SECTION LT
LIGHTING SYSTEM

CONTENTS

PRECAUTION

PFP:00011

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

EKS0079M

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. 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.**

Precaution

EKS003KS

- 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.
- Do not leave bulb out of headlamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of the headlamp. When replacing the bulb, be sure to replace it with a new one.
- Adjust aiming by tightening aiming screw. (To adjust it toward loosening side, first loosen adjusting screw, and then make adjustment by tightening.)
- To remove soil or sealant of bulbs, do not use organic solvent (thinner, gasoline, etc.)
- When replacing bulb, be sure to hold bulb socket and pull it out straight. If wiring harness of the bulb is pulled at an angle, the bulb may be caught in the lamp, making it difficult to take out.

Wiring Diagrams and Trouble Diagnosis

EKS003KT

When you read wiring diagrams, refer to the following:

- Refer to GI-14, "How to Read Wiring Diagrams" in GI section
- Refer to PG-2, "POWER SUPPLY ROUTING" for power distribution circuit in PG section

When you perform trouble diagnosis, refer to the following:

- Refer to GI-10, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES" in GI section
- Refer toGI-23, "How to Perform Efficient Diagnosis for an Electrical Incident" in GI section

HEADLAMP - XENON TYPE -

PFP:26010

System Description

EKS00N4V

DESCRIPTION

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

- through 15A fuse (No. 40, located in fuse and fusible link box)
- to lighting switch terminal 8,
- through 15A fuse (No. 41, located in fuse and fusible link box)
- to lighting switch terminal 5,
- through 30A fusible link (letter M, located in fuse and fusible link box)
- through 20A fuse (No. 52, located in fuse block)
- to HID relay LH terminal 5, and
- through 20A fuse (No. 51, located in fuse block)
- to HID relay RH terminal 5,
- through 15A fuse (No. 38, located in fuse and fusible link box)
- to driving lamp relay-1 terminal 3.

LOW BEAM OPERATION

When the lighting switch is turned to the 2ND position, power is supplied

- through lighting switch terminal 10
- to HID relay LH terminal 1,
- through lighting switch terminal 7
- to HID relay RH terminal 1,
- through HID relay LH and RH terminal 3
- to headlamp LH and RH terminal 2.

Ground is supplied

- to HID relay LH and RH terminal 2
- through grounds E24 and E50,
- to headlamp LH and RH terminal 4
- through grounds E24 and E50.

With power and ground supplied, low beam headlamps illuminate.

HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

When the lighting switch is turned to the 2ND position and placed in HIGH BEAM position or PASSING position, power is supplied

- through lighting switch terminal 9
- to headlamp LH terminal 1
- to HID relay LH terminal 1, and
- to combination meter terminal 20,
- through lighting switch terminal 6
- to headlamp RH terminal 1, and
- to HID relay RH terminal 1,
- through HID relay LH and RH terminal 3
- to headlamp LH and RH terminal 2.

Ground is supplied

- to HID relay LH and RH terminal 2
- through grounds E24 and E50,
- to headlamp LH and RH terminal 3, and
- to headlamp LH and RH terminal 4
- through grounds E24 and E50,

- to combination meter terminal 19
- through grounds M27and M70.

With power and ground supplied, low beam and high beam headlamps, and HIGH BEAM indicator illuminate.

DRIVING LAMP OPERATION

To illuminate the driving lamp, push the driving lamp switch when the lighting switch is turned to the 2ND position and placed in HIGH BEAM position or PASSING position, power is supplied

- through lighting switch terminal 9
- to headlamp LH terminal 1
- to HID relay LH terminal 1
- to combination meter terminal 20
- to driving lamp relay-1 terminal 1
- to driving lamp switch terminal 7, and
- to driving lamp relay-2 terminal 5,
- through driving lamp relay-2 terminal 3
- to driving lamp switch terminal 6,
- through driving lamp relay-1 terminal 5
- to driving lamp LH and RH terminal 2,
- through lighting switch terminal 6
- to headlamp RH terminal 1, and
- to HID relay RH terminal 1,
- through HID relay LH and RH terminal 3
- to headlamp LH and RH terminal 2.

Ground is supplied

- to driving lamp relay-1 terminal 2
- through driving lamp relay-2 terminal 7
- through driving lamp relay-2 terminal 6
- through grounds E24 and E50,
- to driving lamp switch terminal 4
- through driving lamp relay-2 terminal 1
- through driving lamp relay-2 terminal 2
- through grounds E24 and E50,
- to driving lamp LH terminal 1
- through ground R8,
- to driving lamp RH terminals 1 and 3
- through ground R8,
- to HID relay LH and RH terminal 2
- through grounds E24 and E50,
- to headlamp LH and RH terminal 3, and
- to headlamp LH and RH terminal 4
- through grounds E24 and E50,
- to combination meter terminal 19
- through grounds M27 and M70.

With power and ground supplied, low beam and high beam headlamps, driving lamp and HIGH BEAM indicator illuminate.

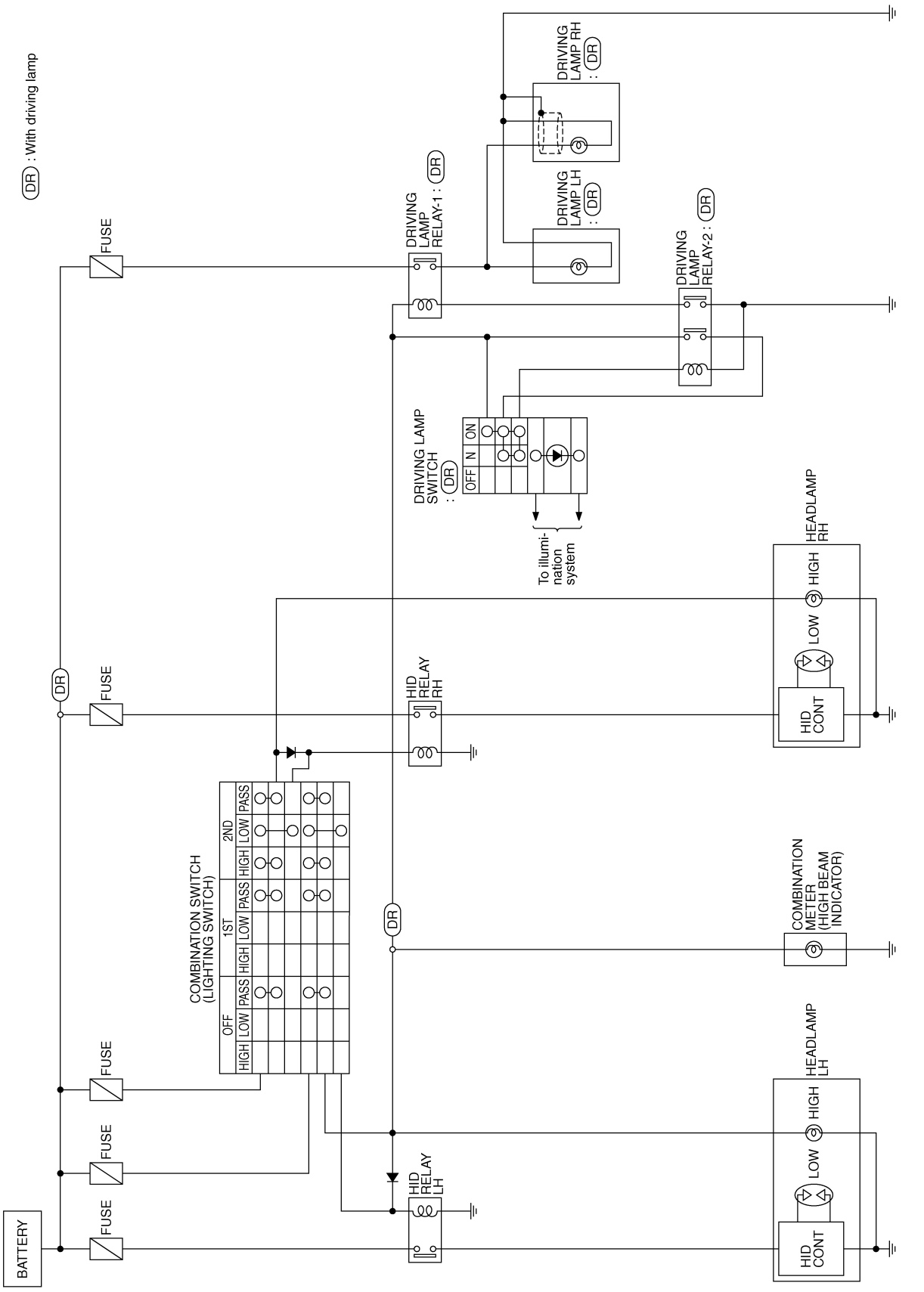
XENON HEADLAMP

Xenon type lamps are used for to the low beam headlamps. Xenon bulbs do not use a filament. Instead, they produce light when a high voltage current is passed between two tungsten electrodes through a mixture of xenon (an inert gas) and certain other metal halides. In addition to strong lighting power, electronic control of the power supply gives the headlamps stable quality and tone color.
Followings are some advantages of the xenon type headlamp.

- The light produced by the headlamps is white color similar to sunlight that is easy to the eyes.
- Light output is nearly double that of halogen headlamps, affording increased area of illumination.
- Counter-reflected luminance increases and the contrast enhances on the wet road in the rain. That makes visibility go up more than the increase of the light volume.
- Power consumption is approximately 25 percent less than halogen headlamps, reducing battery load.

