

## SERVICE PROCEDURES AND SPECIFICATIONS

### Electrical components

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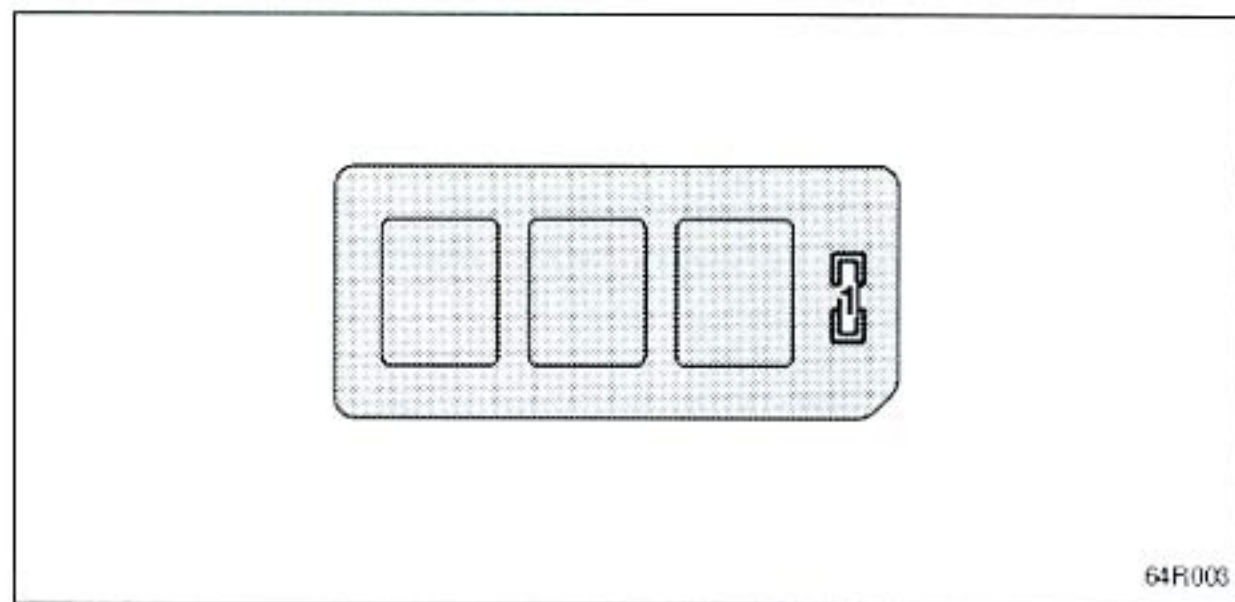
# SPECIFICATIONS

## - FUSE LOCATIONS

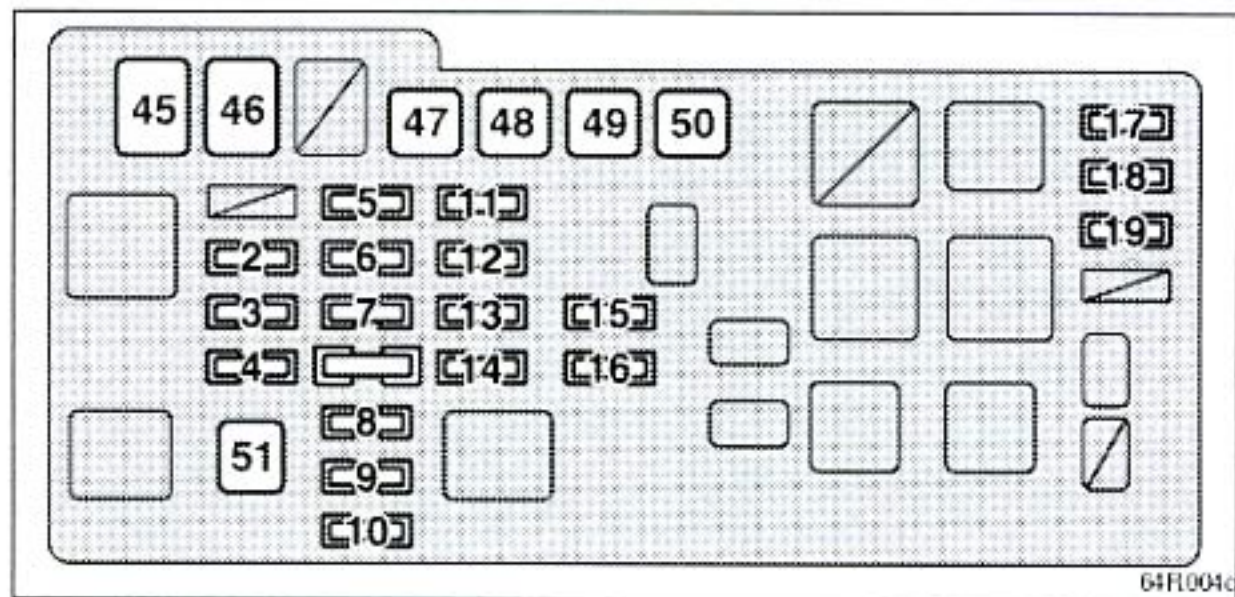


- ▶ **1** Engine compartment
- ▶ **2** Engine compartment
- ▶ **3** Driver's side instrument panel

