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LIGHTING SYSTEM

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PRECAUTIONS

PRECAUTIONS

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Precautions for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SRS section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

Wiring Diagrams and Trouble Diagnosis

When you read wiring diagrams, refer to the following:

- <u>GI-13, "How to Read Wiring Diagrams"</u>.
- PG-8, "POWER SUPPLY ROUTING" for power distribution circuit.

When you perform trouble diagnosis, refer to the following:

- <u>GI-9, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES"</u>.
- <u>GI-25, "How to Perform Efficient Diagnosis for an Electrical Incident"</u>.

Check for any Service bulletins before servicing the vehicle.

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PREPARATION

PREPARATION

Special Service Tools

The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name

_

Description

(J-43241) Remote keyless entry tester		Used to test keyfobs	
	LEL940A		

*: Special tool or commercial equivalent

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COMBINATION SWITCH



Replacement

- For removal and installation of spiral cable, refer to <u>SRS-44,</u> <u>"DRIVER AIR BAG MODULE AND SPIRAL CABLE"</u>.
- Each switch can be replaced without removing combination switch base.



• To remove combination switch base, remove base attaching screws.



 Before installing the steering wheel, align the turn signal cancel tab with the notch of the combination switch. Refer to <u>SRS-44</u>, <u>"DRIVER AIR BAG MODULE AND SPIRAL CABLE"</u>.



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HEADLAMP (FOR USA)

HEADLAMP (FOR USA)	PFP:26010	
System Description	EKS0031A	А
The headlamps are controlled by the lighting switch which is built into the combination switch. Power is supplied at all times		В
 through 15A fuse (No. 37, located in the fuse and fusible link box) 		
 to lighting switch terminal 8 and 		
 through 15A fuse (No. 38, located in the fuse and fusible link box) 		С
 to lighting switch terminal 5. 		
LOW BEAM OPERATION		D
With the lighting switch in the headlamp ON (2ND) position and low beam (B) position, power is supp	lied	D
from lighting switch terminal 7		
to headlamp LH terminal D and		Е
from lighting switch terminal 10		
• to headlamp RH terminal D.		
Ground is supplied to headlamp LH/RH terminal E through body grounds E12 and E54. With power and ground supplied, the low beams illuminate.		F
HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION		
With the lighting switch in the flash-to-pass (C) position or the headlamp ON (2ND) position and high position, power is supplied	beam (A)	G
from lighting switch terminal 6		Ц
to headlamp LH terminal M and		П
from lighting switch terminal 9		
to headlamp RH terminal M and		1
 to combination meter terminal 11 for the high beam indicator. 		
Ground is supplied to terminal 10 of the combination meter through body grounds M14 and M68. Ground is supplied to headlamp LH/RH terminal E through body grounds E12 and E54. With power and ground supplied, the high beams and the high beam indicator illuminate.		J
VEHICLE SECURITY SYSTEM		
The vehicle security system will flash the high beams if the system is triggered. Refer to <u>BL-49</u> , <u>Description</u> ".	<u>"System</u>	LT

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HEADLAMP (FOR USA)



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HEADLAMP (FOR USA)

Trouble Diagnoses

Symptom	Possible cause	Repair order			
Neither headlamp LH nor headlamp RH operate.	1. Lighting switch	1. Check lighting switch.			
Headlamp LH does not operate, but	1. Bulb	1. Check bulb.			
headlamp RH operates properly.	2. Headlamp LH ground circuit 3. 15A fuse	2. Check continuity between headlamp LH terminal E and grounds E12 and E54.			
	4. Lighting switch	3. Check 15A fuse (No. 38, located in fuse and fusible link box). Verify battery positive voltage is present at terminal 5 of lighting switch.			
		4. Check lighting switch.			
Headlamp RH does not operate,	1. Bulb	1. Check bulb.			
but headlamp LH operates properly.	2. Headlamp RH ground circuit 3. 15A fuse	2. Check continuity between headlamp RH terminal E and grounds E12 and E54.			
	4. Lighting switch	3. Check 15A fuse (No. 37, located in fuse and fusible link box). Verify battery positive voltage is present at termi- nal 8 of lighting switch.			
		4. Check lighting switch.			
High beam LH does not operate,	1. Bulb	1. Check bulb.			
but low beam LH operates.	 Open in high beam LH circuit Lighting switch 	2. Check R/G wire between lighting switch terminal 6 and headlamp LH terminal M for an open circuit.			
		3. Check lighting switch.			
Low beam LH does not operate, but	1. Bulb	1. Check bulb.			
high beam LH operates.	 Open in low beam LH circuit Lighting switch 	2. Check R wire between lighting switch terminal 7 and headlamp LH terminal D for an open circuit.			
		3. Check lighting switch.			
High beam RH does not operate,	1. Bulb	1. Check bulb.			
but low beam RH operates.	 Open in high beam RH circuit Lighting switch 	2. Check R/W wire between lighting switch terminal 9 and headlamp RH terminal M for an open circuit.			
	5 5	3. Check lighting switch.			
Low beam RH does not operate,	1. Bulb	1. Check bulb.			
out high beam RH operates.	2. Open in low beam RH circuit	2. Check R/B wire between lighting switch terminal 10 and headlamp RH terminal D for an open circuit.			
		3. Check lighting switch.			
High beam indicator does not work.	1. Bulb	1. Check bulb in combination meter.			
	2. High beam indicator ground cir- cuit	2. Check continuity between combination meter terminal 10 and grounds M14 and M68.			
	3. Open in high beam circuit	3. Check R/G wire between lighting switch terminal 6 and combination meter terminal 11 for an open circuit.			