Schematic

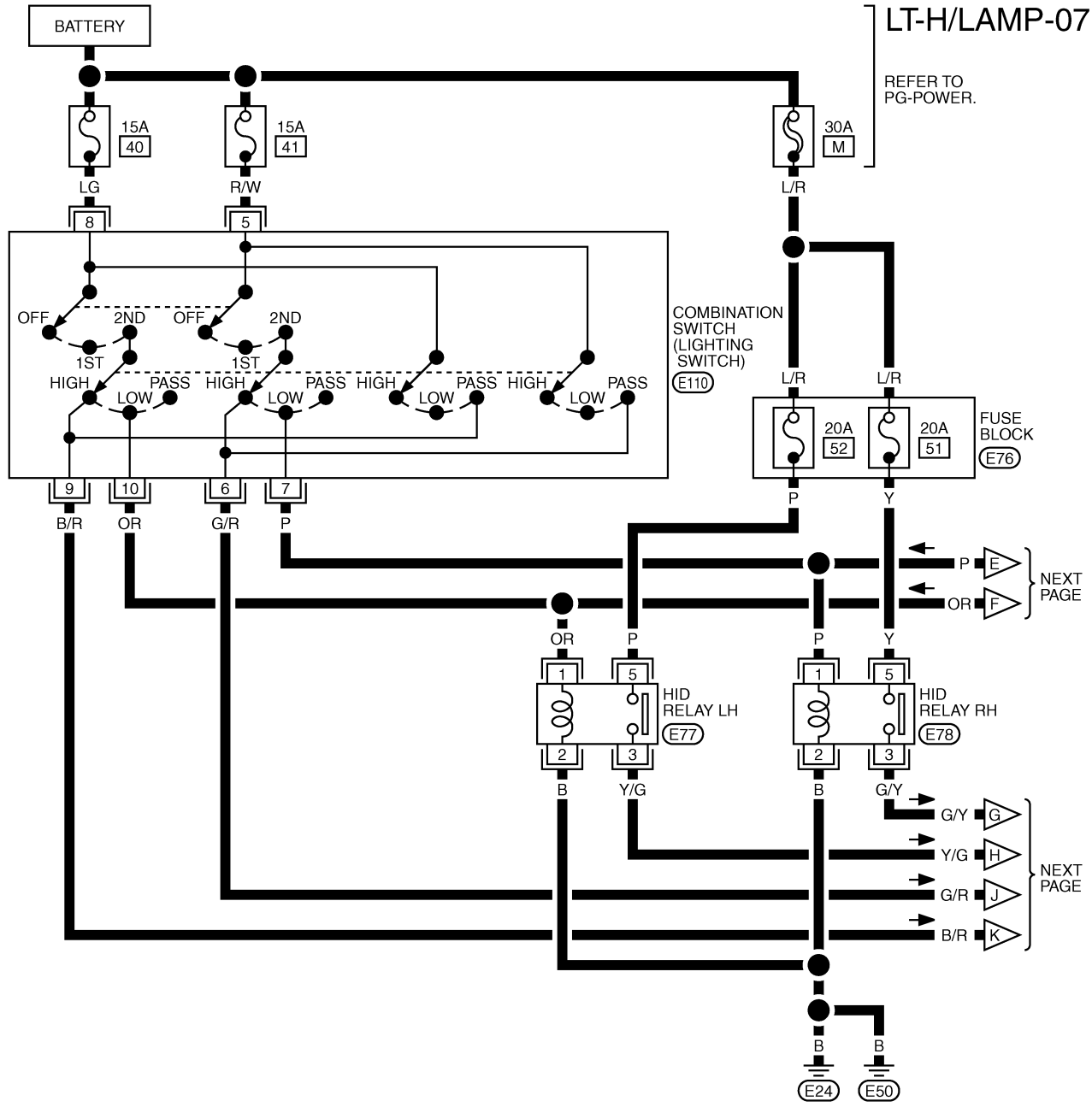
EKS00N4W

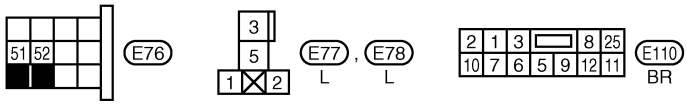


TKWB1115E

Wiring Diagram — H/LAMP —

EKS00N4X





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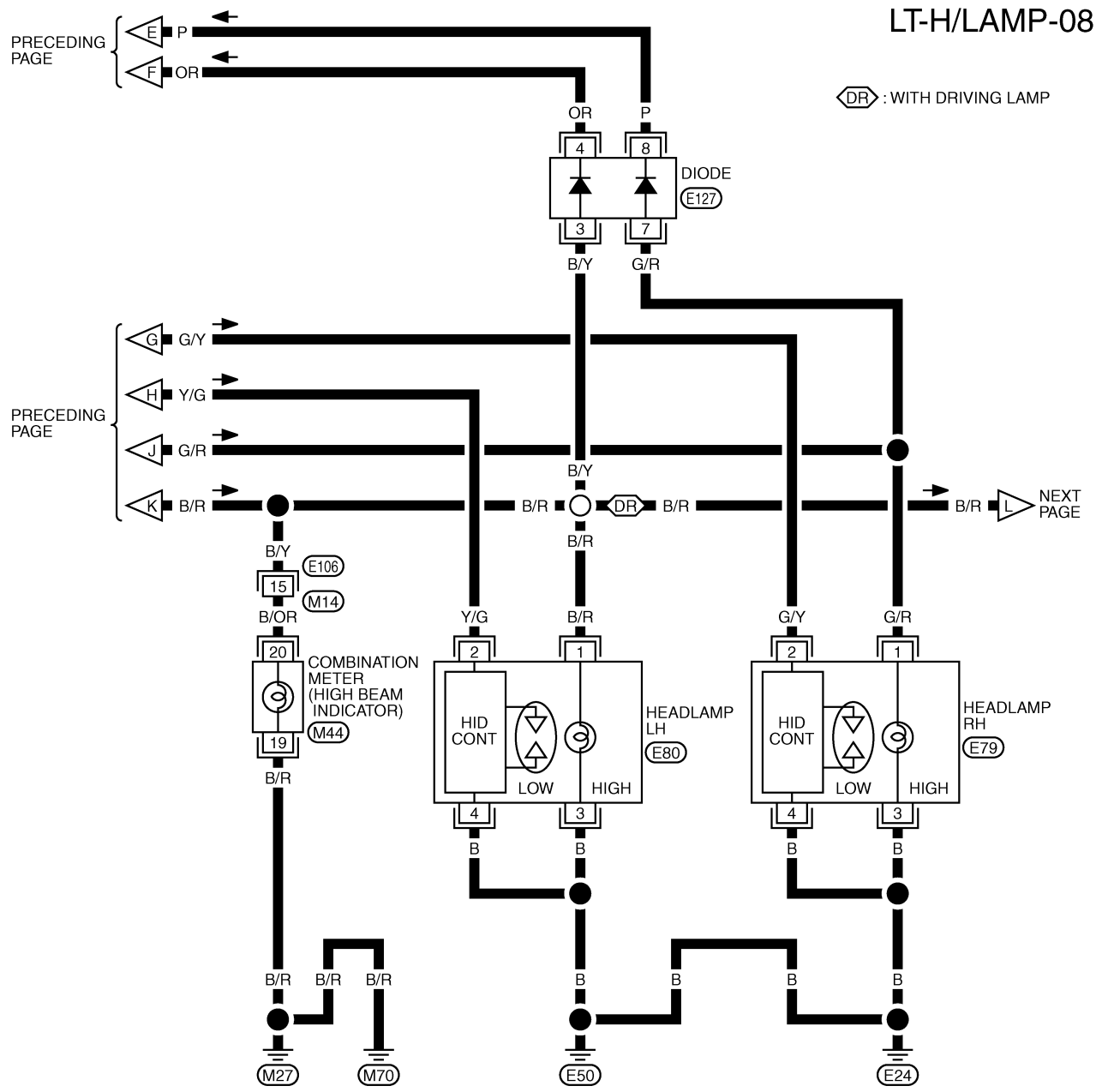
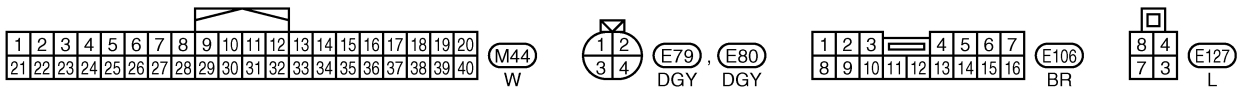

LT-H/LAMP-08
DR : WITH DRIVING LAMP
PRECEDING PAGE
E P
F OR
OR P
4 8
DIODE
E127
3 7
B/Y G/R
G G/Y
H Y/G
J G/R
K B/R
B/Y
B/R DR B/R B/R L
NEXT PAGE
B/R
B/Y
E106
15
M14
B/OR
20
COMBINATION METER (HIGH BEAM INDICATOR)
M44
19
B/R
Y/G B/R G/Y G/R
2 1 2 1
HID CONT
LOW HIGH
HEADLAMP LH
E80
HEADLAMP RH
E79
4 3 4 3
B B B B
B/R B/R B/R
B B B B
M27 M70 E50 E24


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
M44
W
1 2
3 4
E79 , E80
DGY DGY
1 2 3 4 5 6 7
8 9 10 11 12 13 14 15 16
E106
BR
8 4
7 3
E127
L

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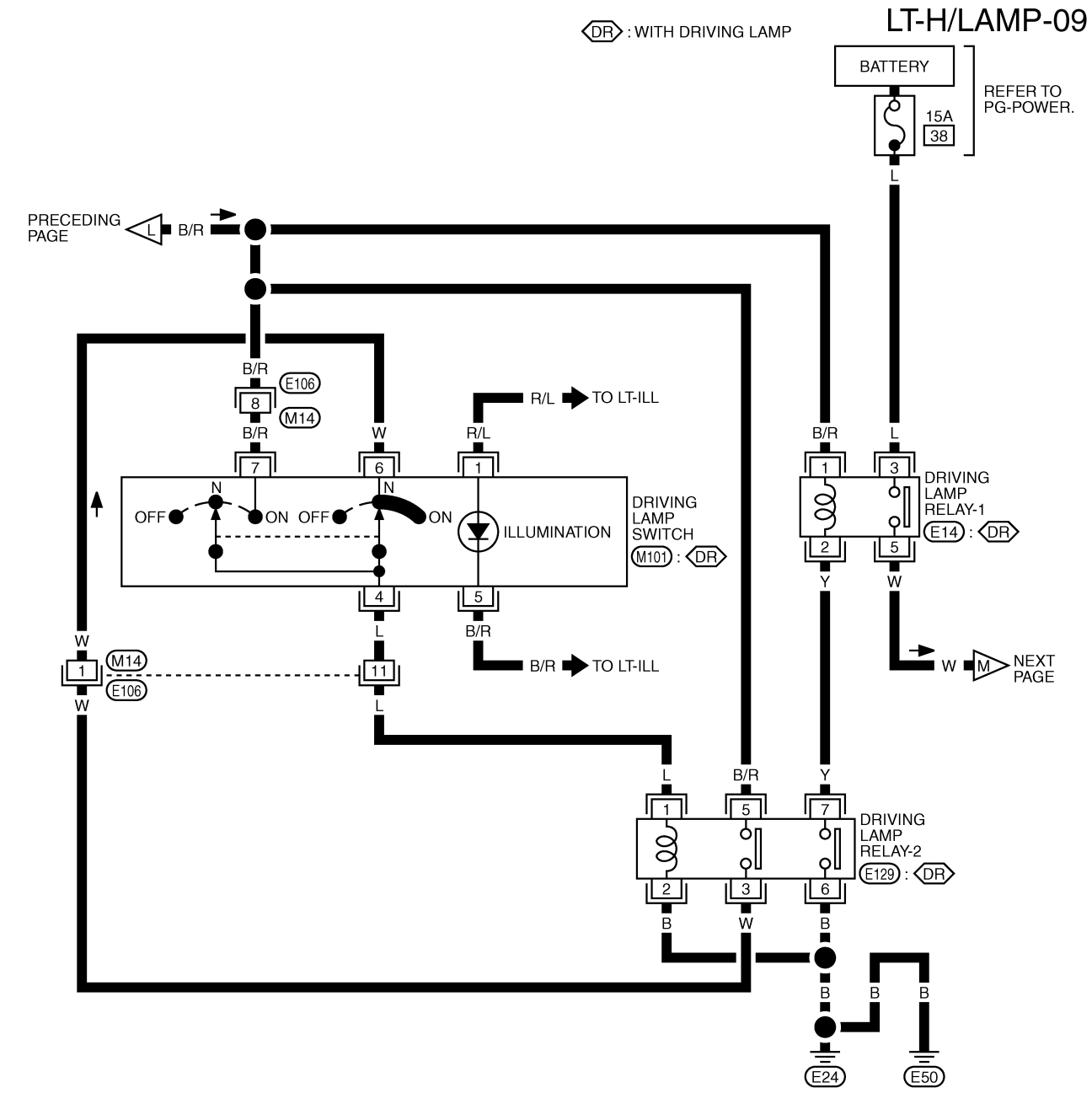
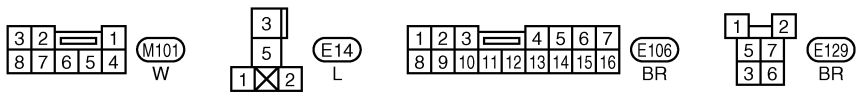

LT-H/LAMP-09
DR : WITH DRIVING LAMP
BATTERY
REFER TO PG-POWER.
15A
38
PRECEDING PAGE
B/R
E106
M14
R/L
TO LT-ILL
DRIVING LAMP SWITCH
M101 : DR
OFF
ON
ILLUMINATION
DRIVING LAMP RELAY-1
E14 : DR
DRIVING LAMP RELAY-2
E129 : DR
NEXT PAGE
E24
E50