## - FUSES

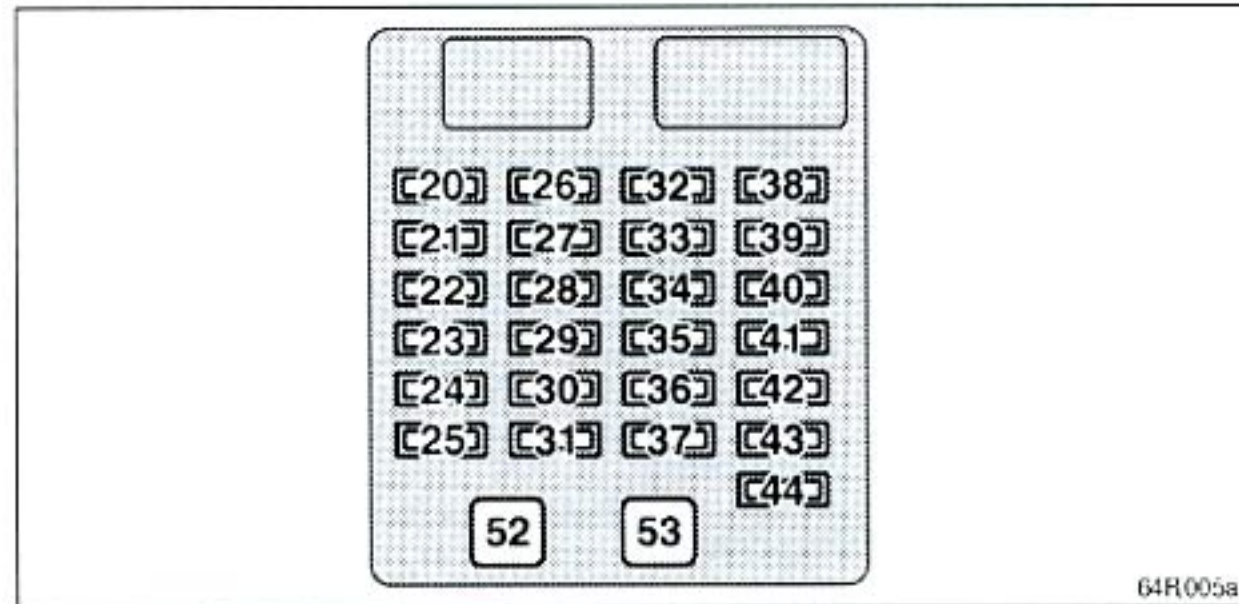


▶ Engine compartment



▶ Engine compartment





► Driver's side instrument panel

| No. | FUSE           | AMPERE | CIRCUIT  |
|-----|----------------|--------|--|
| 1   | DRL            | 7.5    | Daytime Running Light System   |
| 2   | H- LP R<br>LWR | 15     | Right- hand headlight (Low beam)   |
| 3   | H- LP L<br>LWR | 15     | Left- hand headlight (Low beam)  |
| 4   | HAZARD         | 15     | Emergency flashers, Turn signal lights   |
| 5   | AM2            | 20     | Starting system  |
| 6   | TEL            | 15     | Telephone  |
| 7   | FL DOOR        | 20     | Power door lock system   |
| 8   | SPARE          | 7.5    | Spare fuse   |
| 9   | SPARE          | 15     | Spare fuse   |
| 10  | SPARE          | 25     | Spare fuse   |
| 11  | ALT- S         | 7.5    | Charging system  |
| 12  | HORN           | 10     | Theft deterrent system, Horn   |
| 13  | EFI            | 20     | Multipoint fuel injection system/Sequential multipoint fuel injection system                       |
| 14  | DOME           | 10     | Interior light, Vanity lights, Foot lights, Rear personal light, Gauges and meters, Multi- display |
| 15  | ECU- B         | 7.5    | Multiplex computer   |
| 16  | RAD NO.1       | 20     | Audio system   |

# ELECTRICAL COMPONENTS

| No. | FUSE           | AMPERE | CIRCUIT  |
|-----|----------------|--------|--|
| 17  | H- LP R<br>UPR | 15     | Right- hand headlight (high beam)  |
| 18  | H- LP L<br>UPR | 15     | Left- hand headlight (high beam)   |
| 19  | A/F HTR        | 25     | Air fuel ratio sensor  |
| 20  | IGN            | 7.5    | SRS system, Multiport fuel injection/Sequential multiport fuel injection system                      |
| 21  | RADIO<br>NO.2  | 7.5    | Audio system, Multiplex computer   |
| 22  | CIG            | 15     | Cigarette lighter, Outside rear view mirrors, Power door lock system                                 |
| 23  | D. RR<br>DOOR  | 20     | Rear door lock, Rear power window  |
| 24  | PWR<br>OUTLET  | 15     | Power outlets  |
| 25  | FR FOG         | 15     | Fog lights   |
| 26  | SRS- ACC       | 15     | SRS system   |
| 27  | ECU- IG        | 15     | Telephone, Inside rear view mirror, Anti- lock brake system, Traction control system, Multi- display |
| 28  | WIPER          | 25     | Windshield wipers  |
| 29  | P RR<br>DOOR   | 20     | Rear door lock, Rear power window  |

| No. | FUSE         | AMPERE | CIRCUIT   |
|-----|--------------|--------|---|
| 30  | P FR<br>DOOR | 20     | Front door lock, Front power window   |
| 31  | S/ROOF       | 20     | Moon roof   |
| 32  | HEATER       | 15     | Air conditioning system   |
| 33  | GAUGE        | 7.5    | Multiplex computer, Service reminder indicators                                       |
| 34  | RR WIP       | 15     | Rear window wiper   |
| 35  | STOP         | 20     | Stop lights, High mounted stoplight, Anti- lock brake system, Traction control system |
| 36  | OBD          | 7.5    | On- board diagnosis system  |
| 37  | SEAT HTR     | 15     | Seat heater system  |
| 38  | STARTER      | 7.5    | Starting system   |
| 39  | WASHER       | 20     | Washer  |
| 40  | RR FOG       | 7.5    | No circuit  |
| 41  | FR DEF       | 20     | Rear window and outside rear view mirror defogger                                     |
| 42  | SRS- B       | 7.5    | SRS system  |
| 43  | TAIL         | 10     | Tail lights, Side marker lights, License plate lights, Parking lights                 |
| 44  | PANEL        | 7.5    | Instrument panel lights   |
| 45  | ABS          | 60     | Anti- lock brake system   |
| 46  | ALT          | 140    | Charging system   |



| No. | FUSE   | AMPERE | CIRCUIT   |
|-----|--------|--------|---|
| 47  | RDI    | 40     | Cooling fan system                                |
| 48  | CDS    | 40     | Cooling fan system                                |
| 49  | RR DEF | 30     | Rear window and outside rear view mirror defogger |
| 50  | HEATER | 50     | Blower  |
| 51  | MAIN   | 50     | Starting system                                   |
| 52  | AM1    | 40     | Ignition system                                   |
| 53  | POWER  | 30     | Power seats                                       |

## CHECKING BATTERY CONDITION

### Precautions



**CAUTION**

#### BATTERY PRECAUTIONS

The battery produces flammable and explosive hydrogen gas.