Bulb Replacement

The headlamp is a semi-sealed beam type which uses a replaceable halogen bulb. The bulb can be replaced from the engine compartment side without removing the headlamp body.

- Grasp only the plastic base when handling the bulb. Never touch the glass envelope.
- 1. Disconnect the battery cable.
- 2. Disconnect the harness connector from the back side of the bulb.
- 3. Remove bulb retaining ring.
- 4. Remove the headlamp bulb carefully. Do not shake or rotate the bulb when removing it.
- 5. Install in the reverse order of removal.

CAUTION:

Do not leave headlamp reflector without bulb for a long period of time. Dust, moisture, smoke, etc. entering headlamp body may affect the performance of the headlamp. Remove headlamp bulb from the headlamp reflector just before a replacement bulb is installed.



Aiming Adjustment

When performing headlamp aiming adjustment, use an aiming wall screen. For details, refer to local regulations.

Before performing aiming adjustment, check the following.

- 1. Keep all tires inflated to correct pressures.
- 2. Place vehicle on flat surface.
- 3. See that the vehicle is unloaded (except for full levels of coolant, engine oil and fuel, and spare tire, jack, and tools). Have the driver or equivalent weight placed in the driver's seat.

LOW BEAM

NOTE:

The horizontal headlamp aim cannot be adjusted. Only vertical aim is adjustable.

- 1. Turn headlamp low beam on.
- 2. Use adjusting screw to adjust the vertical aim of the lamp.
 - Cover the opposite lamp and ensure fog lamps, if equipped, are turned off.



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• Adjust beam pattern until cut-off line (top edge of illumination area) is positioned at same height off ground as bulb center (on H-line). Measure cut-off line within distance A on H-line. See aiming chart following.



If the vehicle front body has been repaired and/or the headlamp assembly has been replaced, check aiming. Use the aiming chart shown in the figure.

 Basic illuminating area (shaded) for adjustment should be within the range shown on the aiming chart. Adjust headlamps accordingly.

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System Description (For Canada)

The headlamp system for Canada vehicles contains a daytime light control unit that activates the high beam headlamps at approximately half illumination whenever the engine is running. If the parking brake is applied before the engine is started the daytime lights will not be illuminated. The daytime lights will illuminate once the parking brake is released. Thereafter, the daytime lights will continue to operate when the parking brake is applied. If the daytime light control unit receives a ground signal from the generator, the daytime lights will not be illuminated. The daytime lights will illuminate once a battery positive voltage signal is sent to the daytime light control unit from the generator.

Power is supplied at all times

- through 15A fuse (No. 38, located in the fuse and fusible link box)
- to daytime light control unit terminal 3 and
- to lighting switch terminal 5.

Power is also supplied at all times

- through 15A fuse (No. 37, located in the fuse and fusible link box)
- to daytime light control unit terminal 2 and
- to lighting switch terminal 8.
- With the ignition switch in the ON or START position, power is supplied
- through 10A fuse [No. 5, located in the fuse block (J/B)]
- to daytime light control unit terminal 12.

With the ignition switch in the START position, power is supplied

- through 7.5A fuse [No. 7, located in the fuse block (J/B)]
- to daytime light control unit terminal 1.

Ground is supplied to daytime light control unit terminal 9 through body grounds E12 and E54.

HEADLAMP OPERATION

Low Beam Operation

When the lighting switch is turned to the headlamp ON (2ND) position, low beam (B), power is supplied

- from lighting switch terminal 10
- to headlamp RH terminal D and
- to daytime light control unit terminal 4.

Ground is supplied to headlamp RH terminal E through body grounds E12 and E54.

