

## **SECTION 6-4**

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### **SERVICE PROCEDURES AND SPECIFICATIONS**

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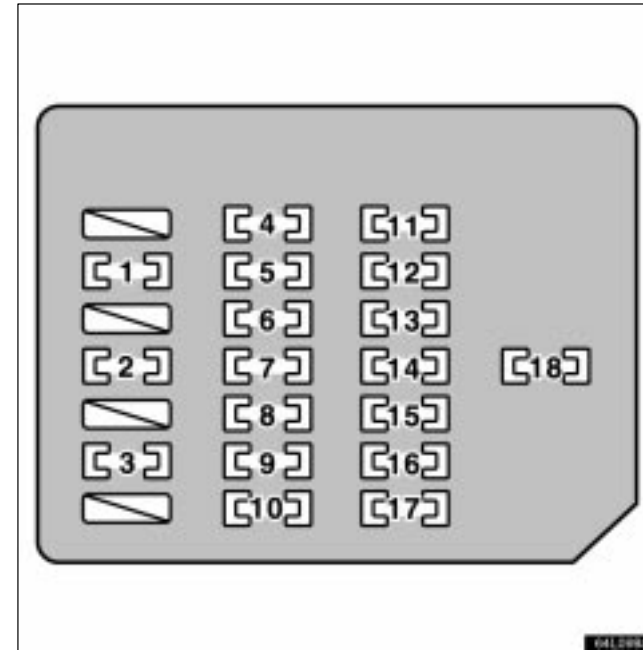
## SPECIFICATIONS

### – FUSE LOCATIONS



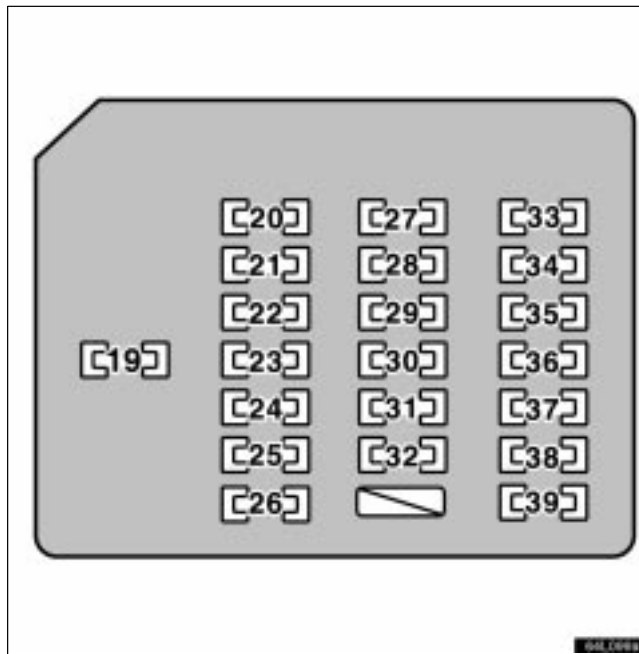
- ▶ **1** Engine compartment
- ▶ **2** Passenger's side kick panel
- ▶ **3** Driver's side kick panel
- ▶ **4** Trunk