- Do not cause a spark by contacting the battery terminals 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 inhale or swallow electrolyte.
- Wear protective safety glasses when working near the battery.
- Keep children away from the battery.

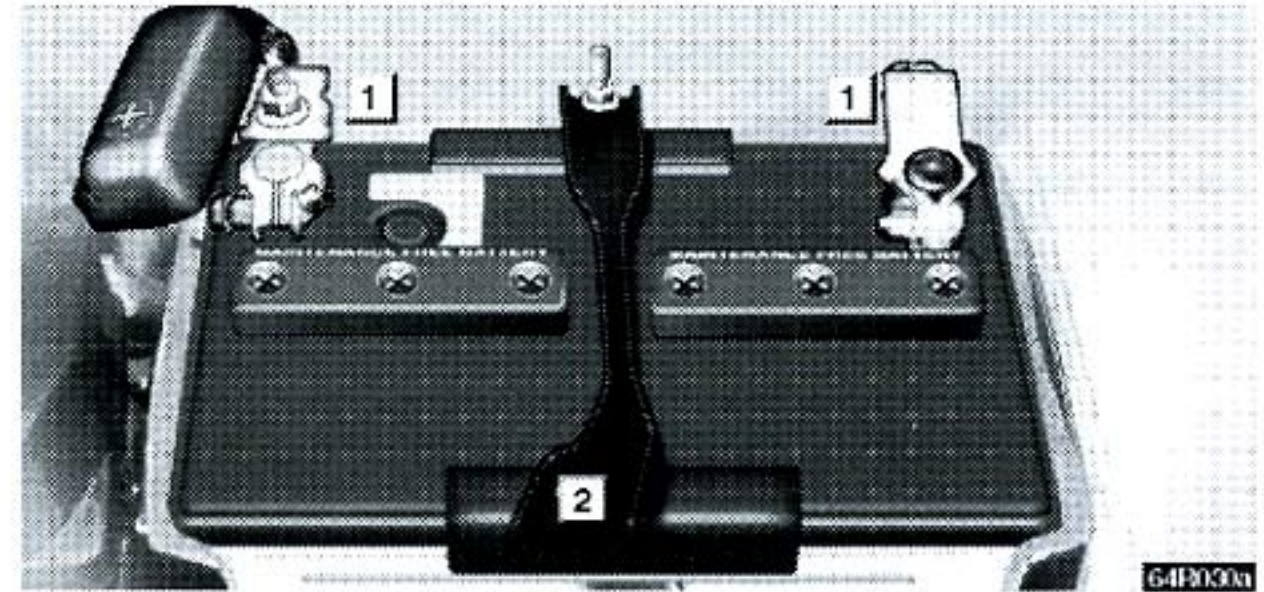
#### EMERGENCY MEASURES

- If electrolyte gets in your eyes, flush your eyes with clean water 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 medical office.



- If electrolyte gets on your skin, thoroughly wash the contacted area. If you feel a 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 battery exterior



► **1** *Terminals* **2** *Hold-down clamp*

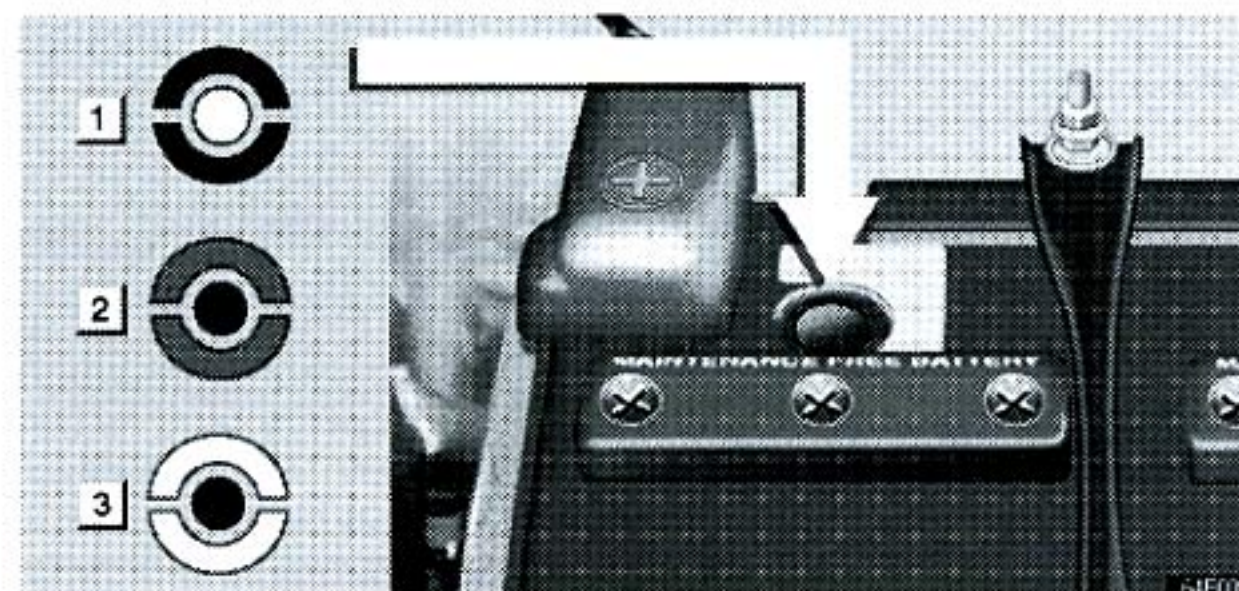
Check the battery for corroded or loose connections, cracks, or loose hold-down clamps.

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



**NOTICE**

- *Make sure the engine and all accessories are turned off before performing maintenance.*
- *When checking the battery, remove the ground cable 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.*

**Checking battery fluid****Checking by hydrometer**

Check the battery condition by the hydrometer color.

- 1 RED - Have the battery checked by your Lexus dealer.
- 2 BLUE - Good condition.
- 3 WHITE - Charging necessary. Have the battery checked by your Lexus dealer.