M101
W
E14
L
E106
BR
E129
BR

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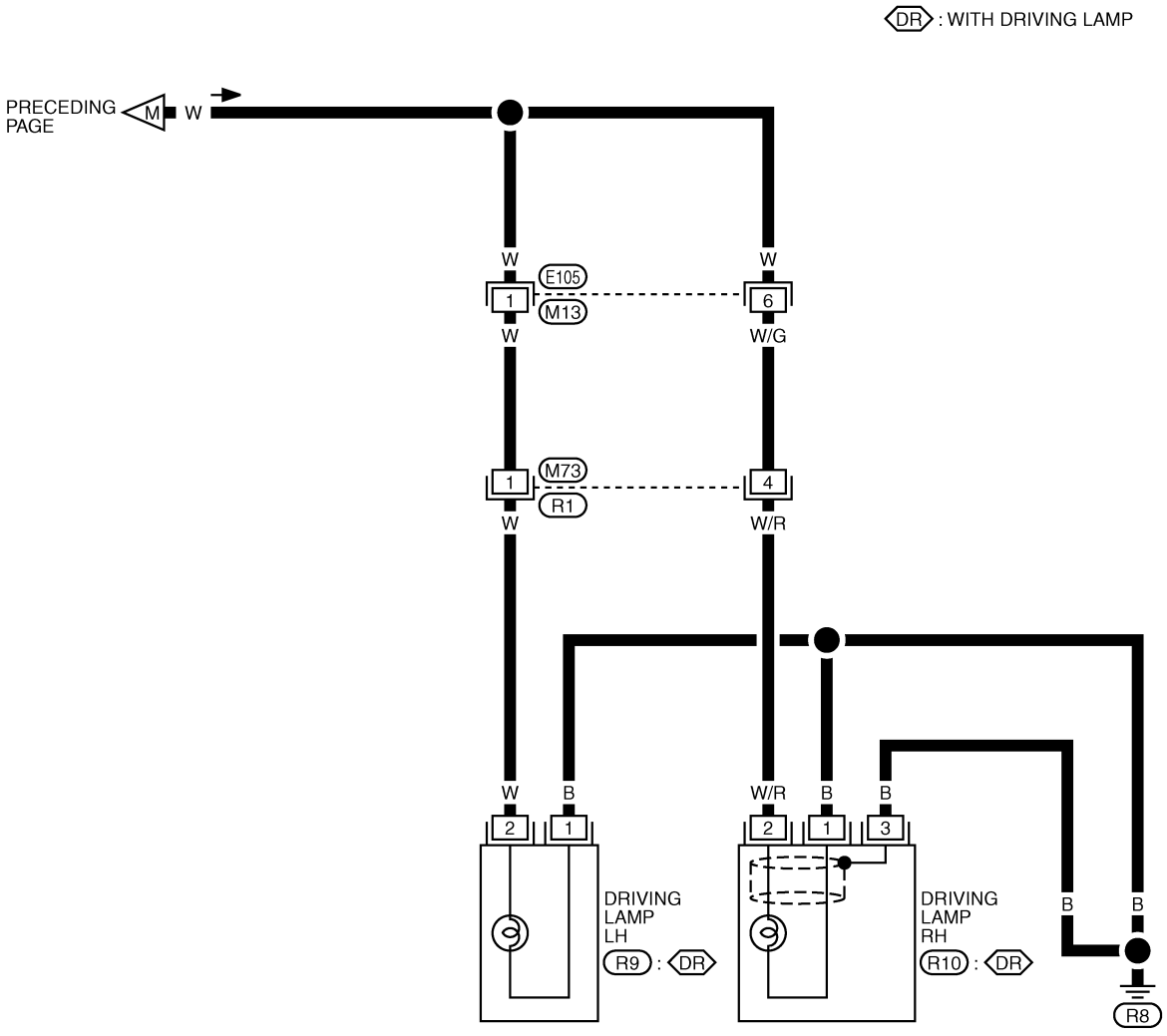
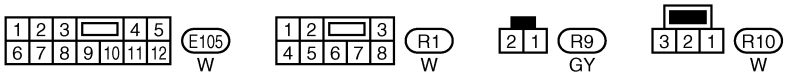
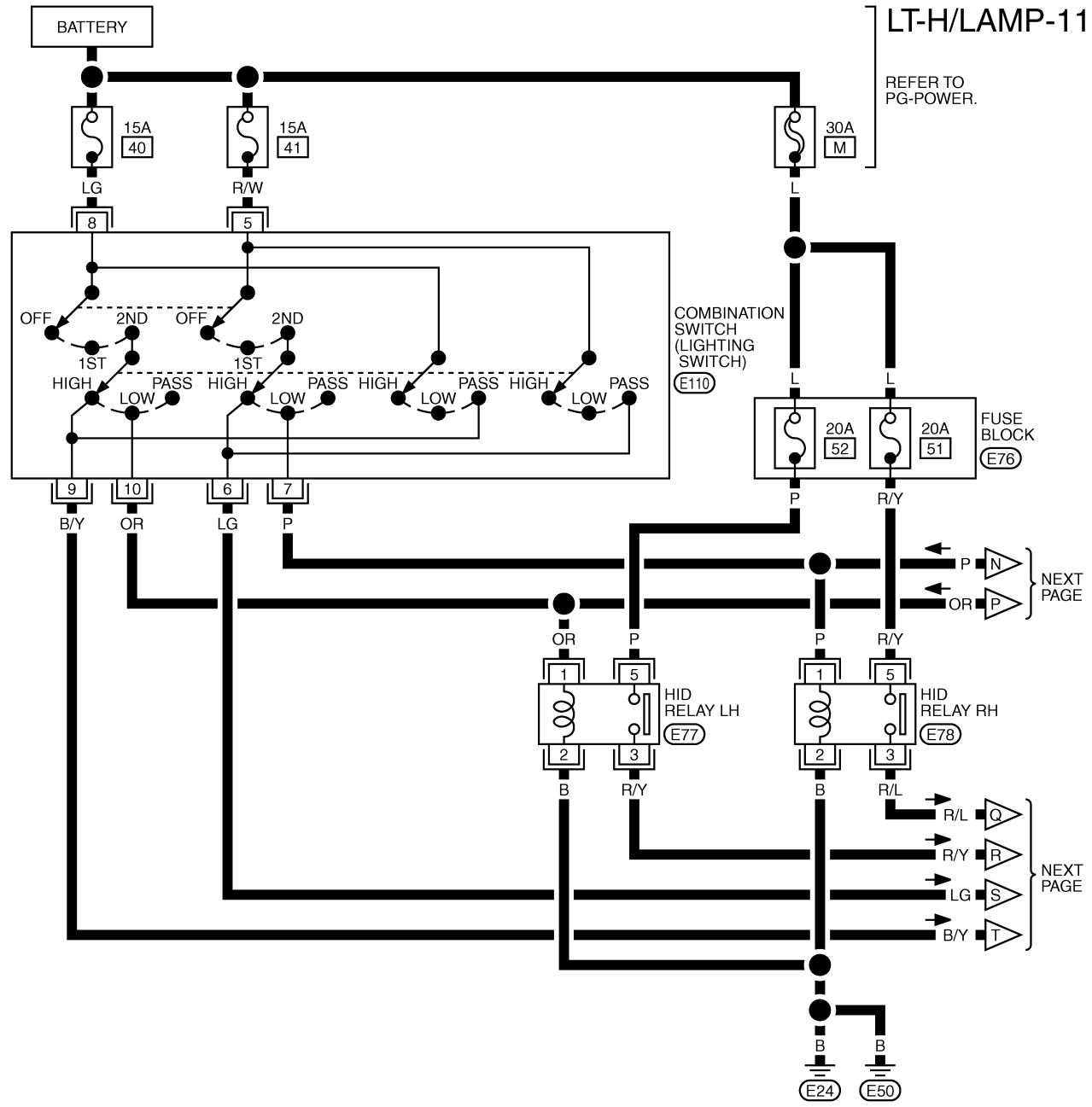
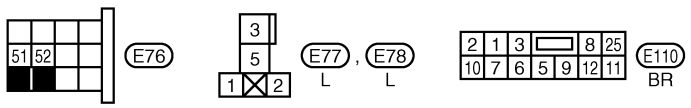

DR : WITH DRIVING LAMP
PRECEDING PAGE
M
W
W
E105
1
M13
W
W
6
W/G
M73
1
R1
W
W
4
W/R
W
B
W/R
B
B
2
1
2
1
3
DRIVING LAMP LH
R9 : DR
DRIVING LAMP RH
R10 : DR
B
B
R8

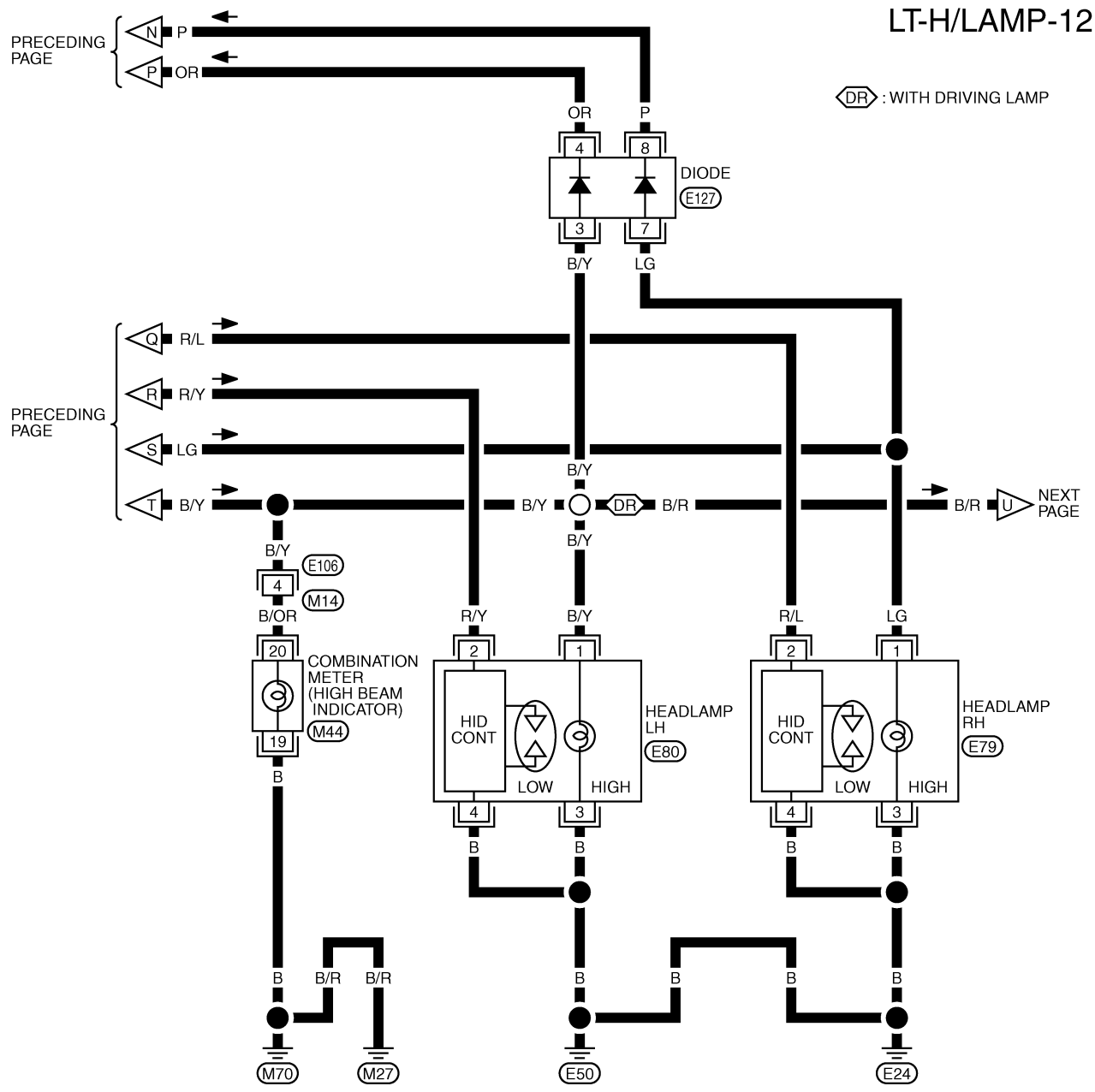

1 2 3 4 5
6 7 8 9 10 11 12
E105
W
1 2 3
4 5 6 7 8
R1
W
2 1
R9
GY
3 2 1
R10
W

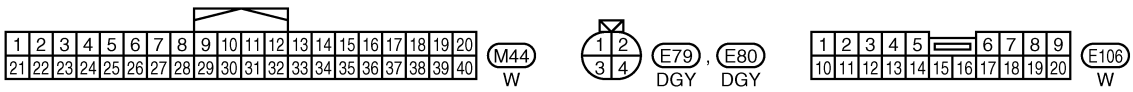
TKWB1119E

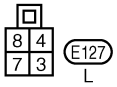

BATTERY
LT-H/LAMP-11
REFER TO PG-POWER.
15A 40
15A 41
30A M
LG
R/W
L
8
5
OFF
2ND
1ST
HIGH
PASS
LOW
COMBINATION SWITCH (LIGHTING SWITCH) E110
20A 52
20A 51
FUSE BLOCK E76
9
10
6
7
B/Y
OR
LG
P
R/Y
N
P
NEXT PAGE
HID RELAY LH E77
HID RELAY RH E78
B
R/L
Q
R
S
T
R/Y
LG
B/Y
E24
E50


E76
E77
E78
L
BR
E110

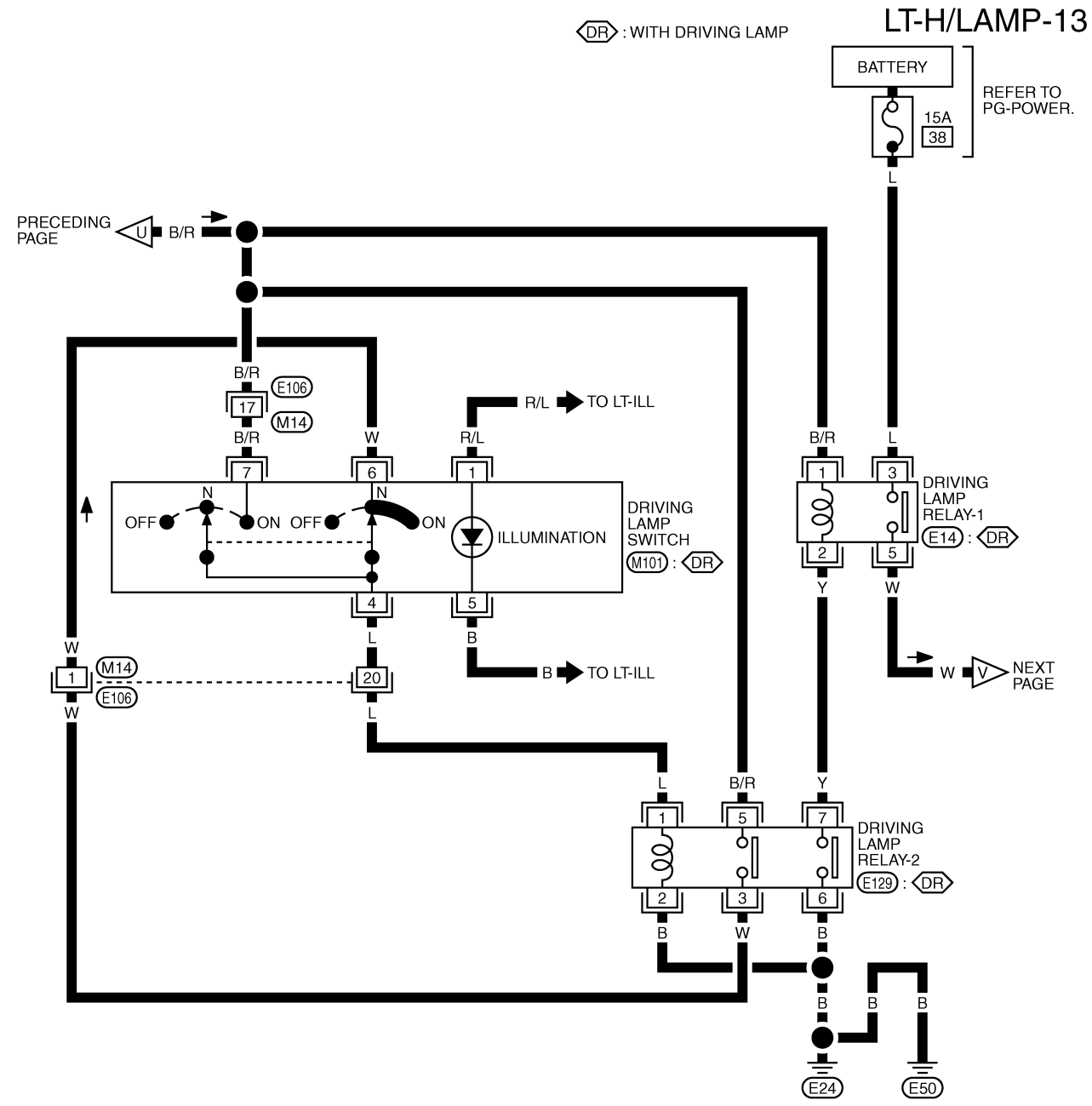
TKWB1120E

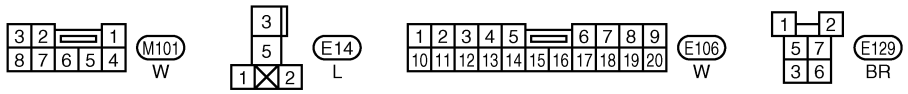

LT-H/LAMP-12
DR : WITH DRIVING LAMP
PRECEDING PAGE
N P
P OR
OR P
4 8
DIODE
E127
3 7
B/Y LG
Q R/L
R R/Y
S LG
T B/Y
B/Y
B/Y DR B/R
B/R U
NEXT PAGE
B/Y
E106
4
M14
B/OR
20
COMBINATION METER (HIGH BEAM INDICATOR)
19
M44
B
R/Y B/Y
2 1
HID CONT
LOW HIGH
HEADLAMP LH
E80
4 3
B B
R/L LG
2 1
HID CONT
LOW HIGH
HEADLAMP RH
E79
4 3
B B
B B/R B/R
M70 M27
B B B B
E50
E24


