

4-3. Do-it-yourself maintenance

Do-it-yourself service precautions

If you perform maintenance yourself, be sure to follow the correct procedure given in these sections.

Items	Parts and tools
Battery condition (→P. 518)	• Warm water • Baking soda • Grease • Conventional wrench (for terminal clamp bolts)
Brake fluid level (→P. 516)	• FMVSS No.116 DOT 3 or SAE J1703 brake fluid • Rag or paper towel • Funnel (used only for adding brake fluid)
Engine coolant level (→P. 513)	• “Toyota Super Long Life Coolant” or similar high quality ethylene glycol based non-silicate, non-amine, non-nitrite and non-borate coolant with long-life hybrid organic acid technology. For the U.S.A.: “Toyota Super Long Life Coolant” is pre-mixed with 50% coolant and 50% deionized water. For Canada: “Toyota Super Long Life Coolant” is pre-mixed with 55% coolant and 45% deionized water. • Funnel (used only for adding coolant)

4-3. Do-it-yourself maintenance

Items	Parts and tools
Engine oil level (→P. 509)	• “Toyota Genuine Motor Oil” or equivalent • Rag or paper towel • Funnel (used only for adding engine oil)
Fuses (→P. 543)	• Fuse with same amperage rating as original
Radiator and condenser (→P. 515)	—
Tire inflation pressure (→P. 529)	• Tire pressure gauge • Compressed air source
Washer fluid (→P. 521)	• Water • Washer fluid containing antifreeze (for winter use) • Funnel (used only for adding washer fluid)

 CAUTION

The engine compartment contains many mechanisms and fluids that may move suddenly, become hot, or become electrically energized. To avoid death or serious injury observe the following precautions.

■ **When working on the engine compartment**

- Keep hands, clothing, and tools away from the moving fan and engine drive belt.
- Be careful not to touch the engine, inverter, radiator, exhaust manifold, etc. right after driving as they may be hot. Oil and other fluids may also be hot.
- Do not leave anything that may burn easily, such as paper or rags, in the engine compartment.
- Do not smoke, cause sparks or expose an open flame to fuel or the battery. Fuel and battery fumes are flammable.
- Be extremely cautious when working on the battery. It contains poisonous and corrosive sulfuric acid.

 CAUTION

■ **When working near the electric cooling fan or radiator grille**

▶ Vehicles with smart key system

Be sure the “ENGINE START STOP” switch is off. With the “ENGINE START STOP” switch in IGNITION ON mode, the electric cooling fan may automatically start to run if the air conditioning is on and/or if the coolant temperature is high. (→P. 515)

▶ Vehicles without smart key system

Be sure the engine switch is in the “LOCK” position. With the engine switch in the “ON” position, the electric cooling fan may automatically start to run if the air conditioning is on and/or if the coolant temperature is high. (→P. 515)

■ **When working on or under the vehicle**

Do not get under the vehicle with just the jack supporting it.
Always use automotive jack stands or other solid supports.

■ **Safety glasses**

Wear safety glasses to prevent flying or falling material, fluid spray, etc. from getting in your eyes.

 NOTICE

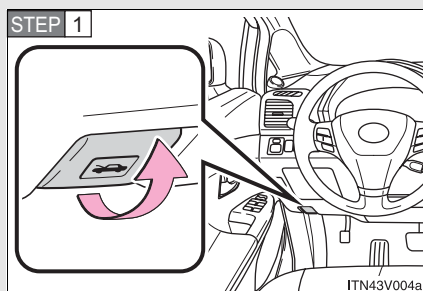
■ **If you remove the air cleaner filter**

Driving with the air cleaner filter removed may cause excessive engine wear due to dirt in the air. Also a backfire could cause a fire in the engine compartment.

4-3. Do-it-yourself maintenance

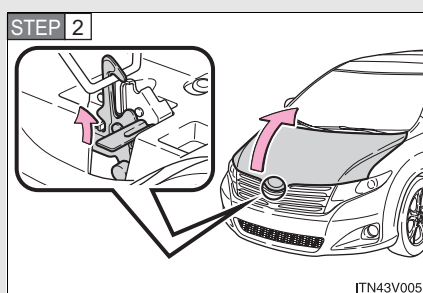
Hood

Release the lock from the inside of the vehicle to open the hood.

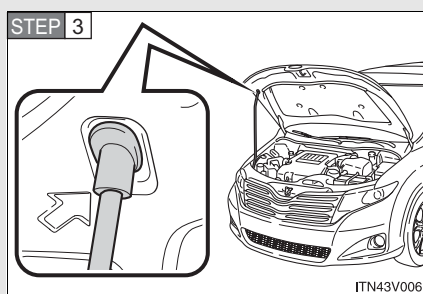


Pull the hood release lever.

The hood will pop up slightly.



Lift the hood catch and lift the hood.



Hold the hood open by inserting the supporting rod into the slot.

4-3. Do-it-yourself maintenance

CAUTION

■ **Pre-driving check**

Check that the hood is fully closed and locked.
If the hood is not locked properly it may open while the vehicle is in motion and cause an accident, which may result in death or serious injury.

■ **After installing the support rod into the slot**

Make sure the rod supports the hood securely from falling down on to your head or body.

NOTICE

■ **When closing the hood**

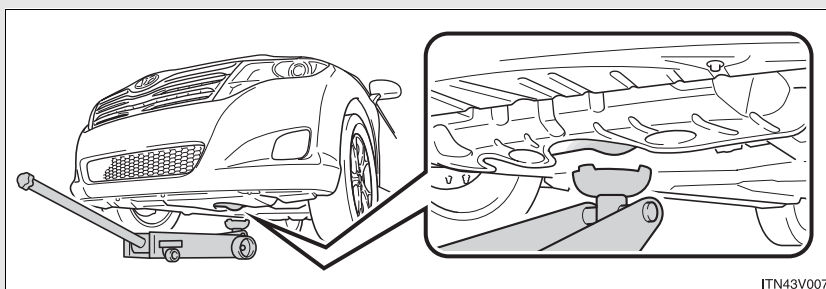
Be sure to return the support rod to its clip before closing the hood. Closing the hood with the support rod up could cause the hood to bend.

4-3. Do-it-yourself maintenance

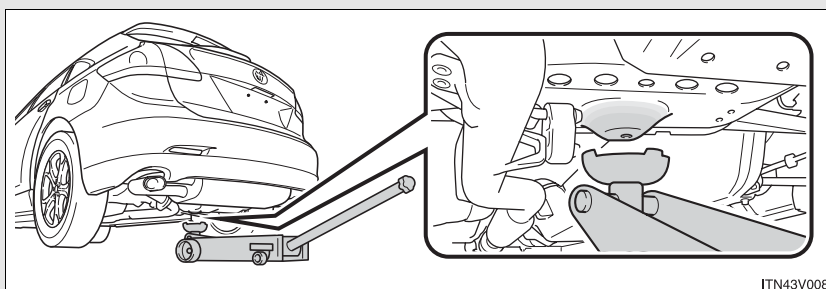
Positioning a floor jack

When raising your vehicle with a floor jack, position the jack correctly. Improper placement may damage your vehicle or cause injury.

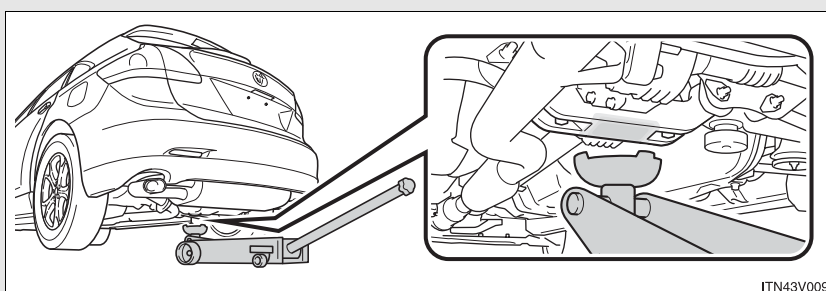
► Front



► Rear (2WD models)



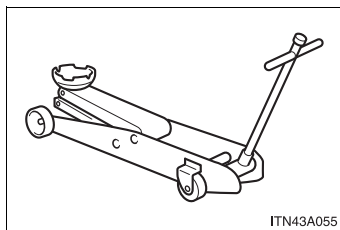
► Rear (AWD models)



⚠ CAUTION

■ When raising your vehicle

Make sure to observe the following to reduce the possibility of death or serious injury.



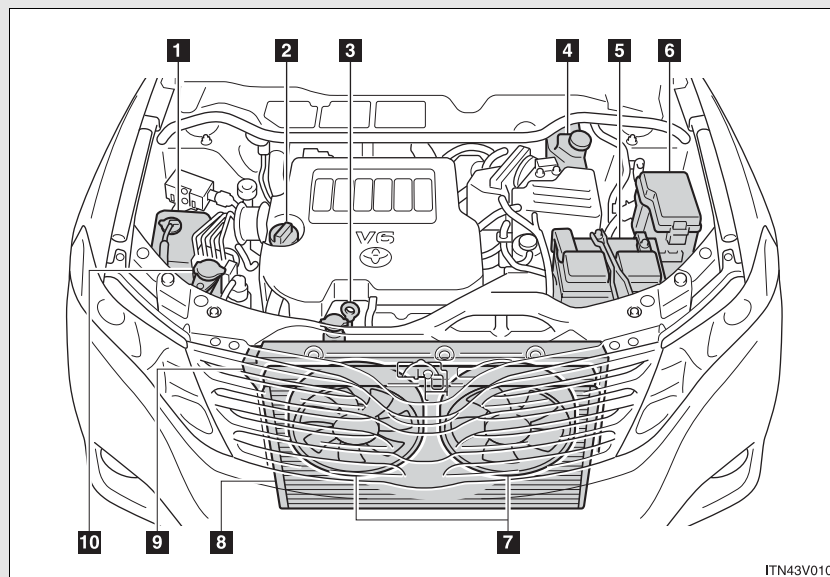
● Lift up the vehicle using a floor jack such as the one shown in the illustration.

