

HEADLAMP

PFP:26010

System Description

To ESM

DESCRIPTION

EKS003CD

The headlamps are controlled by the lighting switch which is built into the combination switch. Power is supplied at all times

- through 15A fuse (No. 40, located in the fuse and fusible link box)
- to lighting switch terminal 8
- through 15A fuse (No. 41, located in the fuse and fusible link box)
- to lighting switch terminal 5
- through 15A fuse (No. 38, located in the fuse and fusible link box)
- to driving lamp relay terminal 3.

LOW BEAM OPERATION

When the lighting switch is turned to the 2ND position and placed in LOW ("B") position, power is supplied

- from lighting switch terminal 10
- to terminal 3 of the headlamp LH, and
- from lighting switch terminal 7
- to terminal 3 of the headlamp RH.

Terminal 2 of each headlamp supplies ground through body grounds E24 and E50.

With power and ground supplied, the low beams will illuminate.

HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

When the lighting switch is turned to the 2ND position and placed in HIGH ("A") position or PASS ("C") position, power is supplied

- from lighting switch terminal 6
- to terminal 1 of the headlamp RH, and
- from lighting switch terminal 9
- to terminal 1 of the headlamp LH, and
- to combination meter terminal 61 (LHD models) or 50 (RHD models) for the HIGH BEAM indicator.

Ground is supplied to terminal 60 (LHD models) or 49 (RHD models) of the combination meter through body grounds M27 and M70.

Ground is supplied to terminal 2 of each headlamp through body grounds E24 and E50.

With power and ground supplied, the high beams and the HIGH BEAM indicator illuminate.

DRIVING LAMP OPERATION

To turn the driving lamp on, push the driving lamp switch when the lighting switch is turned to the 2ND position and placed in HIGH ("A") position or PASS ("C") position, power is supplied

- from lighting switch terminal 9
- to terminal 1 of the headlamp LH
- to terminal 1 of the driving lamp relay, and
- to terminal 1 of the driving lamp switch
- to combination meter terminal 61 (LHD models) or 50 (RHD models) for the HIGH BEAM indicator.
- to terminal 5 of the driving lamp relay-2
- to terminal 3 of the driving lamp relay-2
- through terminal 2 of the driving lamp switch
- from driving lamp relay terminal 5
- to terminal 2 of the driving lamp LH and RH.

Ground is supplied

- to terminal 2 of driving lamp relay, through terminal 7 of the driving lamp relay-2.
- to terminal 6 of the driving lamp relay-2, through body grounds M27 and M70.
- to terminal 3 of the driving lamp switch, through terminal 1 of the driving lamp relay-2.
- to terminal 2 of the driving lamp relay-2, through body grounds M27 and M70.

HEADLAMP

- to terminal 1 of the driving lamp LH, through body ground R8.
- to terminal 1 and 3 of the driving lamp RH, through body ground R8.
- to terminal 60 (LHD models) or 49 (RHD models) of the combination meter, through body grounds M27 and M70.
- to terminal 60 (LHD models) or 49 (RHD models) of the combination meter, through body grounds M27 and M70.
- to terminal 2 of each headlamp, through body grounds E24 and E50.

With power and ground supplied, the high beams, driving lamp and the HIGH BEAM indicator illuminate.

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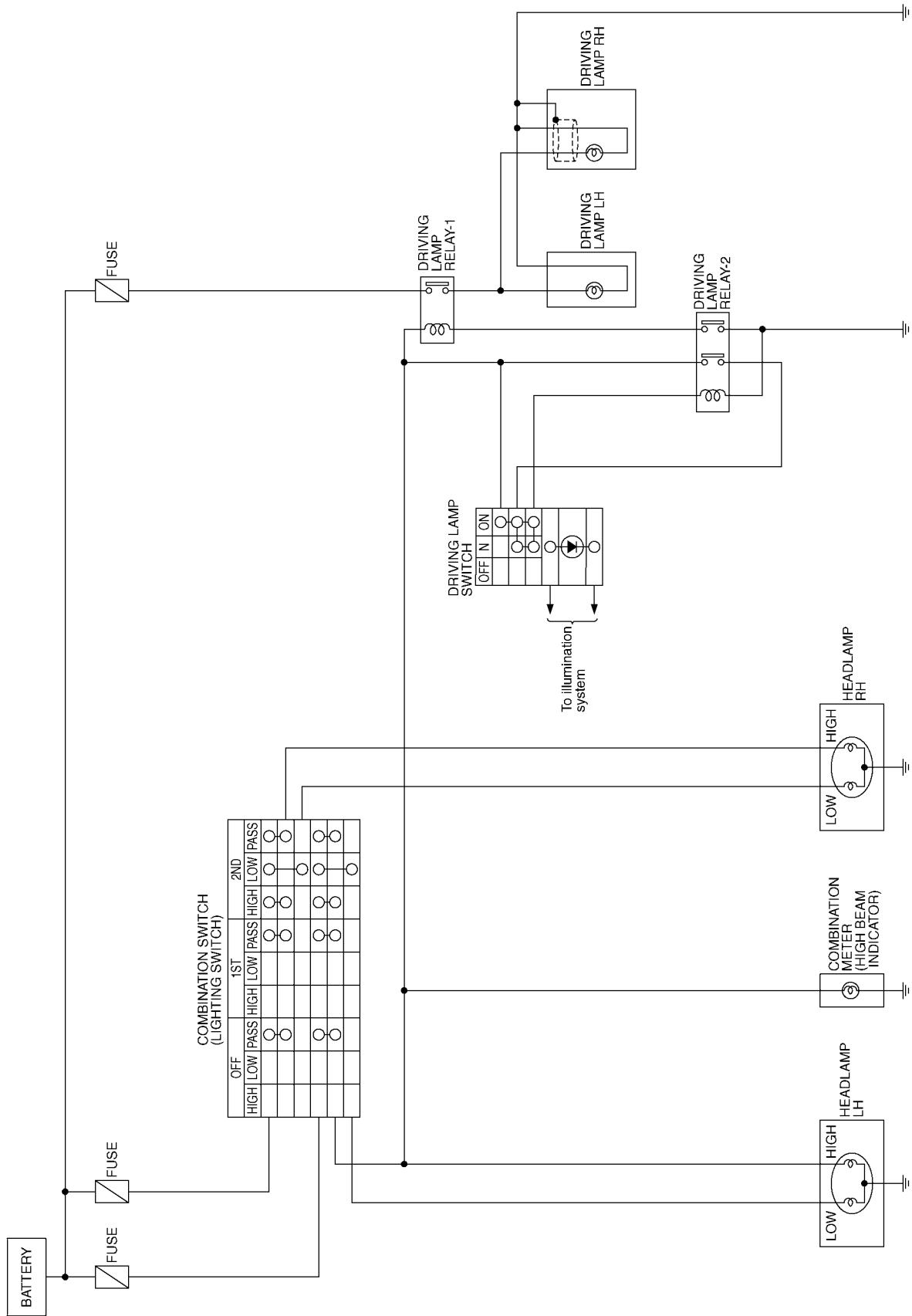
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HEADLAMP

Schematic

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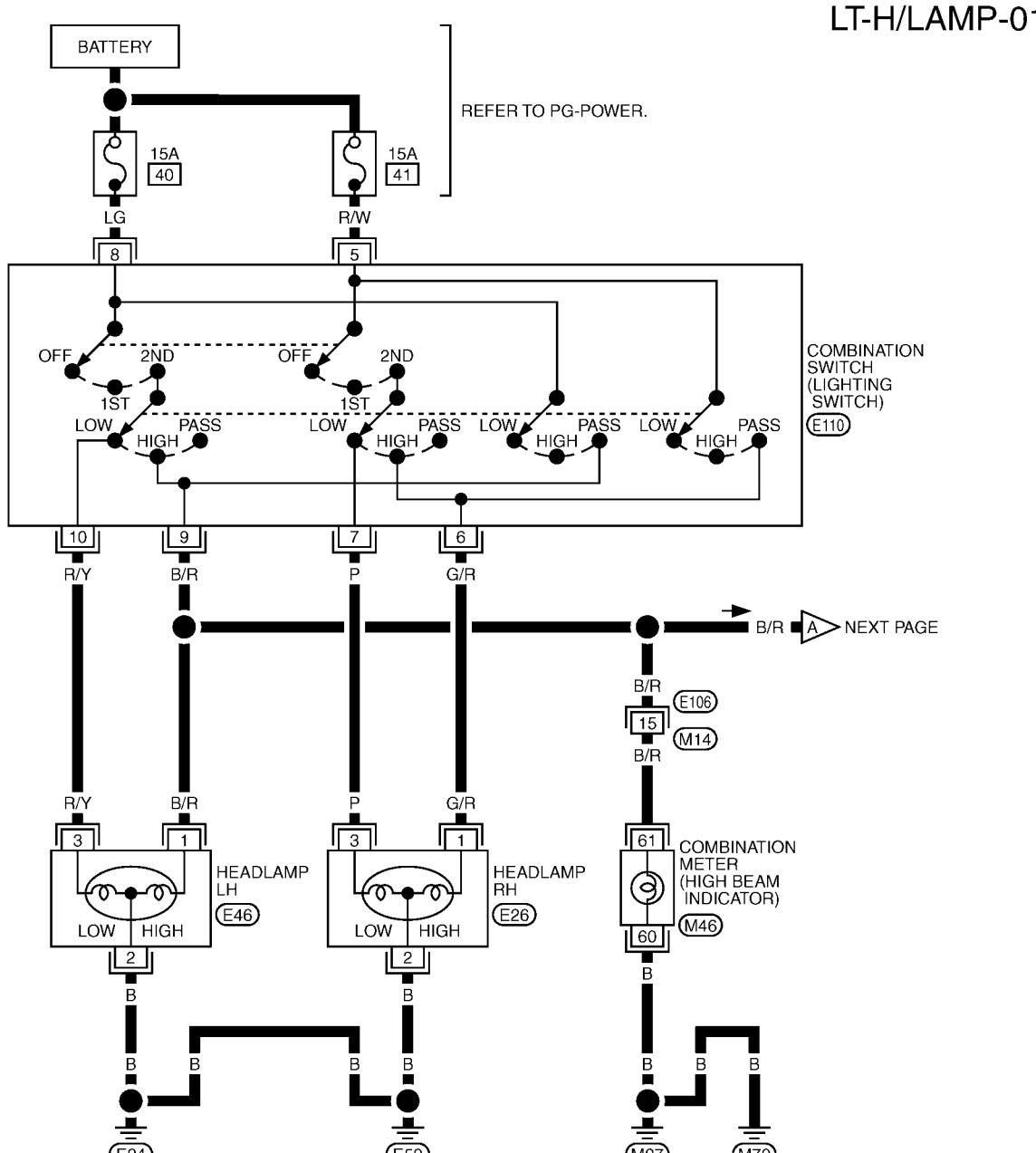


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HEADLAMP

Wiring Diagram — H/LAMP — LHD MODELS

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45 46 47 48 49 50 51 52 53 54 55
56 57 58 59 60 61 62 63 64 65 66 67 68

3 1 2 E26, E46 B B

1 2 3 4 5 6 7
8 9 10 11 12 13 14 15 16

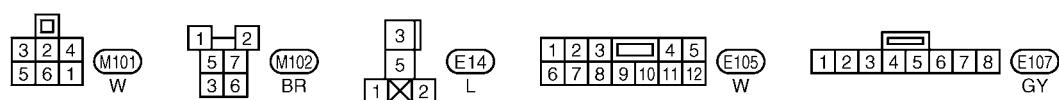
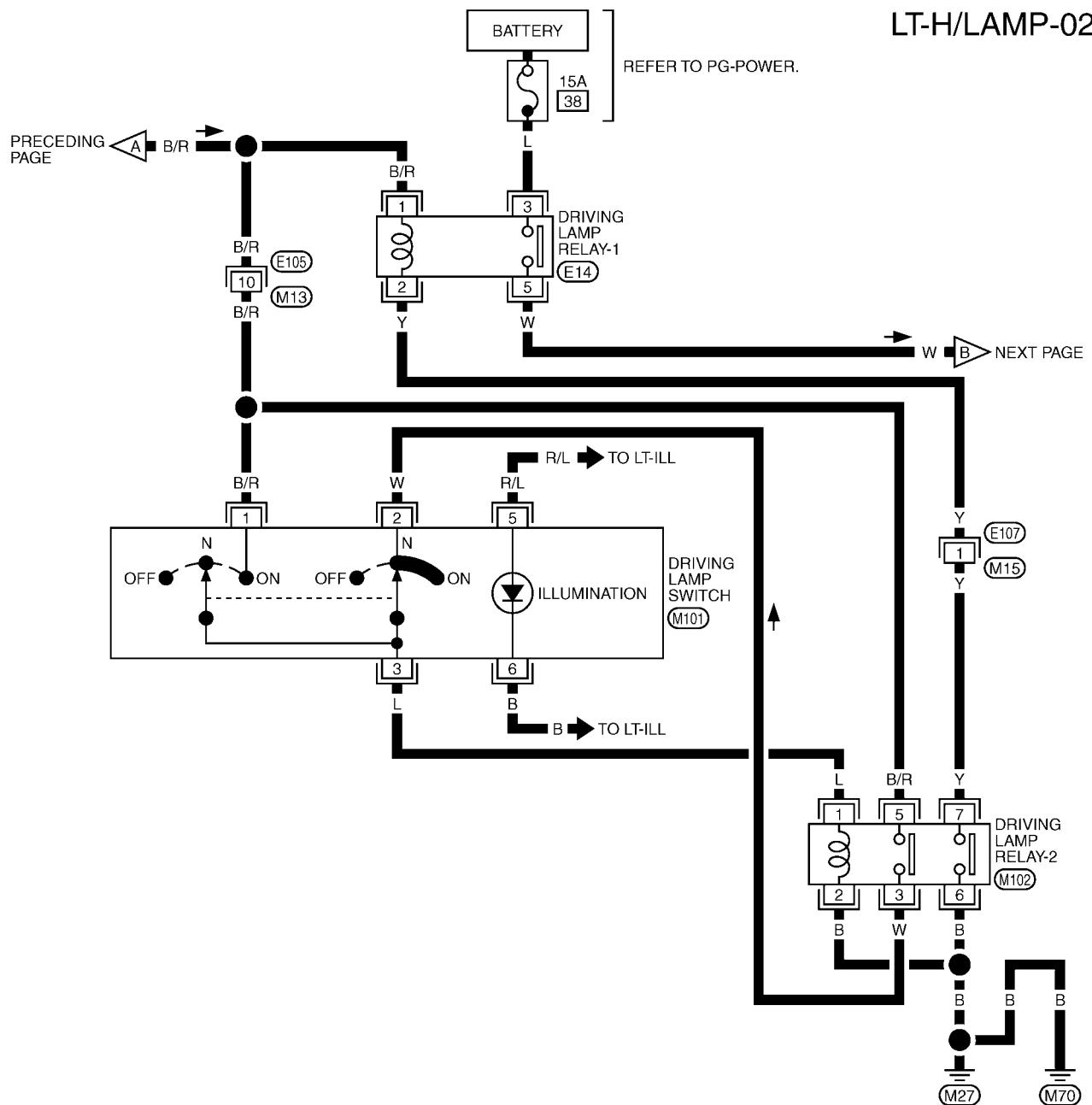
2 1 3 8 25
10 7 6 5 9 12 11