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
M44
W
1 2
3 4
E79 , E80
DGY DGY
1 2 3 4 5 6 7 8 9
10 11 12 13 14 15 16 17 18 19 20
E106
W

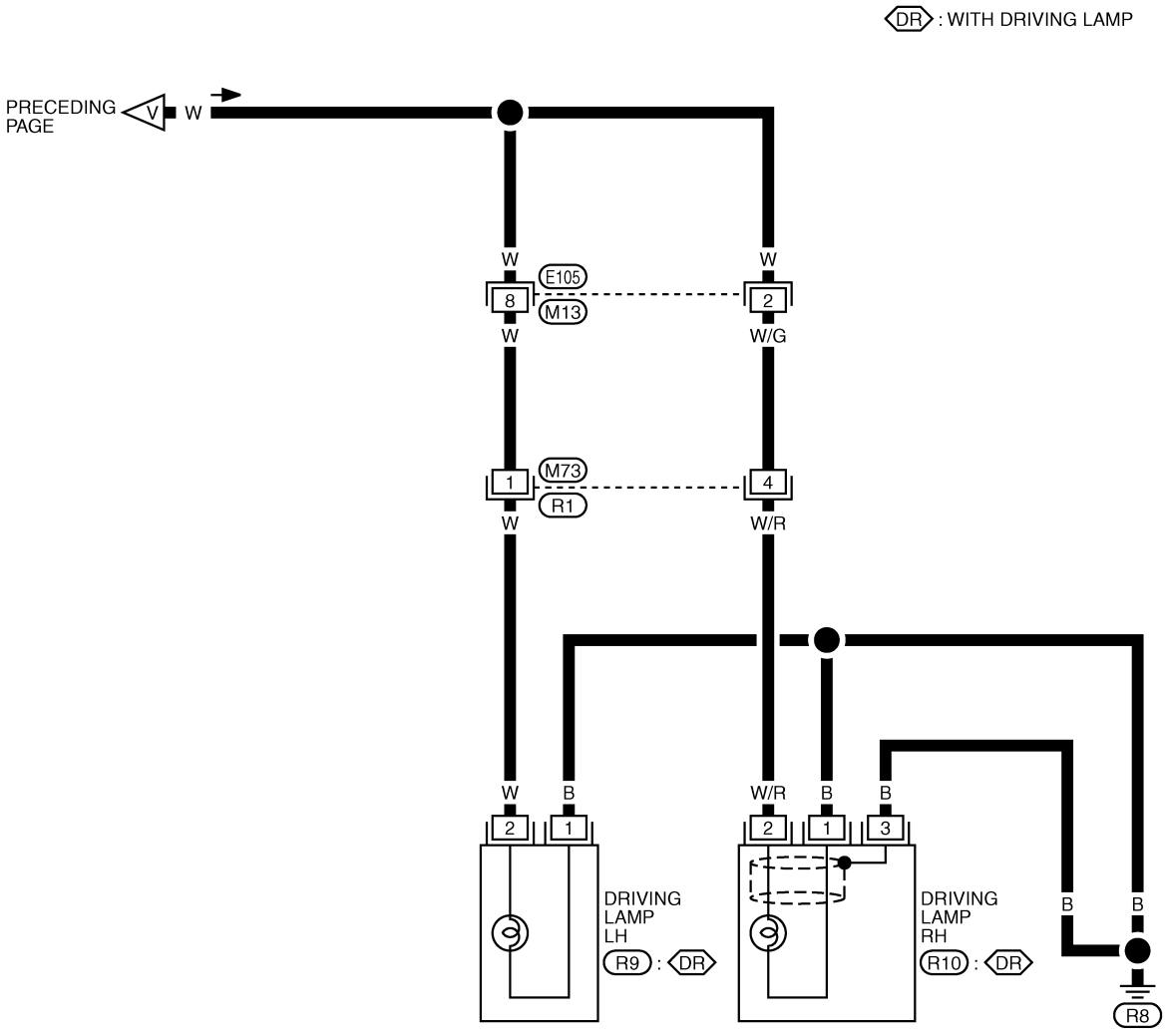

8 4
7 3
E127
L

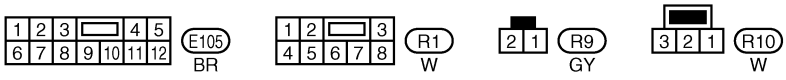
TKWB1121E


DR : WITH DRIVING LAMP
BATTERY
REFER TO PG-POWER.
15A
38
L
PRECEDING PAGE
U
B/R
B/R
E106
17
M14
B/R
W
R/L
R/L
TO LT-ILL
7
6
1
N
N
OFF
ON
OFF
ON
ILLUMINATION
DRIVING LAMP SWITCH
M101 : DR
4
5
B/R
L
1
3
2
5
DRIVING LAMP RELAY-1
E14 : DR
Y
W
W
M14
1
E106
W
20
L
L
B
B
TO LT-ILL
W
V
NEXT PAGE
L
B/R
Y
1
5
7
2
3
6
DRIVING LAMP RELAY-2
E129 : DR
B
W
B
B
B
B
E24
E50


M101
W
E14
L
E106
W
E129
BR

TKWB1122E


DR : WITH DRIVING LAMP
PRECEDING PAGE
V
W
W
E105
8
M13
W
W
2
W/G
M73
1
R1
W
4
W/R
W
B
2
1
W/R
B
B
2
1
3
DRIVING LAMP LH
R9 : DR
DRIVING LAMP RH
R10 : DR
B
B
R8


1 2 3 4 5
6 7 8 9 10 11 12
E105
BR
1 2 3
4 5 6 7 8
R1
W
2 1
R9
GY
3 2 1
R10
W

TKWB1123E

Trouble Diagnoses

EKS00N4Y

WARNING:

- **Xenon headlamp has a high-tension current generating area. Be extremely careful when removing and installing. Be certain to disconnect battery negative cable prior to removing or installing.**
- **When xenon headlamp is lit, never touch harness (covered with red or amber insulation), bulb itself or bulb socket with your bare hands**
- **Never service a xenon headlamp with wet hands.**
- **When checking body side harness with a circuit tester, be certain to disconnect harness connector from xenon headlamp.**
- **When xenon headlamp is lit, xenon bulb must be installed in headlamp housing. (Never turn on xenon headlamp, if bulb is out of headlamp housing.)**

CAUTION:

Make sure to install bulb securely; if xenon bulb is improperly installed in its socket, high-tension current leaks occur. This may lead to a melted bulb and/or bulb socket.

Symptom	Possible cause	Repair order
Headlamp does not operates.	1. 30A fuse 2. HID relay circuit 3. Lighting switch 4. Headlamp ground circuit	1. Check 30A fuse (letter M, located in fuse and fusible link box). 2. Check lighting switch. 3. Check harness between lighting switch terminal and ground.
Headlamp LH (low and high beam) does not operate, but headlamp RH (low and high beam) does operate.	1. 15A fuse 2. 20A fuse 3. HID relay LH 4. HID relay LH circuit	1. Check 15A fuse (No.40, located in fuse and fusible link box). 2. Check 20A fuse (No.52, located in fuse and fusible link box). Verify battery positive voltage is present at terminal 5 of HID relay LH. 3. Check HID relay LH.
Headlamp RH (low and high beam) does not operate, but headlamp LH (low and high beam) does operate.	1. 15A fuse 2. 20A fuse 3. HID relay RH 4. HID relay RH circuit	1. Check 15A fuse (No.41, located in fuse and fusible link box). 2. Check 20A fuse (No. 51, located in fuse and fusible link box). Verify battery positive voltage is present at terminal 5 of HID relay RH. 3. Check HID relay RH.
LH high beam does not operate, but LH low beam operates.	1. Bulb 2. Open in high beam LH circuit 3. Lighting switch 4. Headlamp LH ground circuit	1. Check bulb. 2. Check the following. – Harness between headlamp LH and lighting switch for open circuit. 3. Check lighting switch. 4. Check harness between headlamp LH and ground.
LH low beam does not operate, but LH high beam operates.	1. 20A fuse 2. HID relay LH 3. Open in LH low beam circuit 4. LH low beam ground circuit 5. Xenon bulb 6. HID control unit	1. Check 20A fuse (No52, located in fuse and fusible link box). Verify battery positive voltage is present at terminal 5 of HID relay LH. 2. Check HID relay LH. 3. Check harness between HID relay LH terminal 3 and headlamp LH terminal 2 for an open circuit. 4. Check harness between headlamp LH and ground. 5. Replace xenon bulb with other side bulb or new one. (If headlamps illuminate correctly, replace bulb.) 6. Replace HID control unit with other side control unit or new one. (If headlamps illuminate correctly, replace control unit.)

Symptom	Possible cause	Repair order
RH high beam does not operate, but RH low beam operates.	1. Bulb 2. Open in high beam RH circuit 3. Lighting switch 4. Headlamp RH ground circuit	1. Check bulb. 2. Check the following. – Harness between headlamp RH and lighting switch for open circuit. 3. Check lighting switch. 4. Check harness between headlamp RH and ground.
RH low beam does not operate, but RH high beam operates.	1. 20A fuse 2. HID relay RH 3. Open in RH low beam circuit 4. RH low beam ground circuit 5. Xenon bulb 6. HID control unit	1. Check 20A fuse (No.51, located in fuse and fusible link box). Verify battery positive voltage is present at terminal 5 of headlamp RH relay. 2. Check HID relay RH. 3. Check harness between HID relay RH terminal 3 and headlamp RH terminal 2 for an open circuit. 4. Check harness between headlamp RH and ground. 5. Replace xenon bulb with other side bulb or new one. (If headlamps illuminate correctly, replace bulb.) 6. Replace HID control unit with other side control unit or new one. (If headlamps illuminate correctly, replace control unit.)
High beam indicator does not work.	1. Bulb 2. Open in high beam circuit	1. Check bulb in combination meter. 2. Check the harness circuit.

Aiming Adjustment of Headlamp

EKS00N4Z

PREPARATION BEFORE ADJUSTING

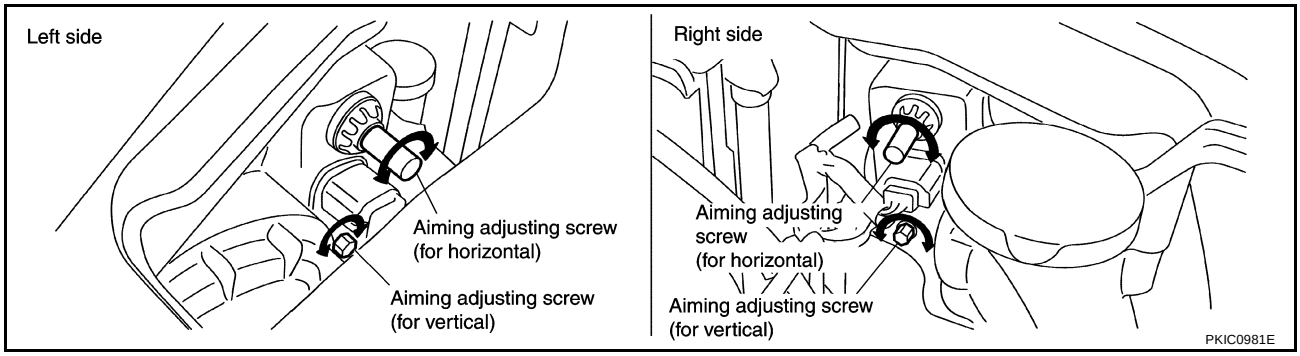
For Details, Refer To The Regulations In Your Own Country.