**NOTICE**

*Do not refill the battery with water.*



## 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.



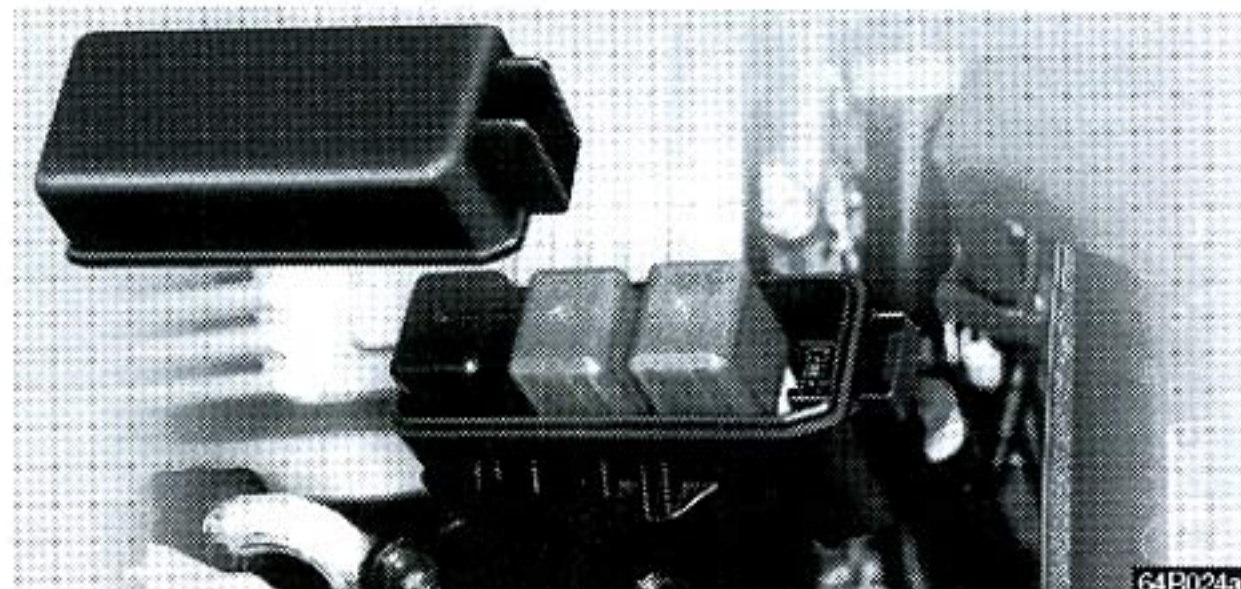
### CAUTION

- 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 (5 A or less). Charging at a quicker rate is dangerous. The battery may explode causing personal injuries.