E110
BR

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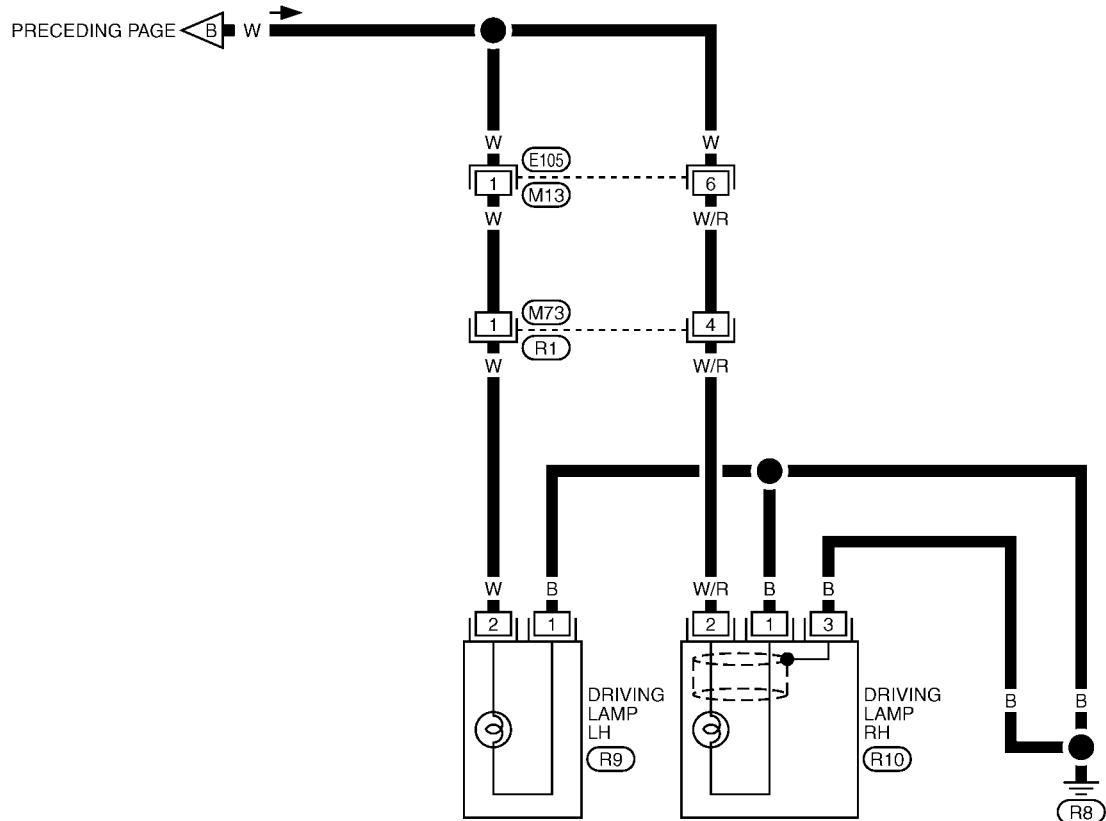
HEADLAMP

LT-H/LAMP-02



HEADLAMP

LT-H/LAMP-03



1 2 3 □ 4 5
6 7 8 9 10 11 12 E105
W

1 2 □ 3
4 5 6 7 8 R1
W

2 1 R9
GY

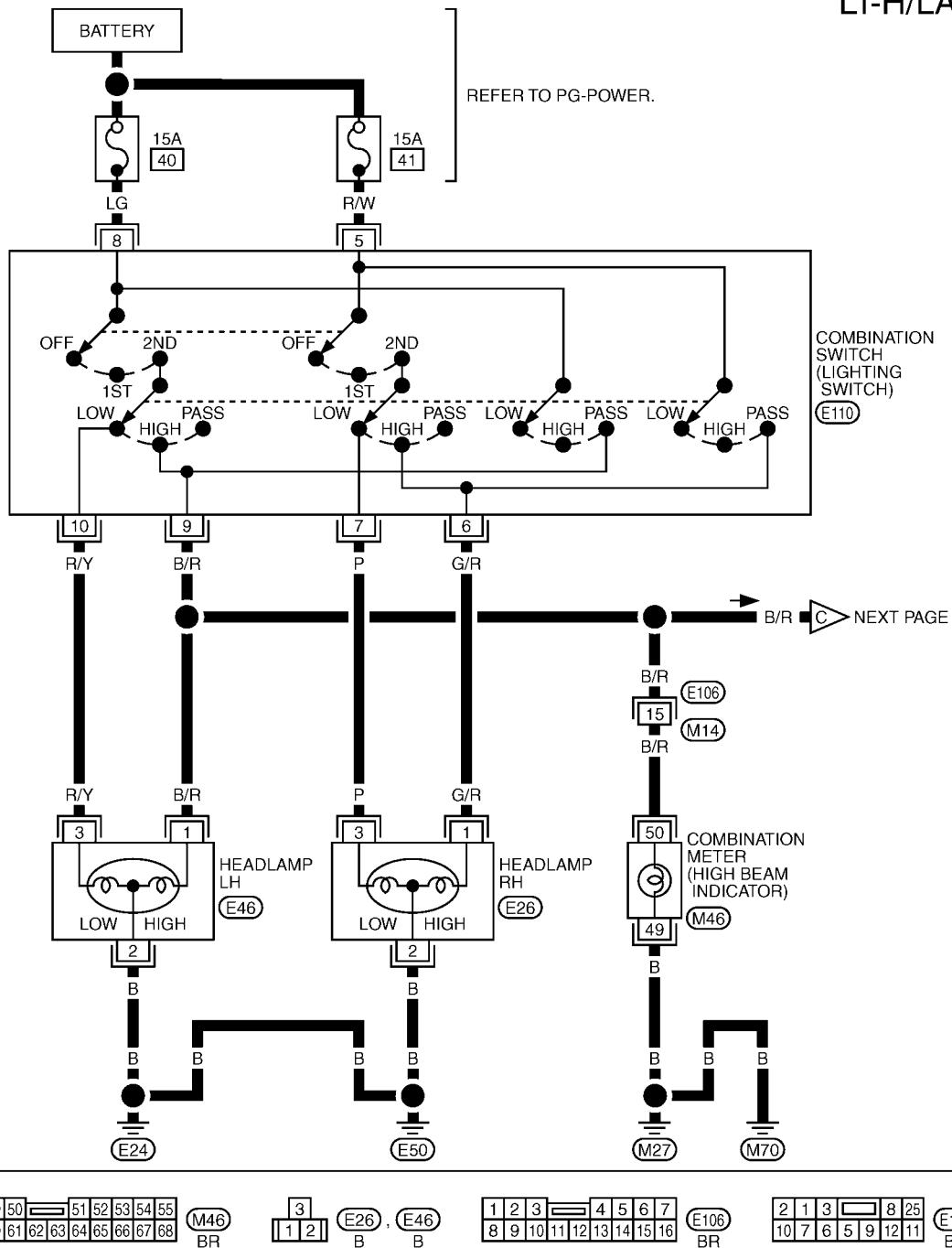
3 2 1 R10
W

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RHD MODELS

LT-H/LAMP-04



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LT-H/LAMP-05

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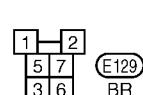
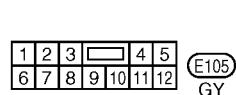
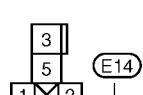
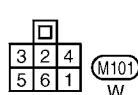
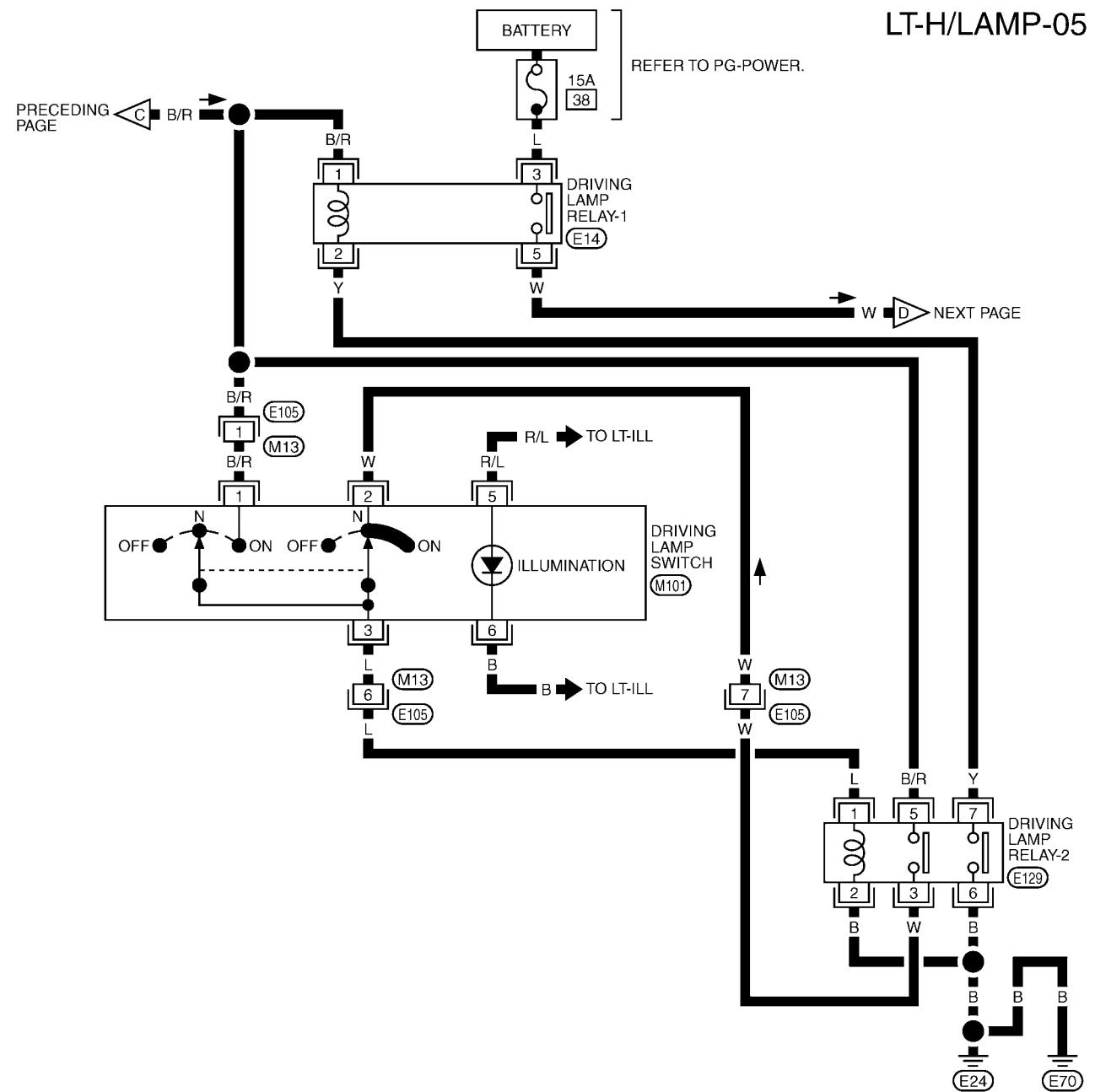
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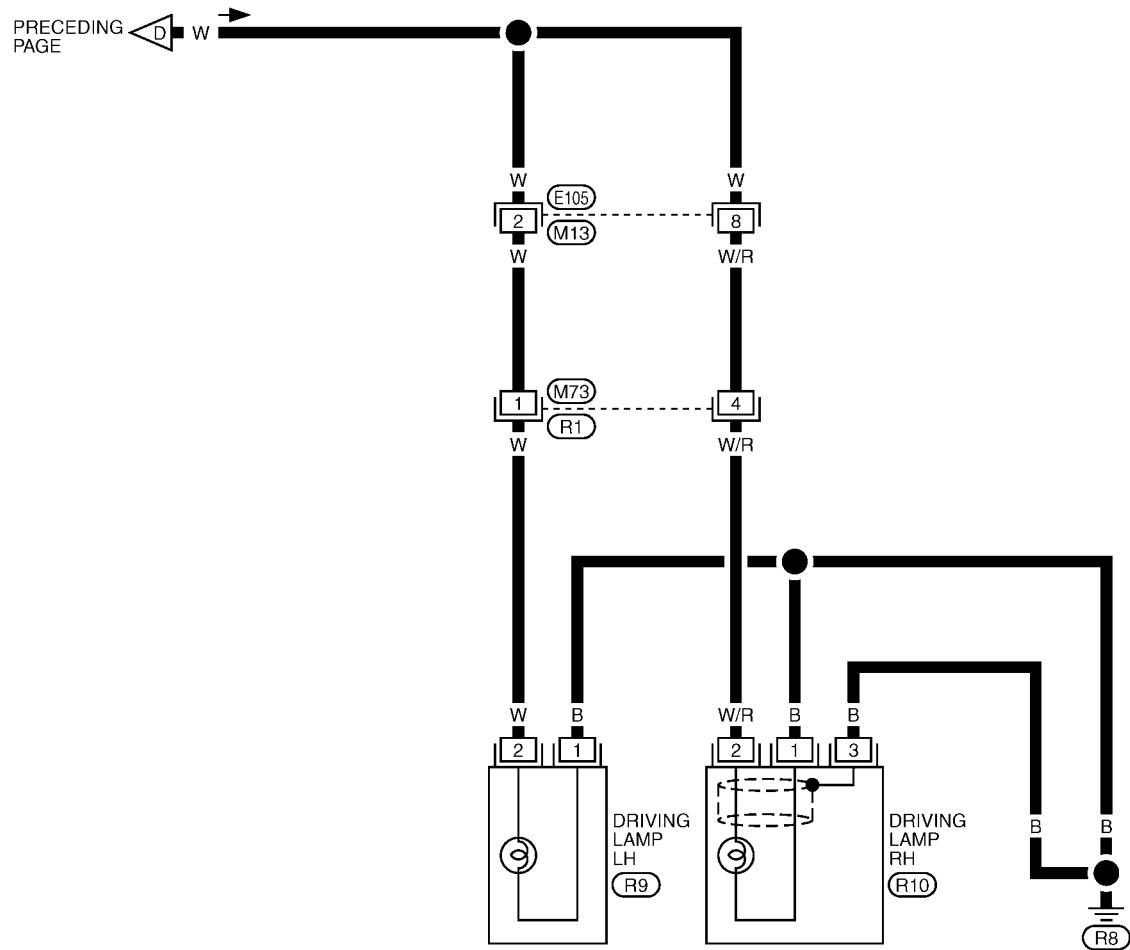
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HEADLAMP

LT-H/LAMP-06



1 2 3 □ 4 5
6 7 8 9 10 11 12 GY

1 2 □ 3
4 5 6 7 8 GY

2 1 R9
W GY

3 2 1 R10
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HEADLAMP

Trouble Diagnoses

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Symptom	Possible cause	Repair order
Headlamp LH do not operate.	1. Bulb 2. Grounds E24 and E50 3. 15A fuse 4. Lighting switch	1. Check bulb. 2. Check grounds E24 and E50. 3. Check 15A fuse (No. 40, located in fuse and fusible link box). Verify battery positive voltage is present at terminal 8 of lighting switch. 4. Check lighting switch.
Headlamp RH do not operate.	1. Bulb 2. Grounds E24 and E50 3. 15A fuse 4. Lighting switch	1. Check bulb. 2. Check grounds E24 and E50. 3. Check 15A fuse (No. 41, located in fuse and fusible link box). Verify battery positive voltage is present at terminal 5 of lighting switch. 4. Check lighting switch.
High beam LH do not operate, but low beam LH operates.	1. Bulb 2. Open in high beam LH circuit 3. Lighting switch	1. Check bulbs. 2. Check the wire between lighting switch terminal 9 and headlamp LH terminal 1 for an open circuit. 3. Check lighting switch.
Low beam LH does not operate, but high beam LH operates.	1. Bulb 2. Open in low beam LH circuit 3. Lighting switch	1. Check bulb. 2. Check the wire between lighting switch terminal 10 and headlamp LH terminal 3 for an open circuit. 3. Check lighting switch.
High beam RH do not operate, but low beam RH operates.	1. Bulb 2. Open in high beam RH circuit 3. Lighting switch	1. Check bulbs. 2. Check the wire between lighting switch terminal 6 and headlamp RH terminal 1 for an open circuit. 3. Check lighting switch.
Low beam RH does not operate, but high beam RH operates.	1. Bulb 2. Open in low beam RH circuit 3. Lighting switch	1. Check bulb. 2. Check the wire between lighting switch terminal 7 and headlamp RH terminal 3 for an open circuit. 3. Check lighting switch.

