

SECTION 8-3

DO-IT-YOURSELF MAINTENANCE

Electrical components

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**Checking 12 volt battery
condition—
—Precautions**

⚠ CAUTION

12 VOLT BATTERY PRECAUTIONS

When the 12 volt battery must be replaced, use the Prius designated battery.

The 12 volt battery produces flammable and explosive hydrogen gas.

- Do not cause a spark from the battery with tools.
- Do not smoke or light a match near the battery.

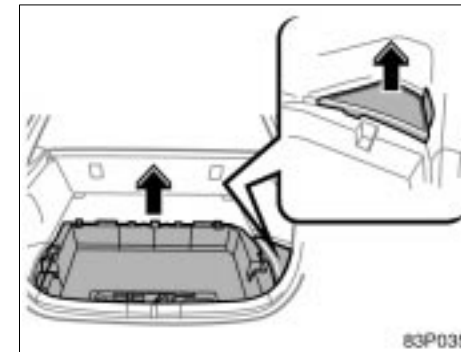
The electrolyte contains poisonous and corrosive sulfuric acid.

- Avoid contact with eyes, skin or clothes.
- Never ingest electrolyte.
- Wear protective safety glasses when working near the battery.
- Keep children away from the battery.

EMERGENCY MEASURES

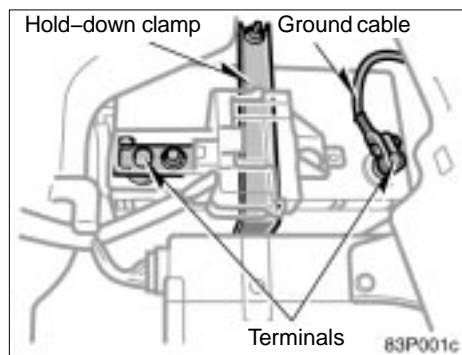
- If electrolyte gets in your eyes, flush your eyes with clean water and get immediate medical attention. If possible, continue to apply water with a sponge or cloth while en route to the medical office.
- If electrolyte gets on your skin, thoroughly wash the contact area. If you feel pain or burn, get medical attention immediately.
- If electrolyte gets on your clothes, there is a possibility of its soaking through to your skin, so immediately take off the exposed clothing and follow the procedure above, if necessary.
- If you accidentally swallow electrolyte, drink a large quantity of water or milk. Follow with milk of magnesia, beaten raw egg or vegetable oil. Then go immediately for emergency help.

**—Checking 12 volt battery
exterior**



Open the back door. Remove the luggage storage box and 12 volt battery cover.

If the back door does not open, see “If you cannot operate back door opener” on page 380.



Check the battery for corroded or loose terminal connections, cracks, or loose hold-down clamp.

- If the battery is corroded, wash it off with a solution of warm water and baking soda. Coat the outside of the terminals with grease to prevent further corrosion.
- If the terminal connections are loose, tighten their clamp nuts—but do not overtighten.
- Tighten the hold-down clamp only enough to keep the battery firmly in place. Overtightening may damage the battery case.

NOTICE

- ◆ ***Be sure the hybrid system and all accessories are off before performing maintenance.***
- ◆ ***When checking the battery, remove the ground cable from the negative terminal (“-” mark) first and reinstall it last.***
- ◆ ***Be careful not to cause a short circuit with tools.***
- ◆ ***Take care no solution gets into the battery when washing it.***

If the 12 volt battery is disconnected or run down, the power window and back door may not operate automatically and the jam protection function will not function correctly and does not open the back door after you reconnect, replace or recharge the battery. In any of these cases, you should normalize each system. To normalize them, see “Power windows” on page 43 and “Back door” on page 42.

Before you disconnect the 12 volt battery, confirm the shift position is “P” and apply the parking brake completely.

After you reconnect the 12 volt battery, shift the shift lever to “N” and confirm the shift position is “N” when the “IG-ON” mode is enabled.