Also, when the lighting switch is turned to the headlamp ON (2ND) position, low beam (B), power is supplied

- from lighting switch terminal 7
- to headlamp LH terminal D.

Ground is supplied

- to headlamp LH terminal E
- from daytime light control unit terminal 7
- through daytime light control unit terminal 9
- through body grounds E12 and E54.

With power and ground supplied, the low beam headlamps illuminate.

High Beam Operation/Flash-to-pass Operation

When the lighting switch is turned to the headlamp ON (2ND) position, high beam (A) or flash-to-pass (C) position, power is supplied

- from lighting switch terminal 9
- to headlamp RH terminal M and
- to daytime light control unit terminal 8.

Also, when the lighting switch is turned to the headlamp ON (2ND) position, high beam (A) or flash-to-pass (C) position, power is supplied

- from lighting switch terminal 6
- to combination meter terminal 11 for the high beam indicator and

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to daytime light control unit terminal 5	
through daytime light control unit terminal 6	А
• to headlamp LH terminal M.	
Ground is supplied in the same manner as low beam operation. Ground is supplied to combination meter terminal 10 through body grounds M14 and M68. With power and ground supplied, the high beam headlamps and high beam indicator illuminate.	В
DAYTIME LIGHT OPERATION	0
With the engine running, the lighting switch in the OFF or 1ST position and parking brake released, power is supplied	C
through daytime light control unit terminal 6	D
to headlamp LH terminal M	D
through headlamp LH terminal E	
 to daytime light control unit terminal 7 	Е
 through daytime light control unit terminal 8 	
 to headlamp RH terminal M. 	
Ground is supplied to headlamp RH terminal E through body grounds E12 and E54. Because the high beam headlamps are now wired in series, they operate at half illumination.	F

OPERATION (FOR CANADA)

After starting the engine with the lighting switch in the OFF or parking lamp (1ST) position, the headlamp high beams automatically turn on. Lighting switch operations other than the above are the same as conventional light systems.

Engine				W	/ith er	ngine	stopp	ed					V	/ith er	ngine	runni	ng		
Linhting quitch			OFF			1ST			2ND			OFF			1ST			2ND	
Lighting switch		Α	В	С	Α	В	С	Α	В	С	А	В	С	Α	В	С	Α	В	С
Headlamp	High beam	Х	Х	0	Х	Х	0	0	Х	0	Δ	Δ	0	Δ*	Δ^*	0	0	Х	0
	Low beam	Х	Х	Х	Х	Х	Х	Х	0	Х	Х	Х	Х	Х	Х	Х	Х	0	Х
Clearance and tail lamp		Х	Х	Х	0	0	0	0	0	0	Х	Х	Х	0	0	0	0	0	0
License and instrument illumina- tion lamp			х	х	0	0	0	0	0	0	х	х	х	0	0	0	0	0	0

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- A: High beam position
- B: Low beam position
- C: Flash-to-pass position
- O : Lamp ON
- X : Lamp OFF
- Δ : Lamp dims. (Added functions)
- *: When starting the engine with the parking brake released, the daytime lights will come ON. When starting the engine with the parking brake pulled, the daytime lights won't come ON.

Circuit Diagram EKS0031G IGNITION SWITCH ON or START IGNITION SWITCH START BATTERY FUSE FUSE FUSE FUSE LIGHTING SWITCH OFF 1ST 2ND ABCABCABC O 4 ► To vehicle security system -12 1 2 4 3 5 10 DAYTIME LIGHT CONTROL UNIT 11 6 8 7 9 HEADLAMP HEADLAMP HIGH BEAM INDICATOR Ē M ++ LEL714A



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Trouble Diagnoses DAYTIME LIGHT CONTROL UNIT INSPECTION TABLE