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HEADLAMP

Symptom	Possible cause	Repair order
High beam indicator does not work.	1. Bulb 2. Grounds M27 and M70 3. Open in high beam circuit	1. Check bulb in combination meter. 2. Check grounds M27 and M70. 3. Check the wire between lighting switch terminal 9 and combination meter terminal 61(LHD models) or 50(RHD models) for an open circuit.
Driving lamp does not operate, but high beam LH operates.	1. 15A fuse 2. Open in driving lamp switch 3. Driving lamp switch circuit 4. Driving lamp relay-2 5. Open in driving lamp relay-2 circuit 6. Grounds M27 and M70 7. Driving lamp relay 8. Open in driving lamp relay circuit 9. Open driving lamp circuit 10. Ground R8 11. Bulb	1. Check 15A fuse (No. 38, located in fuse and fusible link box). Verify battery positive voltage is present at terminal 3 of driving lamp relay. 2. Check the wire between lighting switch terminal 9 and driving lamp switch terminal 1 for an open circuit. 3. Check driving lamp switch. 4. Check driving lamp relay-2. 5. Check the wire between driving switch terminal 3 and driving lamp relay-2 terminal 1 for an open circuit. Check the wire between driving switch terminal 2 and driving lamp relay-2 terminal 3 for an open circuit. Check the wire between lighting switch terminal 9 and driving lamp relay-2 terminal 5 for an open circuit. Check the wire between driving lamp relay terminal 2 and driving lamp relay-2 terminal 7 for an open circuit. 6. Check grounds M27 and M70. 7. Check driving lamp relay. 8. Check the wire between lighting switch terminal 9 and driving lamp relay terminal 1 for an open circuit. 9. Check the wire between driving lamp relay terminal 5 and driving lamp terminal 2 for an open circuit. 10. Check ground R8. 11. Check bulbs.

Aiming Adjustment for Headlamp

EKS003CG

When performing headlamp aiming adjustment, use an aiming machine, aiming wall screen or headlamp tester. Aimers should be in good repair, calibrated and operated in accordance with respective operation manuals.

If any aimer is not available, aiming adjustment can be done as follows:

For details, refer to the regulations in your own country.

- Keep all tires inflated to correct pressures.
- Place vehicle and tester on one and same flat surface.
- See that there is no-load in vehicle (coolant, engine oil filled up to correct level and full fuel tank) other than the driver (or equivalent weight placed in driver's position).

CAUTION:

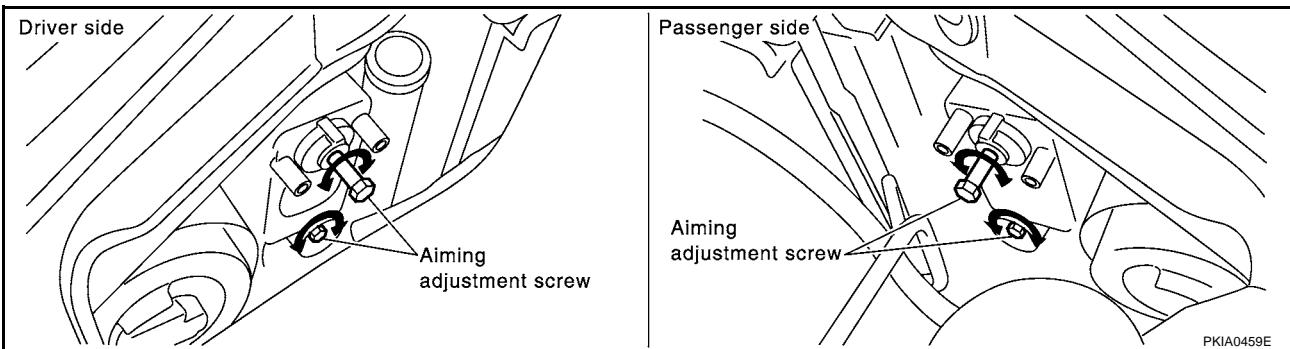
Be sure aiming switch is set to "0" when performing aiming adjustment.

LOW BEAM

1. Turn headlamp low beam on.

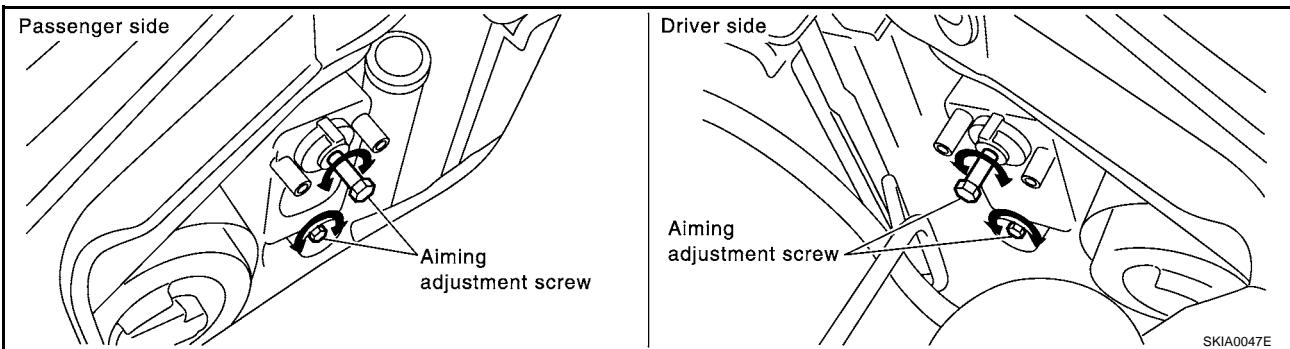
HEADLAMP

LHD models



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RHD models



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2. Use adjusting screws to perform aiming adjustment.

- First tighten the adjusting screw all the way and then make adjustment by loosening the screw. 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.

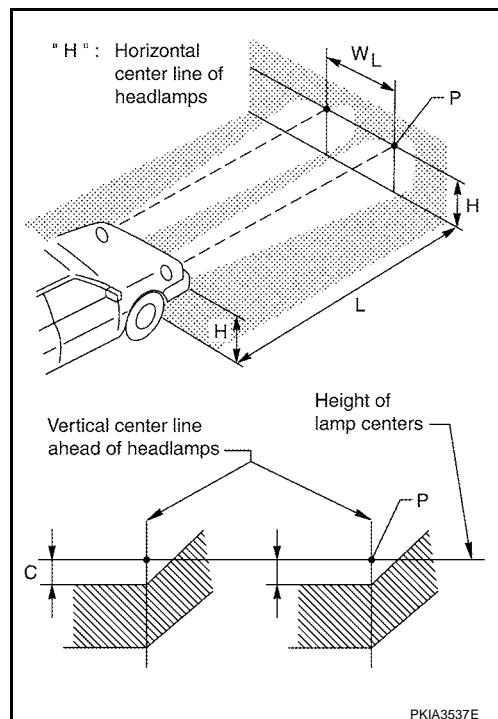
- Adjust headlamps so that main axis of light is parallel to center line of body and is aligned with point P shown in illustration.
- Figure to the right shows headlamp aiming pattern for driving on right side of road; for driving on left side of road, aiming pattern is reversed.
- Dotted lines to point P in illustration show center of headlamp.

"H" : Horizontal center line of headlamps
"WL" : Distance between each headlamp center
"L" : 25,000mm (984.25 in)
"C" : 315mm (12.40 in) – 315mm(12.40in)+60mm (2.36 in)

- Basic illuminating area for adjustment should be within the range shown at right. Adjust headlamps accordingly.

CAUTION:

Be sure aiming switch is set to "0" when performing aiming adjustment.



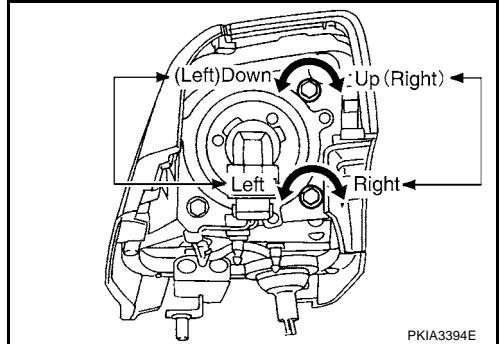
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Aiming Adjustment for Driving Lamp

EKS00AP6

- Turn the aiming adjusting screw to adjust.
- For positions of the adjustment screws and direction to turn, refer to the figures.
- When adjusting for right or left side, adjust upper and lower adjustment screws at the same time.



PREPARATION BEFORE ADJUSTING

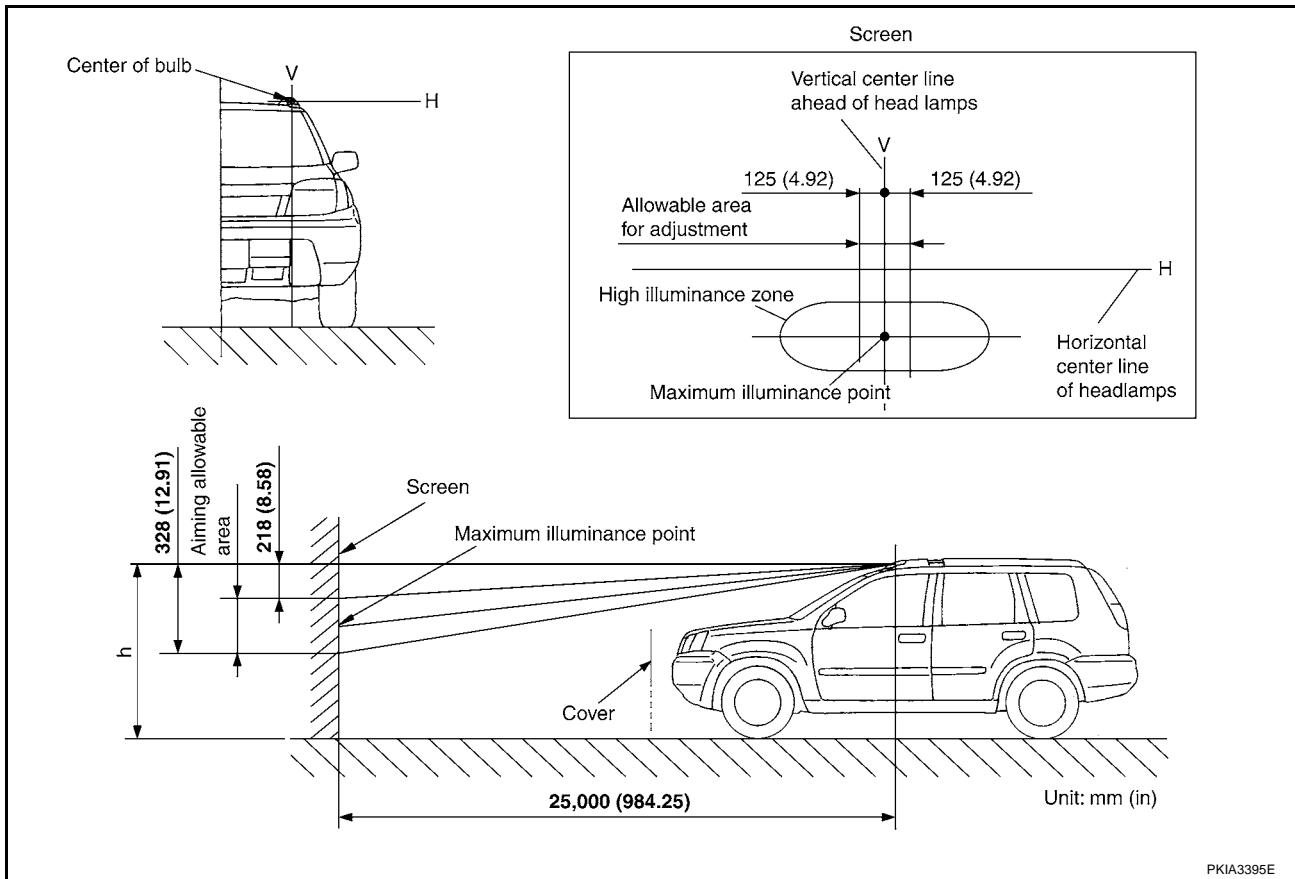
For details, refer to the regulations in your own country.

Before performing aiming adjustment, check the following.

1. Keep all tires inflated to correct pressures.
2. Place vehicle on level ground.
3. Set that there is no-load in vehicle other than the driver (or equivalent weight placed in driver's position), coolant, engine oil filled up to correct level, full fuel tank and spare tire, jack, and tools.

HEADLAMP

ADJUSTMENT USING AN ADJUSTMENT SCREEN (LIGHT/DARK BORDERLINE)



PKIA3395E

ADJUSTING

1. Set the distance between the screen and the center of the driving lamp lens as shown in the figure.
2. Turn head lamp switch high and driving lamp switch ON so that front driving lamps turn ON.
3. Adjust driving lamps using adjusting screws make sure of the following.
 - When performing this adjustment, cover the headlamps and the opposite driving lamp, if necessary.
 - Vertical deflection of maximum illuminance point to be adjusted to stand at 21.8 (0 - +11.0)cm below driving lamp hight (h).
 - Horizontal deflection of maximum illuminance point to be adjusted to stand within 0 ± 12.5 cm against line (V) on screen where a line passing through driving lamp center, parallel to vehicle center line, crosses screen.

CAUTION:

Be sure aiming switch is set to "0" when performing aiming adjustment.

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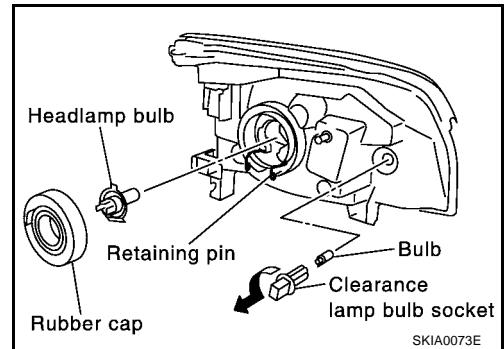
HEADLAMP

Bulb Replacement for Headlamp and Clearance lamp HEAD LAMP

EKS003CH

1. Disconnect connector of headlamp.
2. Remove rubber cap.
3. Unlock retaining spring, then remove bulb.

Headlamp (High/Low) : 12V 60/55 W(H4)



CLEARANCE LAMP

1. Turn the RH bulbsocket clockwise and unlock it.
Turn the LH bulbsocket counterclockwise and unlock it.
2. Remove the bulb from its socket.

