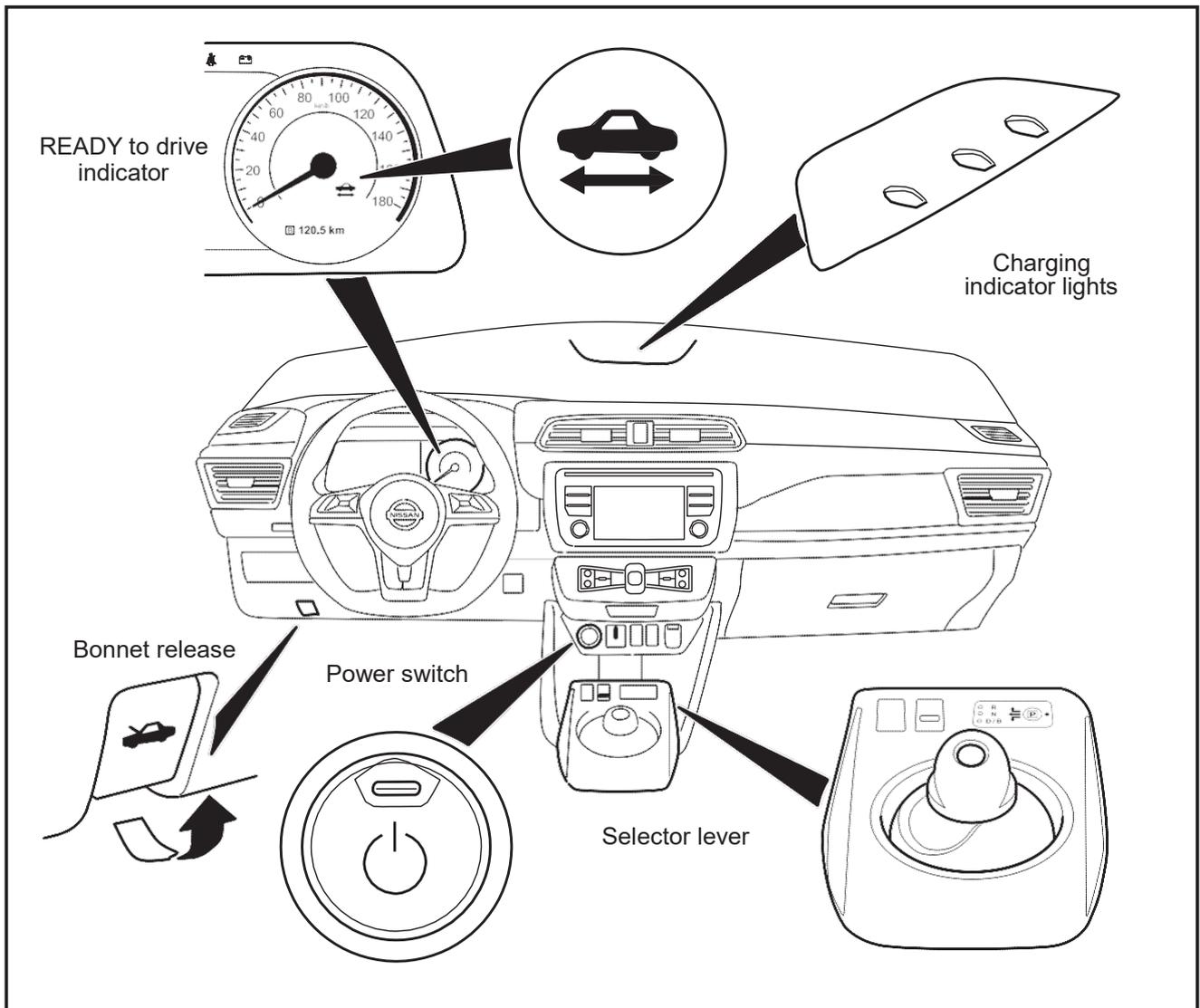


- LEAF identification from underside:
1. Plastic shields cover entire underside.
 2. No exhaust system components.



1.1.2 Interior Component Location

Interior components referenced in this manual are as follows:

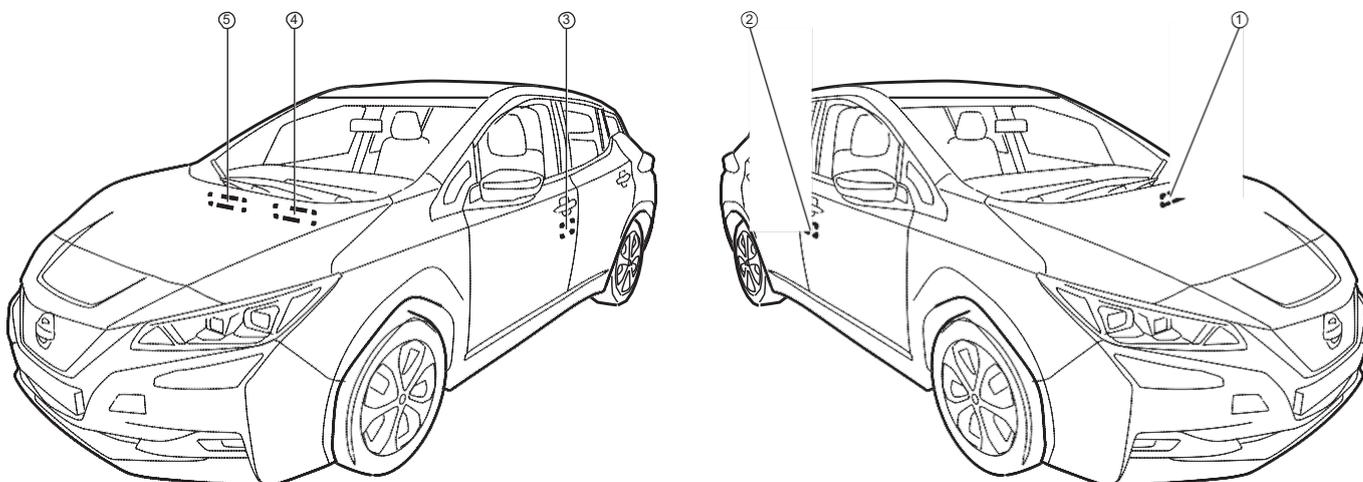


1.2 Vehicle Identification Number (VIN) Layout

The vehicle can be identified as follows:

Example VIN: SJNFAAZE1123456

The LEAF is identified by the 7th, 8th and 9th alphanumeric character: ZE1



1. Air conditioner specification label	2. Vehicle identification plate	3. Tyre placard
4. Vehicle identification number plate	5. Vehicle identification number (chassis number)	

1.3 Warning and Indicator Lamp Information

The following warning and indicator lamps are located in the instrument cluster.

Lamp Name	Icon	Description
READY to drive indicator		This lamp is on when the EV system is powered up and the vehicle is ready to drive.
EV System Warning Lamp *1		<ul style="list-style-type: none"> Malfunction has occurred in the EV system and/or Emergency shut off system has been activated. The shut-off system activates in the following conditions: <ul style="list-style-type: none"> Front and side collisions in which the air bags are deployed. Certain rear collisions. Certain EV system malfunctions.
Master Warning		This lamp is on when another red warning lamp is displayed in the instrument cluster or a warning is displayed on the dot matrix LCD.
Master Warning Lamp (YELLOW)		This lamp is on when: <ul style="list-style-type: none"> Li-ion battery is getting low on charge. A yellow warning lamp is displayed in the instrument cluster or a message is displayed on the dot matrix LCD.
*1: When this lamp is ON, the READY to drive indicator will turn OFF.		

2. Basic High Voltage System and 12V System Information

The Nissan LEAF utilizes two types of batteries in order to supply high and low voltages.

2.1 Battery Information

The Nissan LEAF utilizes two types of batteries in order to supply high and low voltages.

2.1.1 Low voltage battery

- The Nissan LEAF is equipped with a conventional lead-acid 12V battery (4).
- The 12V battery is located under the bonnet (left hand side), concealed by a trim cover.
- The 12V battery is charged by the Li-ion battery through the DC/DC converter.