- When using a floor jack, follow the instructions of the manual provided with the jack.
- Do not use the jack that was supplied with your vehicle.
- Do not put any part of your body or get underneath the vehicle supported only by the floor jack.
- Always use floor jack and/or automotive jack stands on a solid, flat, level surface.
- Do not start the engine while the vehicle is supported by the floor jack.
- Stop the vehicle on level firm ground, firmly set the parking brake and put the shift lever in "P".
- Make sure to set the floor jack properly at the jack point.
Raising the vehicle with an improperly positioned floor jack will damage the vehicle and may cause the vehicle to fall off the floor jack.
- Do not raise the vehicle while someone is in the vehicle.
- When raising the vehicle, do not place any objects on top of or underneath the floor jack.

4-3. Do-it-yourself maintenance

Engine compartment

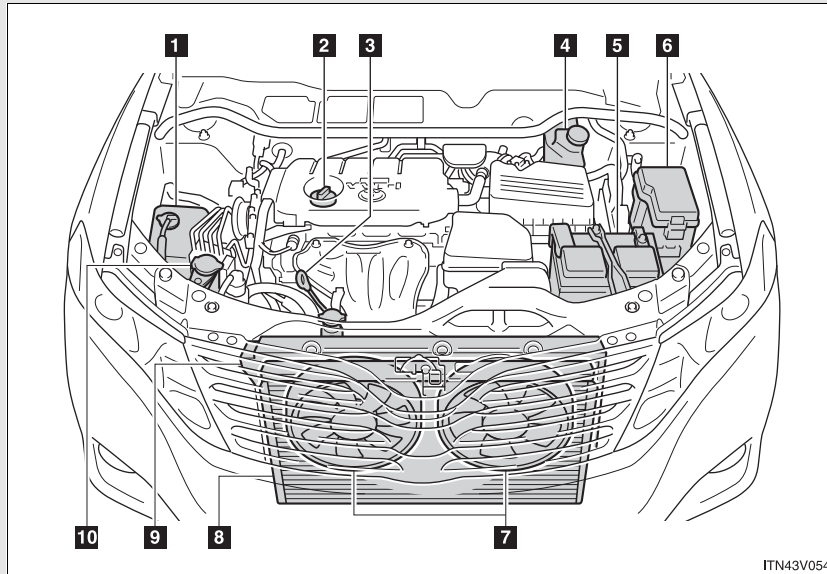
► 2GR-FE engine



- | | |
|---|--|
| 1 Engine coolant reservoir
(→P. 513) | 5 Battery
(→P. 518) |
| 2 Engine oil filler cap
(→P. 511) | 6 Fuse box
(→P. 543) |
| 3 Engine oil level dipstick
(→P. 509) | 7 Electric cooling fans |
| 4 Brake fluid reservoir
(→P. 516) | 8 Condenser
(→P. 515) |
| | 9 Radiator
(→P. 515) |
| | 10 Washer fluid tank
(→P. 521) |

4-3. Do-it-yourself maintenance

► 1AR-FE engine



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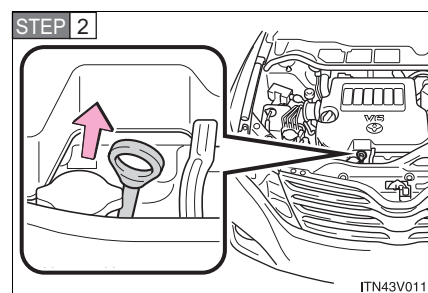
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(→P. 515) |
| | 10 Washer fluid tank
(→P. 521) |

Engine oil

With the engine at operating temperature and turned off, check the oil level on the dipstick.

■ Checking the engine oil

STEP 1 Park the vehicle on level ground. After warming up the engine and turning it off, wait more than five minutes for the oil to drain back into the bottom of the engine.



Hold a rag under the end and pull the dipstick out.

STEP 3 Wipe the dipstick clean.

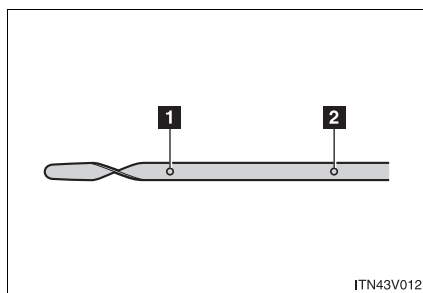
STEP 4 Reinsert the dipstick fully.

STEP 5 Holding a rag under the end, pull the dipstick out and check the oil level.

4-3. Do-it-yourself maintenance

STEP 6 Wipe the dipstick and reinsert it fully.

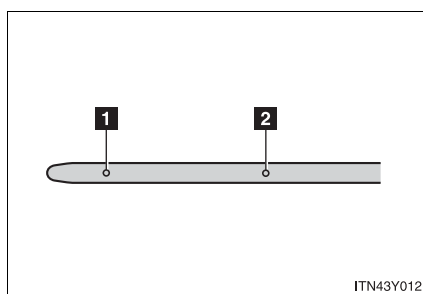
► 2GR-FE engine



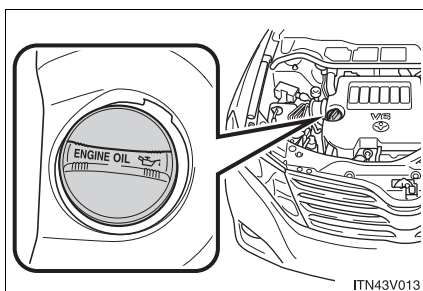
1 Low

2 Full

► 1AR-FE engine



■ Adding engine oil



If the oil level is below or near the low level mark, add engine oil of the same type as already in the engine.

Make sure to check the oil type and prepare the items needed before adding oil.

Engine oil selection	→P. 628
Oil quantity (Low → Full)	1.6 qt. (1.5 L, 1.3 Imp. qt.)
Items	Clean funnel

- STEP 1** Remove the oil filler cap.
- STEP 2** Add engine oil slowly, checking the dipstick.
- STEP 3** Install the filler cap, turning it clockwise.

■ Engine oil consumption

- The amount of engine oil consumed depends on the oil viscosity, the quality of the oil and the way the vehicle is driven.
- More oil is consumed under driving conditions such as high speeds and frequent acceleration and deceleration.
- A new engine consumes more oil.
- When judging the amount of oil consumption, keep in mind that the oil may have become diluted, making it difficult to judge the true level accurately.
- Oil consumption: Max. 1.1 qt./600 miles, 0.9 Imp.qt./600 miles (1.0 L per 1000 km)
- If you consume more than 1.1 qt. (1.0 L, 0.9 Imp.qt.) every 600 miles (1000 km), contact your Toyota dealer.

CAUTION

■ Used engine oil

- Used engine oil contains potentially harmful contaminants which may cause skin disorders such as inflammation or skin cancer, so care should be taken to avoid prolonged and repeated contact. To remove used engine oil from your skin, wash thoroughly with soap and water.
- Dispose of used oil and filters only in a safe and acceptable manner. Do not dispose of used oil and filters in household trash, in sewers or onto the ground.
Call your Toyota dealer, service station or auto parts store for information concerning recycling or disposal.
- Do not leave used engine oil within the reach of children.

 NOTICE

■ **To prevent serious engine damage**

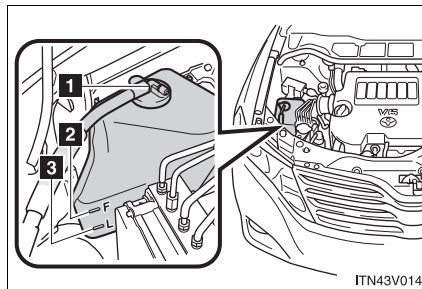
Check the oil level on regular basis.

■ **When replacing the engine oil**

- Be careful not to spill engine oil on the vehicle components.
- Avoid overfilling, or the engine could be damaged.
- Check the oil level on the dipstick every time you refill the vehicle.
- Be sure the engine oil filler cap is properly retightened.

Engine coolant

The coolant level is satisfactory if it is between the “F” and “L” lines on the reservoir when the engine is cold.



1 Reservoir cap

2 Full

3 Low

If the level is on or below the “L” line, add coolant up to the “F” line.

■ **If the coolant level drops within a short time after replenishing**

Visually check the radiator, hoses, reservoir cap, radiator cap, drain cock and water pump.

If you cannot find a leak, have your Toyota dealer pressure test the cap and check for leaks in the cooling system.

■ **Coolant selection**

Only use "Toyota Super Long Life Coolant" or similar high quality ethylene glycol based non-silicate, non-amine, non-nitrite, and non-borate coolant with long-life hybrid organic acid technology.

U.S.A.: "Toyota Super Long Life Coolant" is a mixture of 50% coolant and 50% deionized water. (Enabled: -31°F [-35°C])

Canada: "Toyota Super Long Life Coolant" is a mixture of 55% coolant and 45% deionized water. (Enabled: -44°F [-42°C])

For more details about engine coolant, contact your Toyota dealer.

 CAUTION

■ **When the engine is hot**

Do not remove the radiator cap.

The cooling system may be under pressure and may spray hot coolant if the cap is removed, causing serious injuries, such as burns.

 NOTICE **When adding the engine coolant**

Coolant is neither plain water nor straight antifreeze. The correct mixture of water and antifreeze must be used to provide proper lubrication, corrosion protection and cooling. Be sure to read the antifreeze or coolant label.

 If you spill coolant

Be sure to wash it off with water to prevent it damage to parts or paint.