Clearance lamp : 12V 5W

CAUTION:

- Do not touch the glass of bulb directly by hand. Keep grease and other oily matters away from it. Do not touch bulb by hand while it is lit or right after being turned off. Burning may result.
- When replacing bulb, prepare new bulb first of all. Do not leave bulb out of driving lamp housing for a long period, because dust, moisture or smoke will cause performance lowering (fouling, cloud, etc.) of driving lamp reflector and lens.
- When bulb is installed, be sure to lock rubber cap to ensure watertightness.

Bulb Replacement for Driving Lamp

EKS00AP9

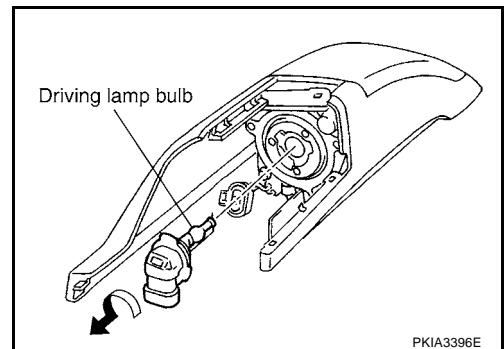
1. Remove the driving lamp. Refer to [LT-8b, "Removal and Installation for Driving Lamp"](#) in "HEADLAMP".
2. Disconnect driving lamp connector.
3. Turn bulb socket counterclockwise and unlock it.

Driving lamp : 12 V - 65 W (H1R1 halogen)

4. Install in the reverse order of removal.

CAUTION:

- Do not touch the glass of bulb directly by hand. Keep grease and other oily matters away from it. Do not touch bulb by hand while it is lit or right after being turned off. Burning may result.
- When replacing bulb, prepare new bulb first of all. Do not leave bulb out of driving lamp housing for a long period, because dust, moisture or smoke will cause performance lowering (fouling, cloud, etc.) of driving lamp reflector and lens.

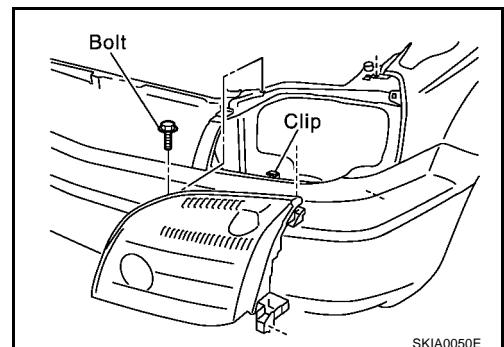


Removal and Installation for Headlamp

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REMOVAL

1. Remove the front turn signal lamps. Refer to [LT-37, "Removal and Installation for Front Turn Signal Lamp"](#).
2. Disconnect connector of headlamp and clearance lamp.
3. Remove the front grille. Refer to [EI-11, "FRONT GRILLE"](#) in "EXTERIOR & INTERIOR (EI)" section.
4. Remove the headlamp mounting bolts.
5. Pull the headlamp toward the front of the vehicle.



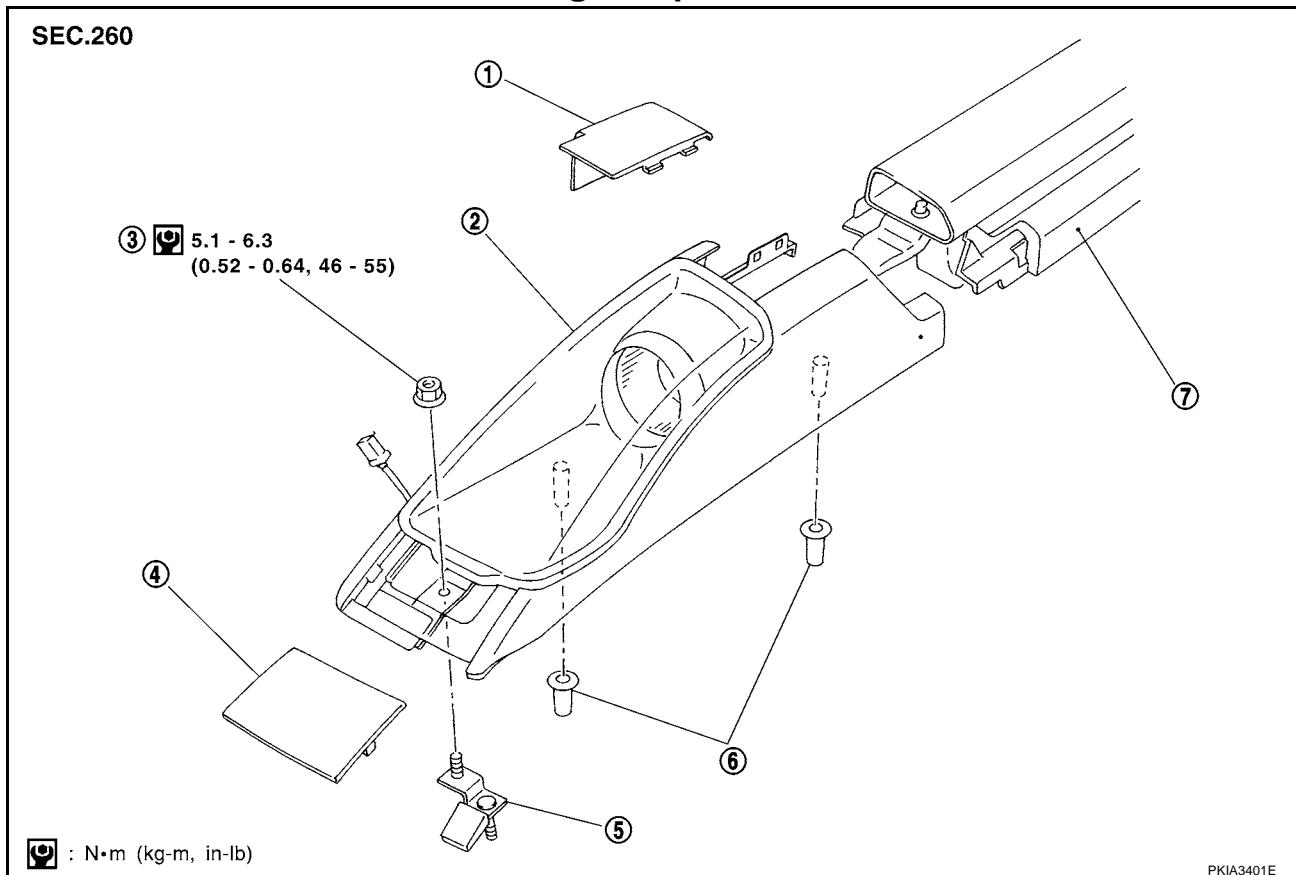
INSTALLATION

- Install in the reverse order of removal, taking care of the following points.
Headlamp mounting bolts

Tightening torque : 4.5 - 6.4 N·m (0.45 - 0.65 kg·m, 39 - 56 in·lb)

Removal and Installation for Driving Lamp

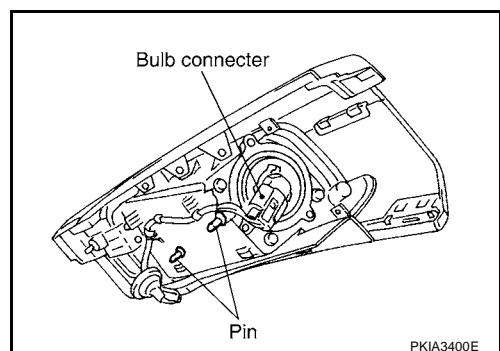
EKS00APA



1. Cap (rear)	2. Driving lamp assembly	3. Nut
4. Cap (front)	5. Driving lamp bracket	6. Grommet
7. Roof rail		

REMOVAL

- Remove cap (front) and cap (rear).
- Remove driving lamp mounting nut.
- Pull the front of driving lamp toward upper side so that undo the pin from the roof panel.
- Remove rear end of driving lamp from roof rail.
- Pull out driving lamp from vehicle and disconnect connector.



INSTALLATION

- Install driving lamp in the reverse order of removal, observing the tightening torque shown below.

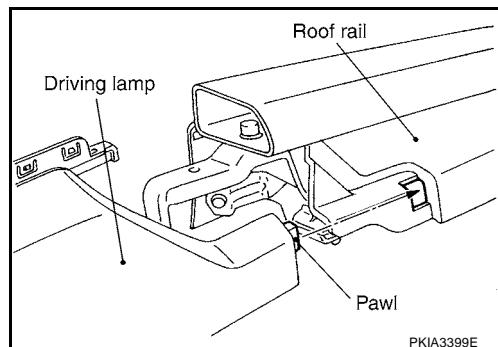
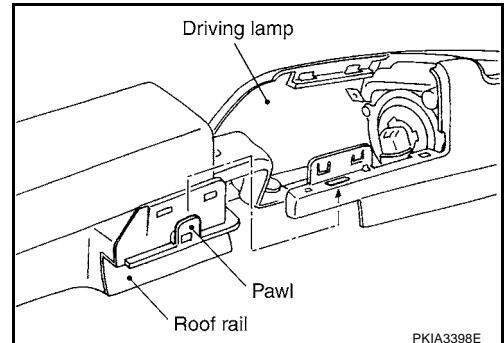
Driving lamp mounting nut

Tightening torque : 5.1 - 6.3 N·m (0.52 - 0.64 kg·m, 46 - 55 in·lb)

HEADLAMP

CAUTION:

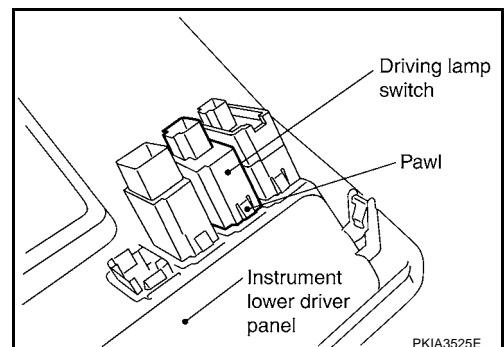
- Make sure the pawl shown in figure be connected correctly.



Removal and Installation for Driving Lamp Switch

EKS00APD

1. Remove the Instrument lower driver panel. Refer to [IP-5, "Removal and Installation"](#) in "INSTRUMENT PANEL (IP)" section.
2. Press the driving lamp switch fixing pawls and remove it from the Instrument lower driver panel.



HEADLAMP - DAYTIME LIGHT SYSTEM -

PFP:26010

System Description DESCRIPTION

To ESM

EKS003BB

The headlamp system on vehicles for North Europe contains a daytime light control unit. The unit activates the following whenever the engine is running with the lighting switch in the OFF position:

- Low beam headlamps
- Parking, license, tail and illumination lamps

Power is supplied at all times

- through 10A fuse (No. 31, located in the fuse and fusible link box)
- to daytime light control unit terminal 1 and
- to lighting switch terminal 11.

Power is also supplied at all times

- through 15A fuse (No. 41, 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. 40, 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. 13, located in the fuse block (J/B)]
- to daytime light control unit terminal 7.

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

- through 10A fuse [No. 7, located in the fuse block (J/B)]
- to daytime light control unit terminal 6.

HEADLAMP OPERATION (DAYTIME LIGHT CANCEL OPERATION)

When the lighting switch is turned to the 1st or 2nd position, power is supplied

- through lighting switch terminal 12,
- to daytime light control unit terminal 11.

Then daytime light will be canceled. And the lighting system operation will be the same as no daytime light system.

DAYTIME LIGHT OPERATION

With the engine running and the lighting switch in the OFF position, power is supplied

- from alternator terminal 3
- to daytime light control unit terminal 8,
- through daytime light control unit terminal 5
- to terminal 3 of headlamp LH,
- through daytime light control unit terminal 4
- to terminal 3 of headlamp RH and
- through daytime light control unit terminal 10
- to tail lamp and illumination.

Ground is supplied to terminal 2 of each headlamp through body grounds E24 and E50.

DRIVING LAMP OPERATION

To turn the driving lamp on, push the driving lamp switch when the lighting switch is turned to the 2ND position and placed in HIGH ("A") position or PASS ("C") position, power is supplied

- from lighting switch terminal 9
- to terminal 1 of the headlamp LH
- to terminal 1 of the driving lamp relay, and

HEADLAMP - DAYTIME LIGHT SYSTEM -

- to terminal 1 of the driving lamp switch
- to combination meter terminal 61 (LHD models) or 50 (RHD models) for the HIGH BEAM indicator.
- to terminal 5 of the driving lamp relay-2
- to terminal 3 of the driving lamp relay-2
- through terminal 2 of the driving lamp switch
- from driving lamp relay terminal 5
- to terminal 2 of the driving lamp LH and RH.

Ground is supplied

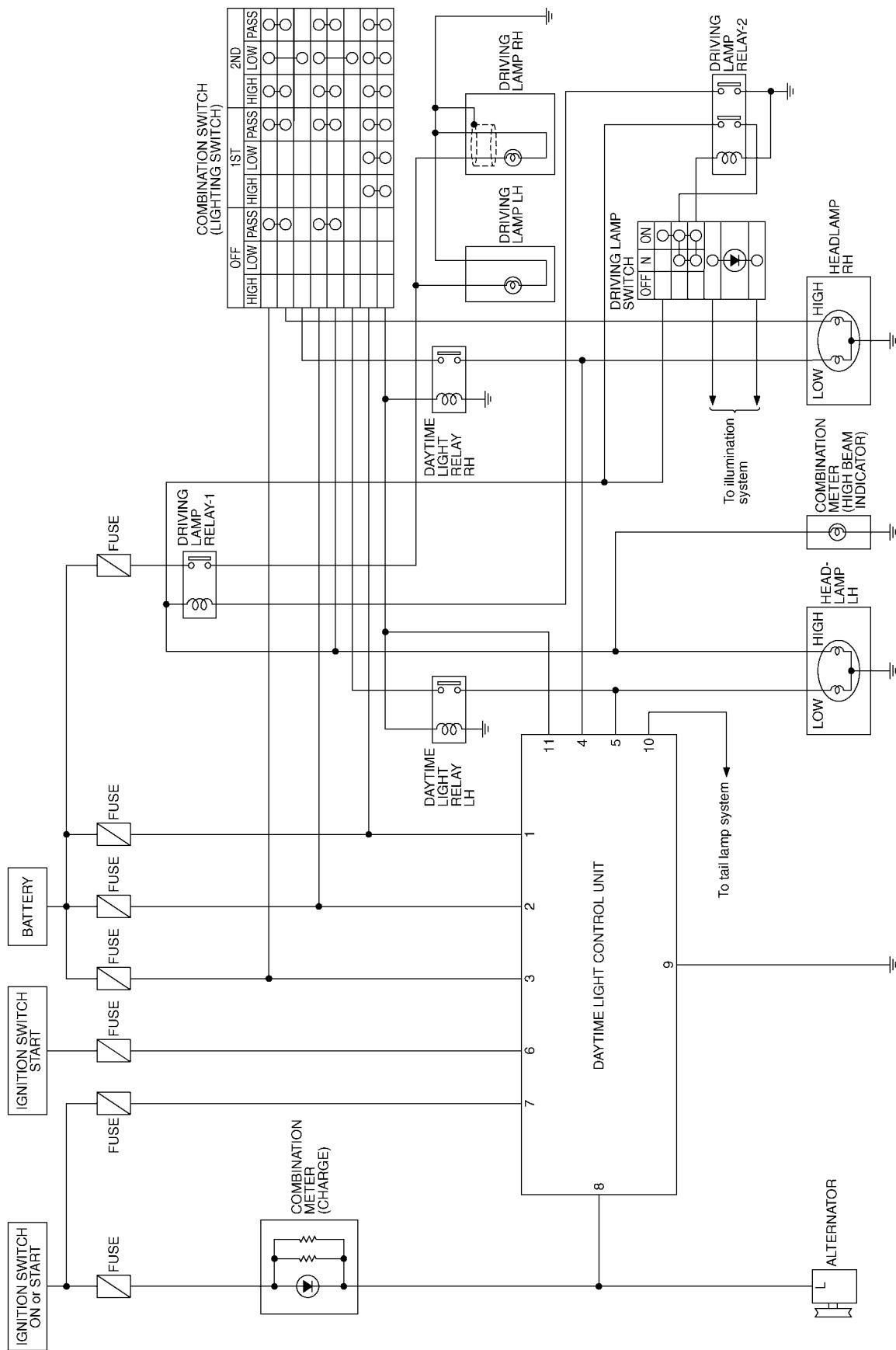
- to terminal 2 of driving lamp relay, through terminal 7 of the driving lamp relay-2.
- to terminal 6 of the driving lamp relay-2, through body grounds M27 and M70.
- to terminal 3 of the driving lamp switch, through terminal 1 of the driving lamp relay-2.
- to terminal 2 of the driving lamp relay-2, through body grounds M27 and M70.
- to terminal 1 of the driving lamp LH, through body ground R8.
- to terminal 1 and 3 of the driving lamp RH, through body ground R8.
- to terminal 60 (LHD models) or 49 (RHD models) of the combination meter, through body grounds M27 and M70.
- to terminal 60 (LHD models) or 49 (RHD models) of the combination meter, through body grounds M27 and M70.
- to terminal 2 of each headlamp, through body grounds E24 and E50.