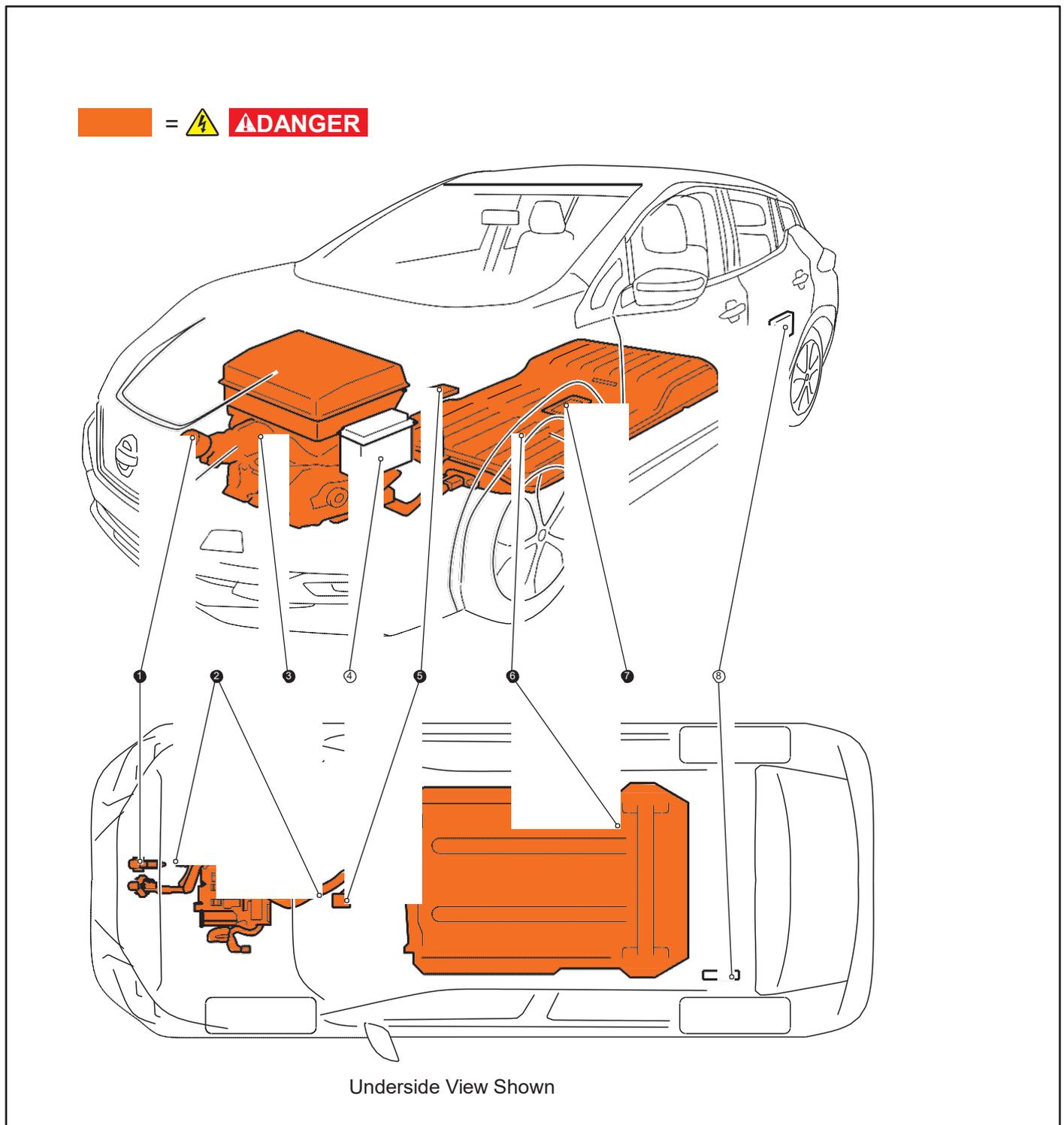
2.1.2. High voltage battery

- The Nissan LEAF contains a Li-ion high voltage battery pack (6).
- The high-voltage battery pack is mounted under the vehicle floor.
- The high voltage battery pack stores energy at approximately 360 V DC.
- The high voltage battery exhausts gases directly to the outside of the vehicle.

The high voltage battery pack supplies power to the following components:

- High voltage harnesses
- DC/DC converter
- Traction motor inverter
- Traction motor
- Electric air conditioner compressor

2.2 High Voltage-Related and 12V-Related Component Locations and descriptions



NOTE:

Components with a white number on a black background are high voltage components.

No.	Component	Location	Description
1	Charge port	Under bonnet	Connecting port for EVSE (Electric Vehicle Supply Equipment). Two ports are available: one for Normal charge and one for Quick charge (if so equipped).
2	High voltage cables	Under bonnet and undercarriage	Orange-coloured power cables carry high voltage current between each of the high voltage components.
3	Traction Motor	Under bonnet	Converts three-phase AC power to drive power (torque) which propels the vehicle.
	Inverter	Under bonnet	Converts the DC power stored in the Li-ion battery to three-phase AC power and controls motor torque (revolution) by regulating the motor current.
	Electric air conditioner	Under bonnet	Air conditioner compressor.
	Power Distribution Module (PDM) <ul style="list-style-type: none"> On Board Charger DC/DC Converter High voltage junction box (J/B) 	Under bonnet	The PDM includes an On Board Charger, DC/DC converter and high voltage junction box (J/B). The On Board Charger converts single-phase AC power from a home power outlet to DC power and increases the voltage in order to charge the Li-ion battery. The DC/DC converter reduces the voltage of the Li-ion battery to provide power to the 12V battery in order to operate the vehicle's electric components (headlights, audio system, etc.). The J/B provides electric power from the Li-ion battery to all high voltage parts of the vehicle.
4	12V Battery	Under bonnet	A lead-acid battery that supplies power to the low voltage devices.
5	Cabin heater	Interior (This unit is installed behind the instrument panel.)	This is the electric heat source for the cabin heater. It heats the interior of the vehicle.
6	Li-ion (Lithium ion) battery	Undercarriage	Stores and outputs DC power (Maximum Voltage 398.4V) needed to propel the vehicle.
7	High voltage battery service disconnect	Rear seat floor	Isolates the battery from the rest of the high voltage electrical system.
8	Brake power supply backup unit	Cargo area (This unit is installed behind a trim panel to prevent access.)	Power supply backup unit for the brake system. It supplies power to the brake system if a malfunction occurs in the 12V battery.

2.2.1 Li-ion Battery Pack Specifications

Li-ion battery voltage	360V Nominal (240V - 398.4V usable range)
Number of Li-ion battery modules in the pack	48
Li-ion battery dimensions	60.91 x 46.77 x 10.39 in. (1547 x 1188 x 264 mm)
Li-ion battery weight	Depending on the type: approx. 273-296 kg (602 - 653 lbs)

2.3 High Voltage Safety Measures

Circuit insulation	The high voltage positive (+) and negative (-) circuits are insulated from the metal chassis.
Reducing the risk of electrocution	The high voltage components and harnesses have insulated cases or orange coloured coverings which provide insulation and easy identification. The high voltage battery case is electrically connected to the vehicle ground. This connection helps protect the vehicle occupants and emergency responders from high voltage electrical shock.
Identification	The high voltage components are provided with a WARNING label similar to the label shown below. All high voltage harnesses are coated in orange.

2.3.1 Warning Label



WARNING /AVERTISSEMENT
ACHTUNG /ADVERTENCIA /AVISO

HIGH VOLTAGE INSIDE
• DO NOT remove these covers and/or connectors.

HOCHVOLT FÜHRENDE TEILE IM INNEREN
• Diese Abdeckungen bzw. Stecker nicht entfernen.

HAUTE TENSION À L'INTÉRIEUR
• NE PAS enlever ces couvercles et connecteurs.

Alta Voltagem no interior
• Nunca remova esta cobertura e/ou conector.

Alto voltaje en el interior
• Nunca extraiga estas tapas y/o conectores.



3. Roadside Assistance Response Steps

DANGER

- Failure to properly shut down the high voltage electrical system before the Emergency Response Procedures are performed will result in serious injury or death from electrical shock. To prevent serious Injury or death, DO NOT touch high voltage harnesses or components without always wearing appropriate Personal Protective Equipment (PPE).
- If it is necessary to touch any of the high voltage harnesses or components you must always wear appropriate PPE to avoid electrical shock. Shut down the high voltage system by following the steps outlined in High Voltage System Shut-Down Procedure. Wait at least approximately ten (10) minutes for complete discharge of the high voltage capacitor after the high voltage system has been shut down.

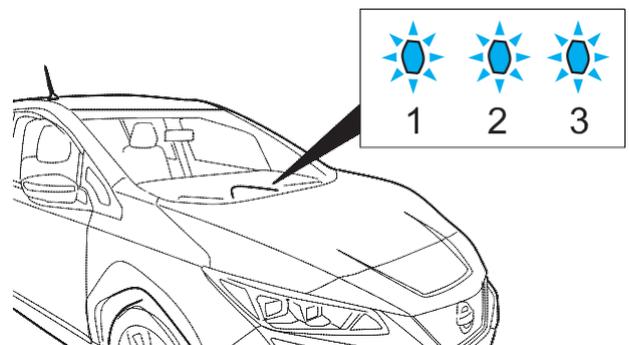
WARNING

- NEVER assume the LEAF is shut OFF simply because it is quiet.
- If the READY to drive indicator or charging indicator are ON, the high voltage system is active.
- If possible, be sure to verify that the READY to drive indicator on the instrument cluster is OFF and the high voltage system is stopped.
- Some of the under bonnet parts get hot and may cause serious burns. Use caution when working on or around these parts.

3.1 Indications showing that the High Voltage System is ON

1. If the READY to drive indicator  is ON, the high voltage system is active.
2. The high voltage system is active if any charge indicator is ON (blue LED's on top of the instrument panel).

Before disconnecting the 12V battery terminal, if necessary, lower the windows, unlock the doors, and open the rear hatch as required. Once the 12V battery is disconnected, power controls will no longer operate.