Radiator and condenser

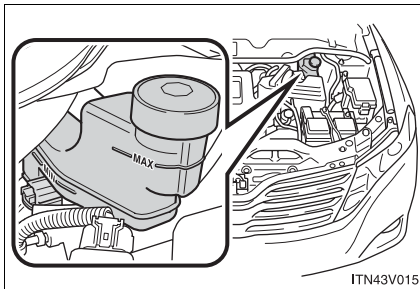
Check the radiator and condenser and clear any foreign objects.
If either of the above parts are extremely dirty or you are not sure of their condition, have your vehicle checked by your Toyota dealer.

 CAUTION **When the engine is hot**

Do not touch the radiator or condenser as they may be hot and cause serious injuries, such as burns.

Brake fluid

■ Checking fluid level



The brake fluid level should be between the “MAX” and “MIN” lines on the tank.

Make sure to check the fluid type and prepare the necessary items.

■ Adding fluid

Fluid type	FMVSS No.116 DOT 3 or SAE J1703 brake fluid
Items	Clean funnel

■ **Brake fluid can absorb moisture from the air**

Excess moisture in the fluid can cause a dangerous loss of braking efficiency. Use only newly opened brake fluid.

 CAUTION

■ **When filling the reservoir**

Take care because brake fluid can harm your hands or eyes and damage painted surfaces.

If fluid gets in your eyes, flush your eyes with clean water immediately.

If you still experience discomfort, see a doctor.

 NOTICE

■ **If the fluid level is low**

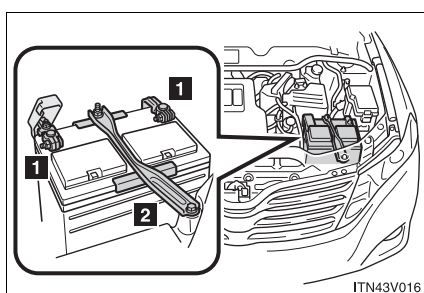
It is normal for the brake fluid level to go down slightly as the brake pads wear or when the fluid level in the accumulator is high.

If the reservoir needs frequent refilling, it may indicate a serious problem.

Battery

■ Battery exterior

Make sure that the battery terminals are not corroded and that there are no loose connections, cracks, or loose clamps.



1 Terminals

2 Hold-down clamp

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■ Before recharging

When recharging, the battery produces hydrogen gas which is flammable and explosive. Therefore, before recharging:

- If recharging with the battery installed on the vehicle, be sure to disconnect the ground cable.
- Make sure the power switch on the charger is off when connecting and disconnecting the charger cables to the battery.

■ After recharging the battery (vehicles with smart key system)

The engine may not start. Follow the procedure below to initialize the system.

- STEP 1** Depress the brake pedal with the shift lever in "N".
- STEP 2** Open and close any of the doors.
- STEP 3** Restart the engine.

⚠ CAUTION**■ Chemicals in the battery**

A battery contains poisonous and corrosive sulfuric acid and may produce hydrogen gas which is flammable and explosive. To reduce the risk of death or serious injury, take the following precautions while working on or near battery:

- Do not cause sparks by touching the battery terminals with tools.
- Do not smoke or light a match near the battery.
- Avoid contact with eyes, skin and clothes.
- Never inhale or swallow electrolyte.
- Wear protective safety glasses when working near the battery.
- Keep children away from the battery.

 CAUTION

■ **Where to safely charge the battery**

Always charge the battery in an open area. Do not charge the battery in a garage or closed room where there is not sufficient ventilation.

■ **How to recharge the battery**

Only perform a slow charge (5 A or less). The battery may explode if charged at a quicker rate.

■ **Emergency measures regarding electrolyte**

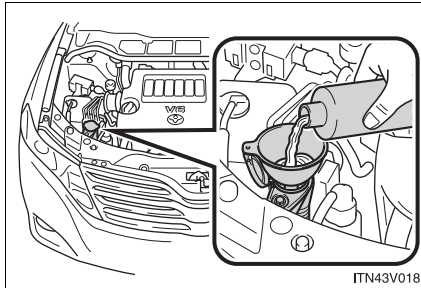
- If electrolyte gets in your eyes
Flush your eyes with clean water for at least 15 minutes and get immediate medical attention. If possible, continue to apply water with a sponge or cloth while traveling to the nearest medical facility.
- If electrolyte gets on your skin
Wash the affected area thoroughly. If you feel pain or a burning sensation, seek medical attention immediately.
- If electrolyte gets on your clothes
It can soak through clothing on to your skin. Immediately take off the clothing and follow the procedure above if necessary.
- If you accidentally swallow electrolyte
Drink a large quantity of water or milk. Get emergency medical attention immediately.

 NOTICE

■ **When recharging the battery**

Never recharge the battery while the engine is running. Also, be sure all accessories are turned off.

Washer fluid



If any washer does not work or the low windshield washer fluid level warning light comes on, the washer tank may be empty. Add washer fluid.

⚠ CAUTION

■ When refilling the washer fluid

Do not refill the washer fluid when the engine is hot or running, as the washer fluid contains alcohol and may catch fire if spilled on the engine etc.

⚠ NOTICE

■ Do not use any fluid other than washer fluid

Do not use soapy water or engine antifreeze instead of washer fluid. Doing so may cause streaking on the vehicle's painted surfaces.

■ Diluting washer fluid

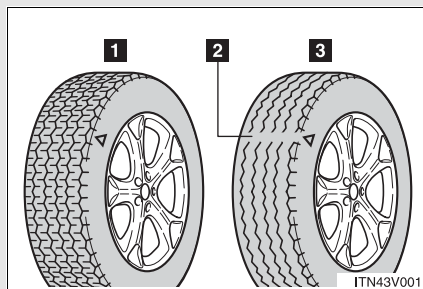
Dilute washer fluid with water as necessary. Refer to the freezing temperatures listed on the label of the washer fluid bottle.

4-3. Do-it-yourself maintenance

Tires

Replace or rotate tires in accordance with maintenance schedules and treadwear.

■ Checking tires

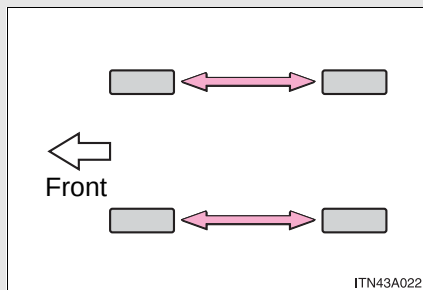


- 1** New tread
- 2** Treadwear indicator
- 3** Worn tread

The location of treadwear indicators is shown by the "TWI" or "Δ" marks, etc., molded on the sidewall of each tire.

Check spare tire condition and inflation pressure if not rotated.

■ Tire rotation



Rotate the tires in the order shown.

To equalize tire wear and extend tire life, Toyota recommends that tire rotation is carried out at the same interval as tire inspection.

■ The tire pressure warning system

Your Toyota is equipped with a tire pressure warning system that uses tire pressure warning valves and transmitters to detect low tire inflation pressure before serious problems arise. (→P. 579)

The compact spare tire is not equipped with a tire pressure warning valve and transmitter.

Installing tire pressure warning valves and transmitters

When replacing tires or wheels, tire pressure warning valves and transmitters must also be installed.

When new tire pressure warning valves and transmitters are installed, new tire pressure warning valve and transmitter ID codes must be registered in the tire pressure warning computer and the tire pressure warning system must be initialized. Have tire pressure warning valve and transmitter ID codes registered by your Toyota dealer.

Registering ID codes

The tire pressure warning valve and transmitter is equipped with a unique ID code. When replacing a tire pressure warning valve and transmitter, it is necessary to register the ID code of tire pressure warning valve and transmitter. Have the ID code registered by your Toyota dealer.

■ When to replace your vehicle's tires

Tires should be replaced if:

- You have tire damage such as cuts, splits, cracks deep enough to expose the fabric or bulges indicating internal damage
- A tire goes flat repeatedly or cannot be properly repaired due to the size or location of a cut or other damage

If you are not sure, consult with your Toyota dealer.

■ Replacing tires and wheels

If the ID code of the tire pressure warning valve and transmitter is not registered, the tire pressure warning system will not work properly. After driving for about 20 minutes, the tire pressure warning light comes on after blinking for 1 minute to indicate a system malfunction.

■ Tire life

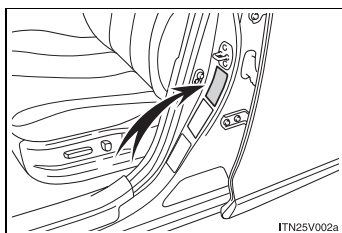
Any tire over 6 years old must be checked by a qualified technician even if they have seldom or never been used or damage is not obvious.

■ If the tread wears down below 0.16 in. (4 mm) on snow tires

The effectiveness of snow tires is lost.

■ Maximum load of tire

Check that the number given by dividing the maximum load by 1.10 of the replacement tire is greater than 1/2 of the Gross Axle Weight Ratings (GAWR) of either the front axle or the rear axle, whichever is greater.



For the GAWR, see the Certification Label. For the maximum load of the tire, see the load limit at maximum cold tire inflation pressure mentioned on the sidewall of the tire. (→P. 642)

■ Tire types

1 Summer tires

Summer tires are high-speed performance tires best suited to highway driving under dry conditions. Since summer tires do not have the same traction performance as snow tires, summer tires are inadequate for driving on snow-covered or icy roads. For driving on snow-covered roads or icy roads, the use of snow tires is recommended. When installing snow tires, be sure to replace all four tires.

2 All season tires

All season tires are designed to provide better traction in snow and to be adequate for driving in most winter conditions, as well as for use year round. All season tires, however, do not have adequate traction performance compared with snow tires in heavy or loose snow. Also, all season tires fall short in acceleration and handling performance compared with summer tires in highway driving.

3 Snow tires

For driving on snow-covered roads or icy roads, we recommend using snow tires. If you need snow tires, select tires of the same size, construction and load capacity as the originally installed tires. Since your vehicle has radial tires as original equipment, make sure your snow tires also have radial construction. Do not install studded tires without first checking local regulations for possible restriction. Snow tires should be installed on all wheels. (→P. 248)

■ **Routine tire inflation pressure checks**

The tire pressure warning system does not replace routine tire inflation pressure checks. Make sure to check tire inflation pressure as part of your routine of daily vehicle checks.