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Terminal No.	Wire color	Item	Condition	Voltage (Approx.)
1	L/OR	Ignition switch start signal	Ignition switch in START position	12
			All other conditions	0
2	Y/G	Power source for head- lamp RH	_	12
3	Y/B	Power source for head- lamp LH	_	12
4	R/B	Lighting switch headlamp RH low beam output	Lighting switch in the headlamp ON (2ND) position and low beam (B) position	12
			All other conditions	0
5	R/G	Lighting switch headlamp LH high beam output	Lighting switch in the flash-to-pass (C) position or headlamp ON (2ND) position and high beam (A) position	12
			All other conditions	0
6	R/Y	Headlamp LH high beam	Lighting switch in the flash-to-pass (C) position or headlamp ON (2ND) position and high beam (A) posi- tion	12
			With parking brake released, engine running and light- ing switch in OFF or parking and tail lamp ON (1ST) positions CAUTION: Block wheels and ensure selector lever is in P or N position.	12
			All other conditions	0
7	B/W	Headlamp LH control (ground)	Lighting switch in the flash-to-pass (C) position or headlamp ON (2ND) position	0
			All other conditions	6
8	R/W	Lighting switch headlamp RH high beam output	Lighting switch in the flash-to-pass (C) position or headlamp ON (2ND) position and high beam (A) posi- tion	12
			With parking brake released, engine running and light- ing switch in OFF or parking and tail lamp ON (1ST) positions CAUTION: Block wheels and ensure selector lever is in P or N position.	6
			All other conditions	0
9	В	Ground	_	
10	Y	Parking brake switch	Parking brake released	12
			Parking brake set	0
11	Y/B	Generator	When engine is running	12
		(L terminal)	All other conditions	0
12	G/W	Ignition switch on signal	Ignition switch OFF, ACC positions	0
			Ignition switch ON, START positions	12

Bulb Replacement

Refer to LT-10, "Bulb Replacement" .

Aiming Adjustment

Refer to LT-10, "Aiming Adjustment" .

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PARKING, LICENSE AND TAIL LAMPS





BACK-UP LAMP



FRONT FOG LAMP

FRONT FOG LAMP

System Description

Power is supplied at all times

- through 15A fuse (No. 40, located in the fuse and fusible link box)
- to front fog lamp relay terminal 5 and
- through 15A fuse (No. 37, located in the fuse and fusible link box)
- to lighting switch terminal 5.

With the lighting switch in the headlamp ON (2ND) position and low beam (B) position, power is supplied

- through lighting switch terminal 7
- to front fog lamp switch terminal 31.

FRONT FOG LAMP OPERATION

The front fog lamp switch is built into the combination switch. The lighting switch must be in the headlamp ON (2ND) position and low beam (B) position for front fog lamp operation. With the front fog lamp switch in the ON position:

- power is supplied to front fog lamp relay terminal 2
- through front fog lamp switch terminal 32
- through front fog lamp switch terminal 31.

The front fog lamp relay is energized and power is supplied

- through front fog lamp relay terminal 3
- to front fog lamp LH/RH terminal 1.

Ground is supplied to front fog lamp LH/RH terminal 2 and front fog lamp relay terminal 1 through body grounds E12 and E54.

With power and ground supplied, the front fog lamps illuminate.

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FRONT FOG LAMP



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Aiming Adjustment

Before performing aiming adjustment, make sure of the following.

- 1. Keep all tires inflated to correct pressure.
- 2. Place vehicle on level ground.
- 3. See that vehicle is unloaded (except for full levels of coolant, engine oil and fuel, and spare tire, jack, and tools). Have the driver or equivalent weight placed in driver's seat.

Loosen front fog lamp adjusting nuts and adjust aiming by moving front fog lamps.

- 1. Set the distance between the screen and the center of the front fog lamp lens.
- 2. Turn front fog lamps ON.

- 3. Adjust front fog lamps so that the top edge of the high intensity zone is 100 mm (4 in) below the height of the fog lamp centers.
 - When performing adjustment, if necessary, cover the headlamps and opposite fog lamp.
- 4. Tighten the front fog lamp adjusting nuts.



Main axis of light

Screen

7.6 m (25 ft)



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MEL327G

FRONT FOG LAMP

Removal and Installation

- 1. Disconnect front fog lamp harness connector.
- 2. Remove mounting bolt and remove lens and housing assembly from front bumper cover.
- 3. Install in reverse order of removal. Ensure top of lens faces up.
- 4. Tighten mounting bolt.

: 5 – 6 N·m (0.51 – 0.61 kg-m, 44.3 – 53.1 in-lb) Y

Bulb and Lens Replacement

- Remove front fog lamp. Refer to LT-25, "Removal and Installa-1. tion".
- 2. Remove bulb cover.
- 3. Release the spring retainer.
- 4. Disconnect fog lamp bulb connector.
- 5. Remove fog lamp bulb.
- 6. Install in reverse order of removal. Ensure top of lens faces up. DO NOT TOUCH BULB.



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System Description TURN SIGNAL OPERATION

With the hazard switch in the OFF position and the ignition switch in the ON or START position, power is supplied

- through 7.5A fuse [No. 2, located in the fuse block (J/B)]
- to hazard switch terminal 2
- through the hazard switch terminal 1
- to combination flasher unit terminal B
- through combination flasher unit terminal L
- to turn signal switch terminal 1.

Ground is supplied to combination flasher unit terminal E through body grounds M14 and M68.