With power and ground supplied, the high beams, driving lamp and the HIGH BEAM indicator illuminate.

HEADLAMP - DAYTIME LIGHT SYSTEM -

Schematic

EKS003BC



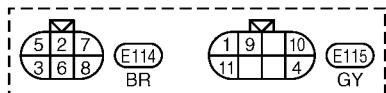
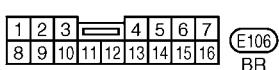
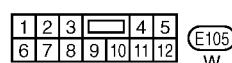
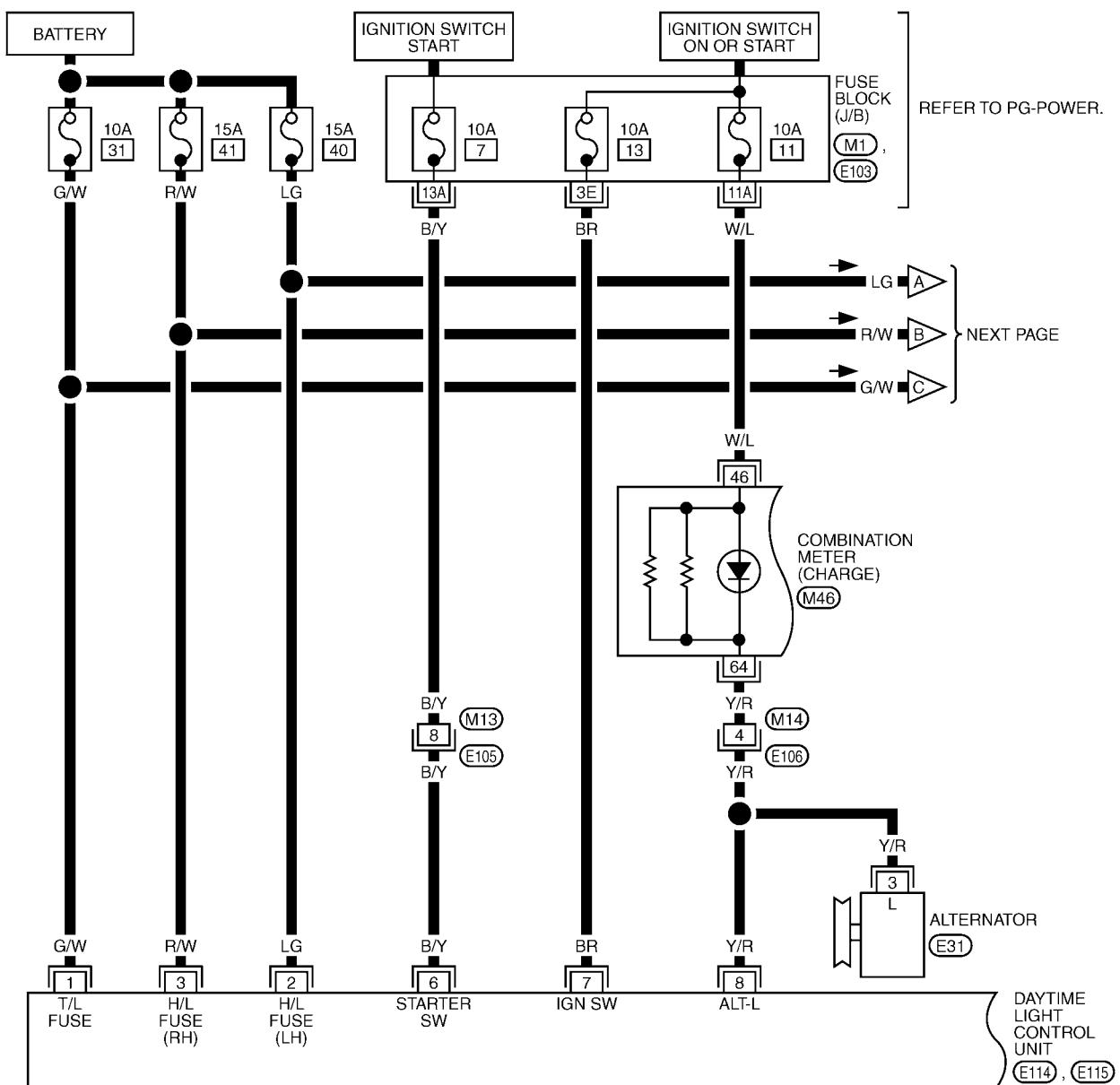
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HEADLAMP - DAYTIME LIGHT SYSTEM -

Wiring Diagram -DTRL-

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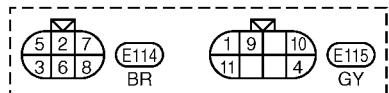
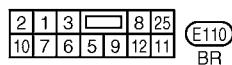
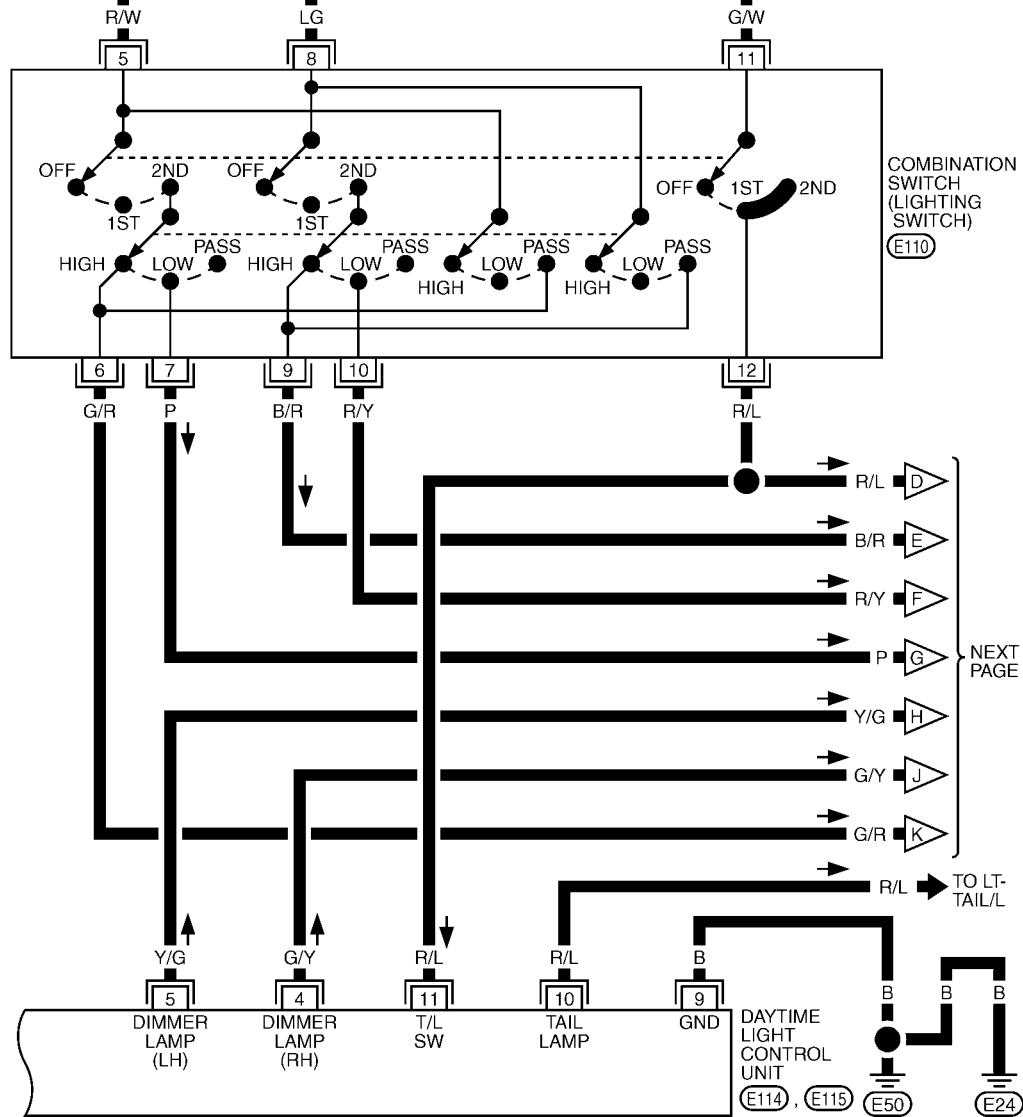
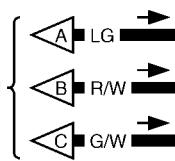
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HEADLAMP - DAYTIME LIGHT SYSTEM -

LT-DTRL-02

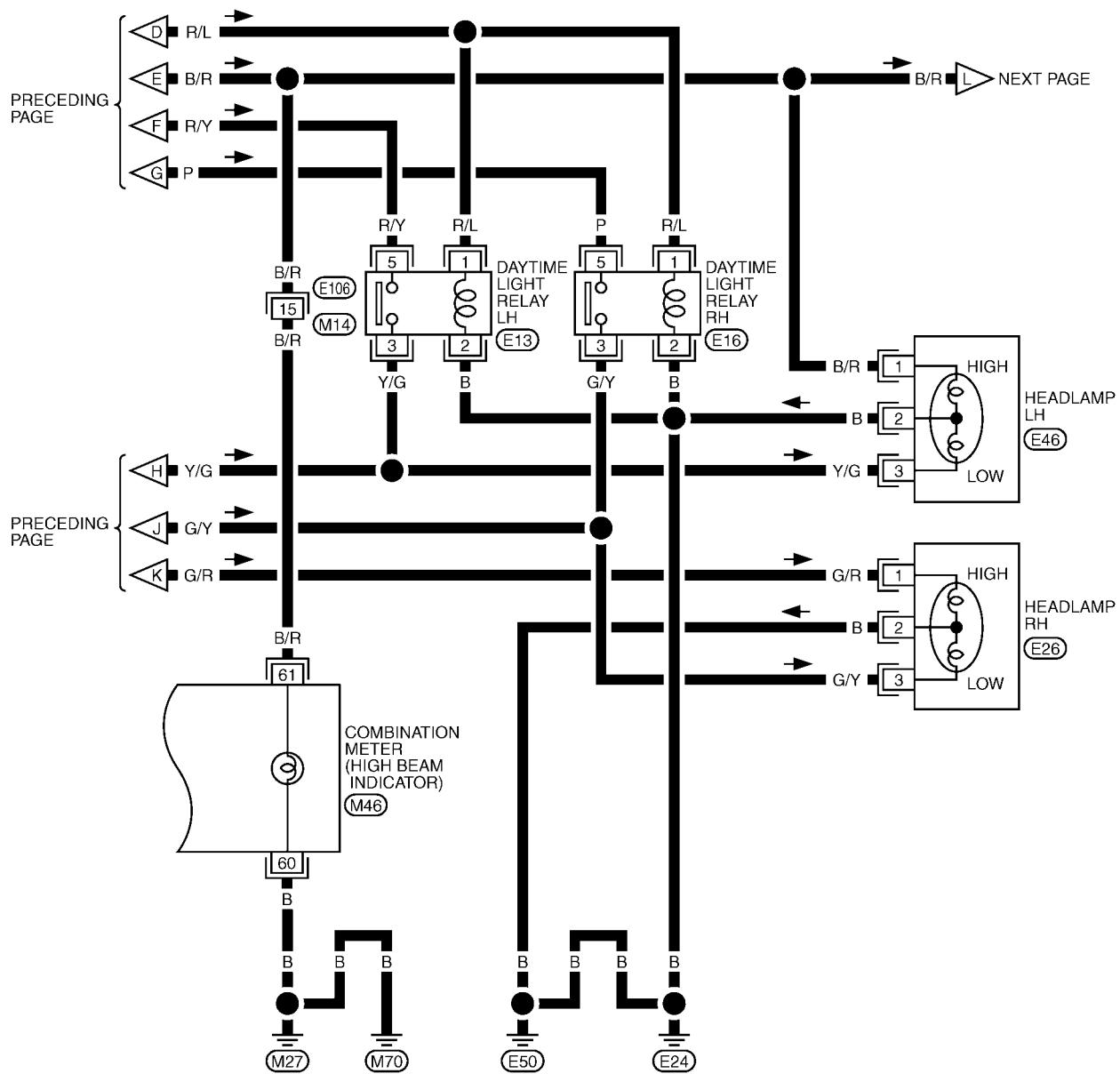
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PAGE