■ **Tire pressure warning system certification**

- For vehicles sold in the U.S.A.

FCC ID: PAXPMV107J

FCC ID: HYQ13BCX

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC WARNING

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

- For vehicles sold in Canada

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

 CAUTION **When inspecting or replacing tires**

Observe the following precautions to prevent accidents. Failure to do so may cause damage to parts of the drive train, as well as dangerous handling characteristics, which may lead to an accident resulting in death or serious injury.

- Do not mix tires of different makes, models or tread patterns. Also, do not mix tires of remarkably different treadwear.
- Do not use tire sizes other than those recommended by Toyota.
- Do not mix differently constructed tires (radial, bias-belted, or bias-ply tires).
- Do not mix summer, all season and winter tires.
- Do not use tire that have been used on another vehicle.
Do not use tires if you do not know they were used previously.
- Do not tow the vehicle with the compact spare tire installed.

 NOTICE

■ **Repairing or replacing tires, wheels, tire pressure warning valves, transmitters and tire valve caps**

- When removing or fitting the wheels, tires or the tire pressure warning valve and transmitter, contact your Toyota dealer as the tire pressure warning valve and transmitter may be damaged if not handled correctly.
- When replacing tire valve caps, do not use tire valve caps other than those specified. The cap may become stuck.

■ **To avoid damage to the tire pressure warning valves and transmitters**

When a tire is repaired with liquid sealants, the tire pressure warning valve and transmitter may not operate properly. If a liquid sealant is used, contact your Toyota dealer or other qualified service shop as soon as possible. Make sure to replace the tire pressure warning valve and transmitter when replacing the tire (→P. 523)

■ **Driving on rough roads**

Take particular care when driving on roads with loose surfaces or potholes.

These conditions may cause losses in tire inflation pressure, reducing the cushioning ability of the tires. In addition driving on rough roads may cause damage to the tires themselves, as well as the vehicle's wheels and body.

■ **If tire inflation pressures become low while driving**

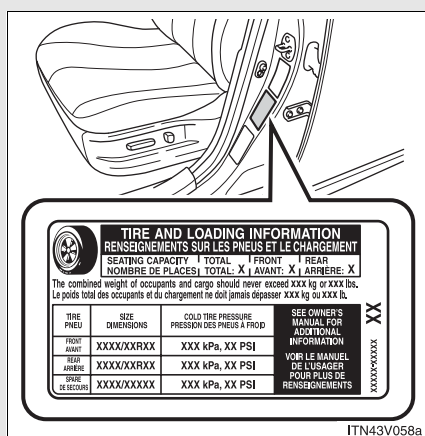
Do not continue driving, or your tires and/or wheels may be ruined.

4-3. Do-it-yourself maintenance

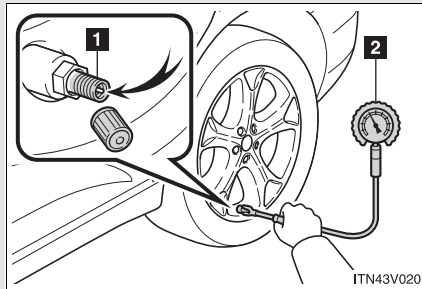
Tire inflation pressure

■ Tire inflation pressure

The recommended cold tire inflation pressure and tire size is displayed on the tire and loading information label. (→P. 635)



■ Inspection and adjustment procedure



- 1 Tire valve
- 2 Tire pressure gauge

- STEP 1** Remove the tire valve cap.
- STEP 2** Press the tip of the tire pressure gauge onto the tire valve.
- STEP 3** Read the pressure using the graduations of the gauge.
- STEP 4** If the tire inflation pressure is not within the recommended levels, adjust tire pressure.
If you add too much air, press the center of the valve to lower.
- STEP 5** After completing the tire inflation pressure measurement and adjustment, apply soapy water to the valve and check for leakage.
- STEP 6** Reinstall the tire valve cap.

■ Tire inflation pressure check interval

You should check tire inflation pressure every 2 weeks, or at least once a month.

Do not forget to check the spare.

■ Effects of incorrect tire inflation pressure

Driving with incorrect tire inflation pressure may result in the following:

- Reduced fuel efficiency
- Reduced driving comfort and tire life
- Reduced safety
- Damage to the drive train

If a tire needs frequent refilling, have it checked by your Toyota dealer.

■ Instructions for checking tire inflation pressure

When checking tire inflation pressure, observe the following:

- Check only when the tires are cold.
If your vehicle has been parked for at least 3 hours or has not been driven for more than 1 mile or 1.5 km, you will get an accurate cold tire inflation pressure reading.
- Always use a tire pressure gauge.
The appearance of the tire can be misleading. In addition, tire inflation pressures that are even just a few pounds off can degrade ride and handling.
- Do not bleed or reduce tire inflation pressure after driving. It is normal for the tire inflation pressure to be higher after driving.
- Never exceed the vehicle capacity weight.
Passengers and luggage weight should be placed so that the vehicle is balanced.

4-3. Do-it-yourself maintenance

CAUTION

■ **Proper inflation is critical to save tire performance**

Keep your tires properly inflated. Otherwise, the following conditions may occur and result in an accident causing death or serious injury.

- Excessive wear
- Uneven wear
- Poor handling
- Possibility of blowouts resulting from overheated tires
- Poor sealing of the tire bead
- Wheel deformation and/or tire separation
- A greater possibility of tire damage from road hazards

NOTICE

■ **When inspecting and adjusting tire inflation pressure**

Be sure to reinstall the tire valve caps.

Without the valve caps, dirt or moisture could get into the valve and cause air leakage, which could result in an accident. If the caps have been lost, replace them as soon as possible.

4-3. Do-it-yourself maintenance

Wheels

If a wheel is bent, cracked or heavily corroded, it should be replaced.

Otherwise, the tire may separate from the wheel or cause loss of handling control.

■ Wheel selection

When replacing wheels, care should be taken to ensure that they are equivalent to those removed in load capacity, diameter, rim width, and inset*.

Replacement wheels are available at your Toyota dealer.

*: Conventionally referred to as "offset".

Toyota does not recommend using:

- Wheels of different sizes or types
- Used wheels
- Bent wheels that have been straightened

■ Aluminum wheel precautions

- Use only Toyota wheel nuts and wrenches designed for use with your aluminum wheels.
- When rotating, repairing or changing your tires, check that the wheel nuts are still tight after driving 1000 miles (1600 km).
- Be careful not to damage the aluminum wheels when using tire chains.
- Use only Toyota genuine balance weights or equivalent and a plastic or rubber hammer when balancing your wheels.

■ When replacing wheels

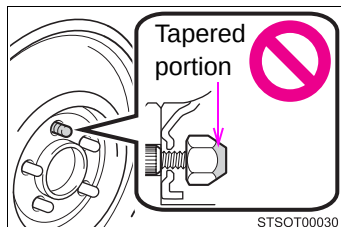
The wheels of your Toyota are equipped with tire pressure warning valves and transmitters that allow the tire pressure warning system to provide advanced warning in the event of a loss in tire inflation pressure. Whenever wheels are replaced, the tire pressure warning valves and transmitters must be installed. (→P. 523)

⚠ CAUTION

■ When replacing wheels

- Do not use wheels that are a different size from those recommended in the Owner's Manual, as this may result in loss of handling control.
- Never use an inner tube in a leaking wheel which is designed for a tubeless tire. Doing so may result in an accident, causing death or serious injury.

■ When installing the wheel nuts



- Be sure to install the wheel nuts with the tapered ends facing inward. Installing the nuts with the tapered ends facing outward can cause the wheel to break and eventually cause the wheel to come off while driving, which could lead to an accident resulting in death or serious injury.

- Never use oil or grease on the wheel bolts or wheel nuts. Oil and grease may cause the wheel nuts to be excessively tightened, leading to bolt or disc wheel damage. In addition, the oil or grease can cause the wheel nuts to loosen and the wheel may fall off, causing an accident and resulting in death or serious injury. Remove any oil or grease from the wheel bolts or wheel nuts.

 NOTICE

■ **Replacing tire pressure warning valves and transmitters**

- Because tire repair or replacement may affect the tire pressure warning valves and transmitters, make sure to have tires serviced by your Toyota dealer or other qualified service shop. In addition, make sure to purchase your tire pressure warning valves and transmitters at your Toyota dealer.
- Ensure that only genuine Toyota wheels are used on your vehicle. Tire pressure warning valves and transmitters may not work properly with non-genuine wheels.

4-3. Do-it-yourself maintenance

Air conditioning filter

The air conditioning filter must be changed regularly to maintain air conditioning efficiency.

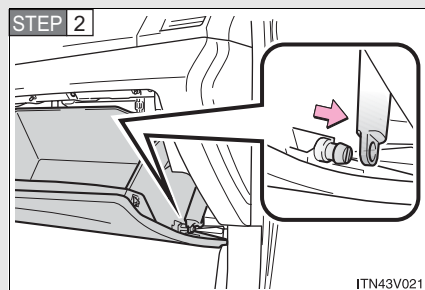
■ Removal method

STEP 1 Vehicles with smart key system:

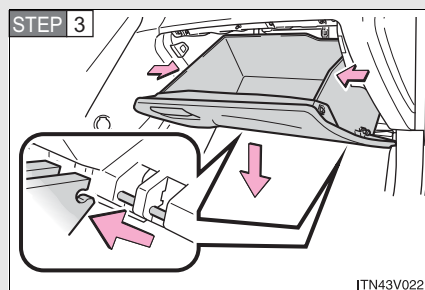
Turn the “ENGINE START STOP” switch off.

Vehicles without smart key system:

Turn the engine switch to the “LOCK” position.