### – FUSES

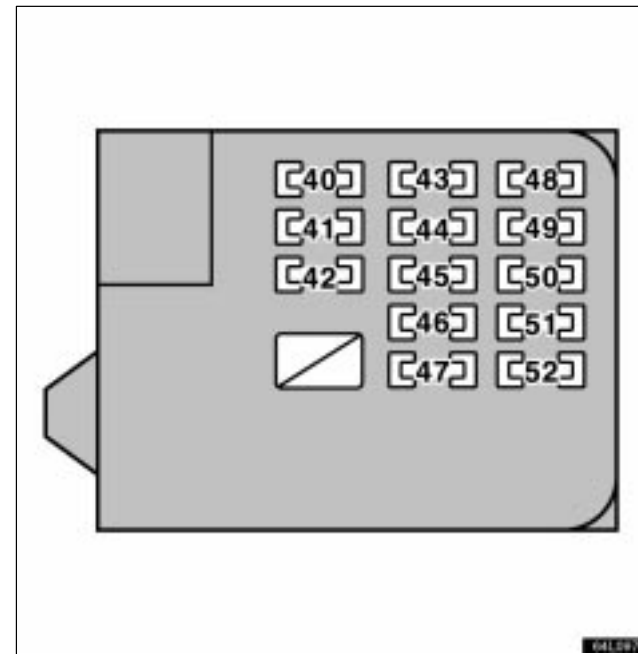


▶ Driver's side kick panel

## ELECTRICAL COMPONENTS

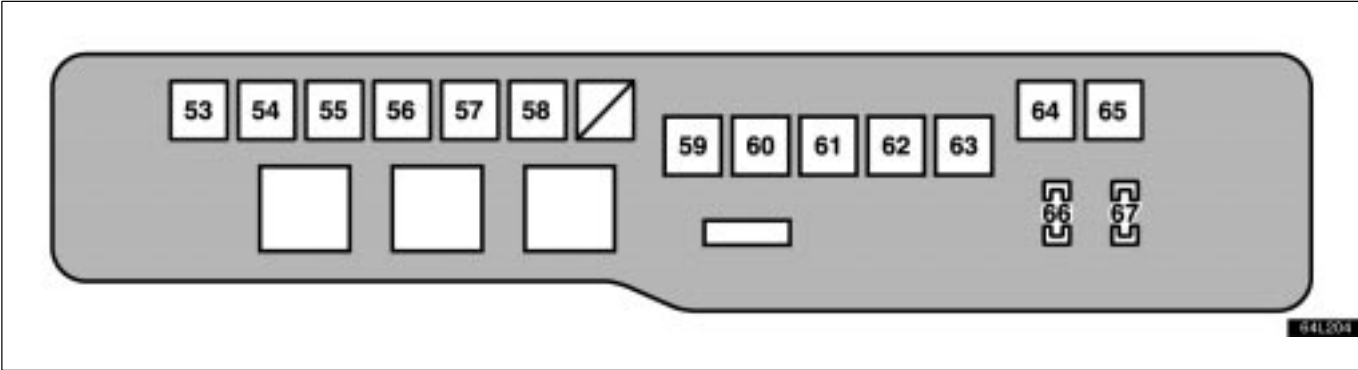


► *Passenger's side kick panel*

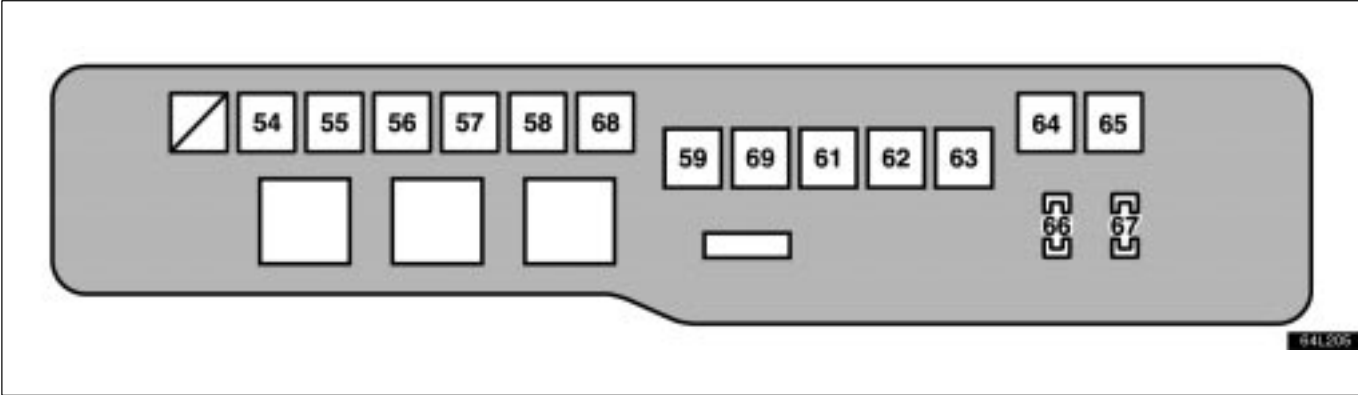


► *Trunk*

ELECTRICAL COMPONENTS

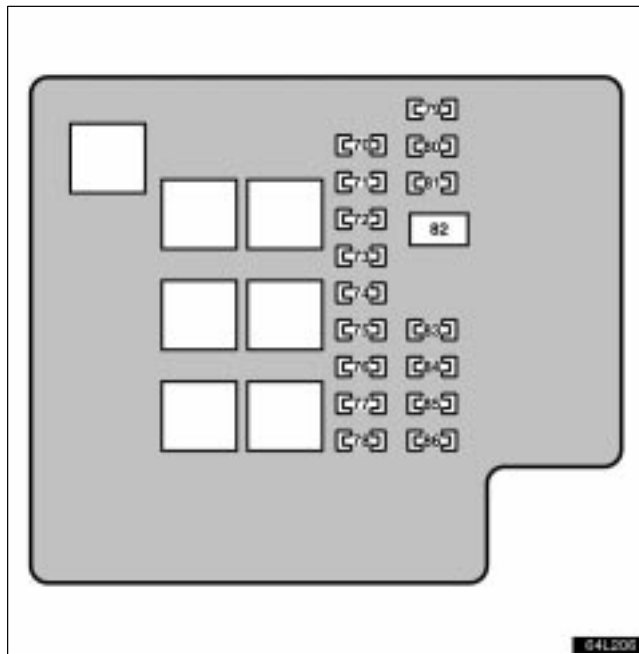


► Engine compartment (with electronically modulated air suspension)



► Engine compartment (without electronically modulated air suspension)

## ELECTRICAL COMPONENTS



► **Engine compartment**

No.	FUSE	AMPERE	CIRCUIT
1	TI & TE	20	Tilt and telescopic steering
2	PANEL	7.5	Lexus park assist system, Rear seat heater, Rear climate control seat, Multi-information display, Audio system, Cigarette lighter, Instrument panel light, Coin box light, Rear mirror light, Glove box light, Power rear seat, Electronically modulated air suspension system, Turn signal lights, Clock, Shift lock system, Vehicle stability control system, Sunshade, Power rear view mirror control system, Console box light, Fuel opener system, Adaptive Front Lighting System (AFS)
3	D P/SEAT	30	Power seat system
4	GAUGE	7.5	Gauges and meters, Lexus park assist system, Shift lock system