After connecting the cables, the hybrid system may not start by pushing the “POWER” switch. In that case, push it once again.

12 volt battery recharging precautions

During recharging, the battery is producing hydrogen gas.

Therefore, before recharging:

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

CAUTION

- Always charge the battery in an unconfined area. Do not charge the battery in a garage or closed room where there is not sufficient ventilation.
- Only do a slow charge (3.5A or less). Charging at a quicker rate is dangerous. The battery may explode, causing personal injuries.

NOTICE

Never recharge the battery with the hybrid system on. Also, be sure all accessories are turned off.

Checking and replacing fuses

Type A



Good



Blown

Type B



Good



Blown

Type C



Good



Blown

83P003



If the headlights or other electrical components do not work, check the fuses. If any of the fuses are blown, they must be replaced.

See "Fuse locations" on page 397 for locations of the fuses.

Turn the hybrid system and inoperative component off. Pull the suspected fuse straight out and check it.

Determine which fuse may be causing the problem. The lid of the fuse box shows the name of the circuit for each fuse. See page 435 for the functions controlled by each circuit.

Type A fuses can be pulled out by the pull-out tool. The location of the pull-out tool is shown in the illustration.

If you are not sure whether the fuse has blown, try replacing the suspected fuse with one that you know is good.

If the fuse has blown, push a new fuse into the clip.

Only install a fuse with the amperage rating designated on the fuse box lid.

If you do not have a spare fuse, in an emergency you can pull out the "DOME" or "OBD" fuse, which may be dispensable for normal driving, and use it if its amperage rating is the same.

If you cannot use one of the same amperage, use one that is lower, but as close to the rating as possible. If the amperage is lower than that specified, the fuse might blow out again, but this does not indicate anything wrong. Be sure to get the correct fuse as soon as possible and return the substitute to its original clip.

It is a good idea to purchase a set of spare fuses and keep them in your vehicle for emergencies.

If the new fuse immediately blows out, there is a problem with the electrical system. Have your Toyota dealer correct it as soon as possible.

CAUTION

Never use a fuse with a higher amperage rating, or any other object, in place of a fuse. This may cause extensive damage and possibly a fire.

Adding washer fluid

If any washer does not work, the washer tank may be empty. Add washer fluid.

You may use plain water as washer fluid. However, in cold areas where temperatures range below the freezing point, use washer fluid containing antifreeze. This product is available at your Toyota dealer and most auto parts stores. Follow the manufacturer's directions for how much to mix with water.

NOTICE

Do not use engine antifreeze or any other substitute because it may damage your vehicle's paint.

Replacing light bulbs—

The following illustrations show how to gain access to the bulbs. When replacing a bulb, make sure the hybrid system and light switch are off. Use bulbs with the wattage ratings given in the table.

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

If two or more LEDs in a stop light burn out, your vehicle may not conform to local laws (SAE).

CAUTION

- To prevent burning yourself, do not replace the light bulbs while they are hot.
- Halogen bulbs have pressurized gas inside and require special handling. They can burst or shatter if scratched or dropped. Hold a bulb only by its plastic or metal case. Do not touch the glass part of a bulb with bare hands.

Vehicles with discharge headlights—

- Do not touch the high-intensity discharge headlight's high voltage socket when the headlights are turned on. An extremely high voltage of 20,000V will be discharged and could result in serious injury or death by electric shock.
- Do not attempt to take apart or repair the headlight bulbs, connectors, power supply circuits, or related components. Doing so could result in electric shock and serious injury or death. Call your Toyota dealer for headlight repair or servicing, including replacement of bulbs and bulb disposal.

NOTICE

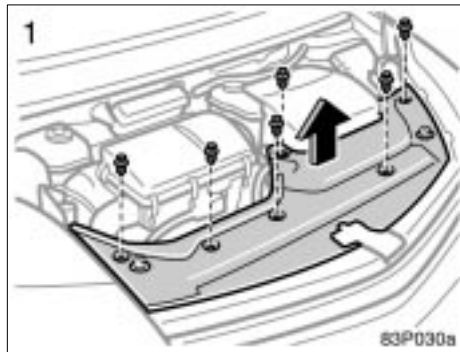
Only use a bulb of the listed type.