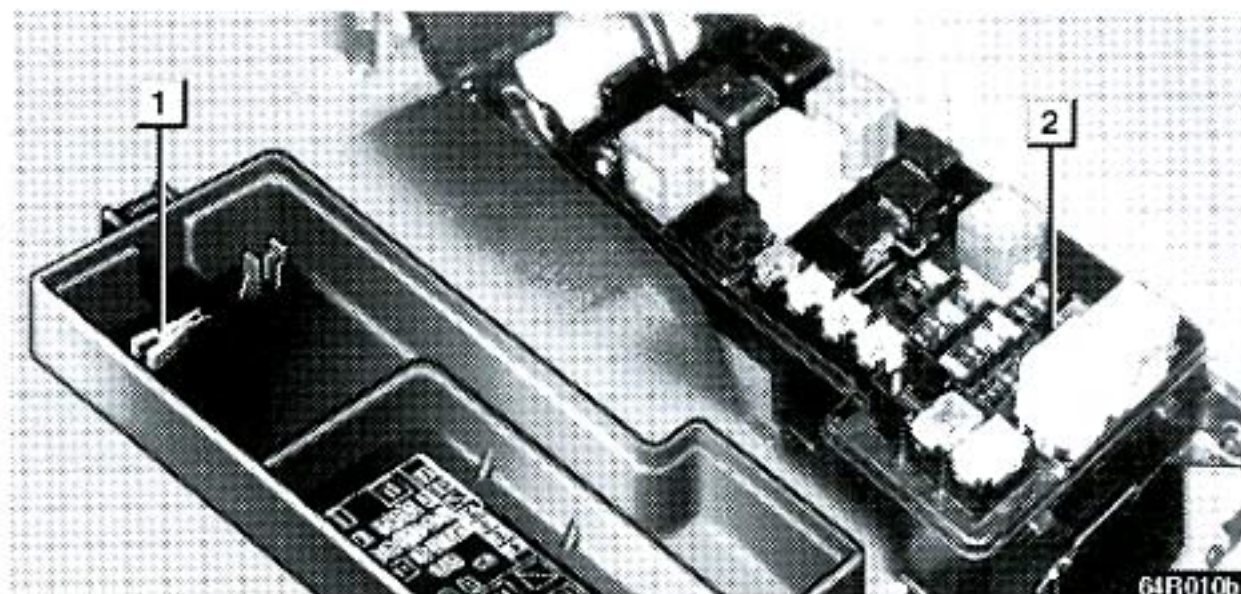
### NOTICE

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

## CHECKING AND REPLACING THE BLADE TYPE FUSES

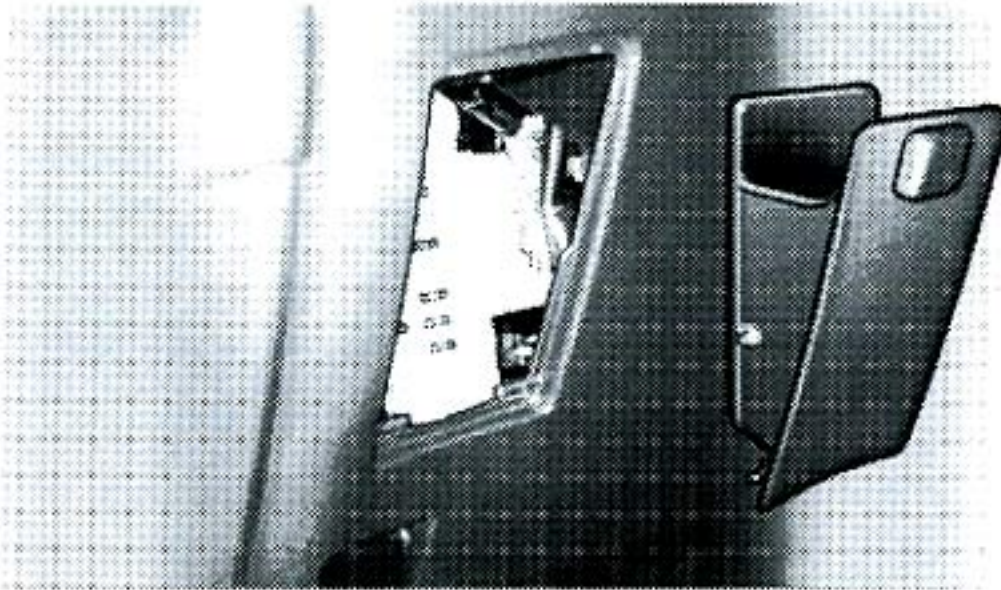


► Engine compartment



► Engine compartment 1 Pull-out tool 2 Spare fuses

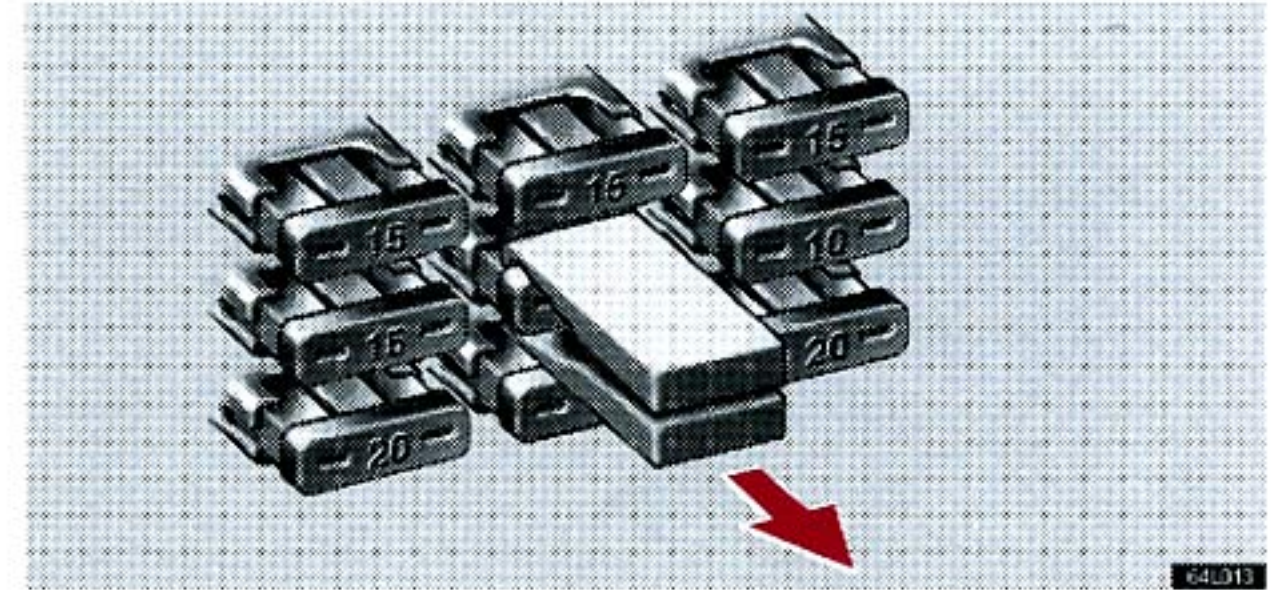




► *Driver's side instrument panel*

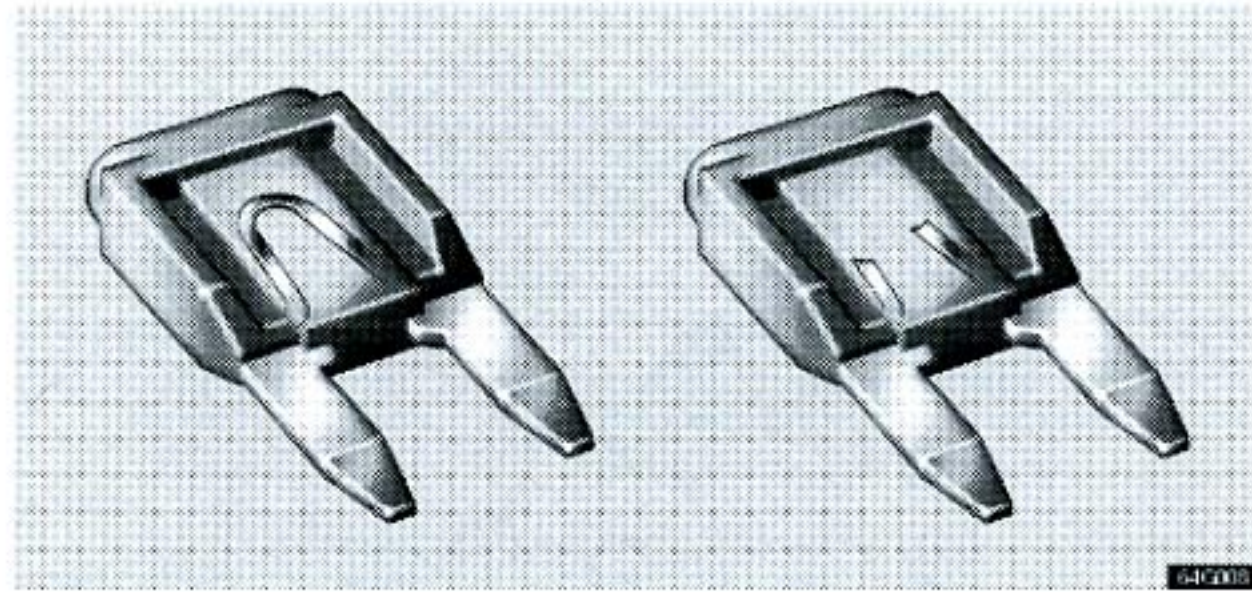
1. Turn the ignition switch off and remove the auxiliary box.

Determine which fuse may be causing the problem. The auxiliary box shows the name of the circuit for each fuse.