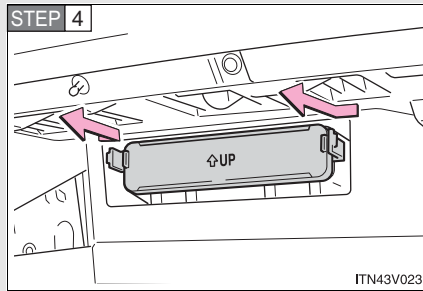


Open the glove box. Slide off the damper.

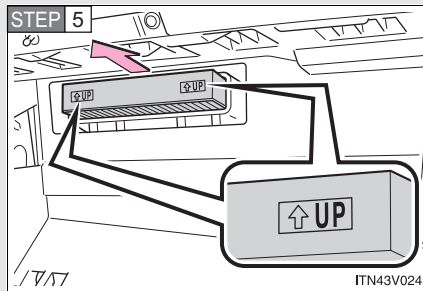


Push each side of the glove box to release the pins. Then disconnect the claws at the bottom and remove the glove box.

4-3. Do-it-yourself maintenance



Remove the filter cover.



Remove the air conditioning filter and replace it with a new one.

The "↑UP" marks shown on the filter should be pointing up.

4-3. Do-it-yourself maintenance

■ **Checking interval**

Inspect and replace the air conditioning filter according to the maintenance schedule. In dusty areas or areas with heavy traffic flow, or early replacement may be required. (For scheduled maintenance information, refer to the “Scheduled Maintenance Guide”, “Owner’s Manual Supplement”.)

■ **If air flow from the vents decreases dramatically**

The filter may be clogged. Check the filter and replace if necessary.



NOTICE

■ **To prevent damage to the system**

When using the air conditioning system, make sure that a filter is always installed.

4-3. Do-it-yourself maintenance

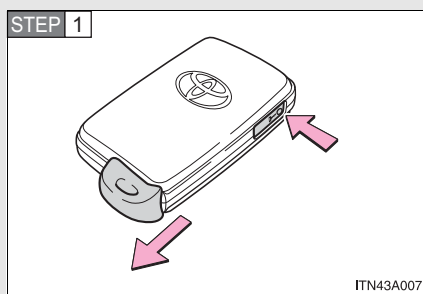
Key battery

Replace the battery with a new one if it is discharged.

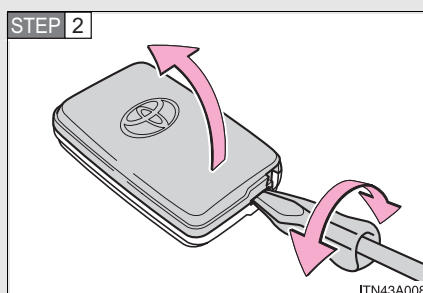
■ **You will need the following items:**

- Flathead screwdriver (To prevent damage to the key, cover the tip of the screwdriver with rag.)
- Small Phillips-head screwdriver
- Lithium battery
Vehicles with smart key system: CR1632
Vehicles without smart key system: CR2025

■ **Replacing the battery (vehicles with smart key system)**



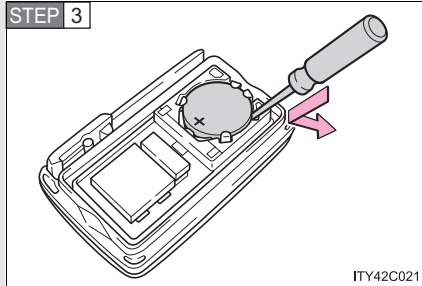
Take out the mechanical key.



Remove the cover.

4-3. Do-it-yourself maintenance

STEP 3

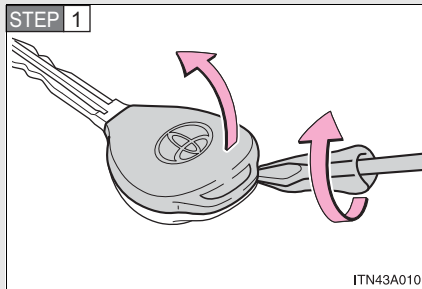


Remove the depleted battery.

Insert a new battery with the "+" terminal facing up.

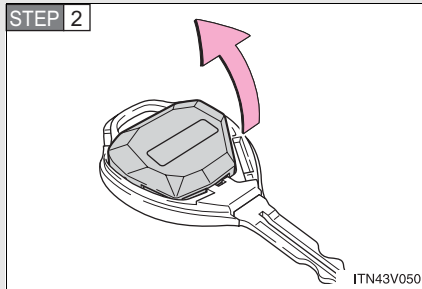
■ Replacing the battery (vehicles without smart key system)

STEP 1

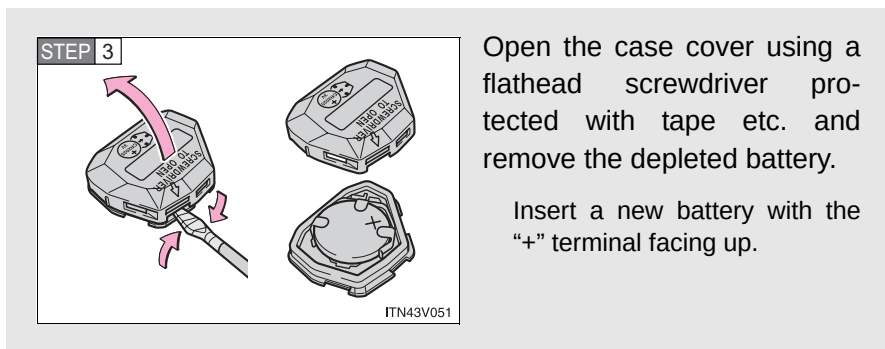


Remove the cover.

STEP 2



Remove the module.



■ **If the electronic key battery is discharged**

The following symptoms may occur.

- The smart key system and wireless remote control will not function properly.
- The operational range is reduced.

■ **Use a CR1632 (vehicles with smart key system), or CR2025 (vehicles without smart key system) lithium battery**

- Batteries can be purchased at your Toyota dealer, jewelers, or camera stores.
- Replace only with the same or equivalent type recommended by a Toyota dealer.
- Dispose of used batteries according to the local laws.

4-3. Do-it-yourself maintenance

CAUTION

■ **Removed battery and other parts**

Keep away from children. These parts are small and if swallowed by a child they can cause choking. Failure to do so could result in death or serious injury.

NOTICE

■ **For normal operation after replacing the battery**

Observe the following precautions to prevent accidents.

- Always work with dry hands.
Moisture may cause the battery to rust.
- Do not touch or move any other components inside the electronic key.
- Do not bend the battery terminals.

4-3. Do-it-yourself maintenance

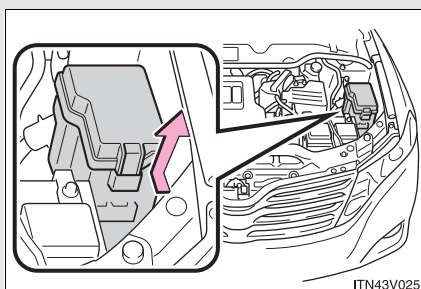
Checking and replacing fuses

If any of the electrical components do not operate, a fuse may have blown. If this happens, check and replace the fuses as necessary.

- STEP 1** Vehicles with smart key system:
Turn the “ENGINE START STOP” switch off.
Vehicles without smart key system:
Turn the engine switch to the “LOCK” position.

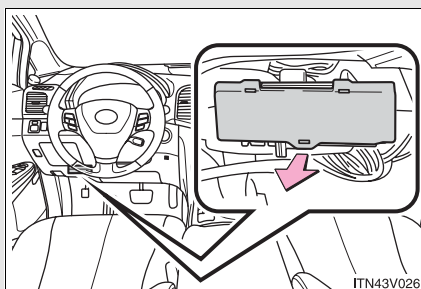
STEP 2 Open the fuse box cover.

► Engine compartment



Push the tab in and lift the lid off.

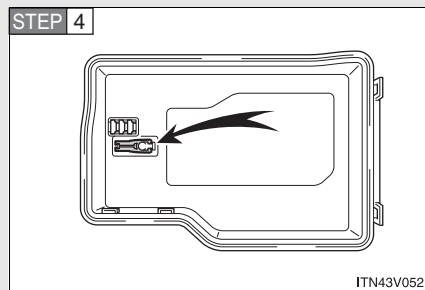
► Driver's side instrument panel



Remove the lid.

4-3. Do-it-yourself maintenance

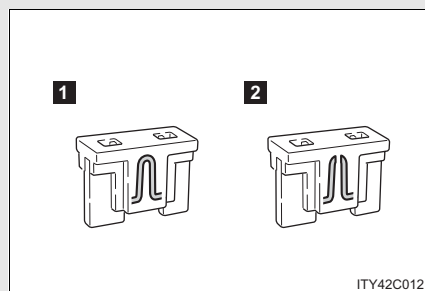
STEP 3 After a system failure, see “Fuse layout and amperage ratings” (→P. 545) for details about which fuse to check.



Remove the fuse with the pull-out tool.

STEP 5 Check if the fuse has blown.

► Type A

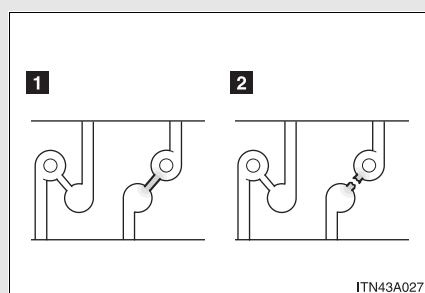


1 Normal fuse

2 Blown fuse

Replace it with one of an appropriate amperage rating. The amperage rating can be found on the fuse box lid.