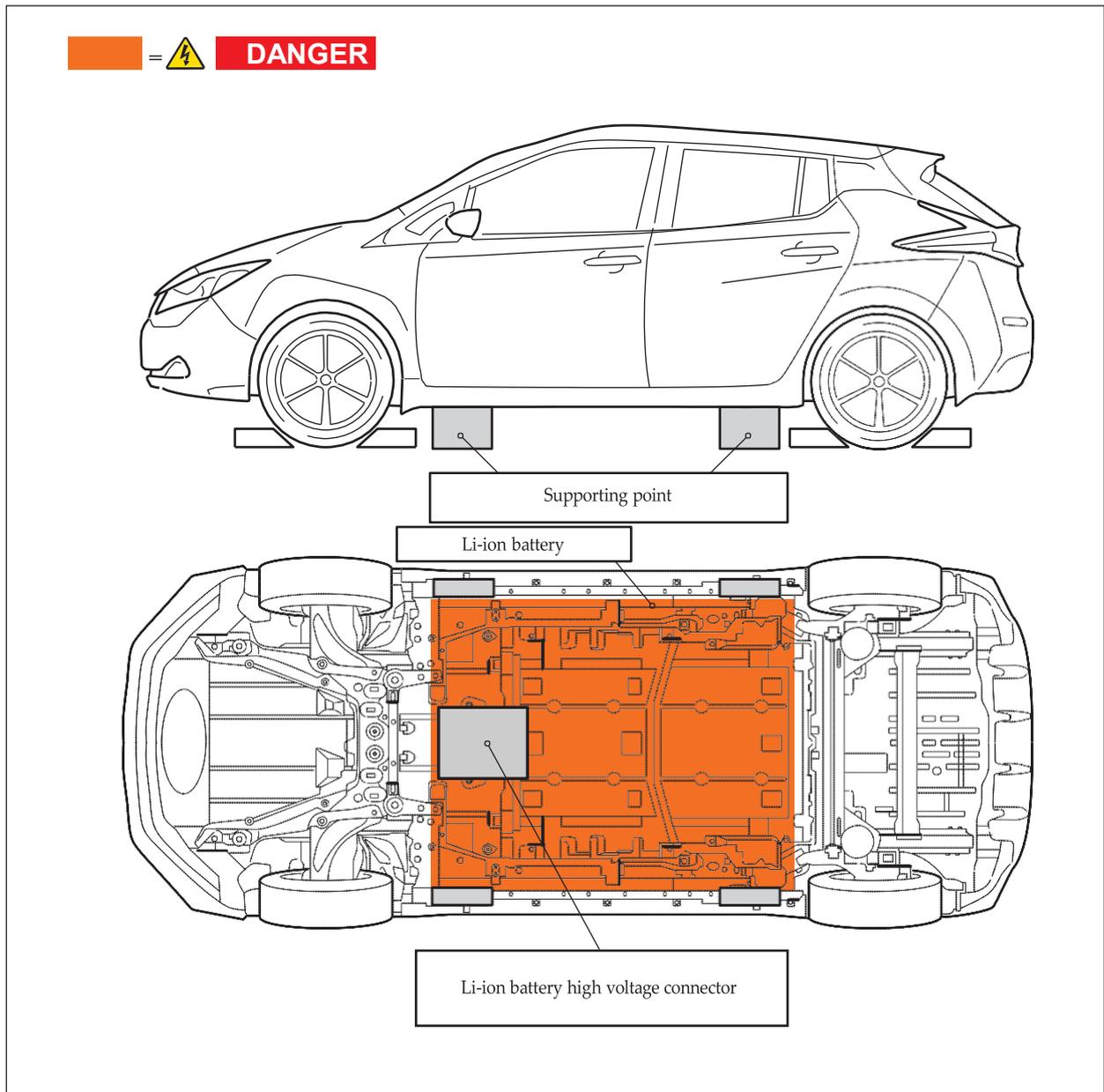


3.2 Vehicle Immobilization and Stabilization

If possible, immobilize the vehicle by turning the 12V system OFF and stabilize it with wheel chock(s). Stabilize the vehicle with wooden blocks or by removing air from the tyres.

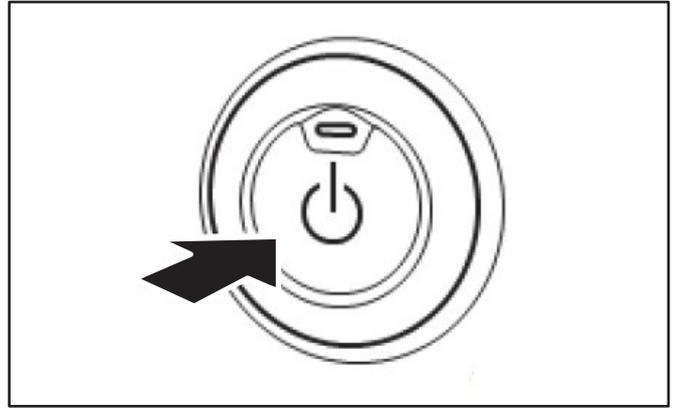
⚠ WARNING

- Do not stabilize the vehicle with wooden blocks under the Li-ion battery.
- To avoid electrical shock, do not put wooden blocks or wheel chock(s) under the high voltage components and harnesses as shown hereinafter.

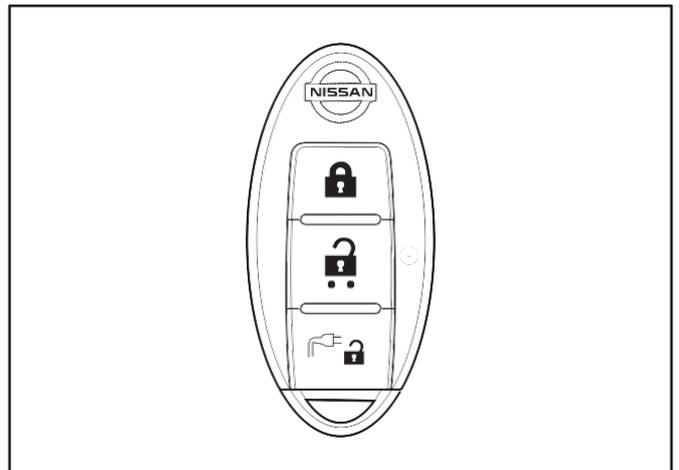


3.3 Turning OFF the Power Switch

1. Check the READY to drive indicator  status. If it is ON, the high voltage system is active.
2. Press the power switch once to turn OFF the high voltage system. Then verify whether the READY to drive indicator  is OFF.



3. If possible, keep the Nissan Intelligent Key at least 5 meters (16 feet) away from the vehicle to prevent accidentally turning ON the EV system while the roadside assistance is in progress.



3.4 Water Submersion

DANGER

 The damage level of a submerged vehicle may not be apparent. Handling a submerged vehicle without appropriate Personal Protective Equipment (PPE) may result in serious injury or death from electrical shock

WARNING

-  The power switch of the submerged vehicle must be turned OFF first, if possible. Then the vehicle must be taken completely out of the water and drained to avoid electrical shock.
-  Always wear appropriate Personal Protective Equipment (PPE) and remove/drain water before removing the service plug when working on a vehicle after a fire or submersion to avoid electrical shock.
-  If the vehicle is in the water, to avoid electrical shock NEVER touch the high voltage components, harnesses or service plug. PPE must always be worn when touching or working.

Only first responders wearing appropriate Personal Protective Equipment (PPE) should shut down the vehicle. After shut down, standard towing/recovery procedures can be used. Refer to [4.3 Towing](#).

3.5 Vehicle fire

WARNING

- Always utilize full Personal Protective Equipment (PPE) and a self-contained breathing apparatus during firefighting operations. Smoke from a LEAF vehicle fire is similar to smoke from a conventional vehicle fire.
- In the case of extinguishing a fire with water, large amounts of water from a fire hydrant (if possible) must be used. DO NOT extinguish fire with a small amount of water.

CAUTION

In the event of a small fire, a Type ABC fire extinguisher may be used for an electrical fire caused by wiring harnesses, electrical components, etc. or oil fire.

Fire attack should follow standard firefighting practices. If you must walk away from the vehicle, notify an appropriate responder, a rescue person and all others of the fact that the vehicle is an electric vehicle and contains a high voltage system.

During overhaul operations (late stage fire suppression process to examine for remaining sources of heat), make sure the battery is fully cooled down to avoid fire re-ignition. The battery could re-ignite if it is placed near fire. To avoid possible electrical shock and serious personal injury, do not breach the Li-ion battery case.

3.6 Li-ion Battery Damage and Fluid Leaks

⚠WARNING

The Li-ion battery contains electrolyte solution. To avoid exposure to electrolyte solution and serious personal injury, always wear appropriate solvent resistant Personal Protective Equipment (PPE) and read the following precautions:

- Electrolyte solution is a skin irritant.
- Electrolyte solution is an eye irritant – If contact with eyes, rinse with plenty of water and see a doctor immediately.
- If electrolyte leak occurs, wear appropriate solvent resistant PPE and use a dry cloth to clean up the spilled electrolyte. Be sure to adequately ventilate the area.
- Electrolyte solution is highly flammable.
- Electrolyte liquid or fumes that have come into contact with water vapors in the air will create an oxidized substance. This substance may irritate skin and eyes. In these cases, rinse with plenty of water and see a doctor immediately.
- Electrolyte fumes (when inhaled) can cause respiratory irritation and acute intoxication.
- Move to fresh air and wash mouth with water. See a doctor immediately.

In cases of battery case breach or electrolyte leakage, contact the fire department immediately. If you must walk away from the vehicle, notify an appropriate responder of the fact that the vehicle is an electric car and contains a high voltage system and warn all others.

Li-ion Battery Electrolyte Solution Characteristics:

- Clear in colour
- Sweet odour
- Similar viscosity to water

Since the Li-ion battery is made up of many small sealed battery modules, electrolyte solution leakage should be minimal.

NOTE:

Other fluids in the vehicle (such as windscreen washer fluid, brake fluid, coolant, etc.) are the same as those in a conventional internal combustion vehicle.

4. Roadside Assistance

4.1 Jump Starting

To start the EV system with a booster battery, the instructions and precautions below must be followed.

⚠ WARNING

If done incorrectly, jump starting can lead to a 12V battery explosion, resulting in severe personal injury or death. It could also damage your vehicle.

A discharged 12V battery may cause the following issues:

- The instrument cluster cannot be displayed while the power switch is turned ON. The start-up sound is not audible (The electric vehicle system cannot start).
- The Li-ion battery cannot be charged.
- The transmission cannot be shifted out of the PARK position normally.

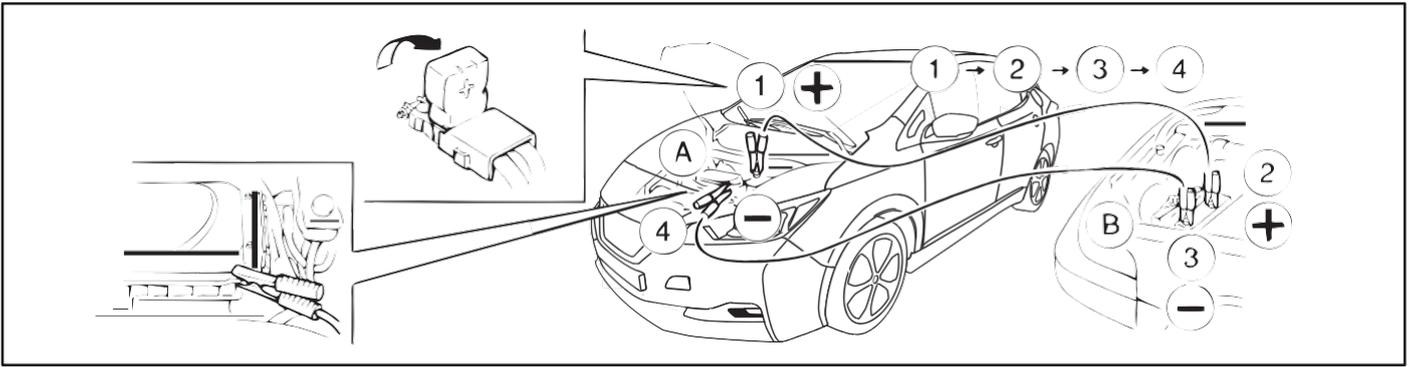
⚠ WARNING

- **To avoid electrical shock, the high voltage Li-ion battery CANNOT be jump started.**
- **Explosive hydrogen gas is always present in the vicinity of the 12V battery. Keep all sparks and flames away from the 12V battery.**
- **Do not allow battery fluid to come into contact with eyes, skin, clothing or painted surfaces. Battery fluid is a corrosive sulfuric acid solution that can cause severe burns. If the fluid comes into contact with anything, immediately flush the contacted area with water.**
- **The booster battery must be rated at 12 volts. Use of an improperly rated battery can damage the vehicle.**
- **Whenever working on or near a 12V battery, always wear suitable eye protectors (for example, goggles or industrial safety spectacles) and remove rings, metal bands, or any other jewelry. Do not lean over the 12V battery when jump starting.**
- **Do not attempt to jump start a frozen battery. It could explode and cause serious injury.**
- **The LEAF is equipped with an automatic cooling fan. It could come on at any time. Keep hands and other objects away from it.**
- **Always follow the jump starting instructions below. Failure to do so could result in damage to the DC/DC converter and cause personal injury.**