Before performing aiming adjustment, check the following.

1. Keep all tires inflated to correct pressures.
2. Place vehicle on flat surface.
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 and full fuel tank.

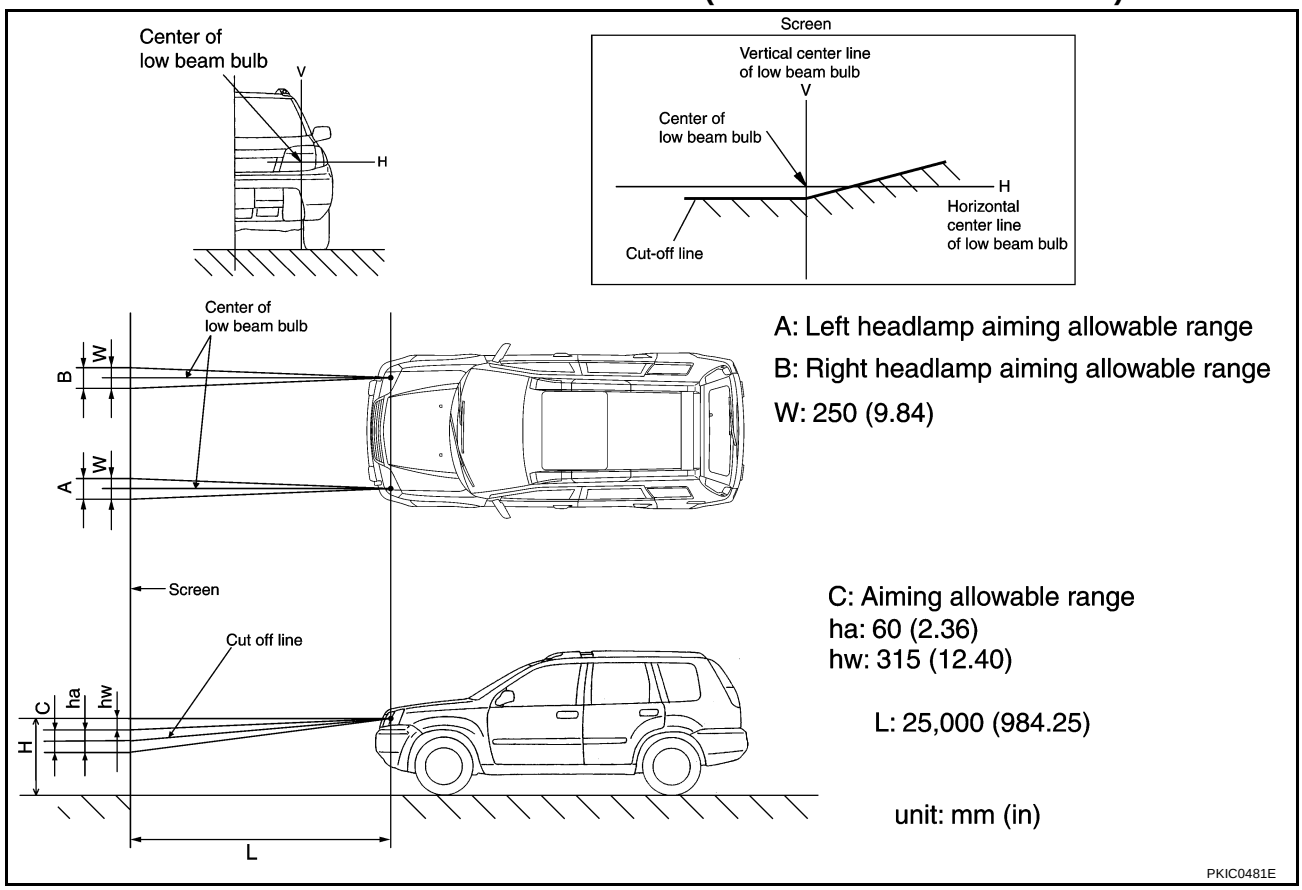
LOW BEAM

1. Turn headlamp low beam ON.



2. Use adjusting screws to perform aiming adjustment.

ADJUSTMENT USING AN ADJUSTMENT SCREEN (LIGHT/DARK BORDERLINE)



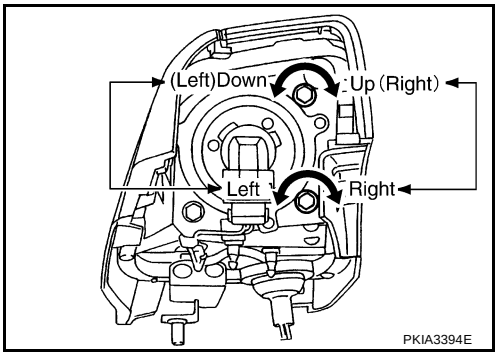
If the vehicle front body has been repaired and/or the headlamp assembly has been replaced, check aiming. Use the aiming chart shown in the figure.

- Basic illumination area for adjustment should be within the range shown on the aiming chart. Adjust headlamp accordingly.

Aiming Adjustment of Driving Lamp

EKS00N50

- Turn aiming adjusting screw to adjust.
- For positions of adjusting screws and direction to turn, refer to the figures.
- When adjusting horizontal direction (right and left), turn two adjusting screws to the same direction.



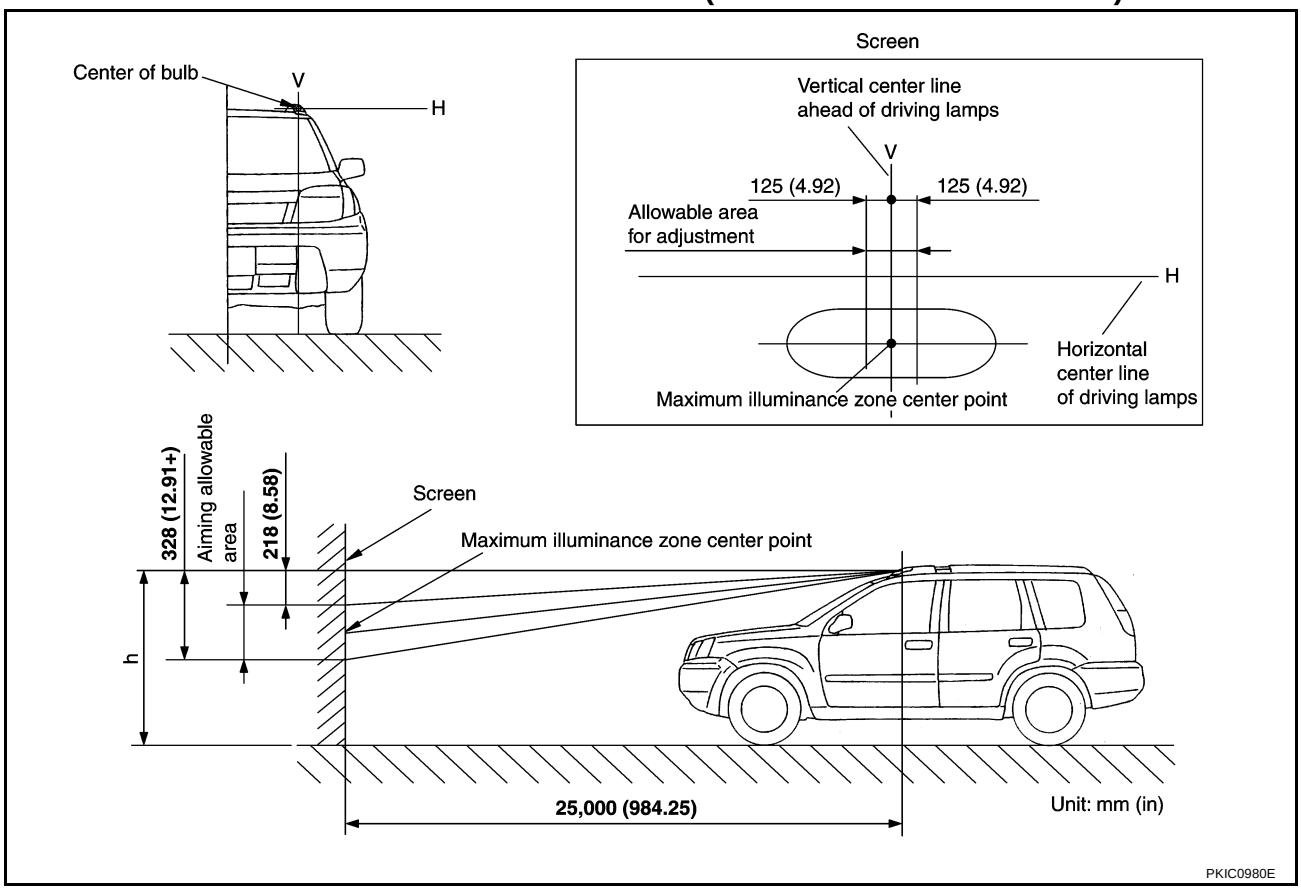
PREPARATION BEFORE ADJUSTING

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 flat surface.
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 and full fuel tank.

ADJUSTMENT USING AN ADJUSTMENT SCREEN (LIGHT/DARK BORDERLINE)



ADJUSTING

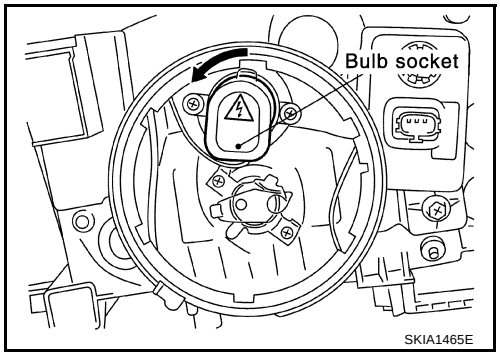
1. Set the distance between the screen and the center of driving lamp lens as shown in the figure.
2. Turn headlamp switch high and driving lamp switch ON so that front driving lamps turn ON.
3. Adjust driving lamps using adjusting screws make sure of the following.
   - When performing this adjustment, cover headlamps and the opposite driving lamp, if necessary.
   - Vertical deflection of maximum illuminance point to be adjusted to stand at 218 mm (8.58 in) below driving lamp height (h).
   - Horizontal deflection of maximum illuminance point to be adjusted to stand within 0 ± 125 mm (0 ± 4.92 in) against line (V) on screen where a line passing through driving lamp center, parallel to vehicle center line, cross screen.

Bulb Replacement of Headlamp and Clearance Lamp

EKS00N51

HEADLAMP (UPPER SIDE), FOR LOW BEAM

1. Turn lighting switch OFF.
2. Disconnect the battery cable from the negative terminal or remove power fuse.
3. Disconnect headlamp connector.
4. Remove air cleaner duct (when replacing LH bulb). Refer to EM-16, "AIR CLEANER AND AIR DUCT" (QR), EM-142, "AIR CLEANER AND AIR DUCT" (YD22) in “ENGINE MECHANICAL (EM)” section.
5. Turn plastic cap counterclockwise and unlock it.
6. Turn bulb socket counterclockwise and unlock it.
7. Unlock retaining spring and remove bulb from headlamp.



Headlamp (Upper side), For Low Beam : 12V - 35W (D2R)

8. Installation is the reverse order of removal.

HEADLAMP (LOWER SIDE), FOR HIGH BEAM

1. Turn lighting switch OFF.
2. Disconnect the battery cable from the negative terminal or remove power fuse.
3. Disconnect headlamp connector.
4. Remove air cleaner duct (when replacing LH bulb). Refer to EM-16, "AIR CLEANER AND AIR DUCT" , EM-142, "AIR CLEANER AND AIR DUCT" (QR), EM-142, "AIR CLEANER AND AIR DUCT" (YD22) in “ENGINE MECHANICAL (EM)” section.
5. Turn plastic cap counterclockwise and unlock it.
6. Disconnect terminal connected to bulb.
7. Unlock retaining spring and remove bulb from headlamp.

Headlamp (Lower side), For High Beam : 12V - 55W (H1)

8. Installation is the reverse order of removal.

CLEARANCE LAMP

1. Turn lighting switch OFF.
2. Disconnect headlamp connector.
3. Turn bulb socket counterclockwise and unlock it.
4. Remove bulb from headlamp.

Clearance lamp : 12V - 5W

5. Installation is the reverse order of removal.

CAUTION:

- **Never touch glass of bulb directly by hand. Keep grease and other oily matters away from it.**
- **Never touch bulb by hand while it is lit or right after being turned off. Burning may result.**
- **Never leave bulb out of headlamp reflector for a long time because dust, moisture, smoke, etc. may affect the performance of headlamp. When replacing bulb, be sure to replace it with new one.**
- **When bulb is installed, be sure to install plastic cap and bulb socket securely to ensure watertightness.**

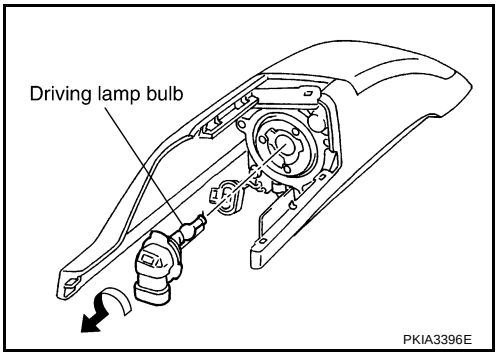
Bulb Replacement of Driving Lamp

EKS00N52

1. Remove driving lamp. Refer to LT-23, "Removal and Installation of Driving Lamp" in “HEADLAMP -XENON TYPE-”.
2. Disconnect driving lamp connector.
3. Turn bulb socket counterclockwise and unlock it.