5	MPX-IG	7.5	Tilt and telescopic steering, Power door lock system, Power seat system, Engine immobilizer system
6	D S/HTR	15	Seat heater, Climate control seat system
7	AIR SUS	20	Electronically modulated air suspension system
8	D-ACC	7.5	Shift lock system, Theft deterrent system

## ELECTRICAL COMPONENTS

No.	FUSE	AMPERE	CIRCUIT
9	PWR OUTLET	15	Power outlet
10	D-CIG	15	Rear cigarette lighter
11	OBD	7.5	On-board diagnosis system
12	AM1	7.5	Starting system
13	ABS-IG	7.5	Vehicle stability control system
14	D B/ANC	5	Seat belts
15	SECURITY	7.5	Theft deterrent system
16	A/C	7.5	Air conditioning system
17	STOP	5	Stop lights
18	D RR-IG	10	Refreshing seat
19	IG2	30	SRS airbag system, Engine immobilizer system, Steering lock system, Starting system
20	HAZ	15	Emergency flashers
21	STR LOCK	7.5	Steering lock system
22	AM2	7.5	All components in "STA" and "IG2", Starting system
23	MPX-B1	7.5	Power door lock system, Engine immobilizer system, Steering lock system, Front power seat, Rear power seat
24	MPX-B3	7.5	Tilt and telescopic steering, Headlight switch, Windshield wiper and washer switch, Turn signal switch