⚠ CAUTION

- **Do not use the LEAF to jump start another vehicle.**
- **Do not attempt to perform a jump start on the 12V battery at the same time that the Li-ion battery is being charged. Doing so may damage the vehicle or charging equipment and could cause an injury.**

4.1.1 Jump Starting Procedures



1. If the booster battery is in another vehicle (B), position the two vehicles (A and B) to bring their 12V batteries in close proximity to each other.

DO NOT allow the two vehicles to touch.

2. Apply the parking brake.
3. Push the P (Park) position switch to place the vehicle in the P (Park) position.
4. Switch off all unnecessary electrical systems (headlights, heater, air conditioner, etc.).
5. Place the power switch in the OFF position (if possible).

If the 12V battery is discharged, the power switch cannot be moved from the OFF position. Connect the jumper cables to the booster vehicle (B) before pushing the power switch.

6. Remove the vent caps on the 12V battery (if so equipped). Cover the battery with a firmly wrung-out moist cloth to reduce the hazard of an explosion.
7. Connect jumper cables in the sequence as illustrated (1→2→3→4).

CAUTION

- Always connect positive (+) to positive (+) and negative (-) to body ground (for example, as illustrated), not to the 12V battery.
- Make sure the jumper cables do not touch moving parts in the motor compartment and that the cable clamps do not contact any other metal.

8. Start the engine of the booster vehicle (B).
9. While the booster vehicle (B) engine is running, turn the power switch ON while pressing the brake pedal in order to place the LEAF in READY to drive  mode.

CAUTION

If the system does not start right away, push the power switch to the OFF position and wait at least 10 seconds before trying again.

10. After starting the EV system, carefully disconnect the negative cable and then the positive cable (4→3→2→1). Keep the EV system on for over twenty (20) minutes to charge the 12V battery.
11. Refit the vent caps (if so equipped). Be sure to properly dispose of the cloth used to cover the vent holes because it may be contaminated with corrosive acid.
12. If necessary, connect the vehicle to a charging station to charge the Li-ion battery. The vehicle cannot be driven unless the Li-ion battery is charged.

NOTE:

If it is not possible to turn the LEAF system ON by following this procedure, contact a NISSAN certified LEAF dealer immediately.

4.2 P (Park) Position Release Procedure

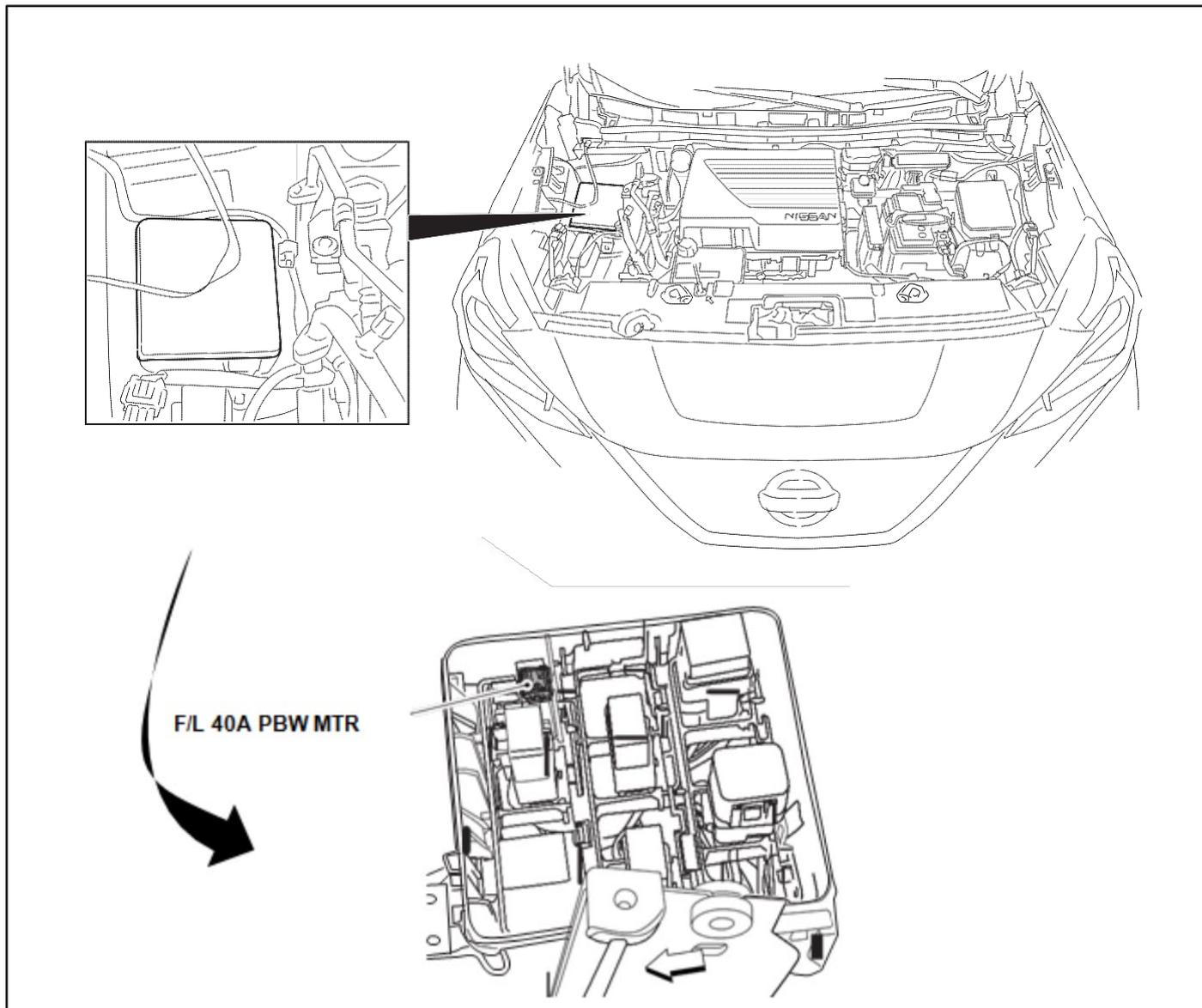
If you need to release the vehicle from the P (Park) position, proceed as follows. When power switch is turned OFF or 12V battery is low, the LEAF automatically shifts to P position.

NOTE:

This procedure requires two (2) people.

1. To start the EV system with a booster battery, refer to [4.1 Jump Starting](#).
2. Turn power switch ON by pushing the power switch 2 times without pressing the brake pedal.
3. Confirm parking brake is applied.
4. Close all doors and press and hold the brake pedal.
5. Place the selector lever in the N (Neutral) position.
6. Release the brake pedal.
7. Remove the following 2 fuses:
 - F/L 40A PBW MTR (under bonnet fuse and relay box)
 - METER 1 10A (in the cabin fuse box)

Under Bonnet Fuse and Relay Box Location

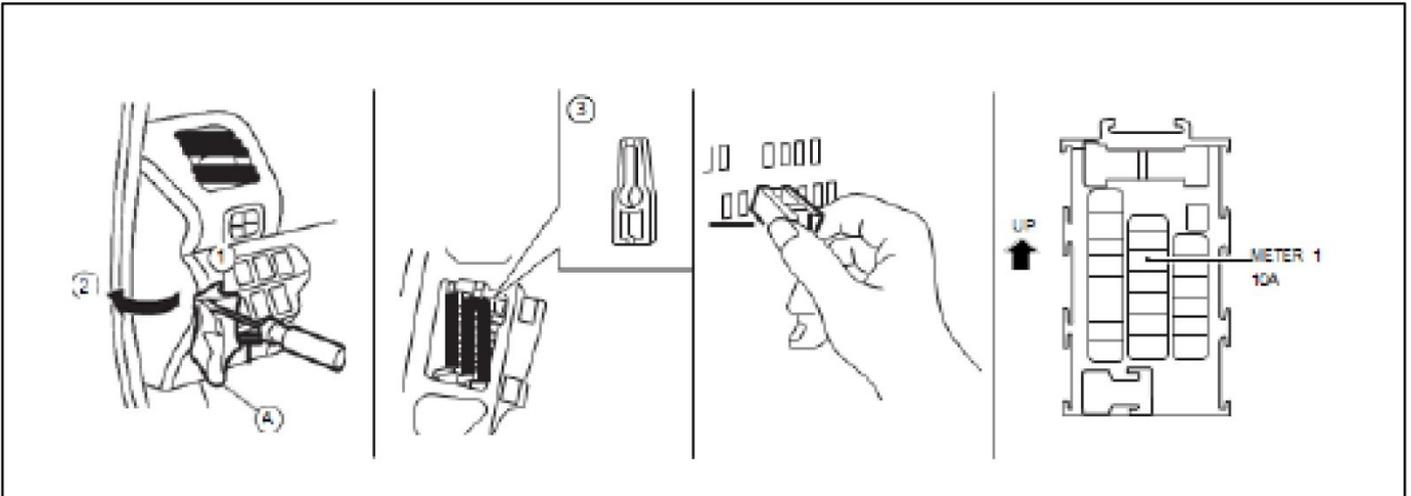


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NOTE:

← : Arrow in illustration depicts vehicle front direction.