2. Make sure the inoperative component is turned off. Pull the suspected fuse straight out with the pull-out tool and check it. If it has blown, push a new fuse into the clips.





► *Good*

► *Blown*

a. Look carefully at the fuse. If the thin wire is broken, the fuse has blown. If you are not sure or if it is too dark to see, try replacing the suspected fuse with one of the same value that you know is good.


b. 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 "RAD NO.1", "RADIO NO.2" or "PWR OUTLET" 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 lower than, but as close as possible to, the amperage. 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 clips.

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

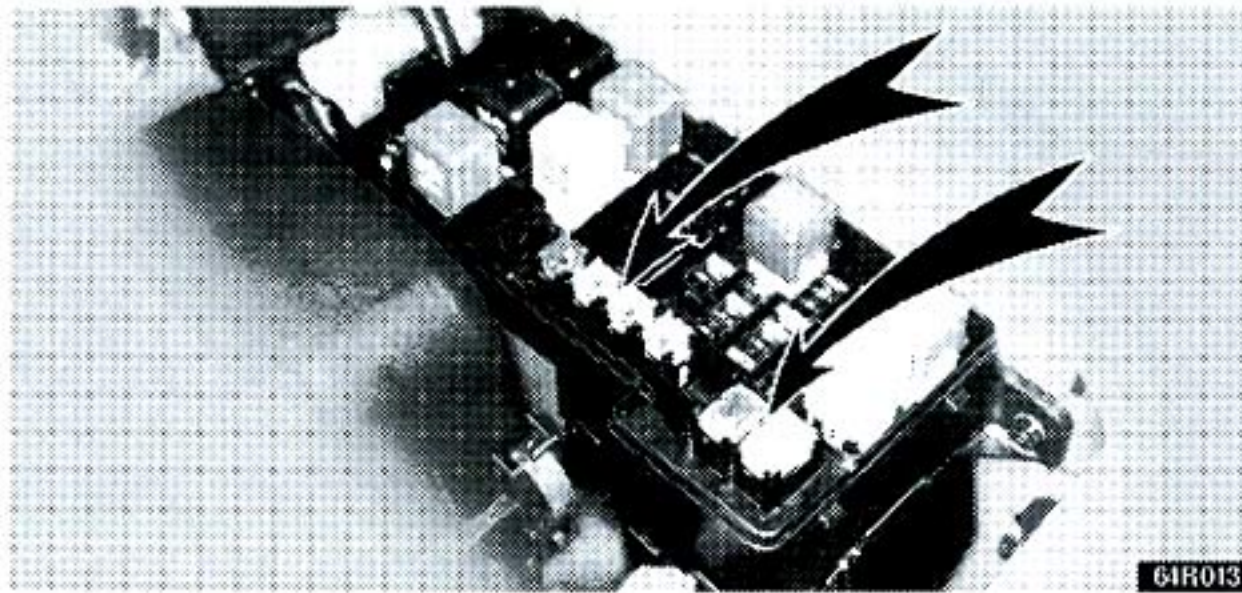
If the new fuse immediately blows out, there is a problem with the electrical system. Have your Lexus dealer correct it as soon as possible.

 **CAUTION**

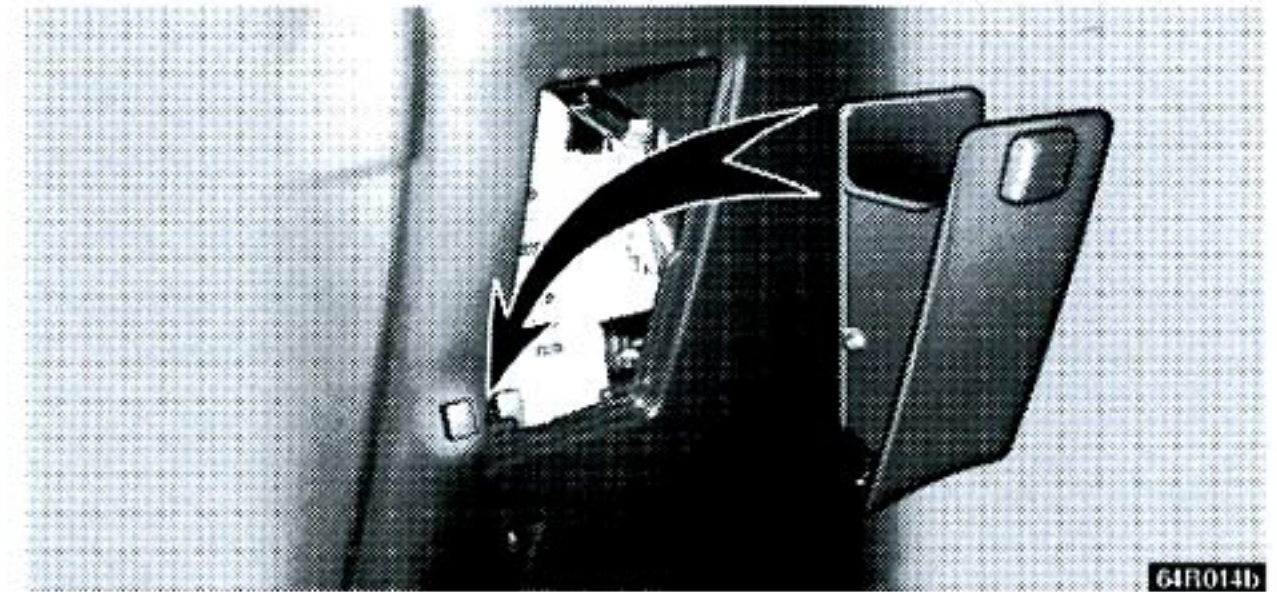
**Never use a fuse with a higher amperage rating, or any other object, in place of a fuse. This may cause extensive damage and possibly a fire.**