TKWA0062E

HEADLAMP - DAYTIME LIGHT SYSTEM -

LT-DTRL-03



45 46 47 48 49 50
56 57 58 59 60 61 62 63 64 65 66 67 68 (M46) W

3 5
1 2 (E13), (E16) L

3 1 2 (E26), (E46) B

1 2 3 4 5 6 7 (E106) BR
8 9 10 11 12 13 14 15 16

TKWA1100E

LT-13a

HEADLAMP - DAYTIME LIGHT SYSTEM -

LT-DTRL-04

A

B

C

D

F

F

6

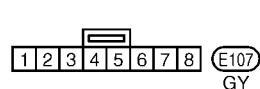
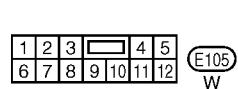
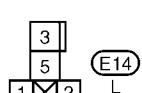
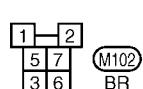
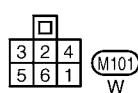
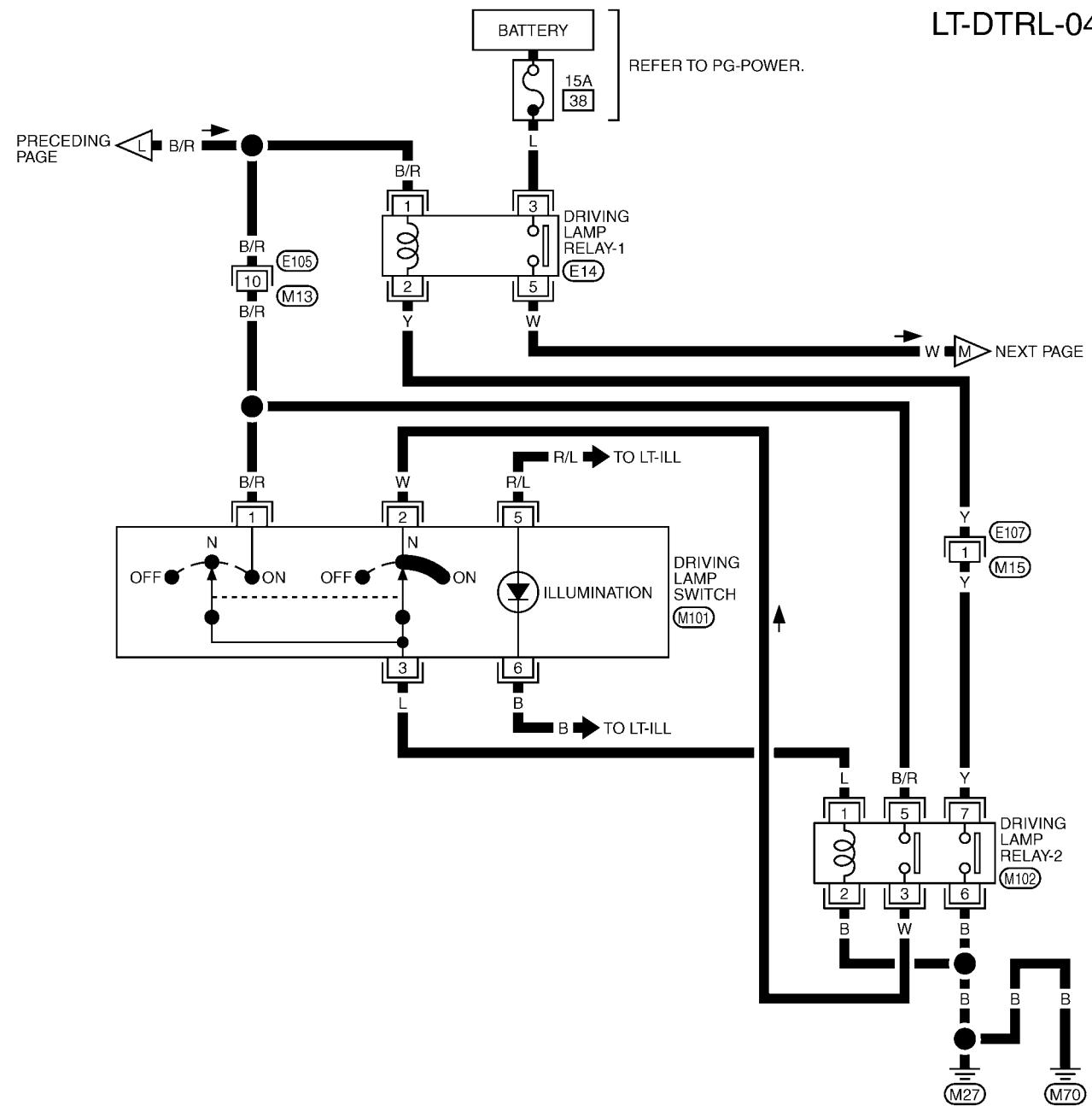
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LT

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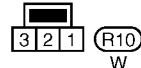
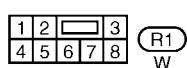
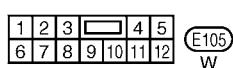
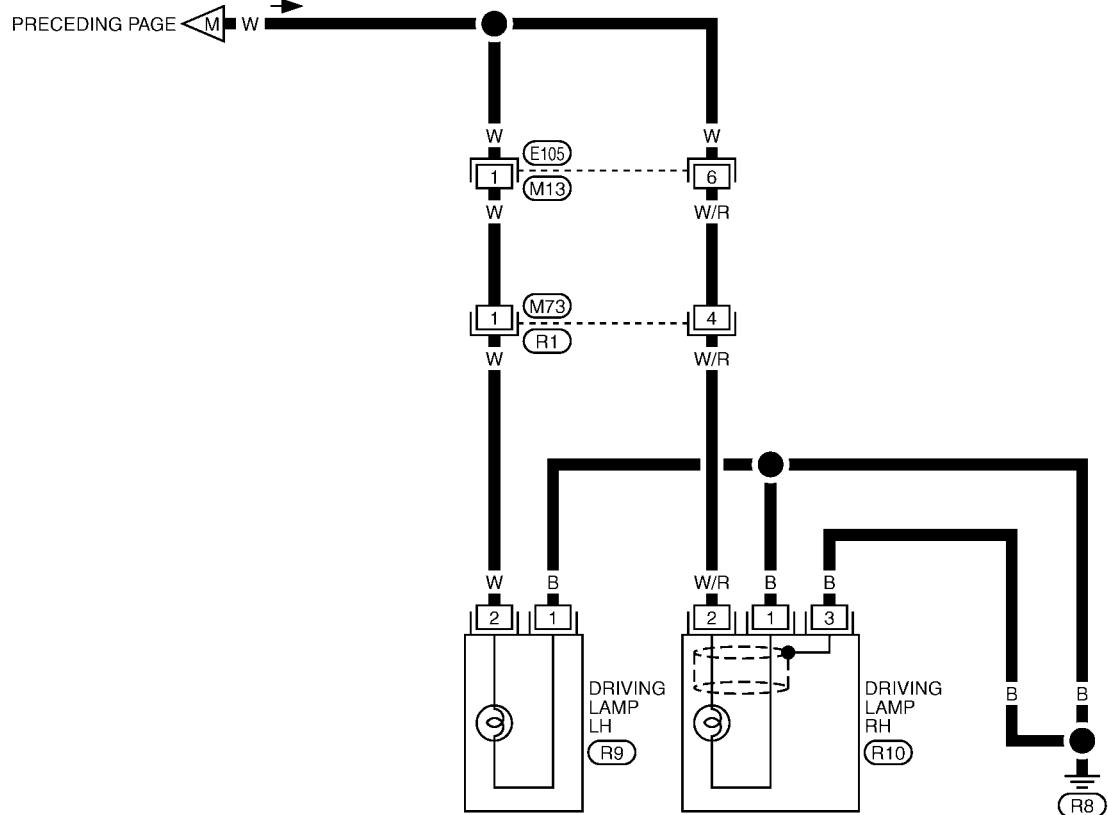
M



HEADLAMP - DAYTIME LIGHT SYSTEM -

LT-DTRL-05

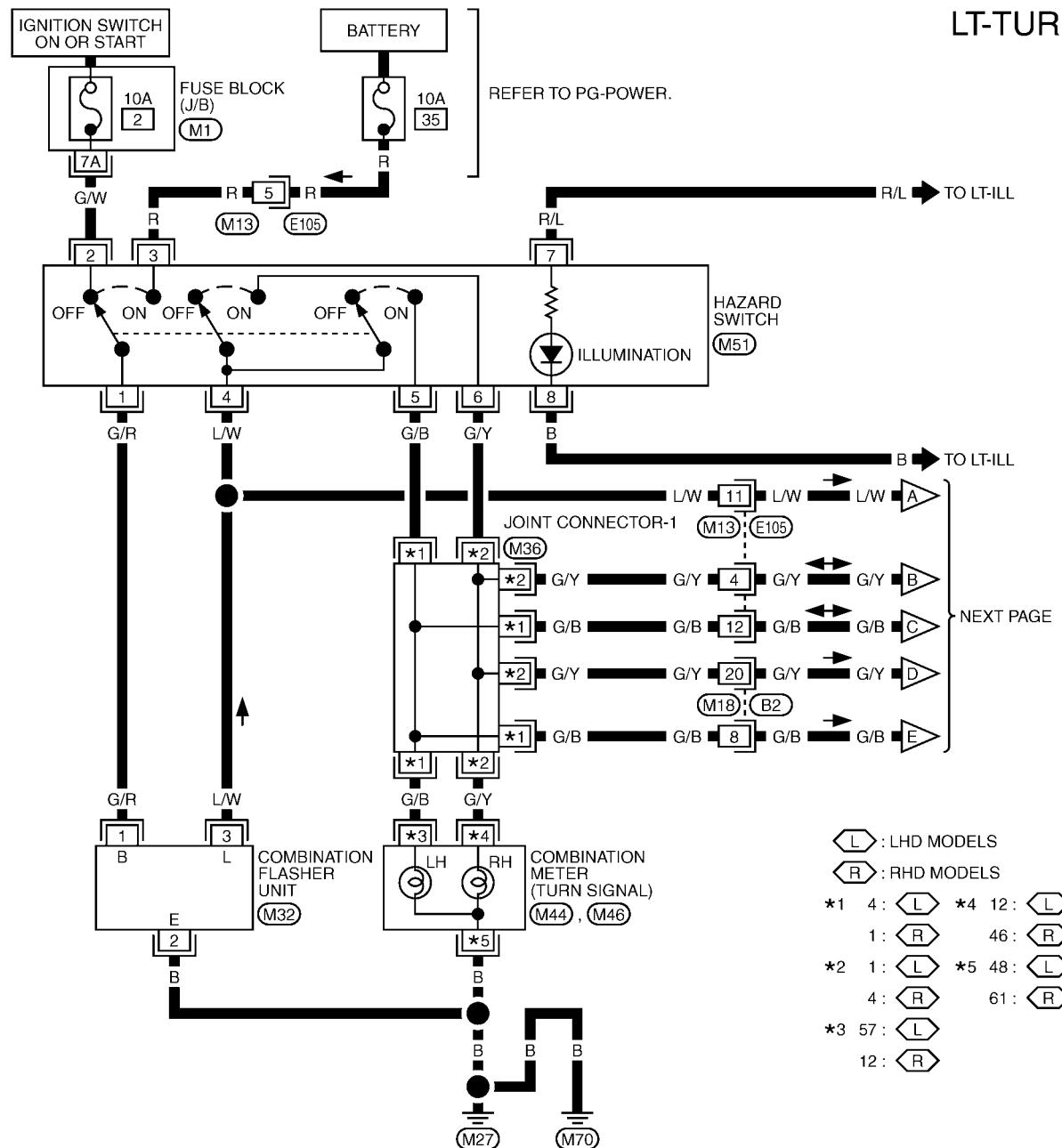
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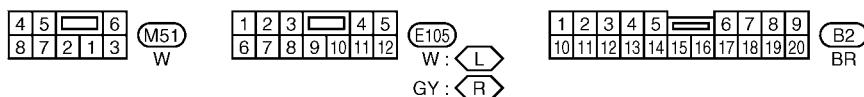
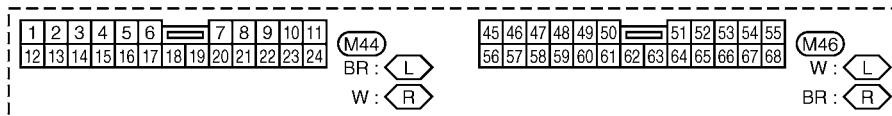
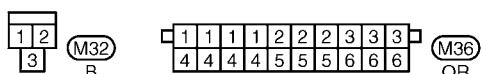
TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram — TURN —

EKS003BY



REFER TO THE FOLLOWING.
M1 -FUSE BLOCK-JUNCTION
BOX (J/B)



PARKING, LICENSE PLATE AND TAIL LAMPS

PARKING, LICENSE PLATE AND TAIL LAMPS

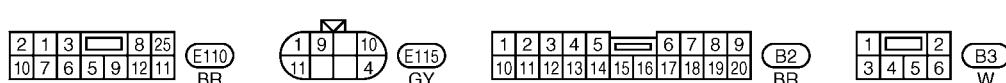
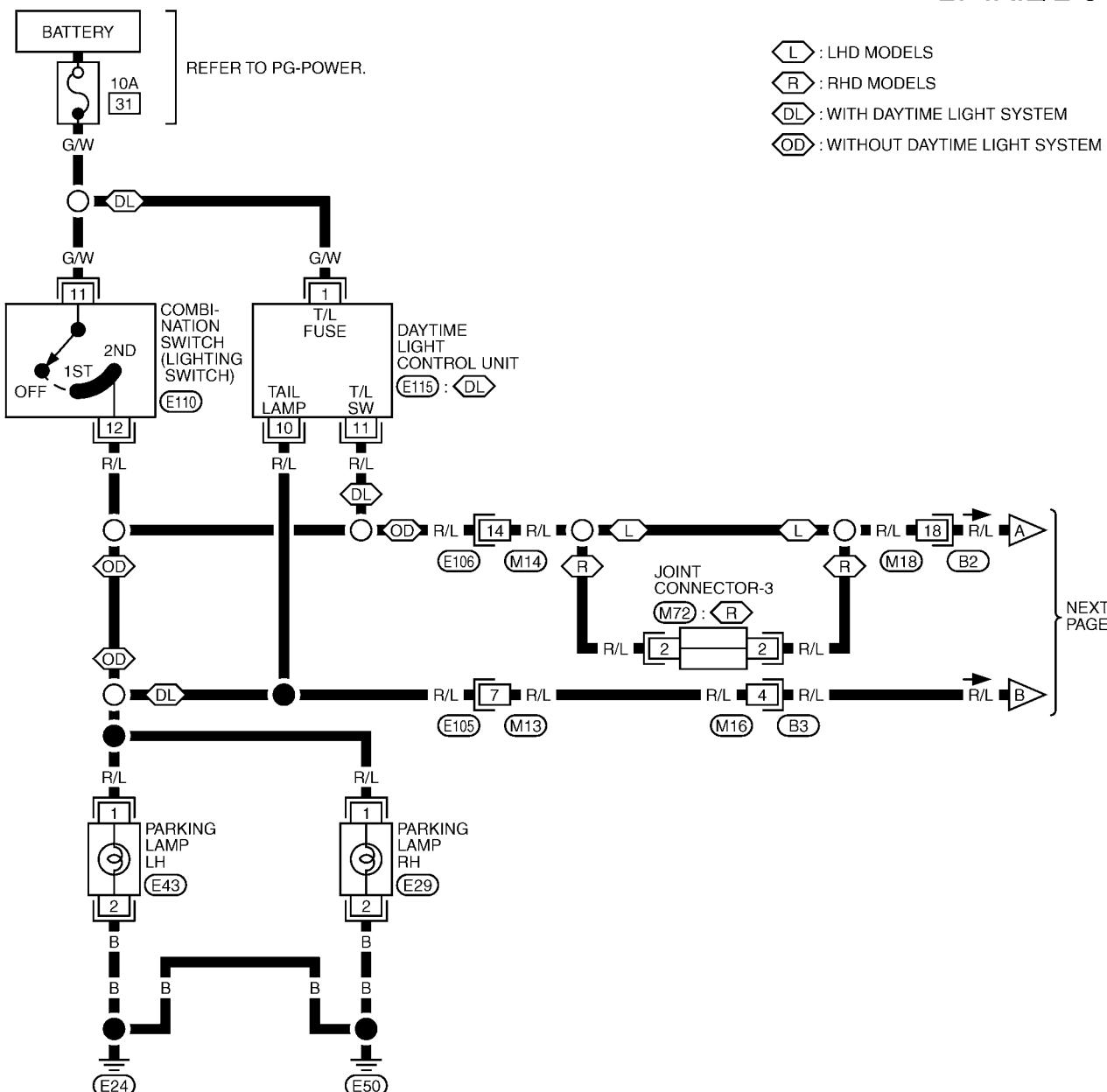
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Wiring Diagram — TAIL/L —