Cabin Fuse Box Location



NOTE:

Insert a screwdriver wrapped with a protective cloth (A) into the slit (1). Pull to remove the fuse box cover (2). Remove the fuse with the fuse puller (3).

8. Turn the power switch OFF.
9. Release the parking brake before moving the vehicle.

WARNING

To avoid possible personal injury or vehicle damage, use wheel chocks or take appropriate steps to prevent the vehicle from rolling freely.

Be sure to firmly position wheel chocks when P (Park) position is manually released.

4.2.1 Reset Procedure

1. Install the 2 fuses removed previously.
2. Turn the power switch ON and wait 5 seconds without pressing the brake pedal. Ensure selector lever is in the N (neutral) position.
3. If 12V battery voltage is low, please charge it with a battery charger.
4. Turn the power switch OFF and wait 5 seconds.

4.3 Towing

4.3.1 Vehicle Specifications

Length	176.4 in (4,479 mm)
Width	70.5 in. (1,790 mm)
Overall Height (16 inch wheels)	61.0 in. (1,550 mm)
Overall Height (17 inch wheels)	60.9 in. (1,545 mm)
Wheel Base	106.3 in. (2,700 mm)
Minimum ground clearance	5.9 in. (150 mm)
Overall vehicle weight	3.404-3.516 lbs.(1,544 - 1,595 kg) (Weight varies by equipment and trim level.)
Front approach angle	14°
Rear departure angle	36°

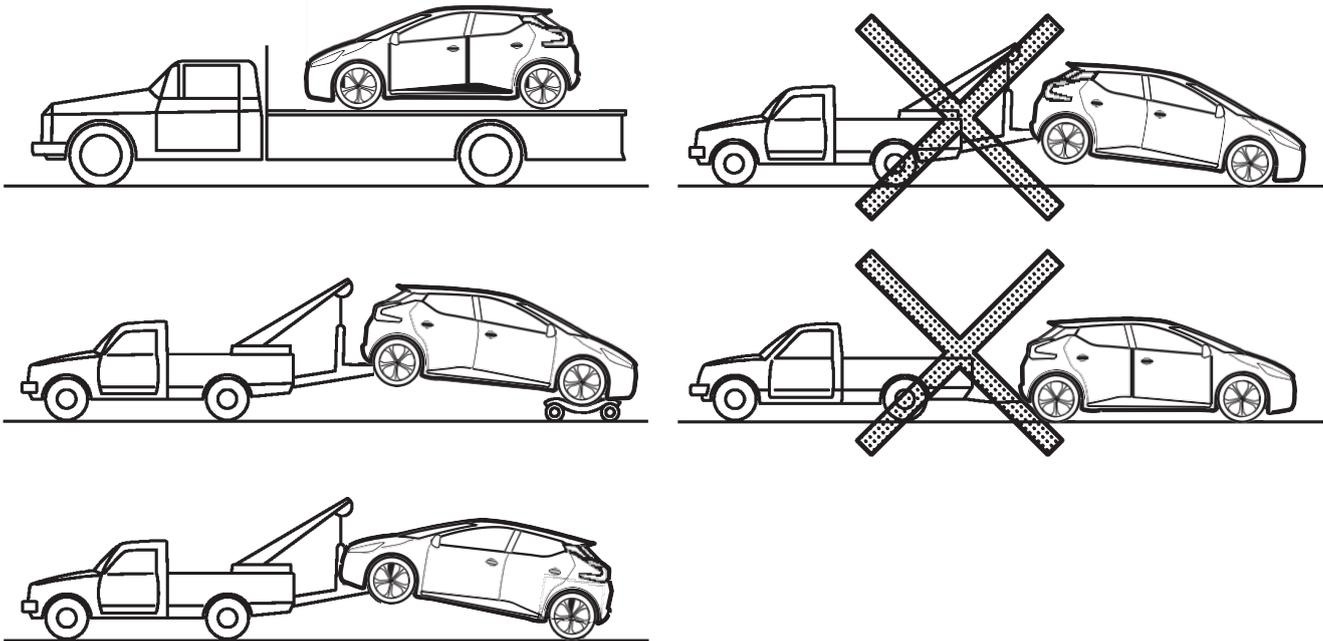
4.3.2 Towing Guidelines

NISSAN strongly recommends the LEAF to be towed with the driving (front) wheels off the ground or to be placed on a flatbed truck.

⚠ CAUTION

- **Never tow with the front wheels on the ground or four (4) wheels on the ground (forward or backward) , as this may cause serious and expensive damage to the motor.**
- **Transport the vehicle only after turning the power switch OFF.**
- **When towing this vehicle with the rear wheels on the ground (if you do not use towing dollies), always release the parking brake.**
- **Safety chains or cables must be attached only to the vehicle recovery hook or main structural members of the vehicle. Otherwise, the vehicle body will be damaged.**
- **Do not use the vehicle tie down hook to free a vehicle stuck in sand, snow, mud, etc.**
- **Never tow a vehicle using the vehicle tie down hook or recovery hook.**
- **Always pull the cable straight out from the front of the vehicle. Never pull on the vehicle at an angle.**
- **Pulling devices should be routed so they do not touch any part of the suspension, steering, brake, high voltage or cooling systems.**
- **Pulling devices such as ropes or canvas straps are not recommended for use in vehicle towing or recovery.**

Perform vehicle towing by holding up drive (front) wheels or on flatbed in order to prevent secondary damage from voltage generated by the motor. In addition, turn the power switch OFF when towing the vehicle. Refer to the following illustration:



NOTES:

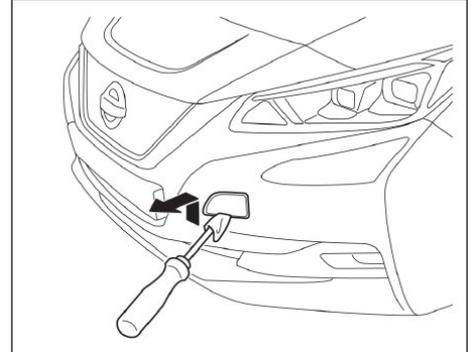
It is also permissible to transport the LEAF facing rearward on a flatbed.

If the vehicle cannot be placed in Neutral, a P (Park) position release procedure may be required. Refer to 4.2 P (Park) Position Release Procedure.

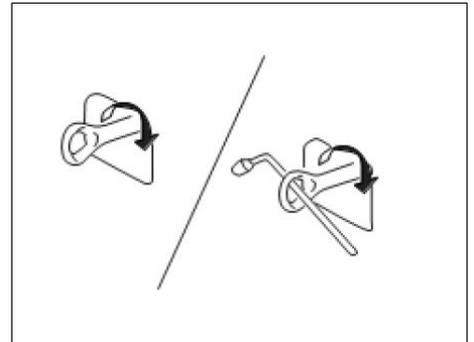
4.3.3 Use of the Vehicle Equipped Hooks for Recovery Operations

Front:

1. Using a suitable tool wrapped with a protective cloth, remove the recovery hook cover from the bumper.



2. Securely install the recovery hook as illustrated. The recovery hook is located in the tool kit in the left side of the cargo area.



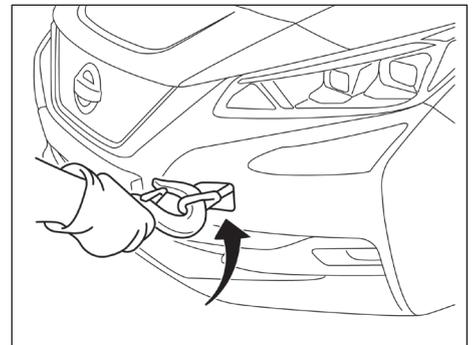
⚠ WARNING

Failure to securely install the recovery hook may result in serious personal injury or death and/or vehicle damage.

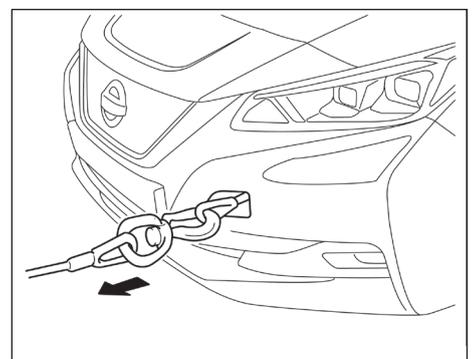
3. Attach the winch cable securely to the recovery hook.

⚠ WARNING

Failure to securely attach the winch cable to the recovery hook may result in serious personal injury or death and/or vehicle damage.



4. Make sure the winch cable remains fully connected to the recovery hook and does not interfere with surrounding area, take up the slack from the cable



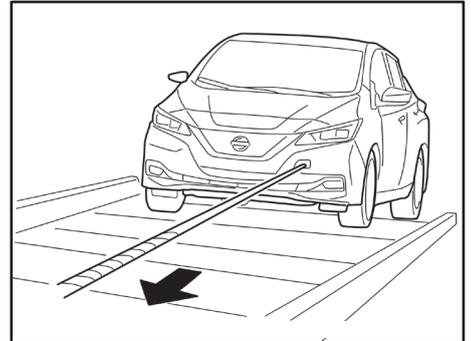
5. Release the parking brake.
6. Place the selector lever in the N (Neutral) position.

NOTE:

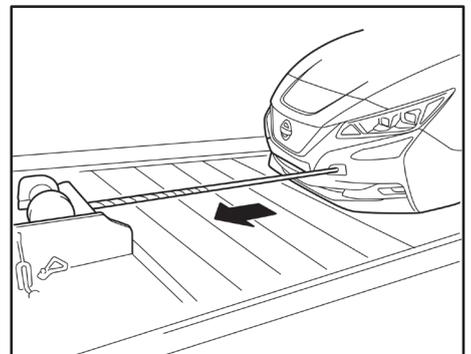
If the vehicle cannot be placed in Neutral, a P (Park) Position Release procedure may be required.