LH Turn

With the turn signal switch in the LH position, power is supplied from turn signal switch terminal 3 to

- front combination lamp LH terminal 1
- combination meter terminal 11 and
- rear combination lamp LH terminal 3.

Ground is supplied to front combination lamp LH terminal 2 through body grounds E12 and E54. Ground is supplied to rear combination lamp LH terminal 2 through body grounds B6 and B10. Ground is supplied to combination meter terminal 36 through body grounds M14 and M68. With power and ground supplied, the combination flasher unit controls the flashing of the LH turn signal lamps.

RH Turn

With the turn signal switch in the RH position, power is supplied from turn signal switch terminal 2 to

- front combination lamp RH terminal 1
- combination meter terminal 28 and
- rear combination lamp RH terminal 3.

Ground is supplied to the front combination lamp RH terminal 2 through body grounds E12 and E54. Ground is supplied to the rear combination lamp RH terminal 2 through body grounds B106 and B116. Ground is supplied to combination meter terminal 36 through body grounds M14 and M68. With power and ground supplied, the combination flasher unit controls the flashing of the RH turn signal lamps.

HAZARD LAMP OPERATION

Power is supplied at all times to hazard switch terminal 3 through:

10A fuse [No. 17, located in the fuse block (J/B)].

With the hazard switch in the ON position, power is supplied

- through hazard switch terminal 1
- to combination flasher unit terminal B
- through combination flasher unit terminal L
- to hazard switch terminal 4.

Ground is supplied to combination flasher unit terminal E through body grounds M14 and M68. Power is supplied through hazard switch terminal 5 to

- front combination lamp LH terminal 1
- combination meter terminal 11 and
- rear combination lamp LH terminal 3.

Power is supplied through hazard switch terminal 6 to

- front combination lamp RH terminal 1
- combination meter terminal 28 and
- rear combination lamp RH terminal 3.

Ground is supplied to front combination lamp LH/RH terminal 2 through body grounds E12 and E54. Ground is supplied to rear combination lamp LH terminal 2 through body grounds B6 and B10.

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PFP:26120

EKS0031T

Ground is supplied to rear combination lamp RH terminal 2 through body grounds B106 and B116. Ground is supplied to combination meter terminal 36 through body grounds M14 and M68. With power and ground supplied, the combination flasher unit controls the flashing of the hazard warning lamps.	A
REMOTE KEYLESS ENTRY SYSTEM OPERATION	В
Power is supplied at all times to smart entrance control unit terminal 49	
 through 7.5A fuse [No. 28, located in the fuse block (J/B)]. 	
Ground is supplied to smart entrance control unit terminals 43 and 64. Refer to BL-30, "System Description".	С
When smart entrance control unit receives LOCK or UNLOCK signal from key fob with all doors closed, power is supplied through smart entrance control unit terminal 47	D
 to front combination lamp LH terminal 1 	
 to combination meter terminal 11 	
 to rear combination lamp LH terminal 3. 	E
Power is supplied through smart entrance control unit terminal 48	
 to front combination lamp RH terminal 1 	_
 to combination meter terminal 28 	Г
 to rear combination lamp RH terminal 3. 	
Ground is supplied to terminal 2 of each front combination lamp through body grounds E12 and E54. Ground is supplied to terminal 2 of rear combination lamp LH through body grounds B6 and B10. Ground is supplied to terminal 2 of rear combination lamp RH through body grounds B106 and B116.	G
With power and ground supplied, the smart entrance control unit controls the flashing of the hazard warning lamps.	Н

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WKWA0363E



WKWA0364E

Trouble Diagnoses

Symptom	Possible cause	Repair order
Turn signal and hazard warning lamps do not operate.	 7.5A fuse 10A fuse Hazard switch Combination flasher unit Open in combination flasher unit circuit 	 Check 7.5A fuse [No. 2, located in fuse block (J/B)]. Turn ignition switch ON and verify battery positive voltage is present at terminal 2 of hazard switch. Check 10A fuse [No. 17, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 3 of hazard switch. Check hazard switch. Refer to combination flasher unit check. Check wiring to combination flasher unit for open circuit.
Turn signal lamps do not operate but hazard warning lamps operate.	 7.5A fuse Hazard switch Turn signal switch Open in turn signal switch circuit 	 Check 7.5A fuse [No. 2, located in fuse block (J/B)]. Turn ignition switch ON and verify battery positive voltage is present at terminal 2 of hazard switch. Check hazard switch. Check turn signal switch. Check G wire between combination flasher unit and turn signal switch for open circuit. Check the harness between turn signal switch and front combination lamp for an open circuit.
Hazard warning lamps do not oper- ate but turn signal lamps operate.	 1.10A fuse 2. Hazard switch 3. Open in hazard switch circuit 	 Check 10A fuse [No. 17, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 3 of hazard switch. Check hazard switch. Check G wire between combination flasher unit and hazard switch for open circuit.
Front turn signal lamp LH or RH does not operate.	1. Bulb 2. Front turn signal lamp ground cir- cuit	 Check bulb. Check front turn signal lamp ground circuit.
Rear turn signal lamp LH does not operate.	1. Bulb 2. Rear turn signal lamp LH ground circuit	 Check bulb. Check rear turn signal lamp LH ground circuit.
Rear turn signal lamp RH does not operate.	 Bulb Rear turn signal lamp RH ground circuit 	 Check bulb. Check rear turn signal lamp RH ground circuit.
LH and RH turn indicators do not operate.	1. Ground circuit	1. Check ground circuit.
LH or RH turn indicator does not operate.	1. Bulb 2. Turn indicator circuit	 Check bulb in cluster lid A. Check continuity between combination meter terminals 12, 14 and 13.