EKS003C0

To ESM

LT-TAIL/L-01



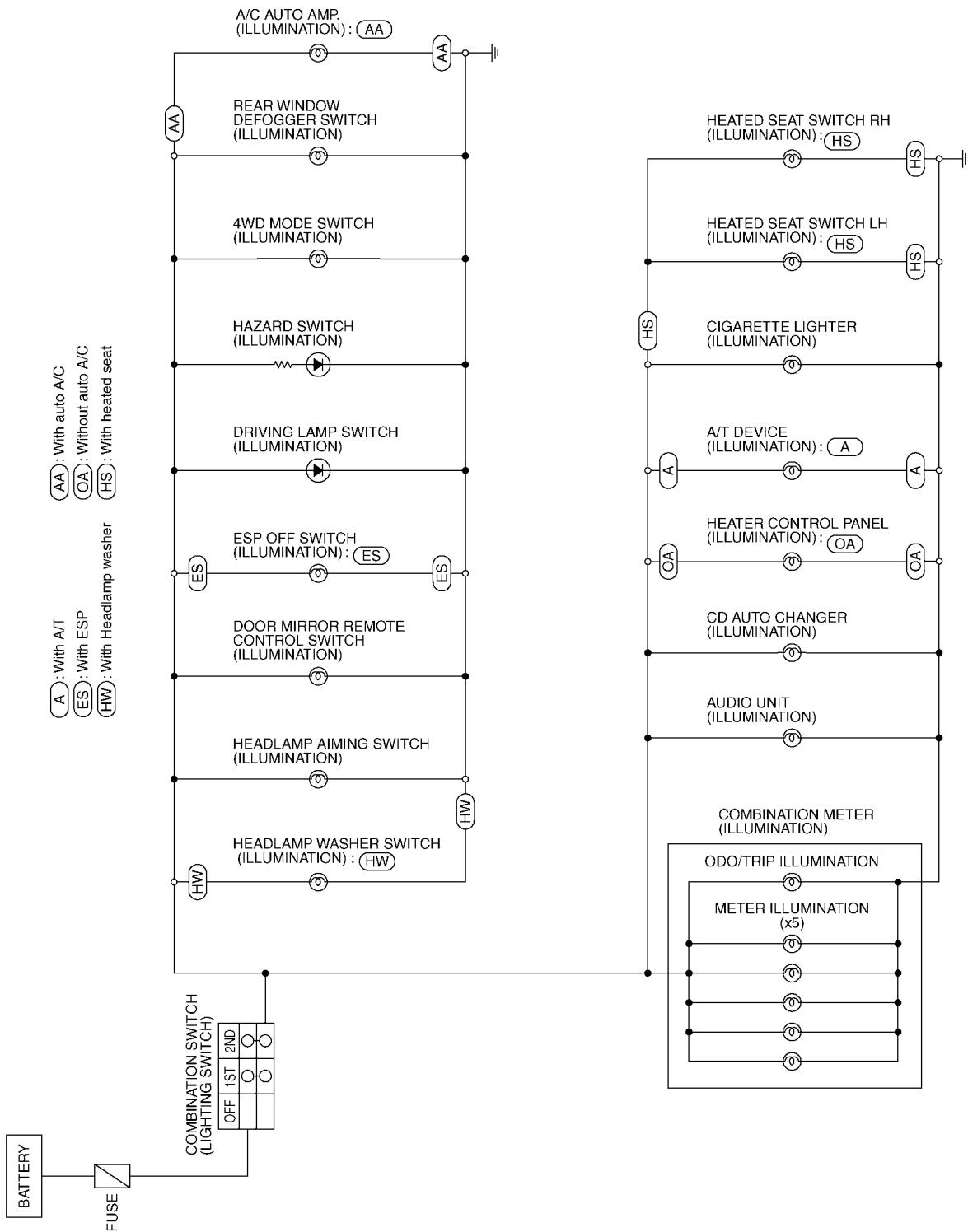
TKWA1103E

ILLUMINATION

Schematic

EKS003BL

To ESM



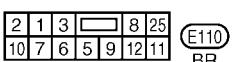
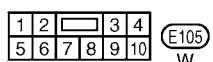
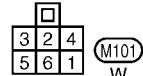
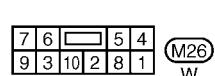
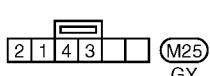
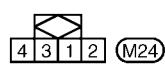
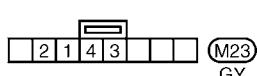
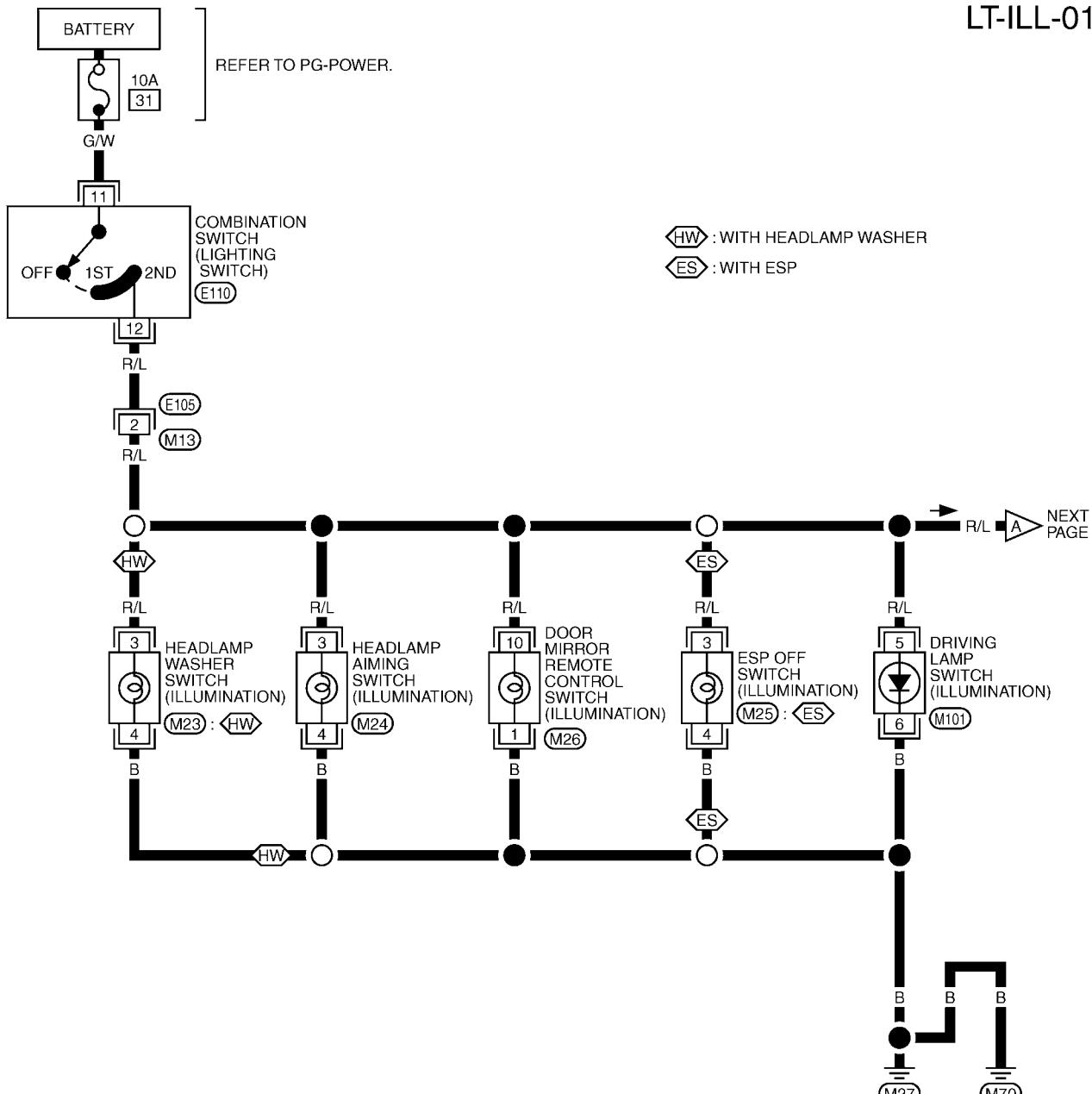
TKWA1203E

ILLUMINATION

Wiring Diagram -ILL- LHD MODELS

EKS003BM

LT-ILL-01



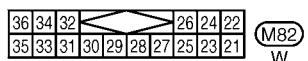
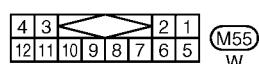
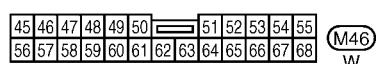
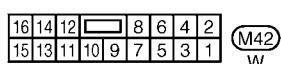
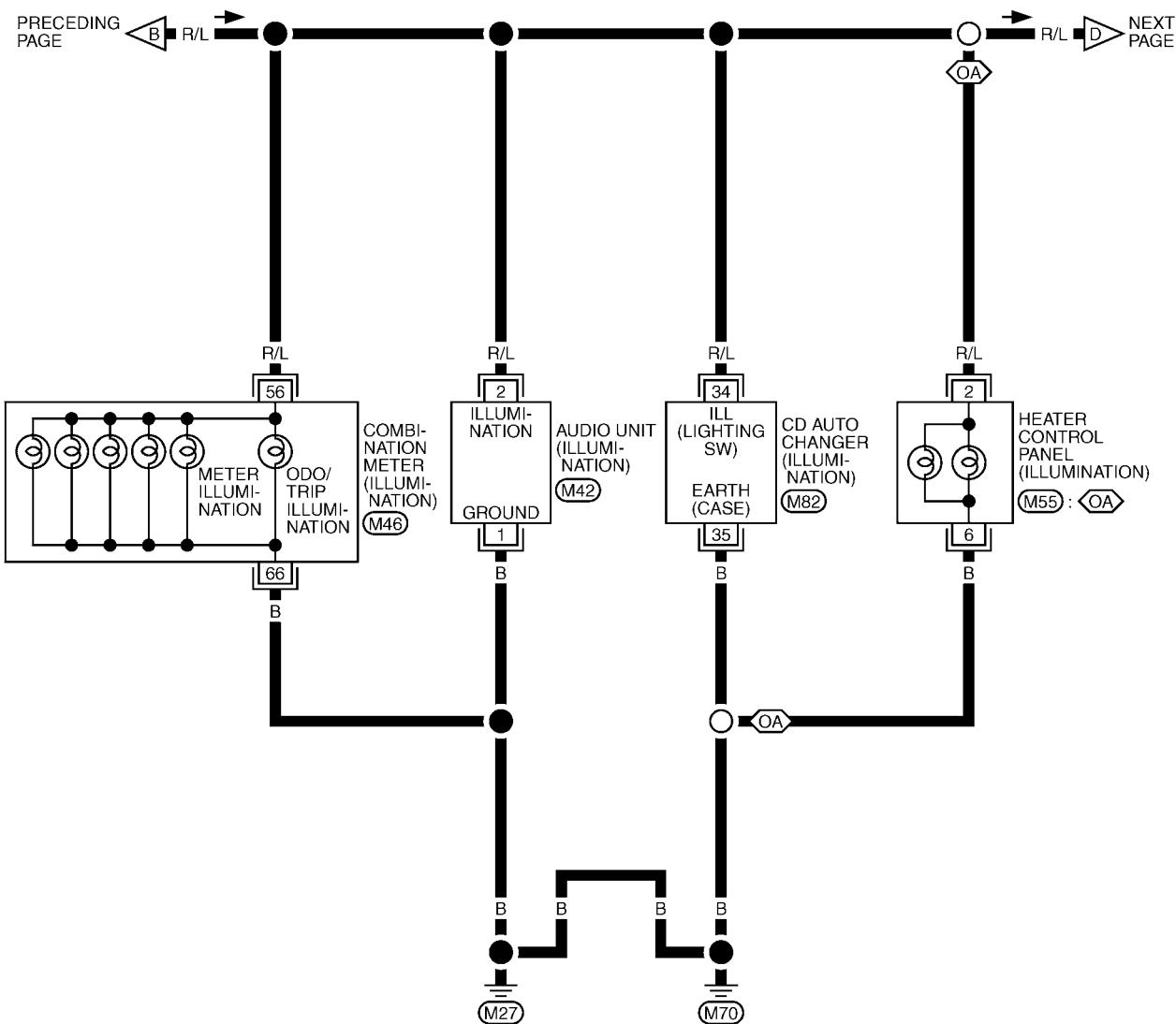
TKWA1204E

LT-47

ILLUMINATION

LT-ILL-03

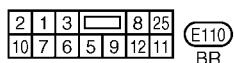
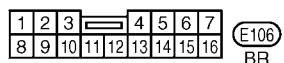
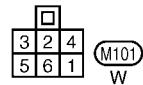
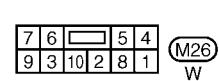
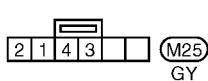
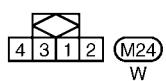
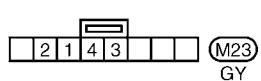
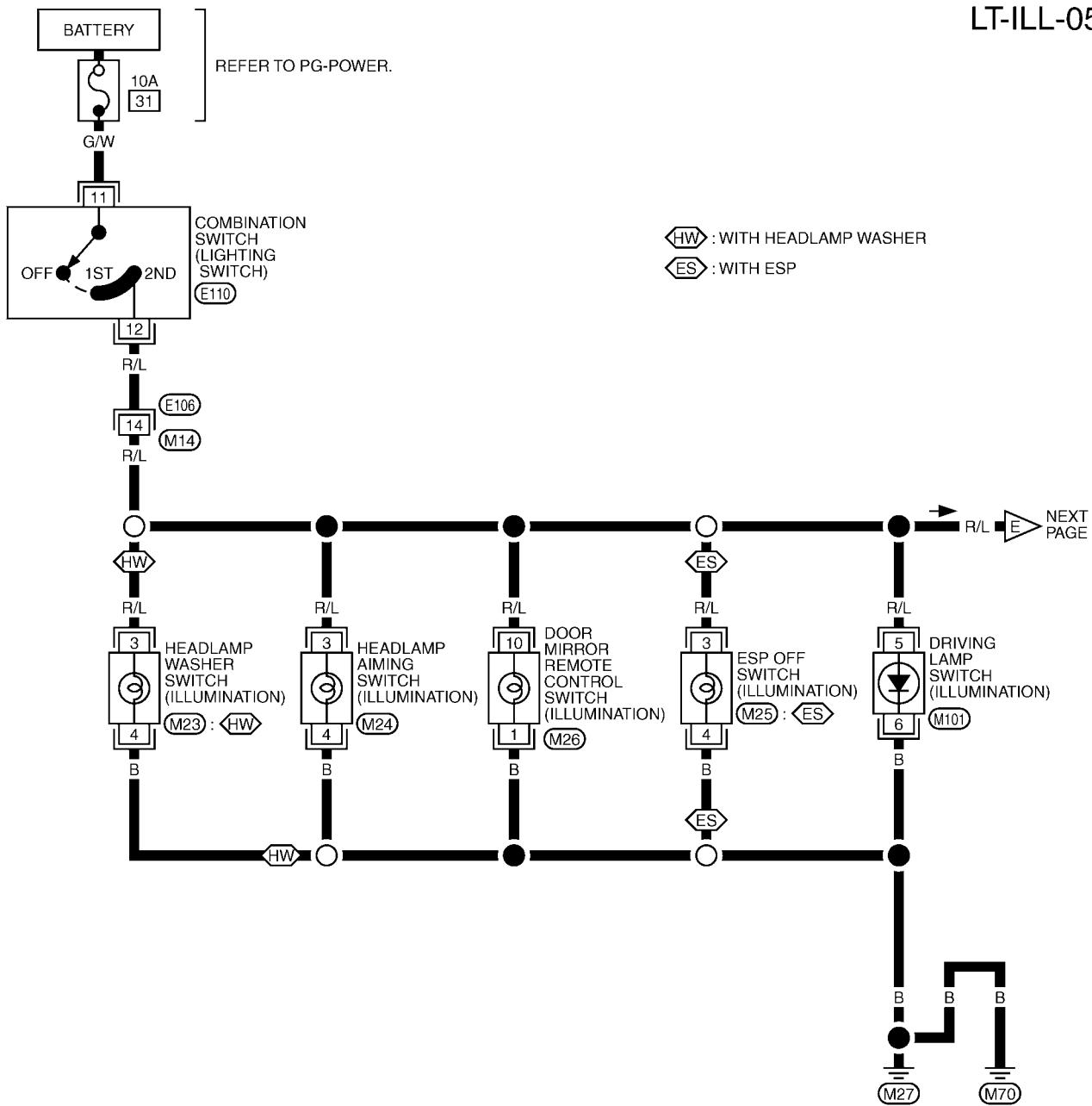
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ILLUMINATION