Refer to [4.2 P \(Park\) Position Release Procedure](#).

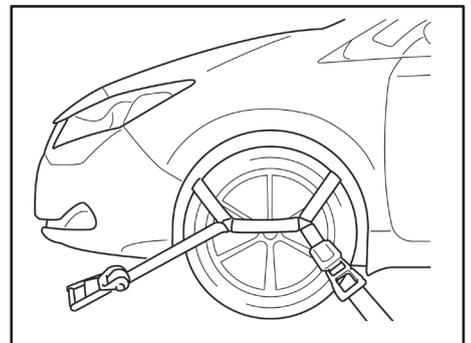
7. Carefully pull the vehicle onto the flatbed.



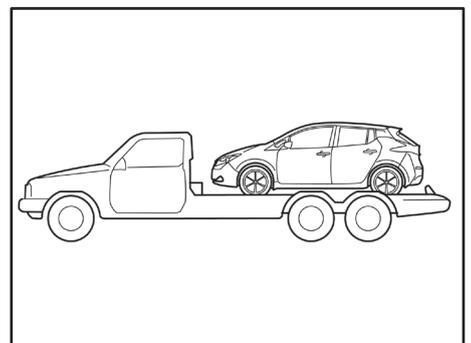
8. Be careful not to pull the vehicle too close to the winch. Doing so will cause excessive downward force being applied to the recovery hook. Too much downward force may result in vehicle damage. Lower the flatbed and finish rolling the vehicle forward if necessary.



9. Secure the vehicle to the flatbed by using wheel baskets at all 4 wheel positions.

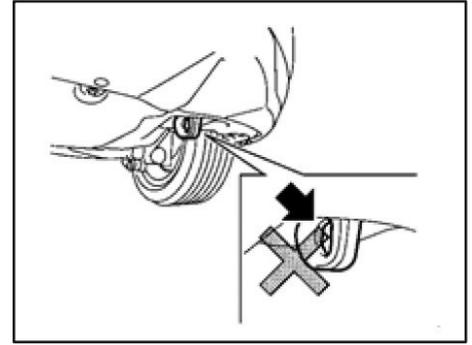


10. Make sure that the vehicle recovery hook is properly secured in its original position after use and the recovery hook cover has been reinstalled properly.

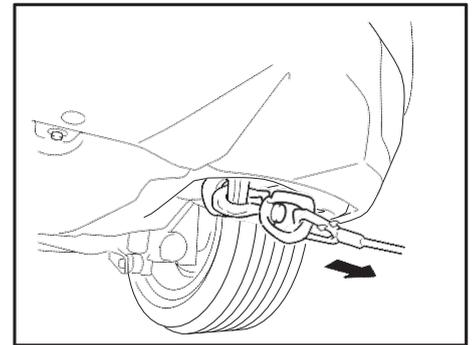


Rear Tie Down Hook:

- Do not use the rear tie down hook for towing or vehicle recovery.



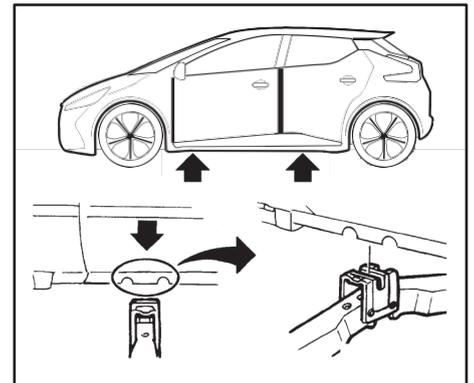
- The rear tie down hook is designed for use as illustrated.



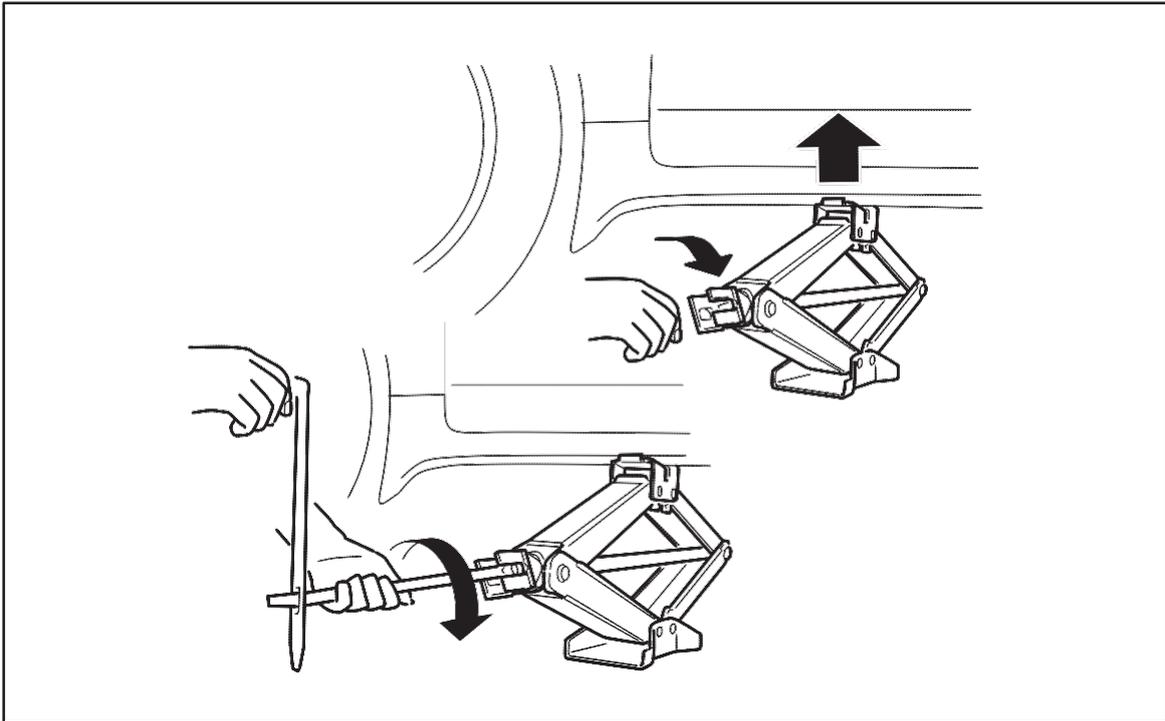
4.4 Jacking Up the Vehicle and Changing a Tyre

The NISSAN LEAF is not equipped with a jack or spare tyre as standard equipment. However, the following jacking instructions apply when using the optional NISSAN jack.

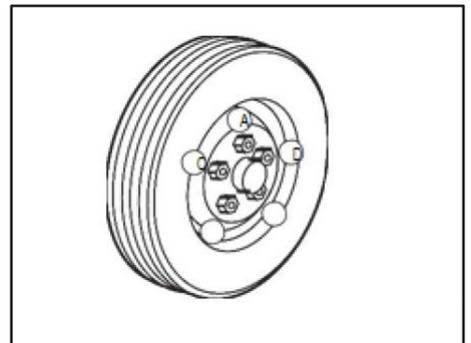
- Place the jack directly under the jack-up point as illustrated so the top of the jack contacts the vehicle at the jack-up point. Align the jack head between the two notches in the front or the rear as shown. Also fit the groove of the jack head between the notches as shown. The jack should be used on level and firm ground.
- Loosen each wheel nut one or two turns by turning it counter-clockwise with the wheel nut wrench. Do not remove the wheel nuts until the tyre is off the ground.



- To lift the vehicle, securely hold the jack lever and rod with both hands as shown. Carefully raise the vehicle until the tyre clears the ground. Remove the wheel nuts, and then remove the wheel.

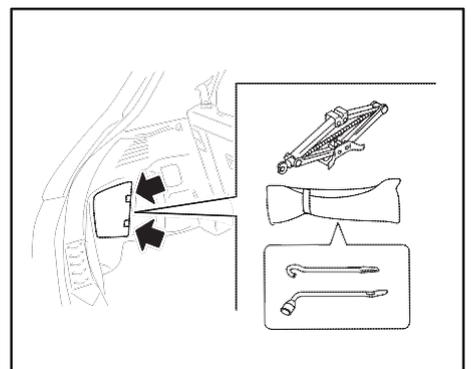


- Install new or repaired tyre and hand-tighten the wheel nuts with the wheel nut wrench in an alternating pattern.
- Securely torque the wheel nuts in an alternating pattern to 83 ft-lbs (113 Nm).



4.5 Tools Installed in the Vehicle

The tools are located in the left rear corner of the cargo area. The jack is a NISSAN dealer option and not equipped as standard.



4.6 Repairing a Flat Tyre with NISSAN Emergency Tyre Puncture Repair Kit

The NISSAN LEAF is equipped with a tyre repair kit as standard equipment. It is intended to be used to temporarily repair minor tyre punctures.

⚠ WARNING

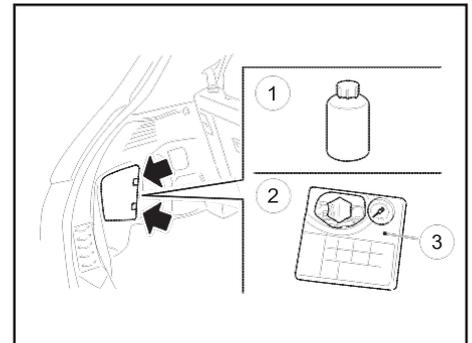
- After using the Emergency Tyre Sealant to repair a minor tyre puncture, do not drive the vehicle at speeds faster than 50 MPH (80 km/h).
- Immediately after using the Emergency Tyre Sealant to repair a minor tyre puncture, take the vehicle to a NISSAN certified LEAF dealer to inspect, and repair or replace the tyre. The Emergency Tyre Sealant cannot permanently seal a punctured tyre. Continuous operation of the vehicle without a permanent tyre repair can lead to an accident.
- If you used the Emergency Tyre Sealant to repair a minor tyre puncture, a NISSAN certified LEAF dealer will also need to replace the TPMS sensor in addition to repairing or replacing the tyre.
- NISSAN recommends to only use NISSAN Genuine Emergency Tyre Sealant provided with the vehicle. Other tyre sealants may damage the valve stem seal which can cause the tyre to lose air pressure.
- Make sure the parking brake is applied.
- Turn the power switch OFF while using the Emergency Tyre Sealant to repair a flat tyre.
- Have all passengers get out of the vehicle and stand in a safe place away from traffic and clear of the vehicle.
- Make sure the vehicle is located safely away from oncoming traffic and other hazards.
- Observe the following precautions when using the tyre repair compound:
 - Swallowing the compound is dangerous. Immediately drink as much water as possible and seek prompt medical assistance.
 - Rinse well with lots of water if the compound comes into contact with skin or eyes. If irritation persists, seek prompt medical assistance.
- Keep the repair compound out of the reach of children.
- The emergency repair compound may cause a malfunction of the tyre pressure sensors and cause the low tyre pressure warning light to illuminate. Have the tyre pressure sensor replaced as soon as possible.