► Type B



1 Normal fuse

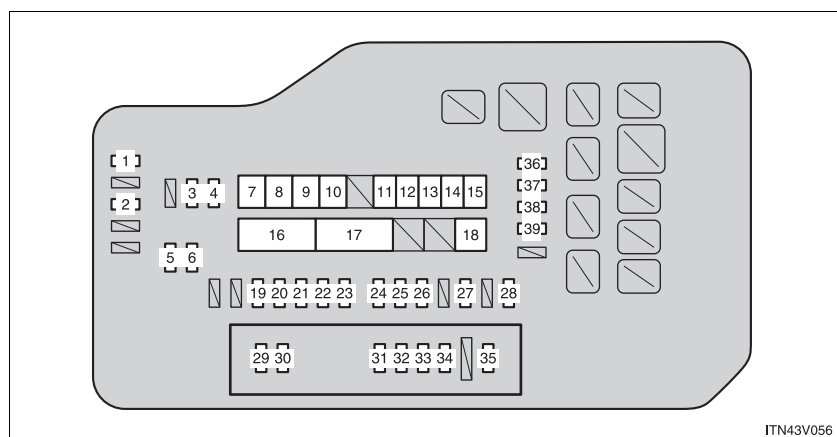
2 Blown fuse

Contact your Toyota dealer.

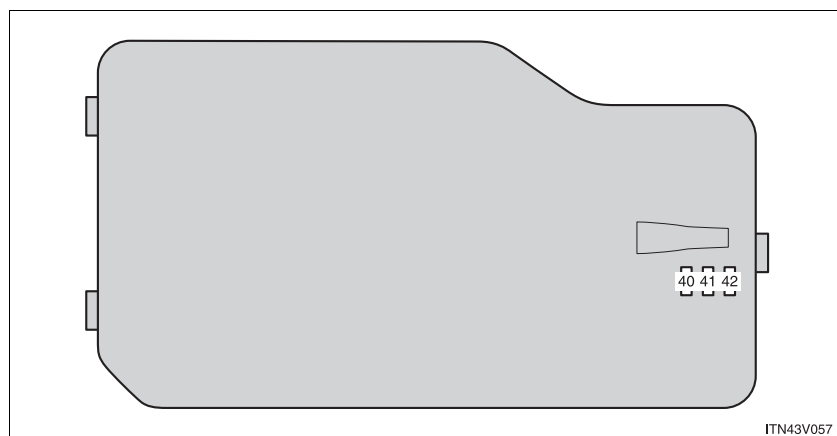
Fuse layout and amperage ratings

■ Engine compartment

► Fuse block



► Back of the cover



4-3. Do-it-yourself maintenance

	Fuse	Ampere	Circuit
1	AC 115V	15 A	Power outlet
2	DEICER	20 A	Windshield wiper de-icer
3	INJ NO.1	15 A	Multi-port fuel injection system/ sequential multi-port fuel injection system
4	INJ NO.2	15 A	Igniter system
5	EFI NO.2	15 A	Multi-port fuel injection system/ sequential multi-port fuel injection system
6	EFI NO.3	10 A	Multi-port fuel injection system/ sequential multi-port fuel injection system
7	HEATER	50 A	Air conditioning system
8	ABS NO.1	50 A	Anti-lock brake system, vehicle stability control system
9	FAN MAIN* ¹	50 A	Electric cooling fan
10	ABS NO.2	30 A	Anti-lock brake system, vehicle stability control system
11	CDS FAN* ²	30 A	Electric cooling fan
12	RDI FAN* ²	30 A	Electric cooling fan
13	FAN MAIN* ¹	40 A	Electric cooling fan
14	PBD	30 A	Power back door
15	RR DEF	30 A	Rear window defogger
16	ALT	140 A* ³ or 120 A* ³	Charging system, HEATER, ABS NO.1, FAN MAIN, ABS NO.2, PBD, RR DEF, MIR HTR, DEICER
17	EPS	80 A	Electric power steering
18	ST/AM2	30 A	Starting system
19	DOOR NO.1	20 A	Power door lock system
20	STR LOCK	20 A	Steering lock system
21	SEC HORN	7.5 A	SEC HORN
22	AM2	7.5 A	Multiplex communication system, starting system
23	ALT-S	7.5 A	Charging system

Fuse		Ampere	Circuit
24	EFI NO.1	10 A	Smart key system, multi-port fuel injection system/sequential multi-port fuel injection system, automatic transmission
25	ETCS	10 A	Multi-port fuel injection system/sequential multi-port fuel injection system, electronic throttle control system
26	HAZ	15 A	Turn signal lights
27	IG2	25 A	INJ NO.1, INJ NO.2, SRS airbag system
28	RADIO NO.3	25 A	Audio system
29	A/F* ¹	20 A	Air fuel ratio sensor
	EFI MAIN* ²	20 A	EFI NO.2, EFI NO.3
30	HORN	10 A	Horn
31	H-LP LH LO	15 A	Left-hand headlight (low beam)
32	H-LP RH LO	15 A	Right-hand headlight (low beam)
33	H-LP LH HI	15 A	Left-hand headlight (high beam)
34	H-LP RH HI	15 A	Right-hand headlight (high beam)
35	EFI MAIN* ¹	25 A	EFI NO.2, EFI NO.3
	EFI NO.4* ²	20 A	Air fuel ratio sensor
36	DOME	7.5 A	Personal/interior lights, vanity lights, engine switch light, door courtesy lights, power back door, gauges and meters

4-3. Do-it-yourself maintenance

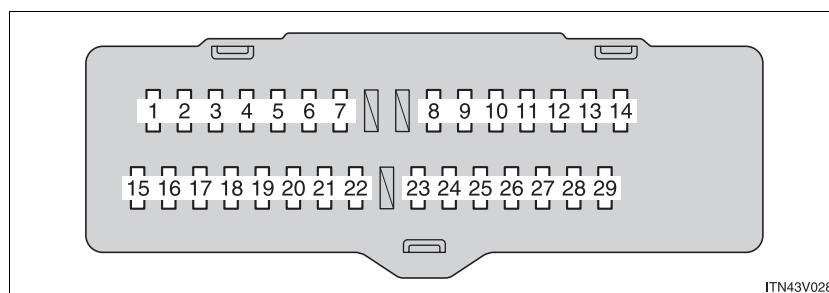
Fuse		Ampere	Circuit
37	ECU-B	10 A	Gauges and meters, clock, audio system, main body ECU, wireless remote control, smart key system, power back door, front passenger occupant classification system
38	RSE	10 A	Rear seat entertainment system
39	RADIO NO.1	15 A	Audio system, navigation system
40	SPARE	7.5 A	Spare fuse
41	SPARE	15 A	Spare fuse
42	SPARE	25 A	Spare fuse

*1: Vehicles with 2GR-FE engine

*2: Vehicles with 1AR-FE engine

*3: Replace the fuse with one of the same ampere rating as the original.

■ Driver's side instrument panel



Fuse		Ampere	Circuit
1	RR DOOR	20 A	Power windows
2	RL DOOR	20 A	Power windows
3	FR DOOR	20 A	Power windows
4	FR FOG	15 A	Fog lights
5	OBD	7.5 A	On-board diagnosis system
6	FL DOOR	20 A	Power windows
7	STOP	10 A	Stop lights, vehicle stability control system
8	AM1	7.5 A	Starting system
9	ECU-B NO.2	7.5 A	Steering sensor, air conditioning system, power windows
10	4WD	7.5 A	Active Torque Control 4WD

4-3. Do-it-yourself maintenance

	Fuse	Ampere	Circuit
11	SEAT HTR	20 A	Seat heaters
12	S/ROOF	25 A	Electric moon roof
13	TAIL	10 A	Side marker lights, tail lights, license plate light
14	PANEL	5 A	Emergency flashers, audio system, clock, instrument panel light control, glove box light, console box light, steering switches, outside rear view mirror defoggers, seat heaters, vehicle stability control system, shift lever light
15	ECU-IG NO.1	10 A	Multiplex communication system, electric moon roof, power back door, seat heaters, Active Torque Control 4WD, audio system, Automatic High Beam
16	RR WASHER	15 A	Rear window washer
17	A/C NO.2	10 A	Air conditioning system
18	FR WASHER	20 A	Windshield washer
19	ECU-IG NO.2	7.5 A	Vehicle stability control system, automatic headlight leveling system, yaw rate & G sensor, steering sensor, shift lock system, tire pressure warning system, automatic transmission, electric power steering

4-3. Do-it-yourself maintenance

Fuse		Ampere	Circuit
20	GAUGE NO.1	10 A	Navigation system, back-up lights, charging system, emergency flashers, multi-information display
21	FR WIPER	30 A	Windshield wipers
22	RR WIPER	15 A	Rear window wiper
23	IGN	10 A	Multi-port fuel injection system/ sequential multi-port fuel injection system, steering lock system, smart key system, SRS airbag system, front passenger occupant classification system
24	GAUGE NO.2	7.5 A	Gauges and meters, multi-information display, multiplex communication system
25	ECU-ACC	7.5 A	Power rear view mirrors
26	SHIFT LOCK	7.5 A	Shift lock system
27	PWR OUTLET NO.1	15 A	Power outlets
28	RADIO NO.2	7.5 A	Audio system, rear seat entertainment system
29	MIR HTR	10 A	Outside rear view mirror defoggers

■ **After a fuse is replaced**

- If the lights do not turn on even after the fuse has been replaced, a bulb may need replacement. (→P. 553)
- If the replaced fuse blows again, have the vehicle inspected by your Toyota dealer.

■ **If there is an overload in the circuits**

The fuses are designed to blow, protecting the wiring harness from damage.

 CAUTION

■ **To prevent system breakdowns and vehicle fire**

Observe the following precautions.

Failing to do so may cause damage, and possibly a fire or injury.

- Never use a fuse of a higher amperage rating than indicated, or use any other object in place of a fuse.
- Always use a genuine Toyota fuse or equivalent.
Never replace a fuse with a wire, even as a temporary fix.
This can cause extensive damage or even fire.
- Do not modify fuses or the fuse box.

 NOTICE

■ **Before replacing fuses**

Have the cause of electrical overload determined and repaired by your Toyota dealer.