Driving lamp : 12 V - 65 W (H1R1)

4. Installation is the reverse order of removal.



CAUTION:

- **Never touch glass of bulb directly by hand. Keep grease and other oily matters away from it. Never 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. Never 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.**

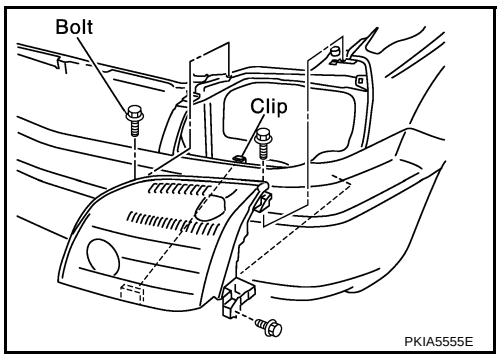
Removal and Installation of Headlamp

EKS00N53

REMOVAL

1. Turn ignition switch OFF.
2. Disconnect the battery cable from the negative terminal or remove power fuse.

3. Remove front turn signal lamps. Refer to LT-94, "Removal and Installation of Front Turn Signal Lamp" .
4. Disconnect connector of headlamp and clearance lamp.
5. Remove front grille. Refer to EI-19, "FRONT GRILLE" in "EXTERIOR & INTERIOR (EI)" section.
6. Remove headlamp mounting bolts.
7. Pull headlamp forward the vehicle.



INSTALLATION

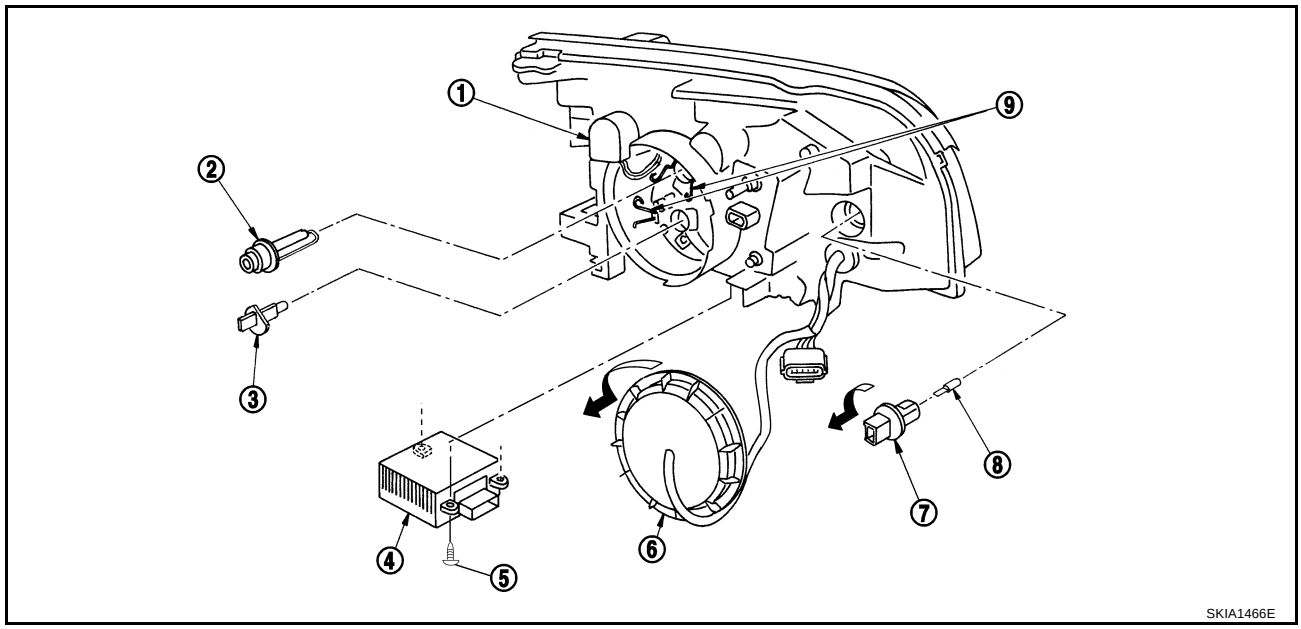
Installation is the reverse order of removal.

Headlamp mounting bolts : **5.5 N·m (0.56 kg-m, 49 in-lb)**

Disassembly and Assembly

EKS00N54

DISASSEMBLY



1. Xenon bulb socket
2. Xenon bulb
3. Halogen bulb
4. HID control unit
5. Screws
6. Plastic cap
7. Clearance lamp bulb socket
8. Clearance lamp bulb
9. Retaining springs

1. Turn plastic cap counterclockwise and unlock it.
2. Disconnect terminal connected to halogen bulb.
3. Turn xenon bulb socket counterclockwise and unlock it.
4. Unlock retaining spring, and then remove xenon bulb and halogen bulb.
5. Turn clearance bulb socket counterclockwise and unlock it.
6. Remove clearance bulb from clearance bulb socket.
7. Remove HID control unit mounting screws and remove HID control unit.

ASSEMBLY

Assembly is the reverse order of disassembly.

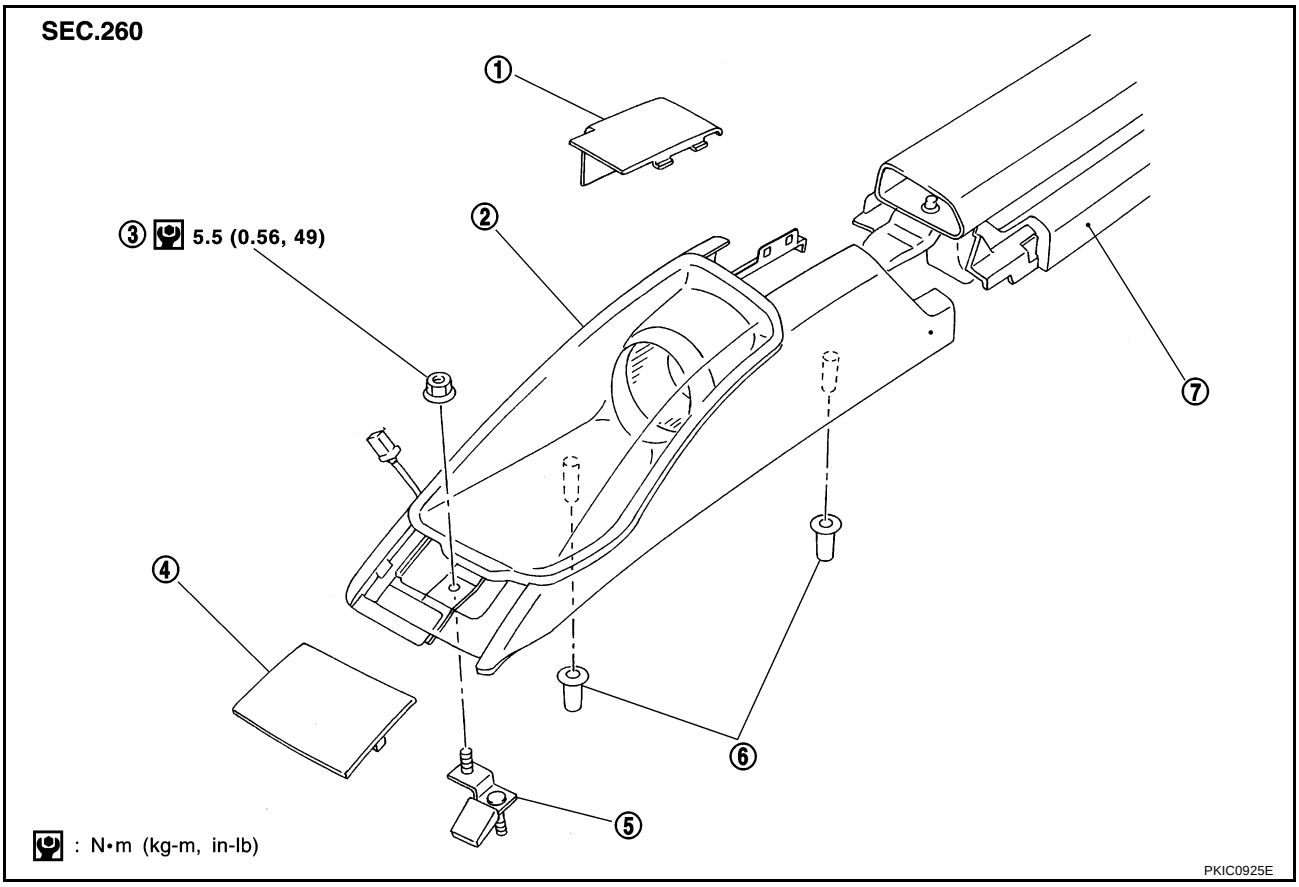
HID control unit mounting screws : **3.2 N·m (0.33 kg-m, 28 in-lb)**

CAUTION:

- **When HID control unit is removed, reinstall it securely and avoid any looseness.**
- **After installing bulb, be sure to install plastic cap and bulb socket securely to ensure watertightness.**

Removal and Installation of Driving Lamp

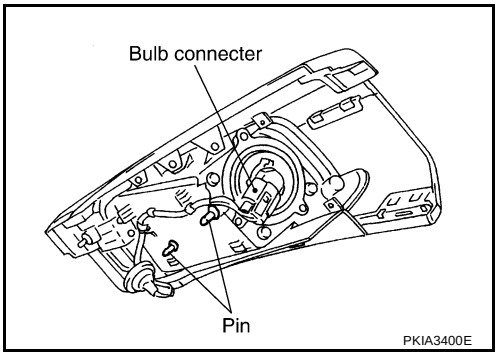
EKS00N55



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

REMOVAL

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

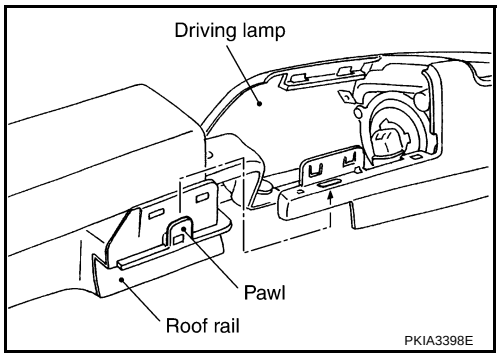


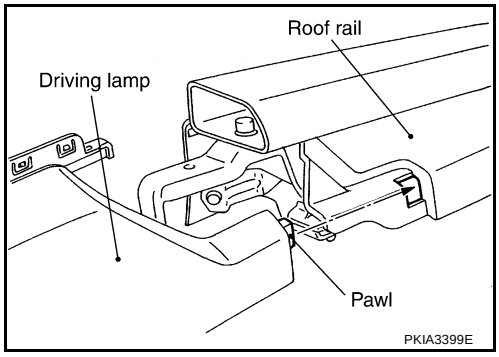
INSTALLATION

Installation is the reverse order of removal.

Driving lamp mounting nut : **5.5 N·m (0.56 kg-m, 49 in-lb)**

CAUTION:
Make sure pawl shown in figure be connected correctly.

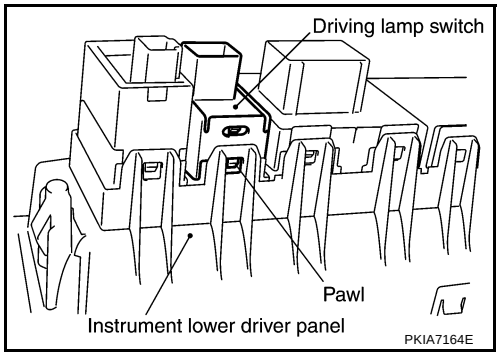




Removal and Installation of Driving Lamp Switch

EKS00N56

1. Remove instrument lower driver panel. Refer to IP-11, "Removal and Installation" in “INSTRUMENT PANEL ASSEMBLY (IP)” section.
2. Press driving lamp switch fixing pawls and remove it from Instrument lower driver panel.



HEADLAMP - CONVENTIONAL TYPE -

PFP:26010

System Description

EKS00N57

DESCRIPTION

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

- through 15A fuse (No. 40, located in fuse and fusible link box)
- to lighting switch terminal 8,
- through 15A fuse (No. 41, located in fuse and fusible link box)
- to lighting switch terminal 5,
- through 15A fuse (No. 38, located in fuse and fusible link box)
- to driving lamp relay-1 terminal 3.

LOW BEAM OPERATION

When the lighting switch is turned to the 2ND position, power is supplied

- through lighting switch terminal 10
- to headlamp LH terminal 3,
- through lighting switch terminal 7
- to headlamp RH terminal 3.

Ground is supplied

- to headlamp LH and RH terminal 2
- through grounds E24 and E50.

With power and ground supplied, low beam headlamps illuminate.

HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

When the lighting switch is turned to the 2ND position and placed in HIGH BEAM position or PASSING position, power is supplied

- through lighting switch terminal 9
- to headlamp LH terminal 1, and
- to combination meter terminal 20,
- through lighting switch terminal 6
- to headlamp RH terminal 1.

Ground is supplied

- to headlamp LH and RH terminal 2
- through grounds E24 and E50,
- to combination meter terminal 19
- through grounds M27 and M70.

With power and ground supplied, high beam headlamps and HIGH BEAM indicator illuminate.