No.	FUSE	AMPERE	CIRCUIT
25	DOME	10	Vanity lights, Outer foot lights, Ignition switch light, Clock, Gauges and meters, Interior lights, Personal lights
26	MPX-B2	7.5	Gauges and meters, Vehicle stability control system, Illuminated entry system, TEL
27	P RR-IG	10	Refreshing seat
28	H-LP LVL	7.5	Headlight leveling system, Adaptive Front Lighting System (AFS)
29	P-IG	7.5	Rain sensor, Air conditioning system, Moon roof, Multi-information display, Clock
30	P S/HTR	15	Seat heater, Climate control seat system
31	P-ACC	7.5	Air conditioning system, Audio system, Clock, Multi-information display, Illuminated entry system
32	P-CIG	15	Front cigarette lighter
33	RADIO NO.1	7.5	Audio system
34	RR DOOR LH	20	Power door lock system, Power window, Door closer system, Door courtesy lights

## ELECTRICAL COMPONENTS

No.	FUSE	AMPERE	CIRCUIT
35	P DOOR	25	Power door lock system, Power rear view mirror control system, Outside rear view mirror defogger, Door closer system, Door courtesy lights, Power windows
36	TEL	7.5	Audio system, Navigation system
37	P B/ANC	5	Seat belts, Seat belt buckle illumination
38	RR DOOR RH	20	Power door lock system, Power window, Door closer system, Door courtesy lights
39	D DOOR	25	Power door lock system, Door closer system, Power rear view mirror control system, Outside rear view mirror defogger, Door courtesy lights, Power windows
40	RR IG	7.5	Lexus park assist system, Electronically modulated air suspension system, Theft deterrent system, TEL
41	RR ACC	7.5	Audio system, TEL
42	RR ECU-B	7.5	Rear air conditioning system, Theft deterrent system, Trunk light, Refreshing rear seat
43	RR A/C	7.5	Rear air conditioning system, Air purifier
44	RR S/HTR	30	Seat heater, Climate control seat system

No.	FUSE	AMPERE	CIRCUIT
45	RR S/SHADE	15	Sunshade
46	LCE LP	7.5	License plate lights
47	S/ROOF	30	Moon roof
48	FUEL OPN	10	Fuel opener system, Trunk lid closer system
49	AMP	30	Audio system
50	P P/SEAT	30	Power seat system
51	RR SEAT LH	30	Power seat system
52	RR SEAT RH	30	Power seat system
53	LUG J/B	50	All components in "RR SEAT RH", "RR SEAT LH", "S/ROOF", "AMP", "RR IG", "RR ECU-B", "P P/SEAT", "RR S/HTR", "RR S/SHADE", "RR A/C", "RR ACC", "FUEL OPN" and "LCE LP", Tail lights and Stop lights
54	ABS 2	50	Vehicle stability control system
55	HEATER	50	Air conditioning system
56	ABS 1	30	Vehicle stability control system
57	DEFOG	40	Rear window defogger
58	AIR SUS	40	Electronically modulated air suspension system

## ELECTRICAL COMPONENTS

No.	FUSE	AMPERE	CIRCUIT
59	R/B	60	All components in "FR FOG", "TAIL", "WASHER", "FR IG", "WIP", "H-LP CRN" and "A/C IG"
60	FAN	80	Air conditioning system
61	D-J/B	80	All components in "TI & TE", "D P/SEAT", "A/C", "OBD", "STOP", "AM1", "MPX-IG", "ABS-IG", "GAUGE", "AIRSUS", "D S/HTR", "SECURITY", "PANEL", "D B/ANC", "PWR OUTLET", "D-CIG", "D RR-IG" and "D-ACC"
62	ALT	140	Charging system
63	P-J/B	80	All components in "RR DOOR RH", "RR DOOR LH", "D DOOR", "H-LP LVL", "P DOOR", "P S/HTR", "P-IG", "P-ACC", "P B/ANC", "P-CIG", "TEL" and "P RR-IG"
64	BATT	30	All components in "RADIO NO.1", "AM2", "HAZ" and "STR LOCK"
65	ST	30	Starting system
66	D/C CUT	20	All components in "DOME", "MPX-B1", "MPX-B2" and "MPS-B3"
67	ALT-S	5	Charging system
68	FAN	50	Air conditioning system