LT-30

Electrical Components Inspection COMBINATION FLASHER UNIT CHECK

- Before checking, ensure that bulbs meet specifications.
- Connect a battery and test lamp to the combination flasher unit, as shown. Combination flasher unit is properly functioning if it blinks when power is supplied to the circuit.



EKS0031W

EKS0031V

TRAILER TOW

TRAILER TOW PFP:93020	
System Description	A
Power is supplied at all times	
 through 20A fuse [No. 22, located in the fuse block (J/B)] 	В
• to trailer tow control unit terminal 6.	
Ground is supplied	
• to trailer tow control unit terminal 7 and	С
 to trailer harness connector terminal 1 	
 through body grounds B106 and B116. 	
TRAILER TAIL LAMP OPERATION	D
With the lighting switch in the parking and tail lamp ON (1ST) or headlamp ON (2ND) position, power is supplied	E
from lighting switch terminal 12	
• to trailer harness connector terminal 2.	
TRAILER STOP, TURN SIGNAL AND HAZARD LAMP OPERATION	F
The trailer stop, turn signal and hazard lamps are all controlled by the trailer tow control unit. The trailer tow control unit regulates the amount of voltage supplied to the trailer lamps. If either turn signal or the hazard lamps are turned on and the trailer tow control unit gets a brake lamp input, the trailer tow control unit supplies more voltage to the trailer lamps to make them illuminate brighter.	G
Power is supplied to trailer tow control unit terminal 6 through 20A fuse (No. 22, located in the fuse block) at all	Н
Stop lamp input is supplied to trailer tow control unit terminal 3. Left turn signal and hazard lamp input is supplied to trailer tow control unit terminal 4. Right turn signal and hazard lamp input is supplied to trailer tow control unit terminal 1. Based on the stop lamp, turn signal lamp and hazard lamp inputs to the trailer tow control unit, power is supplied to trailer stop/turn lamp LH	I
from trailer tow control unit terminal 8	J
• to trailer harness connector terminal 3.	
Power is also supplied to trailer stop/turn lamp RH	
from trailer tow control unit terminal 5	
• to trailer harness connector terminal 4.	
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TRAILER TOW



WKWA0365E

TRAILER TOW

Terminal No.	Wire color	Item	Condition	Voltage (Approx.)
1	G/R	RH turn lamps input	When RH turn lamps or hazard lamps operate	12 (intermittently)
			All other conditions	0
3	BR/R	Stop lamps signal input	When brake pedal is depressed	12
			When brake pedal is released	0
4	G/Y	LH turn lamps input	When LH turn lamps or hazard lamps operate	12 (intermittently)
			All other conditions	0
			When brake pedal is depressed	12
5	G	G Stop/RH turn lamp (output)	When RH turn lamps or hazard lamps operate	12 (intermittently)
			All other conditions	0
6	R/B	Power supply	_	12
7	В	Ground	_	_
			When brake pedal is depressed	12
8	Y	Stop/LH turn lamp (output)	When LH turn lamps or hazard lamps operate	12 (intermittently)
			All other conditions	0

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ILLUMINATION

ILLUMINATION

System Description

PFP:27545

EKS00320

Power is supplied at all times

- through 15A fuse (No. 39, located in the fuse and fusible link box)
- to lighting switch terminal 11.

The lighting switch must be in the parking and tail lamps ON (1ST) or headlamps ON (2ND) position for illumination.

The illumination control switch controls the amount of current to the illumination system. As the amount of current increases, the illumination becomes brighter.

The following chart shows the power and ground connector terminals for the components included in the illumination system.