DRIVING LAMP OPERATION

To illuminate the driving lamp, push the driving lamp switch when the lighting switch is turned to the 2ND position and placed in HIGH BEAM position or PASSING position, power is supplied

- through lighting switch terminal 9
- to headlamp LH terminal 1
- to combination meter terminal 20
- to driving lamp relay-1 terminal 1
- to driving lamp switch terminal 7, and
- to driving lamp relay-2 terminal 5,
- through driving lamp relay-2 terminal 3
- to driving lamp switch terminal 6,
- through driving lamp relay-1 terminal 5
- to driving lamp LH and RH terminal 2,

- through lighting switch terminal 6
- to headlamp RH terminal 1.

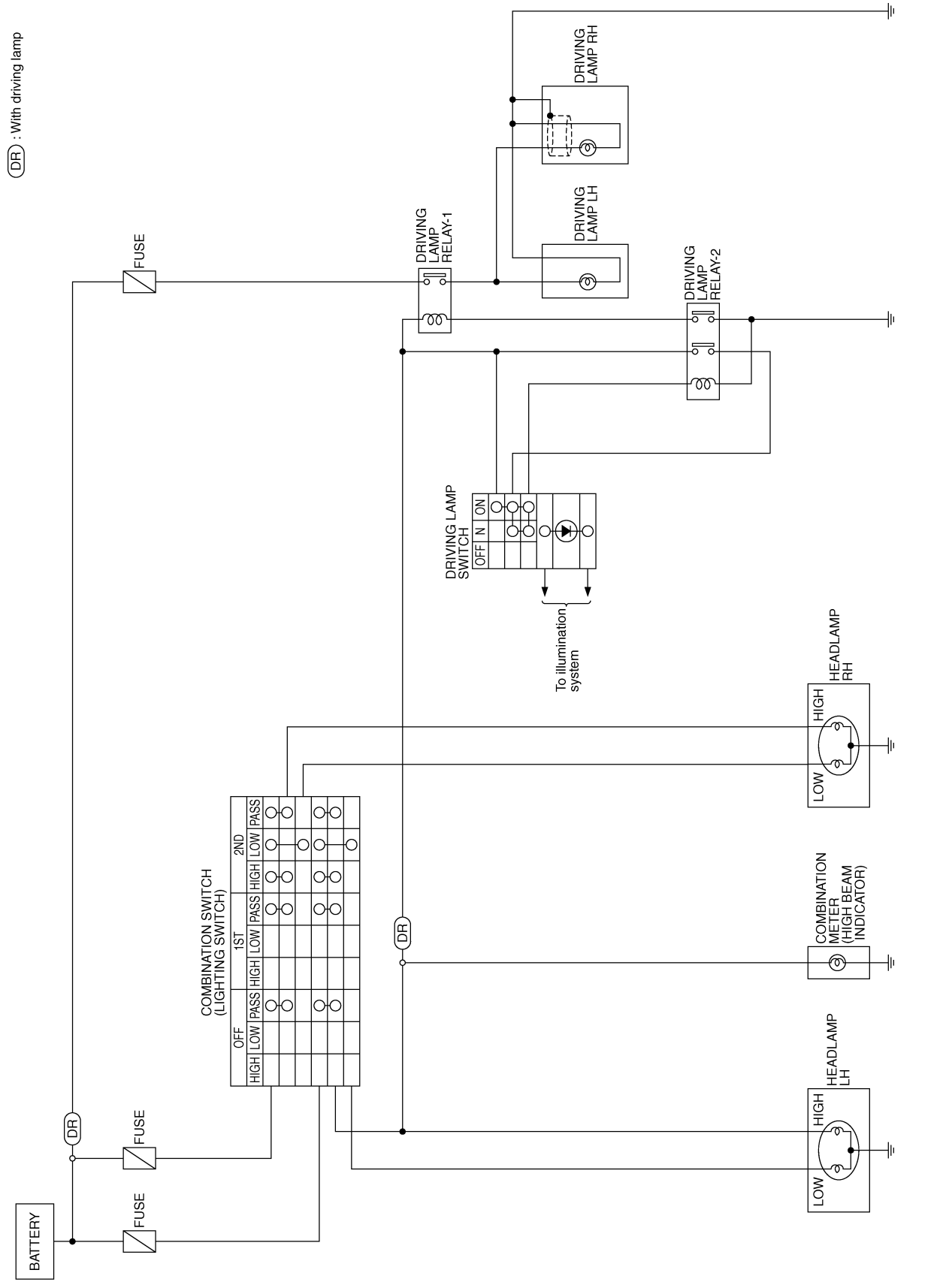
Ground is supplied

- to driving lamp relay-1 terminal 2
- through driving lamp relay-2 terminal 7
- through driving lamp relay-2 terminal 6
- through grounds E24 and E50,
- to driving lamp switch terminal 4
- through driving lamp relay-2 terminal 1
- through driving lamp relay-2 terminal 2
- through grounds E24 and E50,
- to driving lamp LH terminal 1
- through ground R8,
- to driving lamp RH terminals 1 and 3
- through ground R8,
- to headlamp LH and RH terminal 2
- through grounds E24 and E50,
- to combination meter terminal 19
- through grounds M27 and M70.