CAUTION

- **To avoid the Emergency Tyre Puncture Repair Kit from being damaged during storage or use:**
 - Only use the Emergency Tyre Puncture Repair Kit on the LEAF vehicle. Do not use it on other vehicles.
 - Only use the kit to inflate the tyres of the LEAF and to check the vehicle's tyre pressure.
 - Only plug the compressor into a 12V DC car power point.
 - Keep the kit free of dirt and water.
 - Do not disassemble or modify the kit.
 - Do not drop the kit or allow hard impacts to the kit.
- **Do not use the Emergency Tyre Puncture Repair Kit under the following conditions. Contact a NISSAN certified LEAF dealer or professional road assistance:**
 - when the sealant has passed its expiration date (shown on the label attached to the bottle) .
 - when the cut or the puncture in the tyre is approximately 0.25 in (6 mm) or longer.
 - when the tyre sidewall is damaged.
 - when the vehicle has been driven with extremely low tyre pressure.
 - when the tyre has come off the inside or the outside of the wheel.
 - when the wheel is damaged.
 - when two (2) or more tyres are flat.

Remove the emergency tyre puncture repair kit from the left side of the cargo area. The kit consists of the following items:

1. NISSAN Genuine Emergency Tyre Sealant bottle
2. Air compressor
3. Speed restriction sticker



4.6.1 Before Using the Emergency Tyre Puncture Repair Kit

- If any foreign object (for example, a screw or nail) is embedded in the tyre, do not remove it.
- Check the expiration date of the sealant (shown on the label attached to the bottle). Never use a sealant if the expiration date has passed.

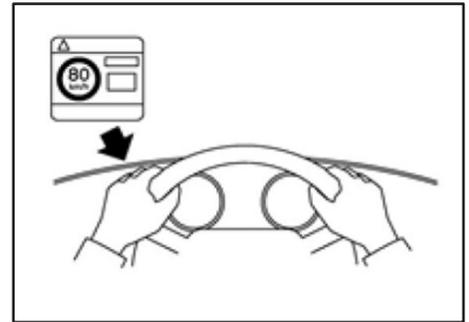
4.6.2 Repairing the Tyre

1. Open the lid of the air compressor and take out the speed restriction sticker. Put the sticker in a location where the driver can see it while driving.

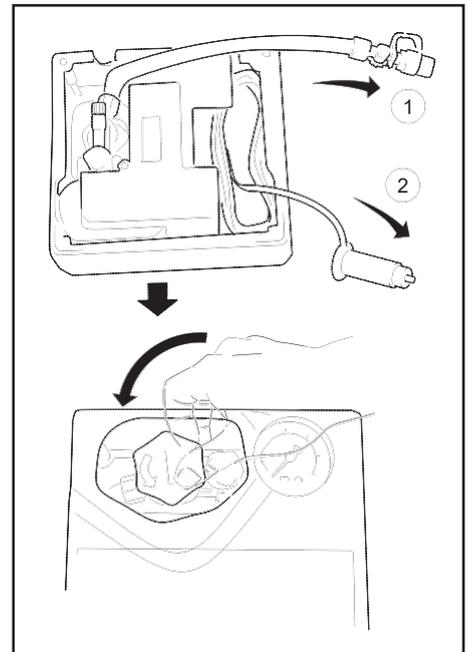
CAUTION

Do not obstruct the view of gauges or warning lights with the sticker.

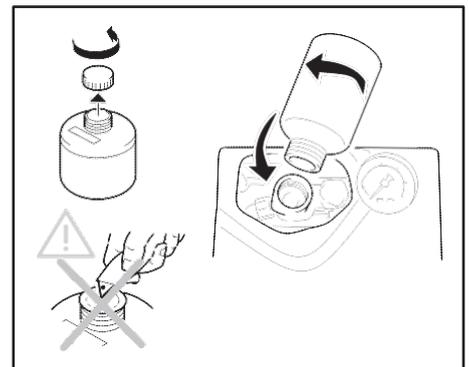
Do not put the sticker on the steering wheel pad.



2. Take the hose (1) and power plug (2) out of the air compressor. Remove the cap of the bottle holder from the air compressor.

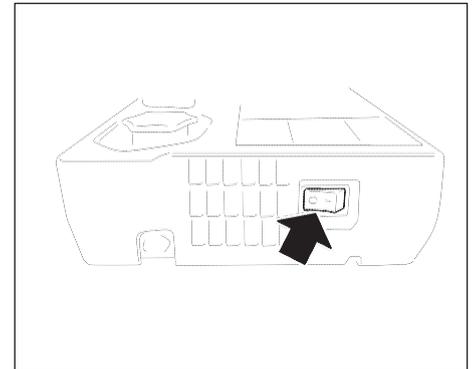
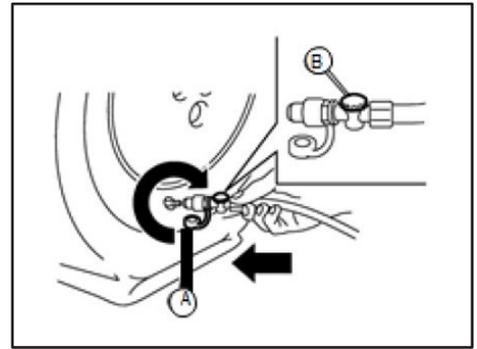


3. Remove the cap from the tyre sealant bottle and screw the bottle clockwise onto the bottle holder. Leave the bottle seal intact. Screwing the bottle onto the bottle holder will pierce the seal of the bottle.



4. Remove the cap from the tyre valve on the flat tyre

5. Remove the protective cap (A) of the hose and screw the hose securely onto the tyre valve. Make sure that the pressure release valve (B) is securely tightened. Make sure that the air compressor switch is in the OFF (O) position and then insert the power plug into the power outlet in the vehicle.
6. Push the vehicle power switch to the ON position.
7. Turn the air compressor switch to the ON (I) position and inflate the tyre up to the pressure that is specified on the tyre and loading information label affixed to the driver's side centre pillar if possible or to the minimum of 26 psi (180 kPa). Turn the air compressor off briefly in order to check the tyre pressure with the pressure gauge. If the tyre is inflated to higher than the specified pressure, lower the tyre pressure by releasing air with the pressure release valve.



NOTE:

The compressor tyre gauge may show a pressure reading of 87 psi (600 kPa) for about 30 seconds while inflating the tyre. The pressure gauge is indicating the pressure inside the sealant bottle. When the sealant has been injected into the tyre the pressure gauge will drop and indicate actual tyre pressure.

⚠WARNING

- **To avoid serious personal injury while using the emergency tyre puncture repair kit:**
 - Securely tighten the compressor hose to the tyre valve. Failure to do so can cause the sealant to spray into the air and get into your eyes or on your skin.
 - Do not stand directly beside the damaged tyre while it is being inflated because of the risk of rupture. If there are any cracks or bumps in the tyre, turn the compressor OFF immediately.

If the tyre pressure does not increase to 26 psi (180 kPa) **within ten (10) minutes**, the tyre may be seriously damaged and **the tyre cannot be repaired with this tyre repair kit.**

Contact a NISSAN certified LEAF dealer.

8. When the tyre pressure is at the specified value, turn the air compressor OFF. If the tyre cannot be inflated to the specified amount, the air compressor can be turned OFF at the minimum of 26 psi (180 kPa). Remove the power plug from the power outlet and quickly remove the hose from the tyre valve. Attach the protective cap and the valve cap. Securely stow the emergency tyre puncture repair kit in the cargo area.

⚠WARNING

To avoid serious personal injury when stowing the emergency tyre puncture repair kit keep the sealant bottle screwed into the compressor. Failure to do so can cause the sealant to spray into the air and get into your eyes or on your skin.

9. Immediately drive the vehicle for ten (10) minutes or 2 miles (3 km) at a speed below 50 MPH (80 km/h).
10. After driving, make sure the air compressor switch is in the OFF position. Then screw the hose securely onto the tyre valve. Check the tyre pressure with the pressure gauge. Temporary repair is completed when the tyre pressure does not drop. Make sure the pressure is adjusted to the pressure specified on the tyre and loading information label before driving.

11. If the tyre pressure drops, repeat the steps from 5 to 10. If the pressure drops again or under 19 psi (130 kPa), the tyre cannot be repaired with this tyre repair kit. Contact a NISSAN certified LEAF dealer. The sealant bottle and hose cannot be reused to repair another punctured tyre. Contact a NISSAN certified LEAF dealer to purchase replacement parts.

4.6.3 After Repairing the Tyre

Visit a NISSAN certified LEAF dealer for tyre repair/replacement as soon as possible.

⚠ WARNING

- After using Emergency Tyre Sealant to repair a minor puncture, do not drive the vehicle at speeds higher than 50 MPH (80 km/h).
- Immediately after using Emergency Tyre Sealant to repair a minor tyre puncture, take the vehicle to a NISSAN certified LEAF dealer to inspect and repair or replace the tyre. The Emergency Tyre Sealant cannot permanently seal a punctured tyre. Continuing operation of the vehicle without a permanent tyre repair can lead to an accident.
- Do not inject any tyre liquid or aerosol tyre sealant into the tyres as this may cause a malfunction of the tyre pressure sensors.
- If you used the Emergency Tyre Sealant to repair a minor tyre puncture, a NISSAN certified LEAF dealer will also need to replace the TPMS sensor in addition to repairing or replacing the tyre.
- NISSAN recommends using only NISSAN Genuine Emergency Tyre Sealant provided with the vehicle. Other tyre sealants may damage the valve stem seal which can cause the tyre to lose air pressure.