4-3. Do-it-yourself maintenance

Light bulbs

You may replace the following bulbs yourself. The difficulty level of replacement varies depending on the bulb. If necessary bulb replacement seems difficult to perform, contact your Toyota dealer.

For more information about replacing other light bulbs, contact your Toyota dealer.

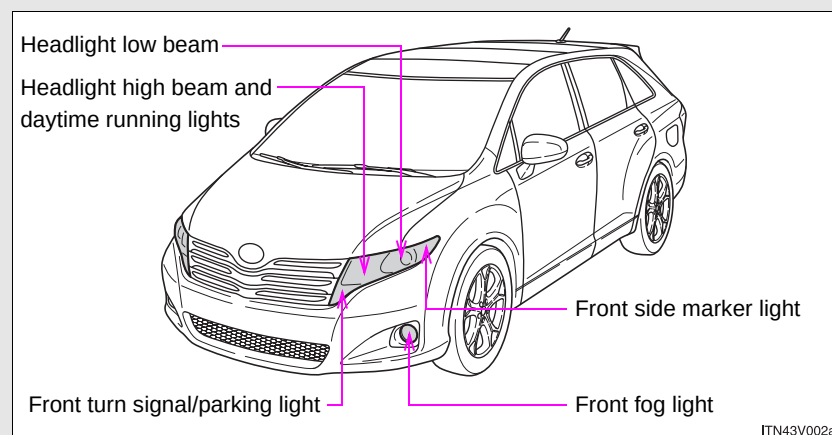
■ Prepare a replacement light bulb.

Check the wattage of the light bulb being replaced. (→P. 637)

■ Turn the power back door main switch off. (vehicles with power back door)

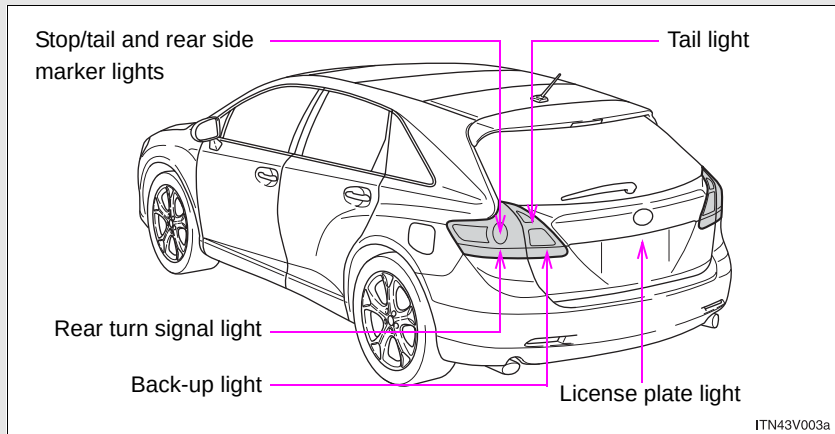
→P. 58

■ Front bulb locations



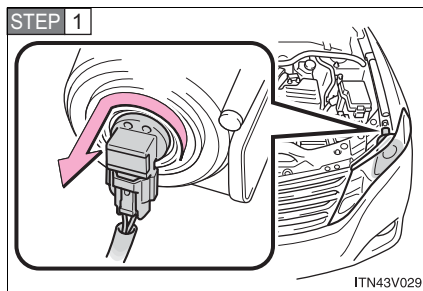
4-3. Do-it-yourself maintenance

■ Rear bulb locations



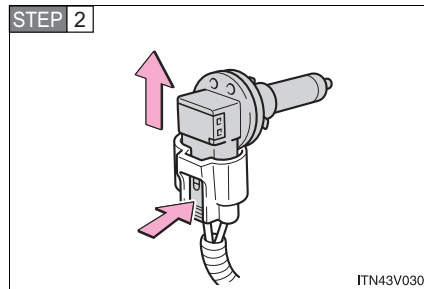
Replacing light bulbs

■ Headlight low beams (halogen bulb)

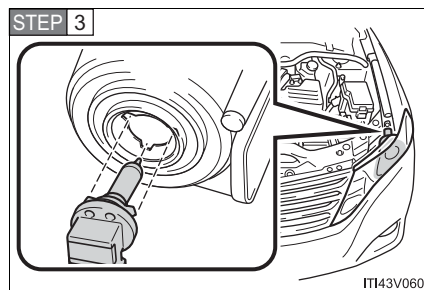


Turn the bulb base counterclockwise.

4-3. Do-it-yourself maintenance

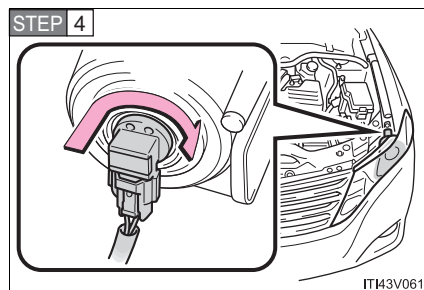


Unplug the connector while pushing the lock release.



Exchange the light bulb, and install the light bulb.

Align the 3 tabs on the light bulb with the mounting, and insert.



Turn and secure the bulb base.

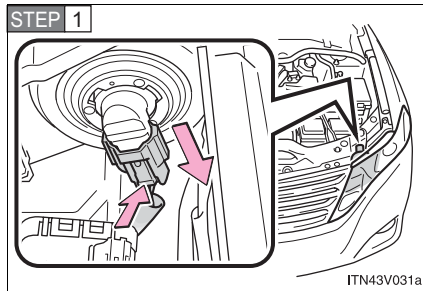
After installing the light bulb, turn the headlights on once and visually confirm that no light is leaking through the mounting.

4

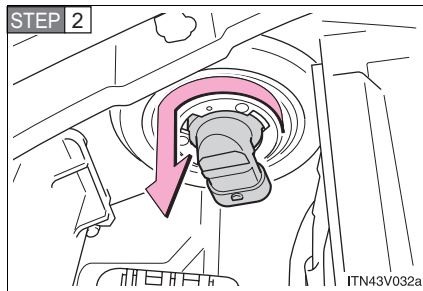
Maintenance and care

4-3. Do-it-yourself maintenance

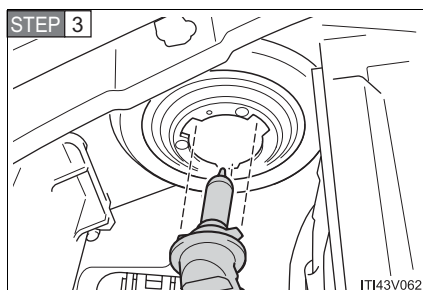
■ Headlight high beams and daytime running lights



Unplug the connector while pushing the lock release.

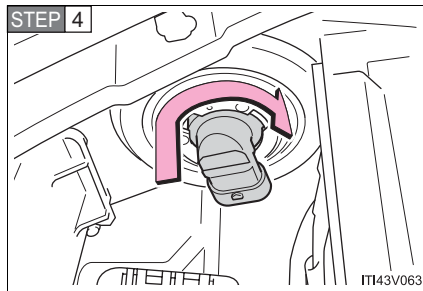


Turn the bulb base counterclockwise.



Exchange the light bulb, and install the light bulb.

Align the 3 tabs on the light bulb with the mounting, and insert.



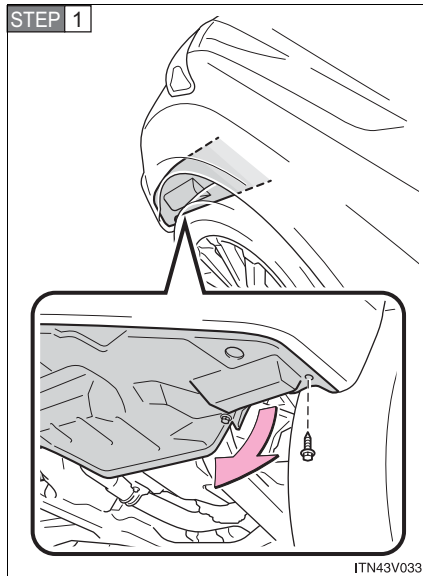
Turn and secure the bulb base.

STEP 5 Install the connector.

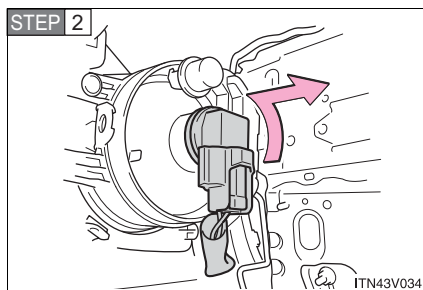
After installing the light bulb, turn the headlights on once and visually confirm that no light is leaking through the mounting.

4-3. Do-it-yourself maintenance

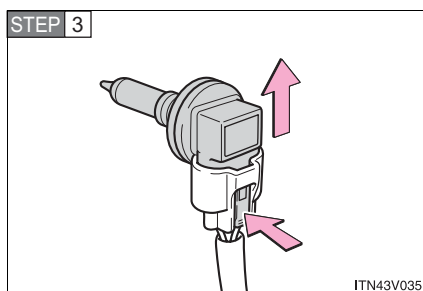
■ Front fog lights (if equipped)



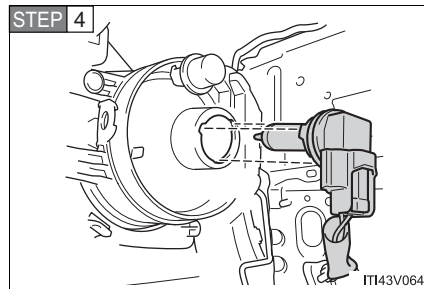
Remove the engine under cover bolt and pull down the engine under cover.



Turn the bulb base counterclockwise.