## CHECKING THE CARTRIDGE TYPE FUSES



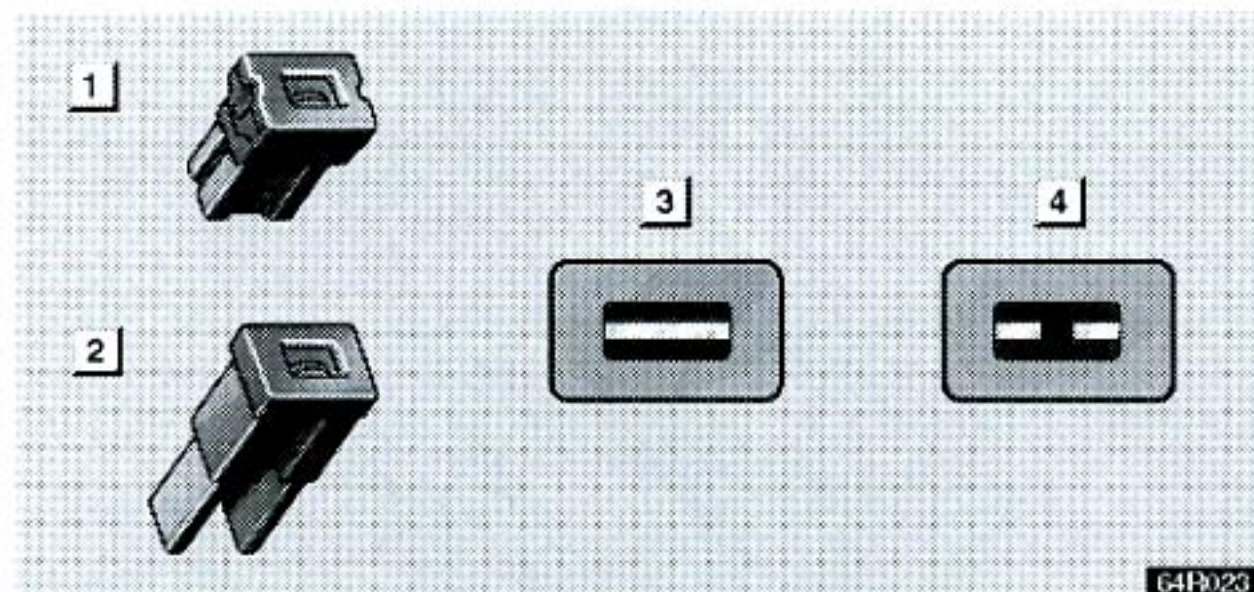
► *Engine compartment*



► *Driver's side instrument panel*

If the headlights or other electrical components do not work and the blade type fuses are O.K., check the cartridge type fuses. If any of the cartridge type fuses are blown, they must be replaced.





► 1 Type A 2 Type B 3 Good 4 Blown

If there is an overload in the circuits from the battery, the fuses are designed to blow before the entire wiring harness is damaged.

## CAUTION

Always use a genuine Lexus fuse or equivalent for replacement. Never install an ordinary wire - even for a temporary fix. This may cause extensive damage and possibly a fire.

## NOTICE

*Before replacing the fuses, have the cause of electrical overload determined and repaired by your Lexus dealer.*

## ADDING WASHER FLUID



**If the washer tank becomes nearly 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 Lexus 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 illustration on the following pages show the locations of light bulbs. If it is necessary to replace a bulb, take your vehicle to your Lexus dealer as soon as possible. Use bulbs with the bulb numbers and wattage ratings given in the table.

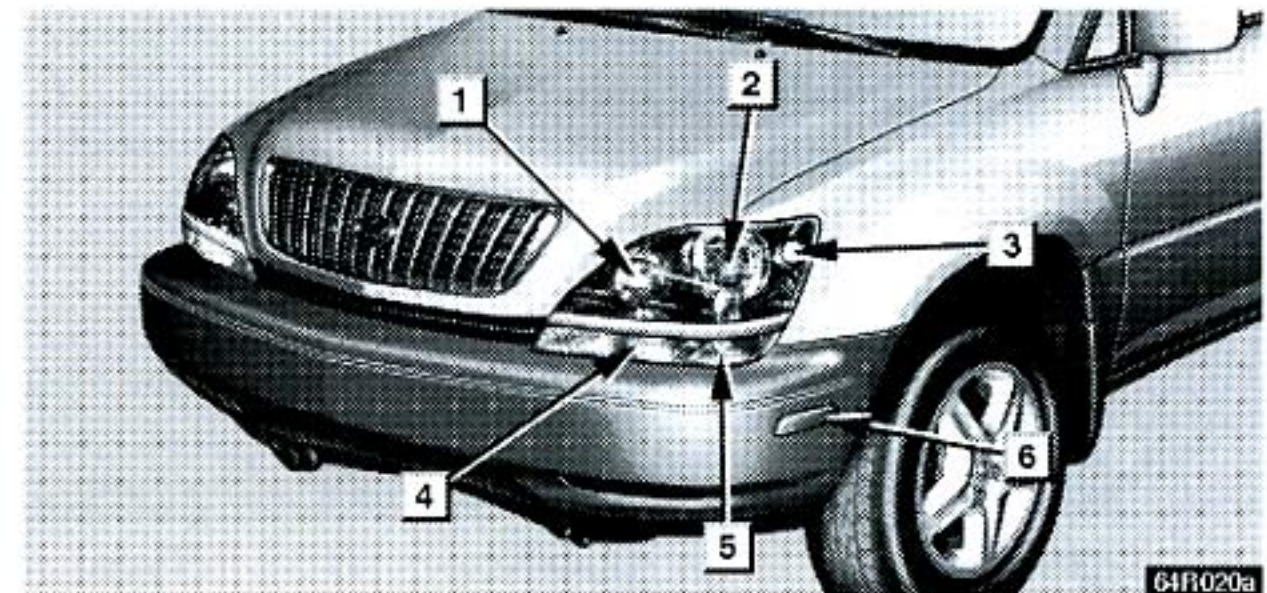
### CAUTION

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.