RHD MODELS

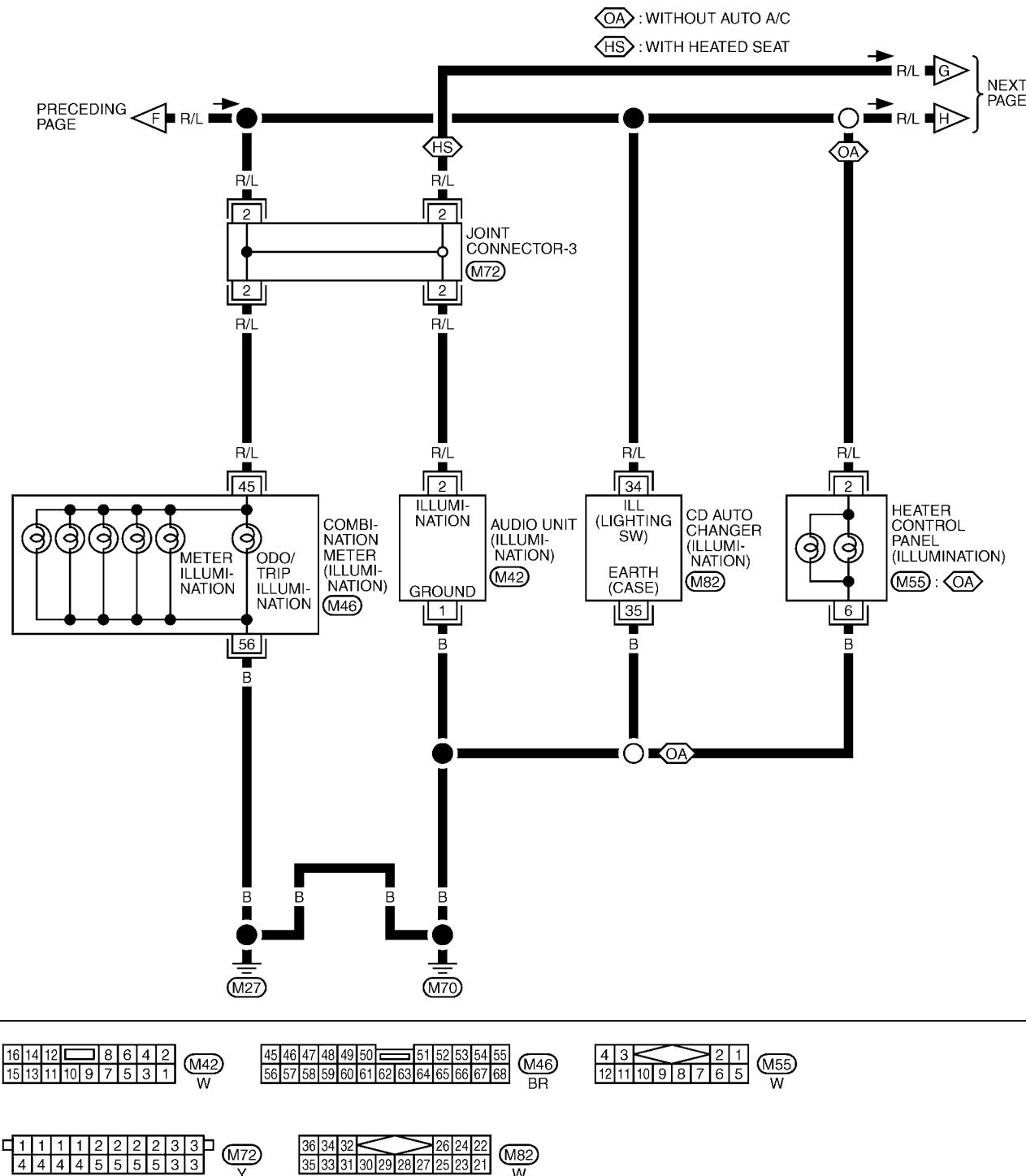
LT-ILL-05



TKWA1206E

ILLUMINATION

LT-ILL-07



TKWA1207E

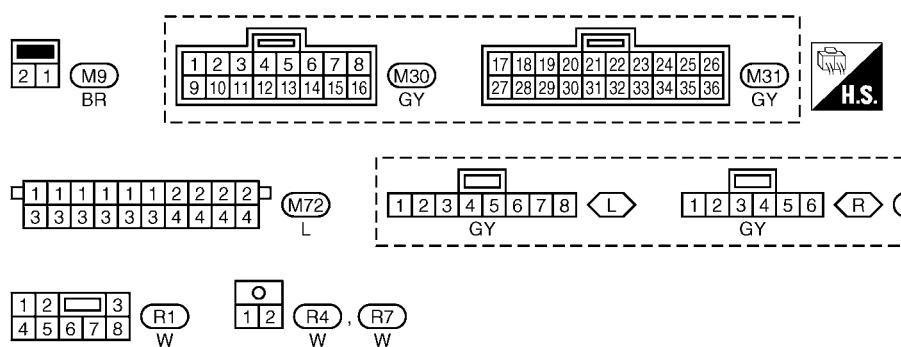
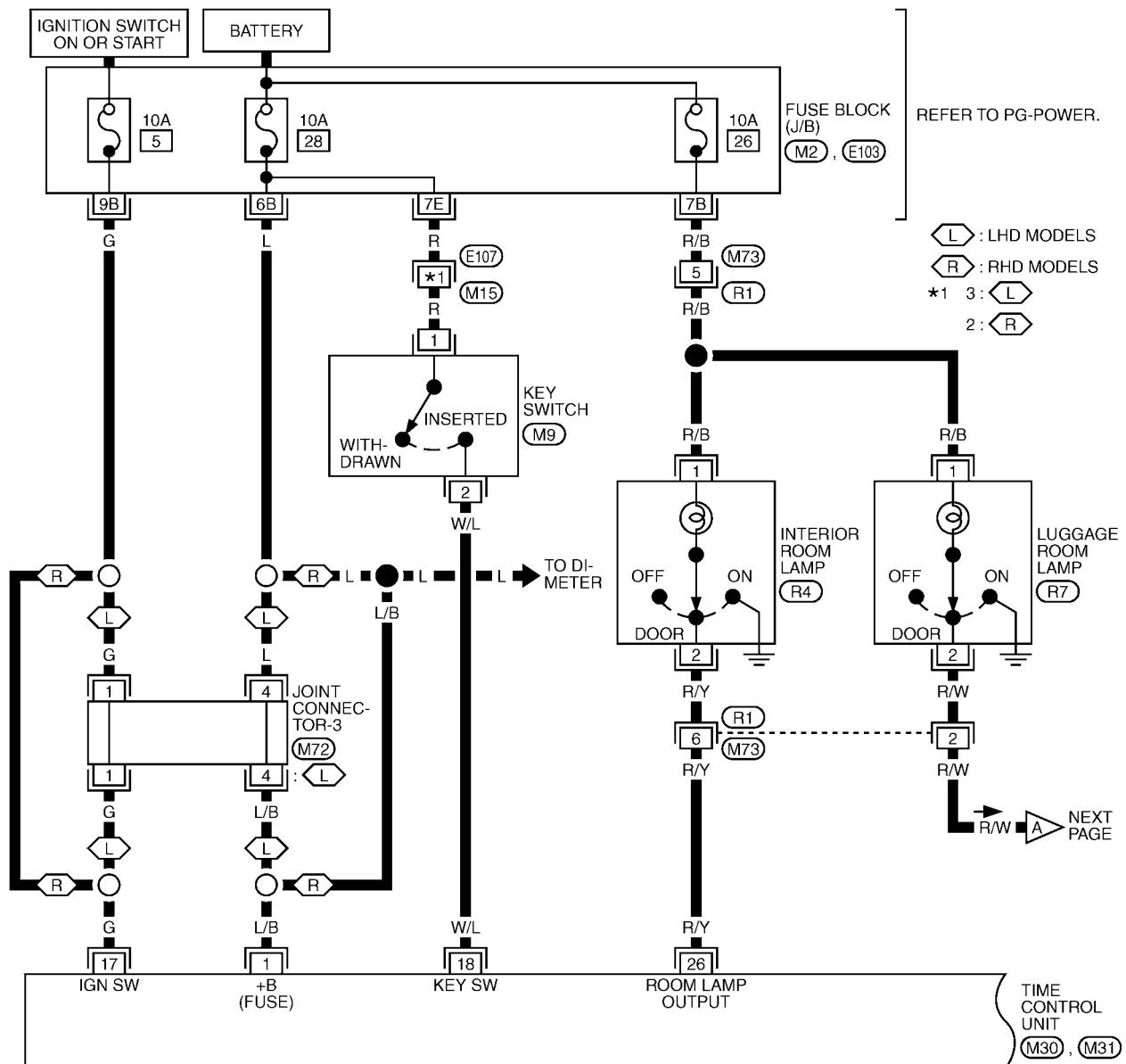
INTERIOR ROOM LAMP

Wiring Diagram -ROOM/L-

EKS003BR

To ESM

LT-ROOM/L-01



REFER TO THE FOLLOWING.
M2 , E103 -FUSE BLOCK-
JUNCTION BOX (JB)

SPOT LAMPS

SPOT LAMPS

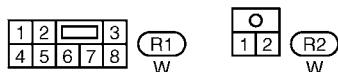
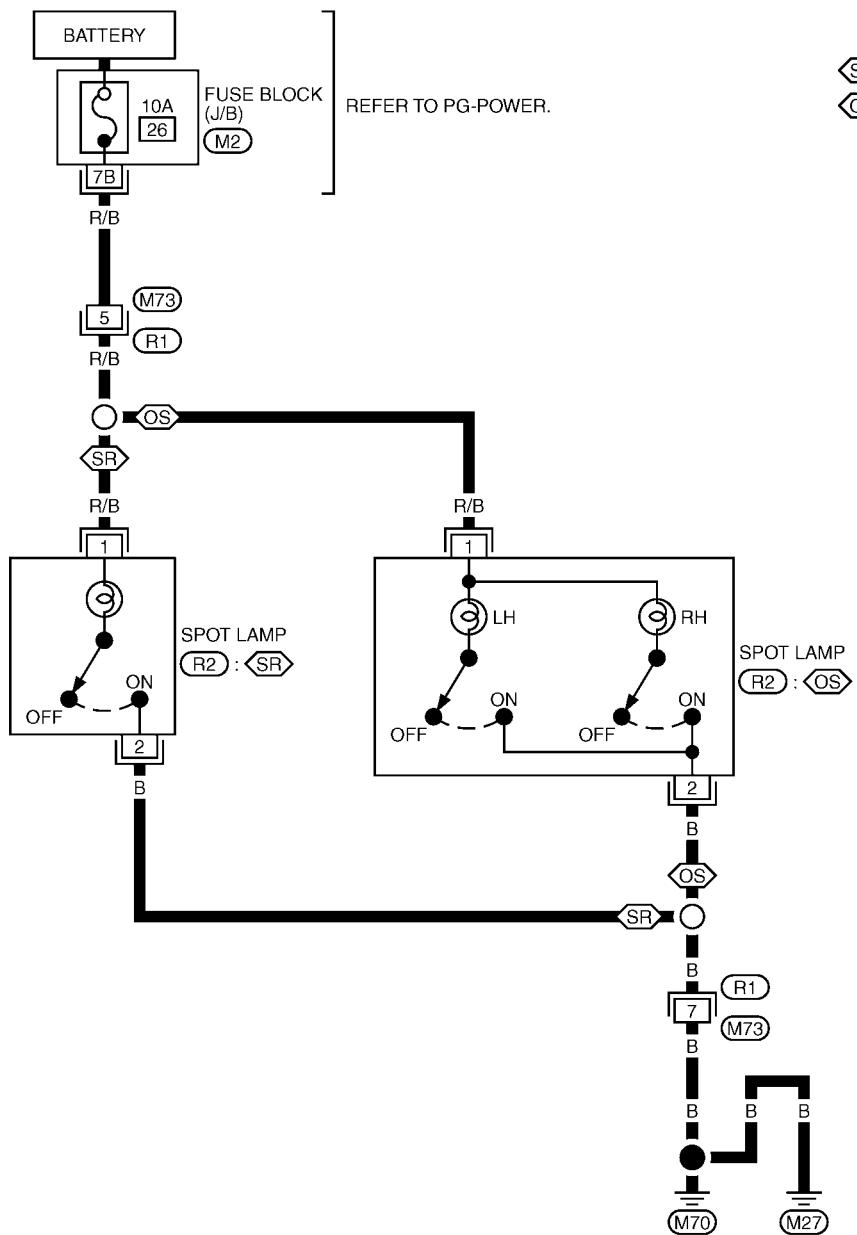
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Wiring Diagram -INT/L-

To ESM

EKS003C8

LT-INT/L-01



REFER TO THE FOLLOWING.
M2 -FUSE BLOCK-JUNCTION
BOX (J/B)

BULB SPECIFICATIONS

BULB SPECIFICATIONS

PFP:26297

Headlamp

To ESM

EKS003GS

Item	Wattage (W)
Low/High	55 /60(H4)
Driving lamp	65(H1R1)

Exterior Lamp

EKS003GT

Item	Wattage (W)
Front combination lamp	5
Front turn signal lamp	21(amber)
Side turn signal lamp	5
Fog lamp	Front fog lamp
	Rear fog lamp
Rear combination lamp	Stop/Tail lamp
	Turn signal lamp
	Back-up lamp
License plate lamp	5
High-mounted stop lamp	5

Interior Lamp/Illumination

EKS003GU

Item	Wattage (W)
Interior room lamp	10
Spot lamp	Without sunroof
	With sunroof
Luggage room lamp	10