5. Storing the Vehicle

⚠ WARNING

The service plug must be removed to shut down the high voltage system for storage. Do not store a vehicle inside a structure. Keep the vehicle away from other vehicles if the Li-ion battery is severely damaged. There is possibility of delayed fire from a severely damaged Li-ion battery.

5.1 Danger Sign Example

Person in charge: _____

DO NOT TOUCH!
PROGRESS
HIGH VOLTAGE REPAIR IN
DANGER:

DANGER:
HIGH VOLTAGE REPAIR IN
PROGRESS
DO NOT TOUCH!

Person in charge: _____

Copy this page and put it after folding on the roof of the vehicle in service

5.2 Preparation Items

Preparation Items	Specification	Purpose
Personal Protective Equipment (PPE):	Up to 1000V	For protection from high voltage electrical shock.
Insulated gloves: 	Removing and installing high voltage components comply with EN60903: <ul style="list-style-type: none"> • Use protective gloves made of insulating material. • The protective gloves must be capable of resisting the voltage of 1000V or more. 	
Insulated shoes: 	Removing and installing high voltage components comply with EN60903: <ul style="list-style-type: none"> • Use insulated shoes made of insulating material. • The insulated shoes must be capable of resisting the voltage of 1000V or more. 	
Safety shield: 	Removing and installing high voltage components comply with EN166: <ul style="list-style-type: none"> • To protect face from the spatter on the work to electric line. 	
Wrenches 	Size:10mm	To remove the service plug access cover bolts. To remove the 12V battery terminal bolt.
Solvent resistant protection gloves Solvent resistant protection shoes	-	To utilize in the event of a Li-ion battery electrolytic solution leak.
Absorbent pad	The same pad used for internal combustion engine fluids can be used.	To absorb any Li-ion battery electrolytic solution leakage.
Standard firefighting equipment	Depending on type of fire (vehicle or battery) use standard firefighting equipment.	To extinguish a fire.
Insulated tape	Insulating	To cover any damaged harnesses to protect from and prevent electrical shock. Tape should cover all bare or damaged wire.

5.2.1 Personal Protective Equipment (PPE) Protective Wear Control

Perform an inspection of the Personal Protective Equipment (PPE) items before beginning work. Do not use any damaged PPE items.

5.2.2 Daily Inspection

This inspection is performed before and after use. The worker who will be using the items should perform the inspection and check for deterioration and damage.

- Insulated rubber gloves should be inspected for scratches, holes and tears. (Visual check and air leakage test)
- Insulated safety boots should be inspected for holes, damage, nails, metal pieces, wear or other problems on the soles. (Visual check)
- Insulated rubber sheet should be inspected for tears. (Visual check)

5.2.3 Insulated Tools

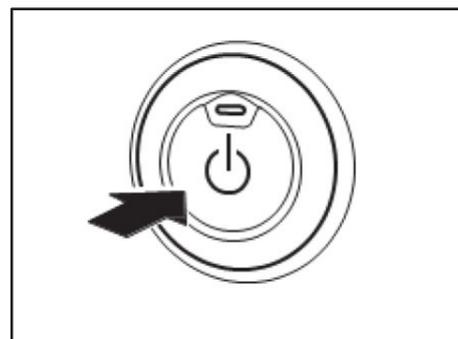
When performing work at locations where high voltage is applied (such as terminals), use insulated tools meeting 1000V/300A specifications.

5.3 Removing the Service Plug

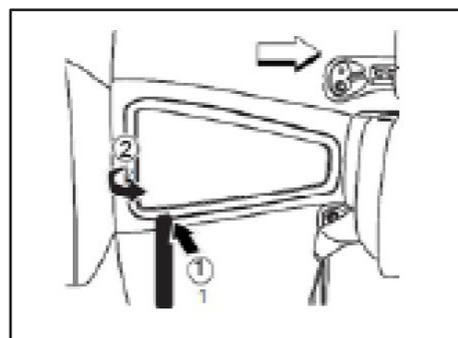
DANGER

- Do not remove the service plug without always wearing appropriate Personal Protective Equipment (PPE) to help protect the responder from serious injury or death by electrical shock.
- Immediately cover the service plug socket with insulated tape. The Li-ion battery retains high voltage power even when the service plug is removed. To avoid electric shock, DO NOT touch the terminals inside the socket.

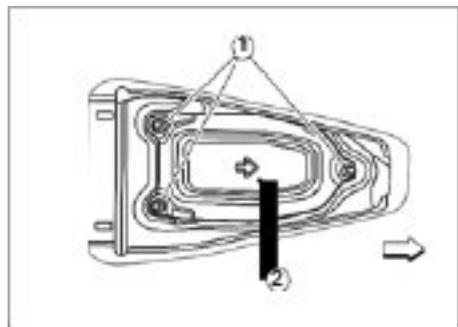
1. Check the READY to drive indicator  status. If it is ON, the high voltage system is active.
2. Push the P position switch to the P (Park) position.
3. Press the power switch once to turn OFF the high voltage system. Then verify whether the READY to drive indicator  is OFF.



4. Insert a suitable tool (1) under the RH rear corner of the access trim cover located on the floor behind the centre console. Pry up (2) and remove.



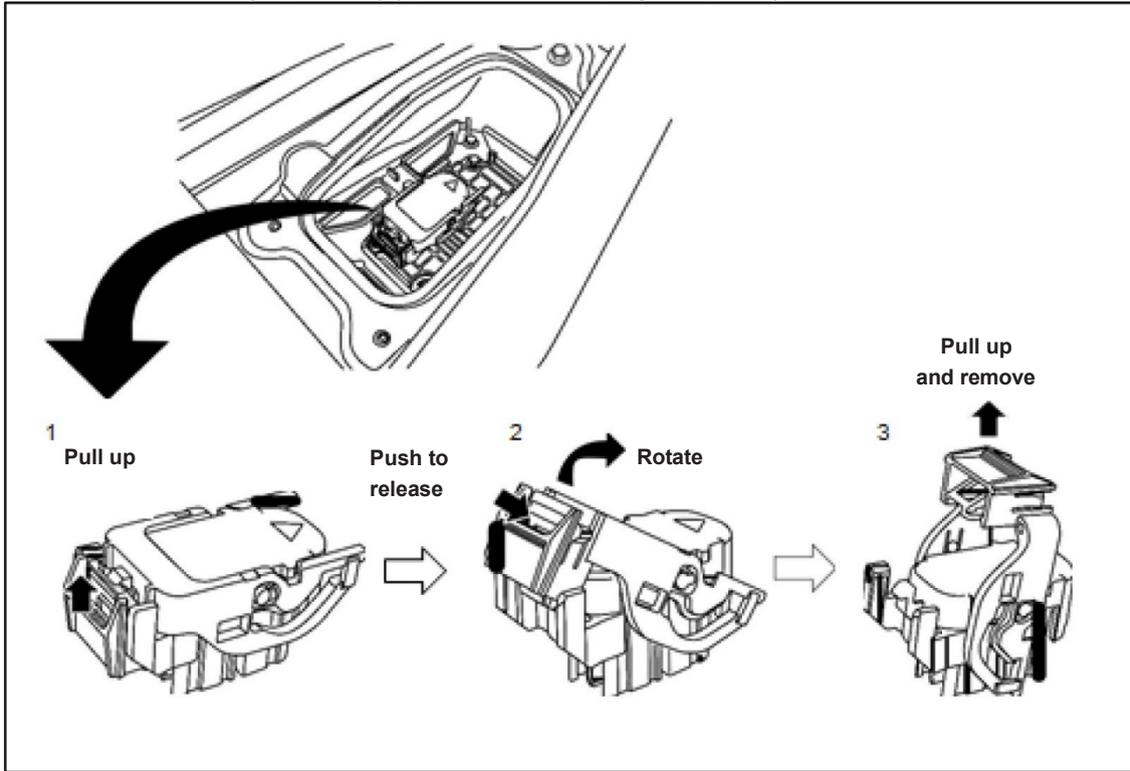
5. Remove the 10 mm access cover bolts (1) and remove the cover (2)



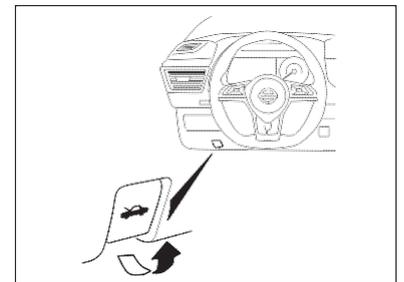
NOTE:

 : Arrow in illustration depicts vehicle front direction.

6. Remove the service plug using the following steps: (1) pull up and release the green lever, (2) press the locking tab to release and rotate fully upward, (3) pull the service plug completely out of its socket.



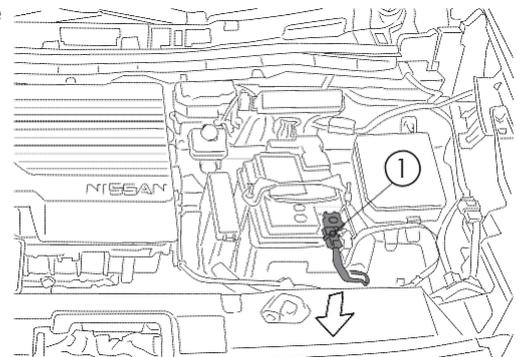
7. **Wait at least ten (10) minutes for complete discharge** of the high voltage capacitor after the service plug has been removed.
8. Open the bonnet.



9. Disconnect the negative (-) 12V battery cable (1). Insulate the negative (-) battery cable terminal with insulated tape.

NOTE:

↓: Arrow in illustration depicts vehicle front direction.



10. The vehicle is now ready for storage.



Zero Emission

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