No.	FUSE	AMPERE	CIRCUIT
69	LUG J/B	60	All components in "RR SEAT RH", "RR SEAT LH", "S/ROOF", "AMP", "RR IG", "RR ECU-B", "P P/SEAT", "RR S/HTR", "RR S/SHADE", "RR A/C", "RR ACC", "FUEL OPN" and "LCE LP", Tail lights and Stop lights
70	H-LP R LWR	15	Right-hand headlight (low beam)
71	H-LP L LWR	15	Left-hand headlight (low beam)
72	EFI NO.2	7.5	Multiport fuel injection system/sequential multiport fuel injection system
73	STA	7.5	Multiport fuel injection system/sequential multiport fuel injection system
74	INJ	10	Multiport fuel injection system/sequential multiport fuel injection system
75	IGN	7.5	Multiport fuel injection system/sequential multiport fuel injection system
76	FR IG	7.5	Electric cooling fan, Headlight cleaner, Charging system, Starting system, Rear window defogger
77	A/C IG	7.5	Air conditioning system
78	WIP	30	Windshield wiper



## ELECTRICAL COMPONENTS

No.	FUSE	AMPERE	CIRCUIT
79	FR FOG	15	Fog lights
80	WASHER	20	Windshield washer
81	TAIL	7.5	Tail lights, Parking lights, Side marker lights
82	H-LP CLN	30	Headlight cleaner
83	EFI NO.1	25	Multiport fuel injection system/sequential multiport fuel injection system
84	HORN	10	Horns
85	ETCS	10	Multiport fuel injection system/sequential multiport fuel injection system
86	H-LP HI	20	Headlights (high beam)

## 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.
- **Warning:** Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

### 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.

## ELECTRICAL COMPONENTS

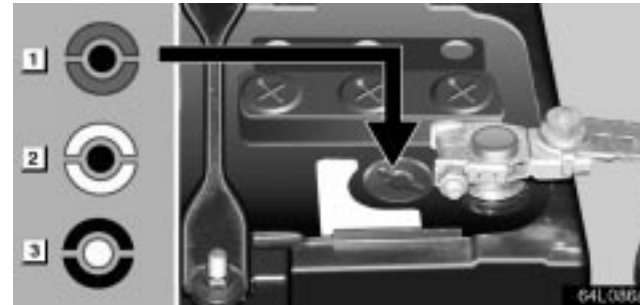
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### **NOTICE**

- *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 condition

#### Checking by indicator



#### Check the battery condition by the indicator color.

- 1 BLUE – Good condition.
- 2 WHITE – Charging necessary. Have the battery checked by your Lexus dealer.
- 3 RED – 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, make sure all accessories are turned off.*

## CHECKING AND REPLACING THE BLADE TYPE FUSES



► Engine compartment 1 Spare fuses 2 Pull-out tool



► Engine compartment

## ELECTRICAL COMPONENTS

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► *Driver's side kick panel*



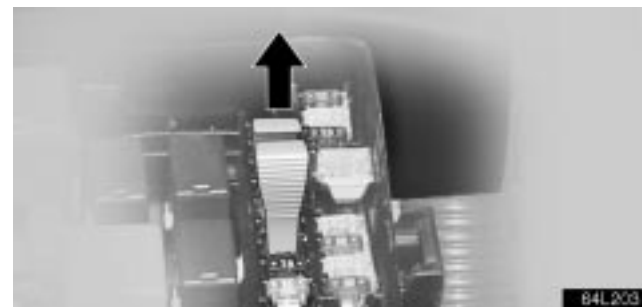
► *Passenger's side kick panel*



► *Trunk*

**1. Turn the ignition switch off and open the fuse box lid.**

Determine which fuse may be causing the problem. The lid of the fuse 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.**

## ELECTRICAL COMPONENTS



► **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 “D-CIG”, “P RR-IG” 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 lower than, but as close to the amperage 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 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.**