### NOTICE

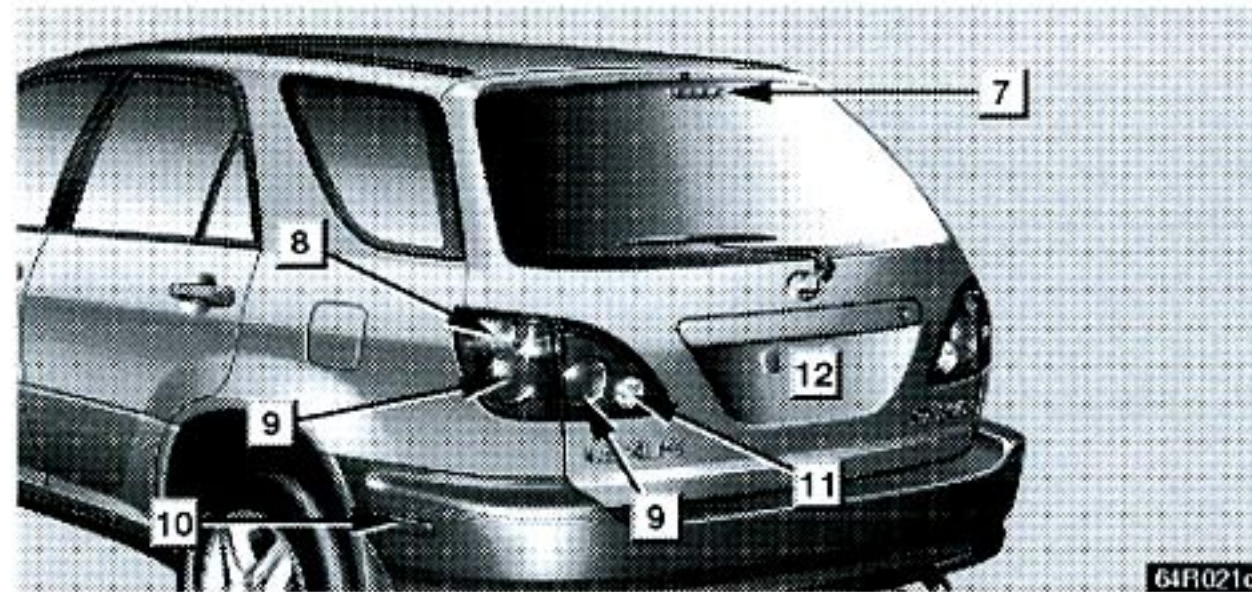
*Only use a bulb of the listed type.*

### LIGHT LOCATION

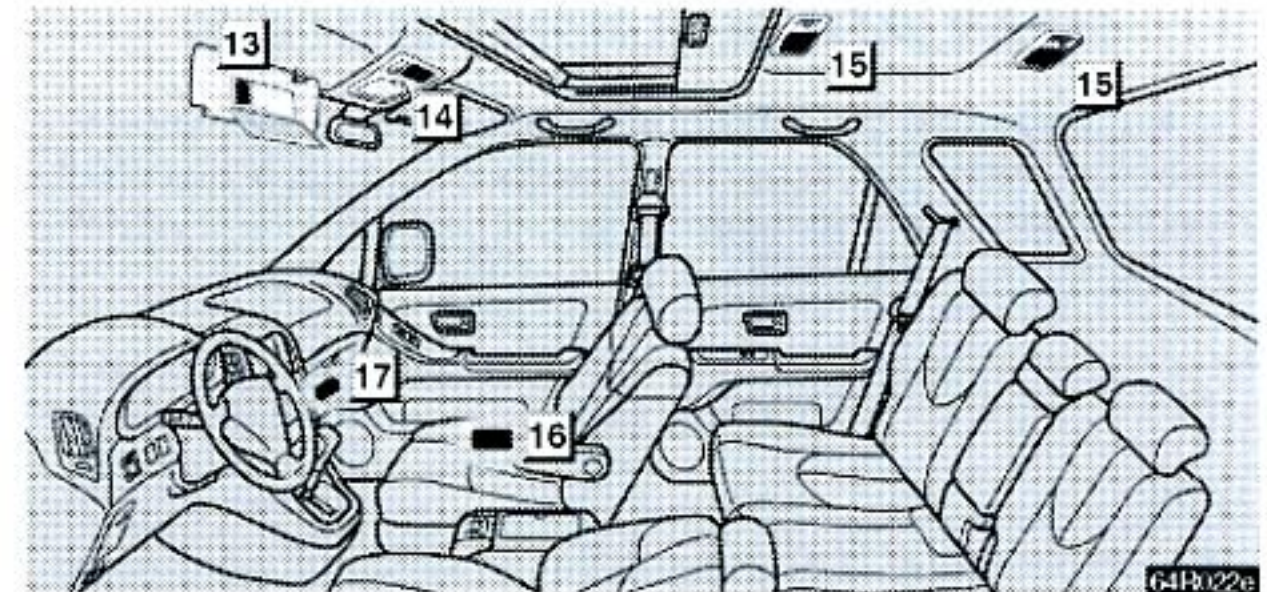


| Light Bulbs                            | Bulb No. | W  | Type |
|--|----------|----|------|
| <b>1</b> Headlight (high beam)         | 9005     | 60 | A    |
| <b>2</b> Headlight (low and high beam) | 9006     | 51 | B    |
| <b>3</b> Parking light                 | 168      | 5  | D    |
| <b>4</b> Front turn signal light       | - - -    | 21 | D    |
| <b>5</b> Fog light                     | 9006     | 51 | B    |
| <b>6</b> Front side marker light       | 168      | 5  | D    |





| Light Bulbs                      | Bulb No. | W    | Type |
|----------------------------------|----------|------|------|
| <b>7</b> High mounted stoplight  | 921      | 18   | D    |
| <b>8</b> Rear turn signal light  | ---      | 21   | D    |
| <b>9</b> Tail and stop lights    | ---      | 21/5 | D    |
| <b>10</b> Rear side marker light | ---      | 5    | D    |
| <b>11</b> Back- up light         | ---      | 21   | D    |
| <b>12</b> License plate light    | ---      | 5    | D    |



| Light Bulbs                    | Bulb No. | W   | Type |
|--------------------------------|----------|-----|------|
| <b>13</b> Personal light       | ---      | 10  | C    |
| <b>14</b> Vanity light         | ---      | 1.5 | E    |
| <b>15</b> Interior lights      | ---      | 8   | E    |
| <b>16</b> Door courtesy lights | ---      | 5   | D    |
| <b>17</b> Glove box light      | ---      | 1.2 | D    |

- A: 9005 halogen bulbs
- B: 9006 halogen bulbs
- C: Single end bulbs
- D: Wedge base bulbs
- E: Double end bulbs