The inside of the lens of exterior lights such as headlights may temporarily fog up when the lense becomes wet in the rain or in a car wash. This is not a problem because the fogging is caused by the temperature difference between the outside and inside of the lense, just like the windshield fogs up in the rain. However, if there is a large drop of water on the inside of the lense, or if there is water pooled inside the light, contact your Toyota dealer.

| Light bulbs | Bulb No. | W | Type |
|---------------------------|----------|-------|------|
| Headlights | | | |
| Discharge headlights | — | 35 | A |
| Halogen headlights | — | 60/55 | B |
| Front fog lights | 9006 | 51 | C |
| Parking lights | — | 5 | D |
| Front turn signal lights | — | 21 | D |
| Rear turn signal lights | — | 21 | D |
| Tail lights | — | 5 | D |
| Stop lights | — | 4.4 | F |
| High mounted stop-light | — | 2.8 | F |
| Back-up lights | 7440 | 21 | D |
| License plate lights | — | 5 | D |
| Interior lights | — | 8 | E |
| Personal lights | — | 5 | D |
| Door courtesy lights | — | 5 | D |
| Vanity lights | — | 5 | E |
| Luggage compartment light | — | 5 | E |

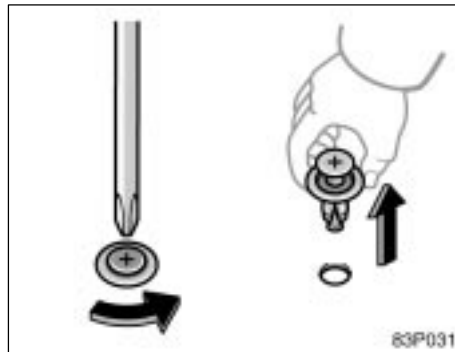
A: D4R Discharge bulbs
 B: HB2 Halogen bulbs
 C: HB4 Halogen bulbs
 D: Wedge base bulbs
 E: Double end bulbs
 F: LEDs (Light-emitting Diodes)

—Headlights

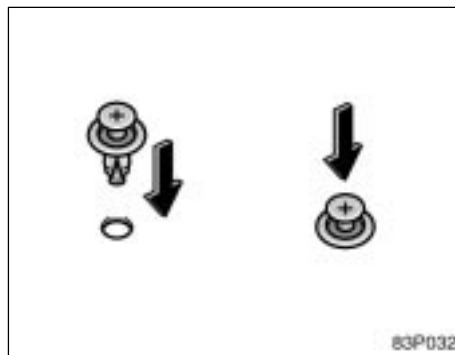


1. Open the hood. Remove the clips and take out the cover.

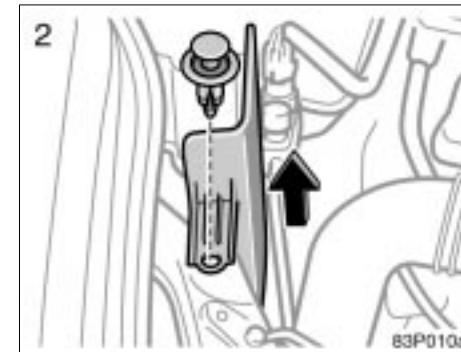
Remove and install the clips as shown in the following illustrations.