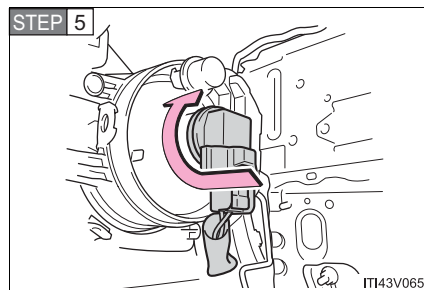


Unplug the connector while pushing the lock release.



Exchange the light bulb, and install the light bulb.

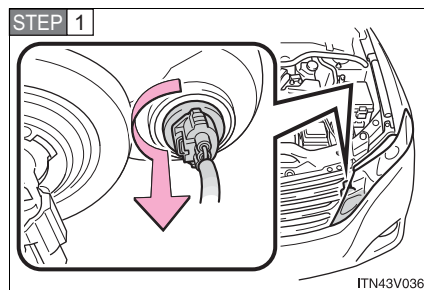
Align the 3 tabs on the light bulb with the mounting, and insert.



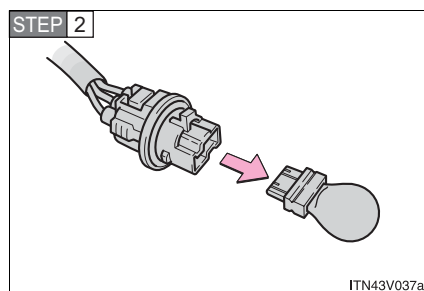
Turn and secure the bulb base.

After installing the light bulb, turn the front fog lights on once and visually confirm that no light is leaking through the mounting.

■ Front turn signal/parking lights



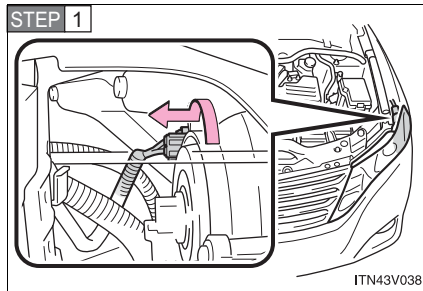
Turn the bulb base counterclockwise.



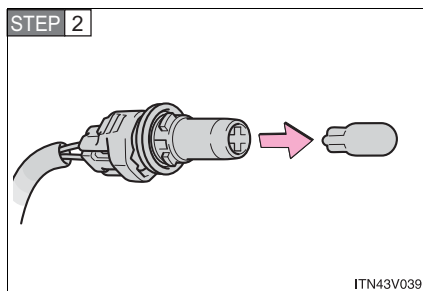
Remove the light bulb.

4-3. Do-it-yourself maintenance

■ Front side marker lights



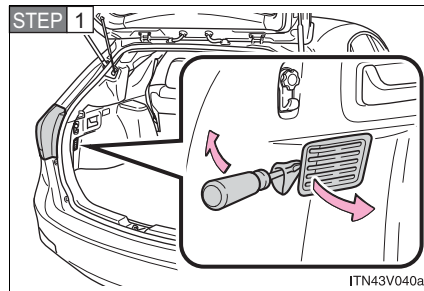
Turn the bulb base counterclockwise.



Remove the light bulb.

■ Rear turn signal lights, stop/tail and rear side marker lights

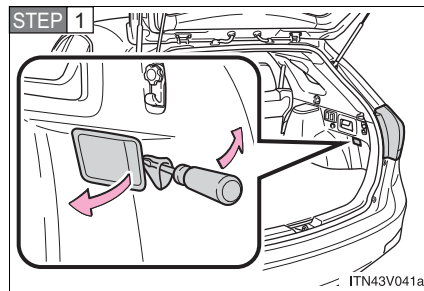
► Left side



Open the back door and remove the cover.

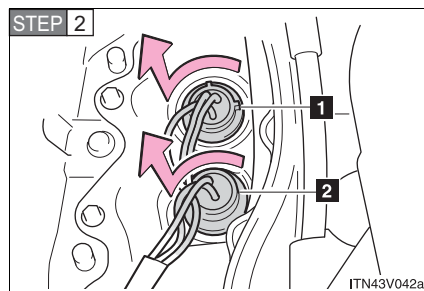
To protect the cover, place a rag between the flathead screwdriver and cover as shown in the illustrations.

► Right side



Open the back door and remove the cover.

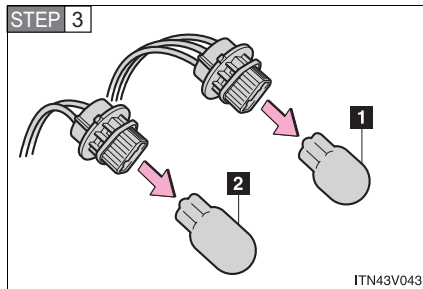
To protect the cover, place a rag between the flathead screwdriver and cover as shown in the illustrations.



Turn the bulb base counterclockwise.

- 1 Stop/tail and rear side marker lights
- 2 Rear turn signal light

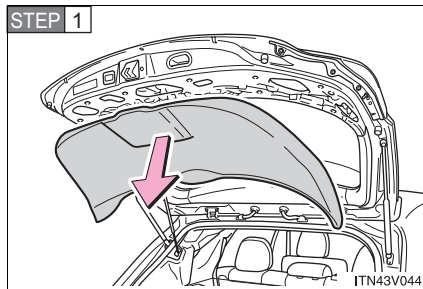
4-3. Do-it-yourself maintenance



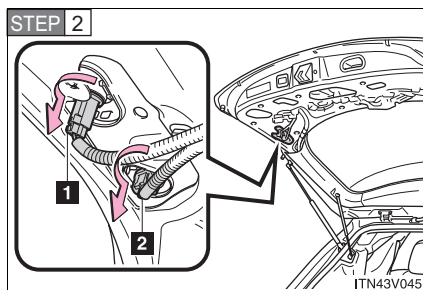
Remove the light bulb.

- 1** Stop/tail and rear side marker lights
- 2** Rear turn signal light

■ Tail and back-up lights

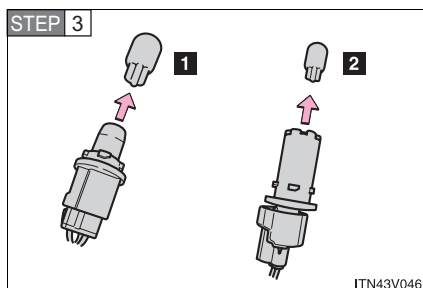


Open the back door and remove the trim board.



Turn the bulb base counterclockwise.

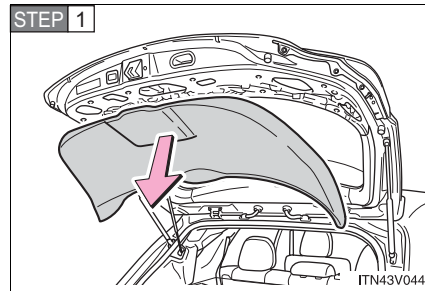
- 1** Back-up light
- 2** Tail light



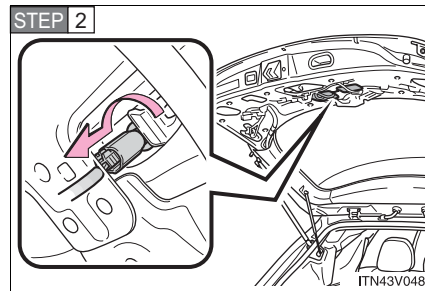
Remove the light bulb.

- 1** Back-up light
- 2** Tail light

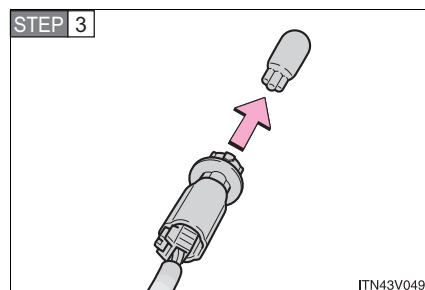
■ License plate light



Open the back door and remove the trim board.



Turn the bulb base counterclockwise.



Remove the light bulb.

4-3. Do-it-yourself maintenance

■ Bulbs other than the above

If any of the bulbs listed below has burnt out, have your Toyota dealer replace it.

- Headlight low beams (discharge bulb)
- High mounted stoplight

■ Condensation build-up on the inside of the lens

Contact your Toyota dealer for more information in the following situations. Temporary condensation build-up on the inside of the headlight lens does not indicate a malfunction.

- Large drops of water are built up on the inside of the lens.
- Water has built up inside the headlight.

■ LED light bulbs

The high mounted stoplight consists of a number of LEDs. If any LEDs burn out, take your vehicle to your Toyota dealer to have the light replaced.

■ High-intensity discharge (HID) headlights (if equipped)

If voltage to the high-intensity discharge bulbs is insufficient, the light may not come on, or may go out temporarily. The high-intensity discharge bulbs will come on when normal power is restored.

 CAUTION

■ **Replacing light bulbs**

- Turn off the headlights. Do not attempt to replace the bulb immediately after turning off the headlights.
The bulbs become very hot and may cause burns.
- Do not touch the glass portion of the light bulb with bare hands. Hold the bulb by the plastic or metal portion.
If the bulb is scratched or dropped it may blow out or crack.
- Fully install light bulbs and any parts used to secure them. Failing to do so may result in heat damage, fire, or water entering the headlight unit. This may damage the headlights or cause condensation to build up on the lens.
- Do not attempt to repair or disassemble light bulbs, connectors, electric circuits or component parts.
Doing so may result in death or serious injury due to electric shock.

■ **High-intensity discharge (HID) headlights (if equipped)**

- Contact your Toyota dealer before replacing high-intensity discharge headlights (including light bulbs).
- Do not touch the high-intensity discharge headlight's high voltage socket when the headlights are turned on. An extremely high voltage of 20000V will be discharged and could result in death or serious injury by electric shock.

■ **To prevent damage or fire**

Make sure bulbs are fully seated and locked.

4-3. Do-it-yourself maintenance