Component	Connector No.	Power terminal	Ground terminal
Illumination control switch	M28	1	5
Air control	M95	10	9
Audio unit	M51	8	7
Hazard switch	M53	7	8
Rear wiper switch	M89	4	5
Compass and thermometer	R5	6	5
Combination meter	M39	30, 32	42
Main power window and door lock/unlock switch	D7	3	8
A/T device	M35	4	3

The ground for all of the components are controlled through terminals 4 and 5 of the illumination control switch and body grounds M14 and M68.



WKWA0366E



WKWA0367E





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System Description MODELS WITHOUT POWER DOOR LOCKS

Room Lamp

Power is supplied at all times

- through 7.5A fuse [No. 26, located in the fuse block (J/B)]
- to front room lamp terminal + and
- to rear room lamp terminal +.

With the front/rear room lamp switch in the ON position, ground is supplied through the case of the front/rear room lamp.

With one or more doors open, with the front/rear room lamp switch in the DOOR position, ground is supplied

- to front/rear room lamp terminal DR
- through front door switch LH terminal 1 and/or
- through front door switch RH, rear door switch LH/RH and/or back door switch terminal +.

Ground is supplied to back door switch terminal – through body grounds D402 and D404.

MODELS WITH POWER DOOR LOCKS

Room Lamp

Power is supplied at all times

- through 7.5A fuse [No. 28, located in the fuse block (J/B)]
- to smart entrance control unit terminal 49.

With the front/rear room lamp or map lamp switches in the ON position, ground is supplied

- through the case of the front/rear room lamp or
- through body grounds M14 and M68
- to map lamp terminal -.

Power is also supplied

- to front/rear room lamp or map lamp terminal +
- from smart entrance control unit terminal 50.

With the front door LH open and the front/rear room lamp switch in the DOOR position, ground is supplied

- to front/rear room lamp terminal DR
- through front door switch LH terminal 1, and
- to smart entrance control unit terminal 1
- through front door switch LH terminal 2
- through body grounds B6 and B10.

With the front door RH open and the front/rear room lamp switch in the DOOR position, ground is supplied

- to smart entrance control unit terminal 2
- through front door switch RH terminal + and
- to front/rear room lamp terminal DR
- through smart entrance control unit terminal 31
- through smart entrance control unit terminal 43 and 64
- through body grounds M14 and M68.

With rear door LH/RH and/or back door open and the front/rear room lamp switch in the DOOR position, ground is supplied

- to smart entrance control unit terminal 3
- through rear door switch LH/RH and/or back door switch terminal + and
- to front/rear room lamp terminal DR
- through smart entrance control unit terminal 31
- through smart entrance control unit terminal 43 and 64
- through body grounds M14 and M68.

Room Lamp Timer Operation

When the room lamp switch is in the DOOR position, the smart entrance control unit keeps the room lamp illuminated for about 30 seconds when:

- unlock signal is supplied from driver door lock and unlock switch while all doors are closed and key is removed from ignition key cylinder
- unlock signal is supplied from key fob while all doors are closed and driver door is locked
- key is removed from ignition key cylinder while driver door is closed
- driver door is opened and then closed while key is removed from ignition key cylinder. (However, if the
 driver door is closed with the key inserted in the ignition key cylinder after the driver door is opened with
 key removed, the timer is operated.)

The timer is canceled when:

- driver door is locked, or
- driver door is opened or
- ignition switch is turned ON.

ON-OFF CONTROL

When the driver door, front passenger door, rear LH, RH door or back door is opened, the interior room lamp turns on while the room lamp switch is in the DOOR position.

BATTERY SAVER

The lamp turns off automatically when front/rear room lamp, map lamp is illuminated with the ignition key in the OFF position, if the lamp remains lit by the door switch open signal or if the lamp switch is in ON position for more than 30 minutes.

After lamps turn OFF by the battery saver system, the lamps illuminate again when:

- driver door is locked or unlocked,
- door is opened or closed,
- key is inserted in or removed from ignition key cylinder.