Removing clip

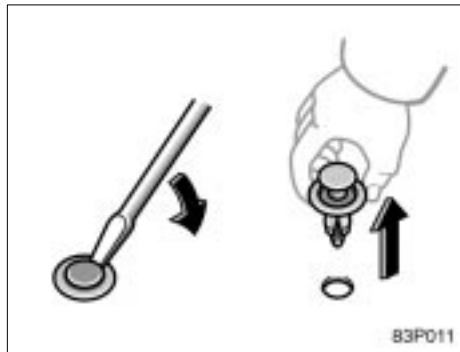


Installing clip

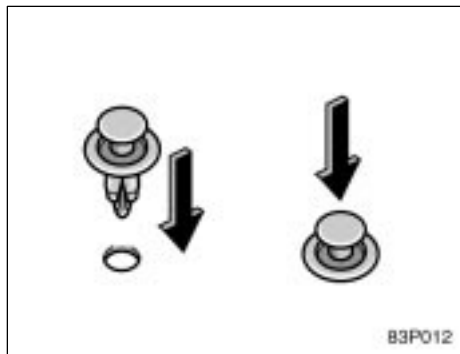


2. RIGHT-HAND HEADLIGHT ONLY: Remove the clip and take out the air cleaner inlet.

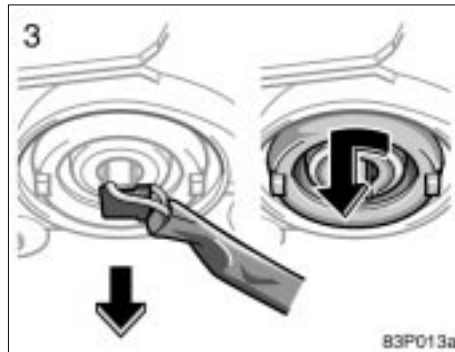
Remove and install the clip as shown in the following illustrations.



Removing clip

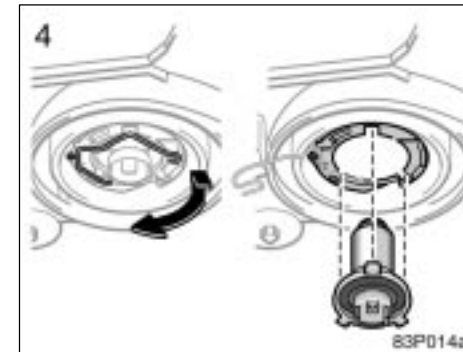


Installing clip



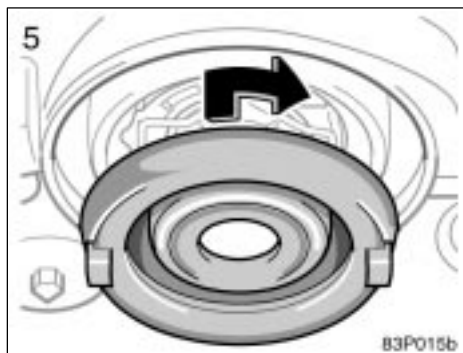
3. Unplug the connector. Turn the bulb cover counter-clockwise and remove it.

If the connector is tight, wiggle it.



4. Release the bulb retaining spring and remove the bulb along with the socket. Install a new bulb into the socket and return the bulb retaining spring to its original position.

To install a bulb, align the tabs of the bulb with the cutout of the mounting hole.



5. Install the bulb cover and turn it clockwise. Plug in the connector.

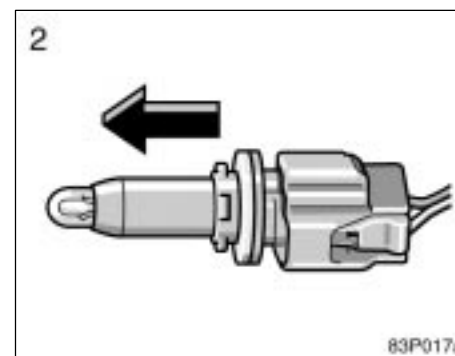
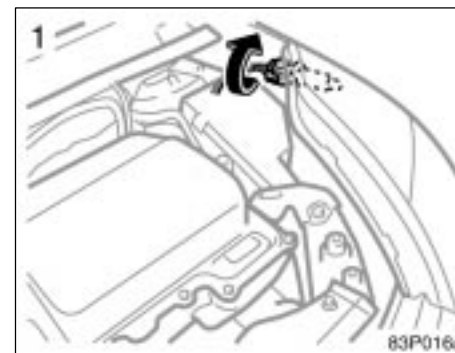
—Front fog lights

If either the left or right front fog lights burns out, contact your Toyota dealer.