## ELECTRICAL COMPONENTS

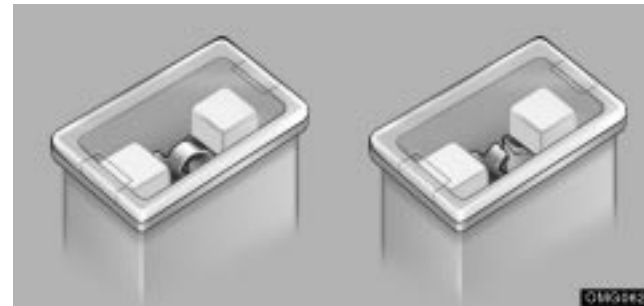
### CHECKING THE CARTRIDGE TYPE FUSES



► *Engine compartment*



► *Engine compartment*



► *Good*

► *Blown*

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.

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.*



## CHECKING THE HEADLIGHT AIM



- ▶ **1** *Vertical movement adjusting bolt 1*
- 2** *Vertical movement adjusting bolt 2*

Before checking the headlight aim:

1. Be sure that the body around the headlight is not deformed.
2. Park the vehicle on a level spot.
3. Get into the driver's seat and put the vehicle in a state ready for driving (with a full tank).
4. Bounce the vehicle several times.

## Adjusting the vertical aiming



1. Turn the vertical movement adjusting bolt 1 in either direction using a Phillips-head screwdriver. At this time, keep the turning direction and number of turns in mind.



2. Turn the vertical movement adjusting bolt 2 the same number of turns and in the same direction as step 1 using a Phillips-head screwdriver.

## REPLACING LIGHT BULBS

The illustrations 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.

The tail and stop lights consist of a number of LEDs. If any LED burns out, we recommend you take your vehicle to your Lexus dealer to have the light inspected as soon as possible.



### 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.
- Do not touch the high voltage socket when the headlights turn on. 20000 V is momentarily generated and may cause severe injury by an electric shock.
- Do not disassemble, repair or take apart the headlight bulbs, connector, power supply circuits and rotated components. Or you may be injured by electric shocks. Call your dealer when the headlights fail to work or have to be replaced or disposed of.

## ELECTRICAL COMPONENTS

### 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 lens 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 lens, just like the windshield fogs up in the rain. However, if there is a large drop of water on the inside of the lens, or if there is water pooled inside the light, contact your Lexus dealer.

### LIGHT LOCATION

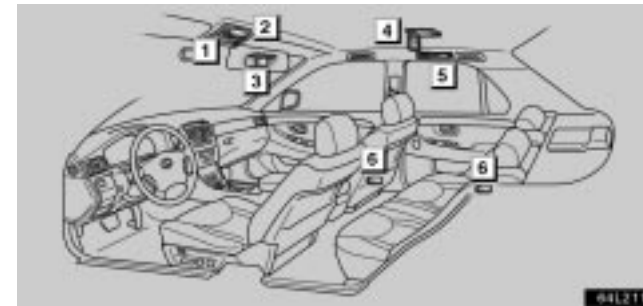


	Light Bulbs	Bulb No.	W	Type
<b>1</b>	Headlight (High beam)	9005	60	A
<b>2</b>	Parking light	—	5	D
<b>3</b>	Headlight (Low beam)	—	35	B
<b>4</b>	Front turn signal light	—	21	D
<b>5</b>	Front side marker light	—	5	D
<b>6</b>	Fog light	9006	51	C

## ELECTRICAL COMPONENTS



Light Bulbs	Bulb No.	W	Type
1 High mounted stoplight	—	21	D
2 Trunk light	194	3.8	D
3 License plate light	—	5	D
4 Back-up light	921	16	D
5 Rear turn signal light	—	21	D



Light Bulbs	Bulb No.	W	Type
1 Front personal light	—	8	F
2 Front interior light	—	8	E
3 Front vanity light	—	3	E
4 Rear vanity light	—	3	E
5 Rear interior light, Rear personal light	—	8	F
6 Door courtesy light	194	3.8	D

## **ELECTRICAL COMPONENTS**

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A: HB3 halogen bulbs

B: D2S discharge bulbs

C: HB4 halogen bulbs

D: Wedge base bulbs

E: Double end bulbs

F: Single end bulbs

1