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Wiring Diagram — ROOM/L — MODELS WITHOUT POWER DOOR LOCKS



WKWA0368E

LT-40





WKWA1414E

Trouble Diagnosis	<s00325< th=""></s00325<>	
SYMPTOM: Front and rear room lamp does not turn on or off properly. MODELS WITHOUT POWER DOOR LOCKS		
Check 7.5A fuses [Nos. 20, 26 and 28 located in fuse block (J/B)]. OK or NG OK	С	
NG >> Replace fuse and check harness for short between fuse and front and rear room lamps.	D	
2. CHECK FRONT AND REAR ROOM LAMP SWITCH SIGNALS		
1. Close all doors, turn ON front and rear room lamp switches.	E	
Front and rear room lamps should turn on.		
2. Turn off front and rear room lamp switches.	F	
Front and rear room lamps should turn off.		
OK or NG	G	
OK >> GO TO 3. NG >> Check the following.		
Front or rear room lamp switch	Н	
 Front or rear room lamp switch ground circuit 		
 Harness for open or short between front or rear room lamp switch and front door switch front door switch RH, rear door switch LH, rear door switch RH or back door switch 	LH, I	
2 CHECK EDONT AND READ BOOM LAND DOWED SUDDLY		

${\mathfrak 3.}\,$ check front and rear room lamp power supply

Check voltage between front room lamp connector R2, or rear room lamp connector R3 terminal + (R/G) and ground.

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OK or NG

OK >> GO TO 4.

NG >> Check harness for open between fuse and front or rear room lamps.

4. CHECK INTERIOR ROOM LAMP BULB

Check interior room lamp bulb.

OK or NG

OK >> GO TO 5.

NG >> Replace bulb.

5. CHECK KEY SWITCH (INSERTED) AND IGNITION ON SIGNAL

- 1. Insert key into ignition key cylinder.
- 2. Open front door LH.

Warning chime should sound.

3. Turn ignition key to ON position.

Warning chime should stop sounding.

OK or NG

- OK >> Check harness for open or short between front or rear room lamp switch and front door switch LH, front door switch RH, rear door switch LH, rear door switch RH or back door switch.
- NG >> Refer to <u>DI-31, "WARNING CHIME"</u>.

MODELS WITH POWER DOOR LOCKS

1. CHECK FRONT AND REAR ROOM LAMP FUSE

Check 7.5A fuses [Nos. 20, 26 and 28 located in fuse block (J/B)].

OK or NG

- OK >> GO TO 2.
- NG >> Replace fuse and check harness for short between fuse and front and rear room lamps.

2. CHECK FRONT AND REAR ROOM LAMP SWITCH SIGNALS

1. Close all doors, turn ON front and rear room lamp switches.

Front and rear room lamps should turn on.

2. Turn off front and rear room lamp switches.

Front and rear room lamps should turn off.

OK or NG

OK >> GO TO 3.

NG >> Check the following.

- Front or rear room lamp switch
- Front or rear room lamp switch ground circuit
- Harness for open or short between front or rear room lamp switch and smart entrance control unit

3. CHECK FRONT AND REAR ROOM LAMP POWER SUPPLY

Check voltage between front room lamp connector R2, or rear room lamp connector R3 terminal + (R/G) and ground.



OK or NG

OK >> GO TO 4.

NG >> Check harness for open between fuse and front or rear room lamps.

LT-44

4. CHECK INTERIOR ROOM LAMP BULB	А
Check interior room lamp bulb.	/ \
OK or NG OK >> GO TO 5. NG >> Replace bulb.	В
5. CHECK KEY SWITCH (INSERTED) AND IGNITION ON SIGNAL	С
 Insert key into ignition key cylinder. Open front door LH. 	D
Warning chime should sound.	
3. Turn ignition key to ON position. Warning chime should stop sounding.	Е
OK or NG OK >> GO TO 6. NG >> Refer to <u>DI-31, "WARNING CHIME"</u> .	F
6. CHECK DOOR KEY SWITCH INPUT SIGNAL	G
Unlock doors using LH door key cylinder.	
Doors should unlock.	Н
OK or NG	
 OK >> Replace smart entrance control unit. NG >> Refer to <u>BL-63, "DOOR KEY CYLINDER SWITCH CHECK"</u>. 	I
	J

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BULB SPECIFICATIONS

BULB SPECIFICATIONS

Bulb Specifications HEADLAMP

PFP:26297

EKS003KY

ItemWattage (W)Bulb No.*High/Low (Semi-sealed beam)65/559007 (HB5)

*: Always check with the Parts Department for the latest parts information.

EXTERIOR LAMP

	Item	Wattage (W)	Bulb No.*
Front fog lamp		55	H3
Front turn signal lamp		27	1156A
Parking lamp		3.8	194
	Turn signal lamp	27	3157AK
Rear combination lamp	Stop/Tail lamp	27/7	3057K
	Back-up lamp	16	921
License plate lamp		3.8	168
High-mounted stop lamp		12.8	912

*: Always check with the Parts Department for the latest parts information.

INTERIOR LAMP

Item	Wattage (W)	Bulb No.*
Room lamp	8	82
Map lamp (with compass and thermometer)	8	168
Map lamp (without compass and thermometer)	8	82

*: Always check with the Parts Department for the latest parts information.