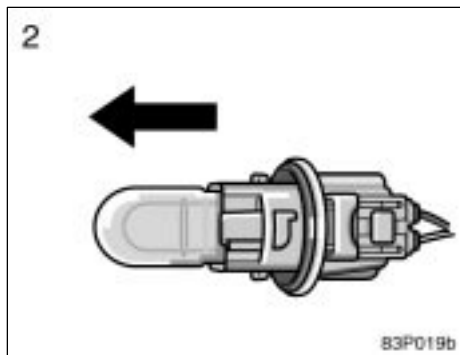
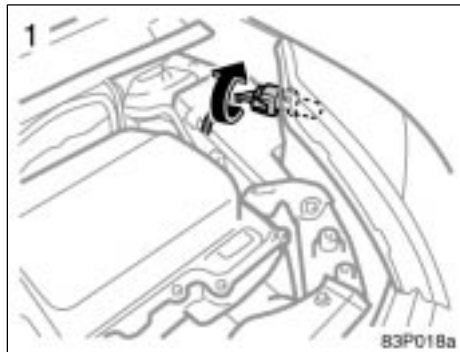
NOTICE

Do not try to replace the front fog light bulbs by yourself. You may damage the vehicle.

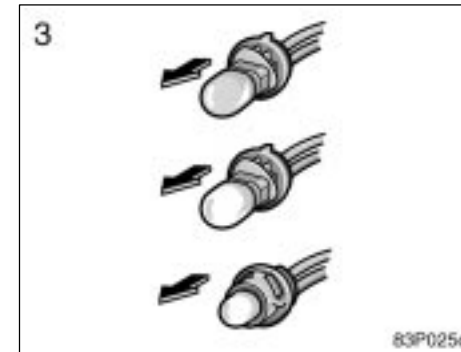
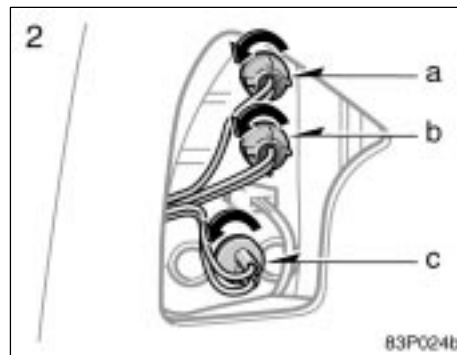
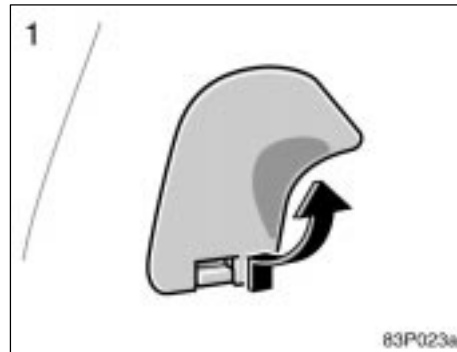
—Parking lights



—Front turn signal lights

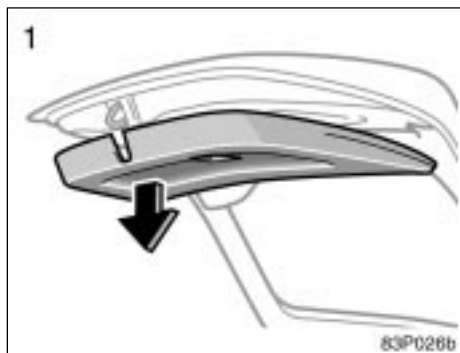


—Rear turn signal, tail and back-up lights



- a: Rear turn signal light
- b: Back-up light
- c: Tail light

—License plate lights



Remove the cover.