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

Schematic

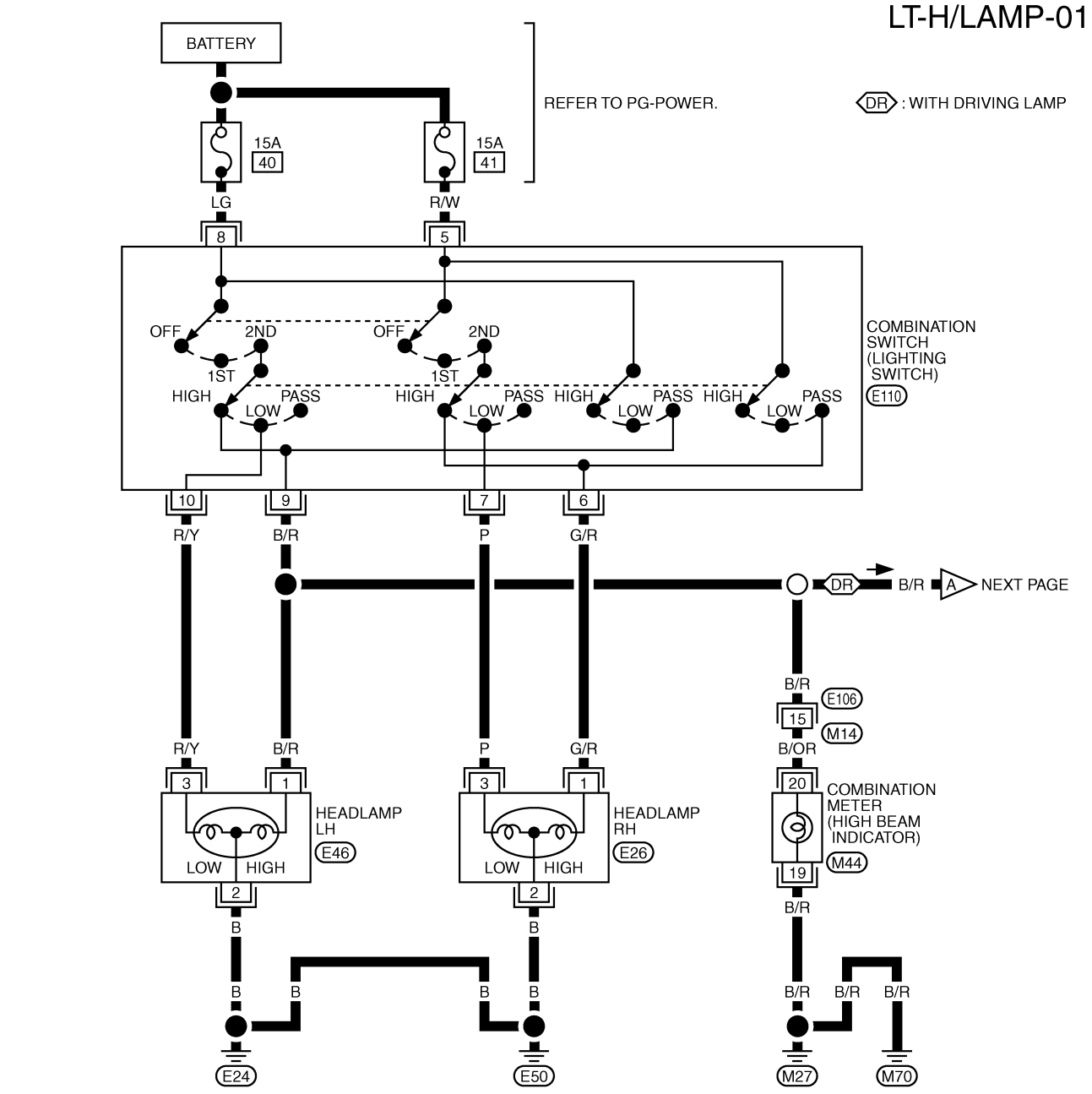
EKS00N58

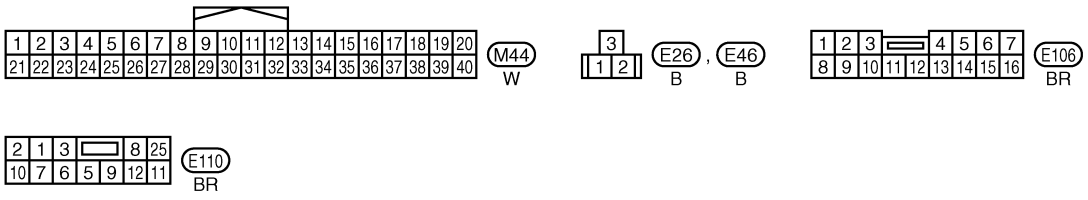


Wiring Diagram — H/LAMP —

EKS00N59

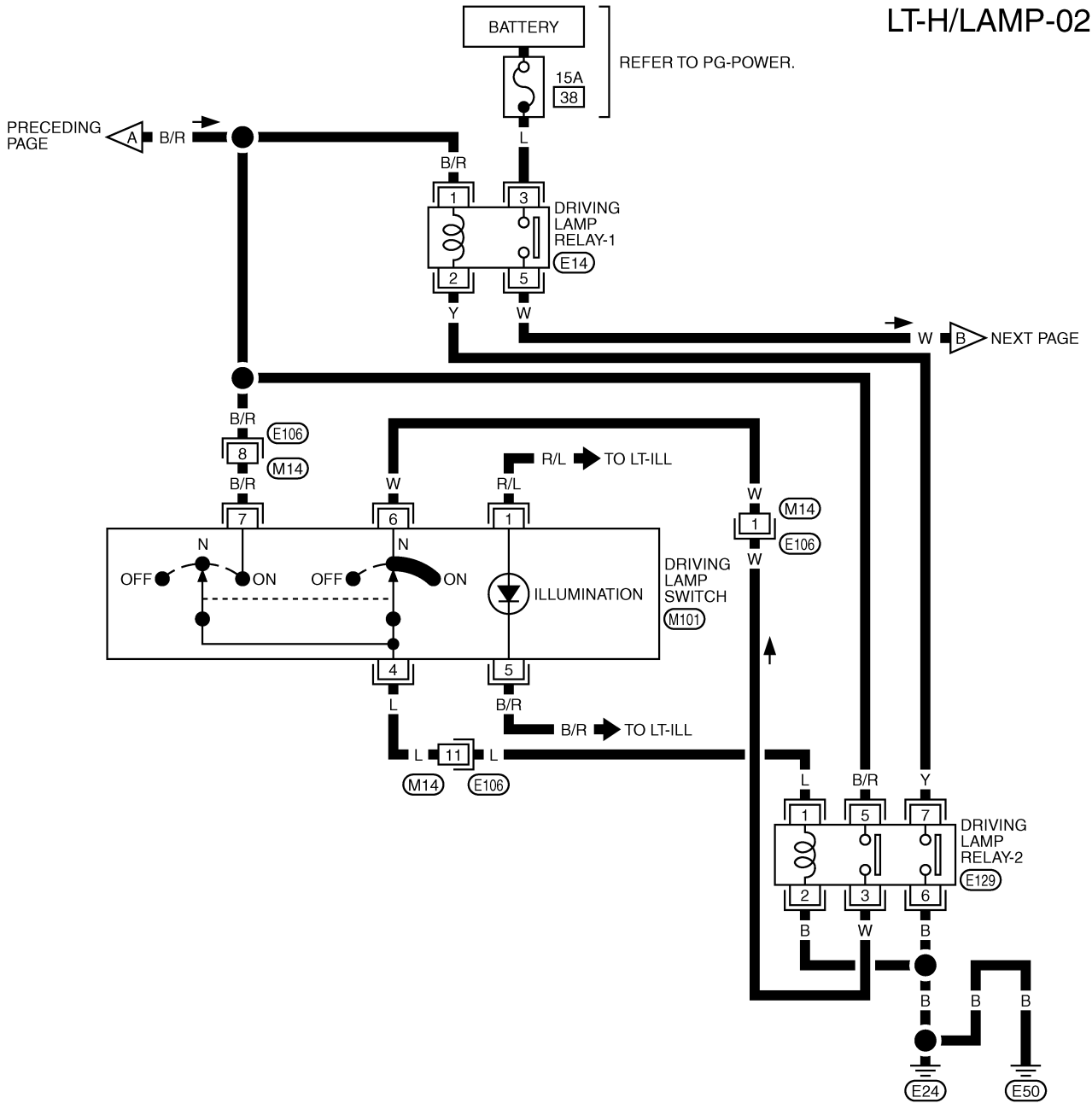
LHD MODELS

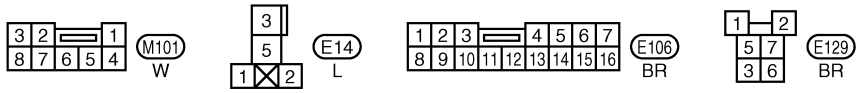




TKWA1516E

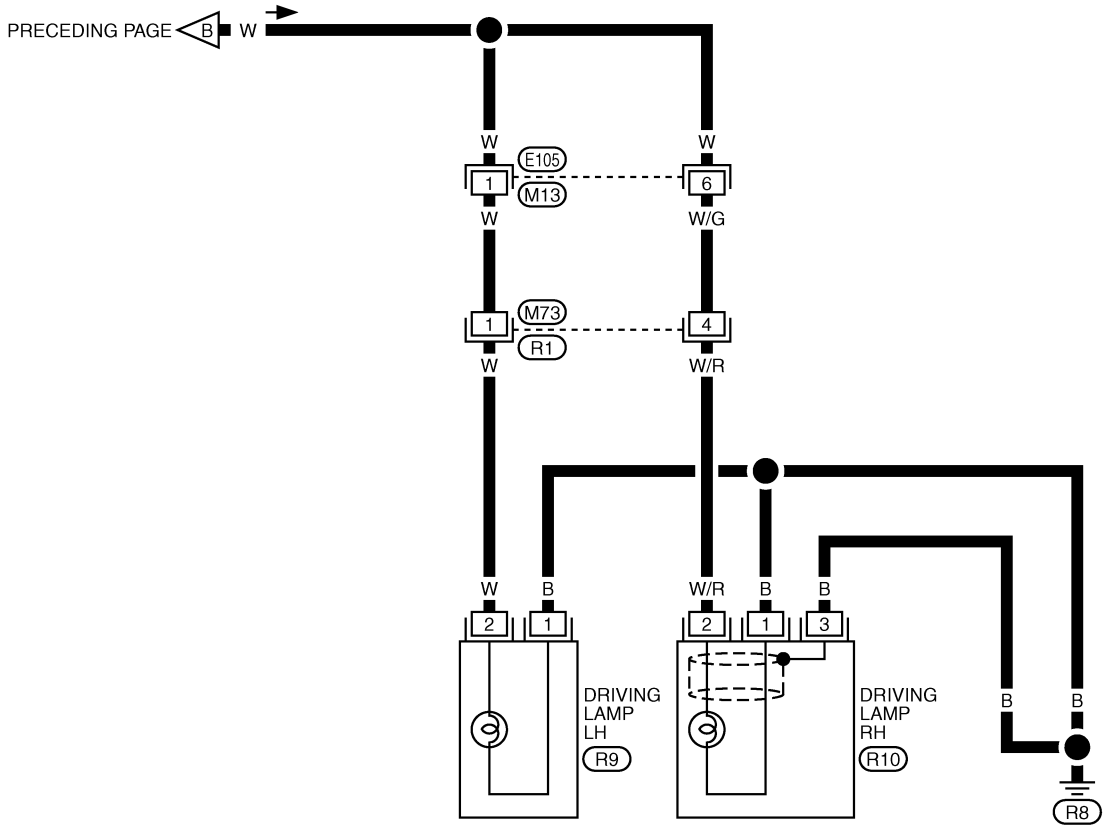
LT-H/LAMP-02

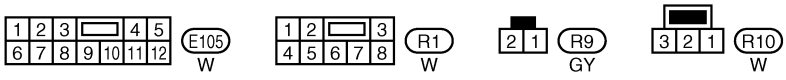




TKWA1517E

LT-H/LAMP-03

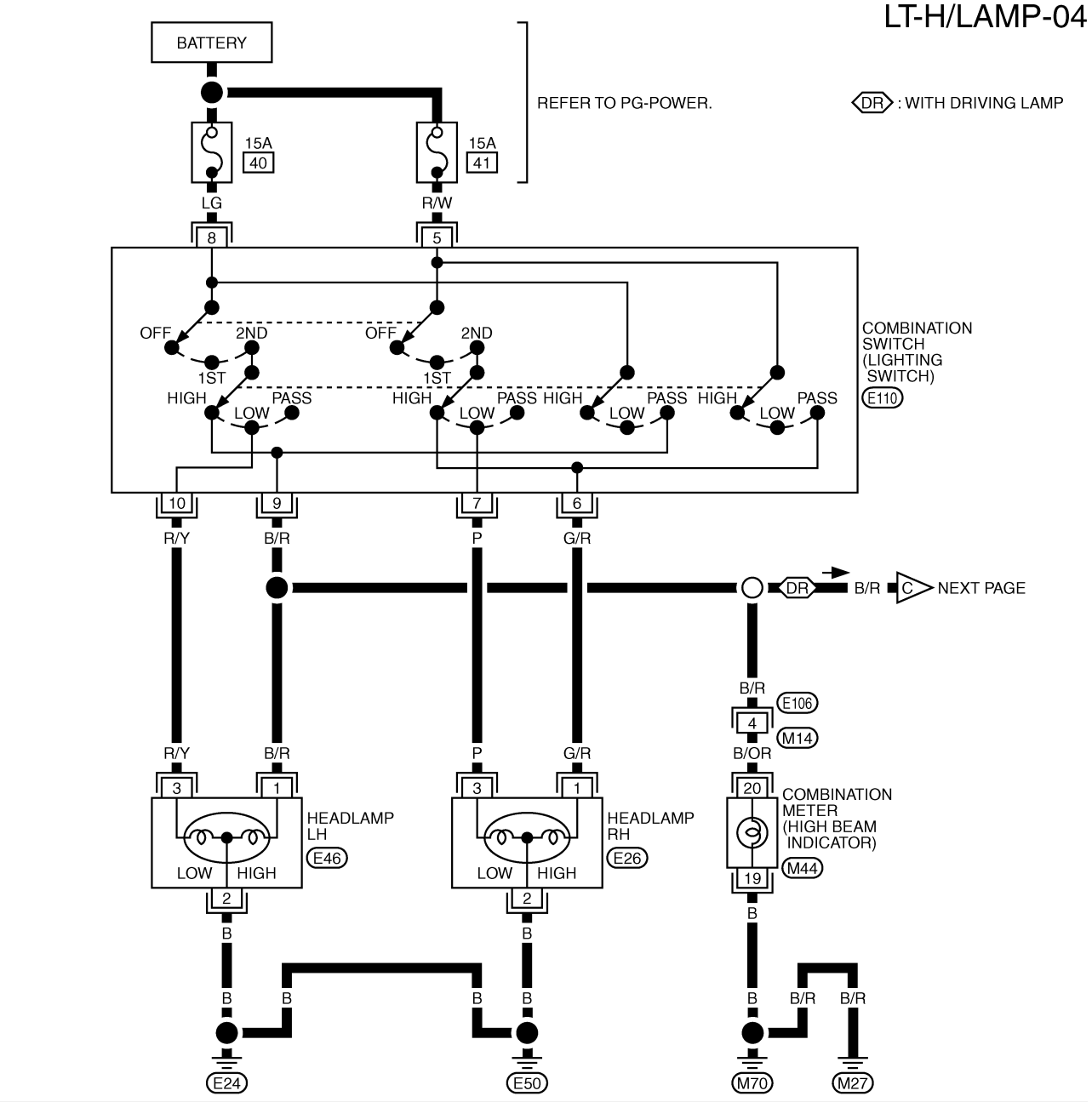


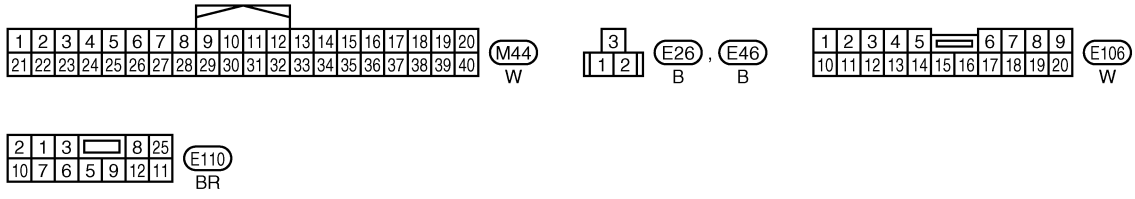


TKWB0080E

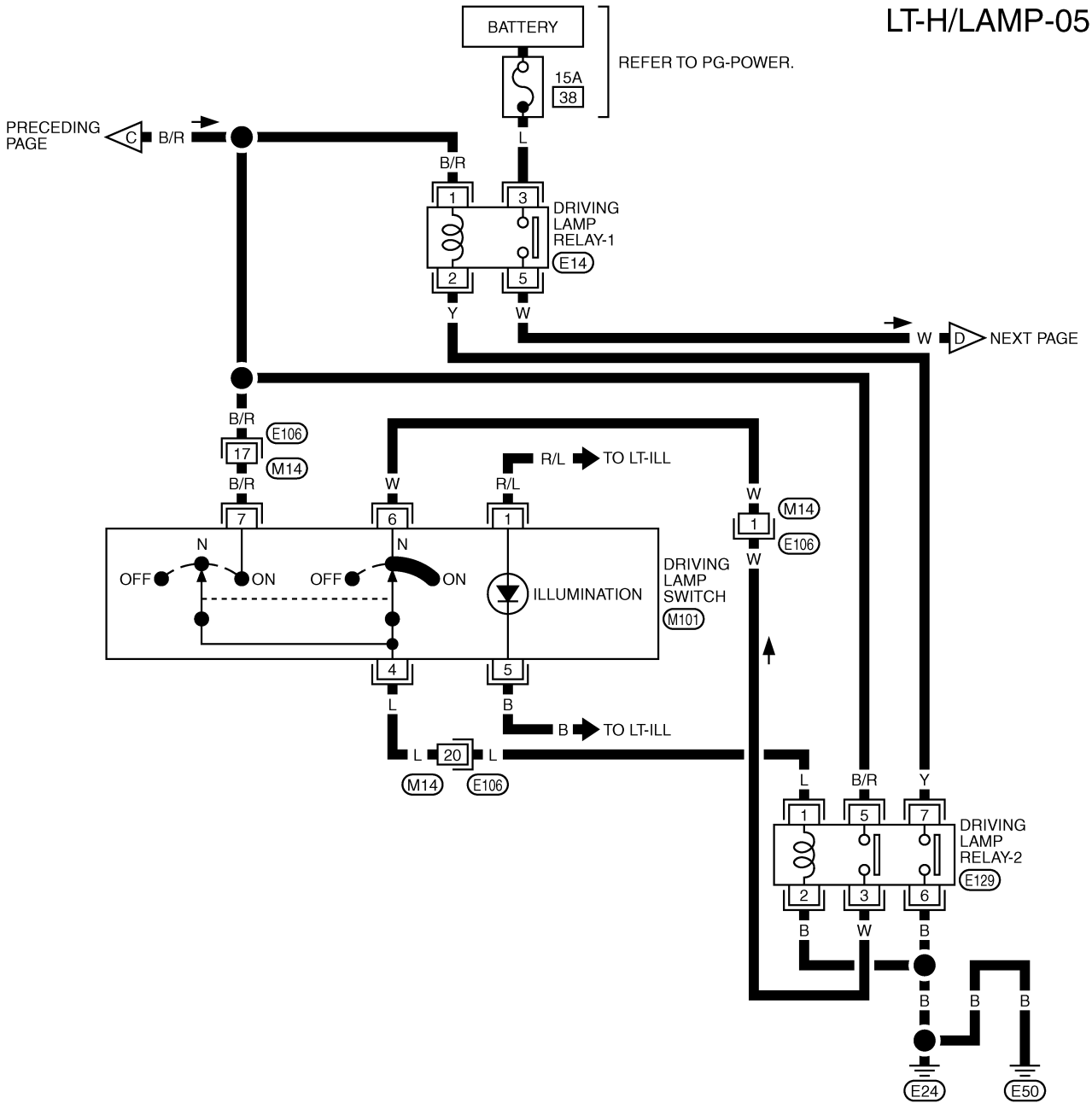
RHD MODELS

LT-H/LAMP-04





TKWA1518E


LT-H/LAMP-05
BATTERY
REFER TO PG-POWER.
15A
38
PRECEDING PAGE
C
B/R
L
B/R
1
3
DRIVING LAMP RELAY-1
E14
2
5
Y
W
W
D
NEXT PAGE
B/R
E106
17
M14
B/R
7
W
6
R/L
1
R/L
TO LT-ILL
W
M14
1
E106
W
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OFF
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ILLUMINATION
DRIVING LAMP SWITCH
M101
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TO LT-ILL
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M14
E106
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B/R
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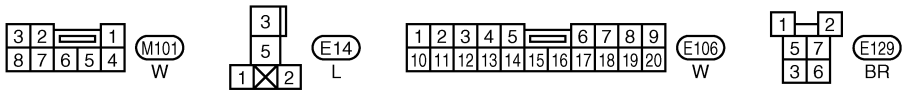
E24
E50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E106
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E129
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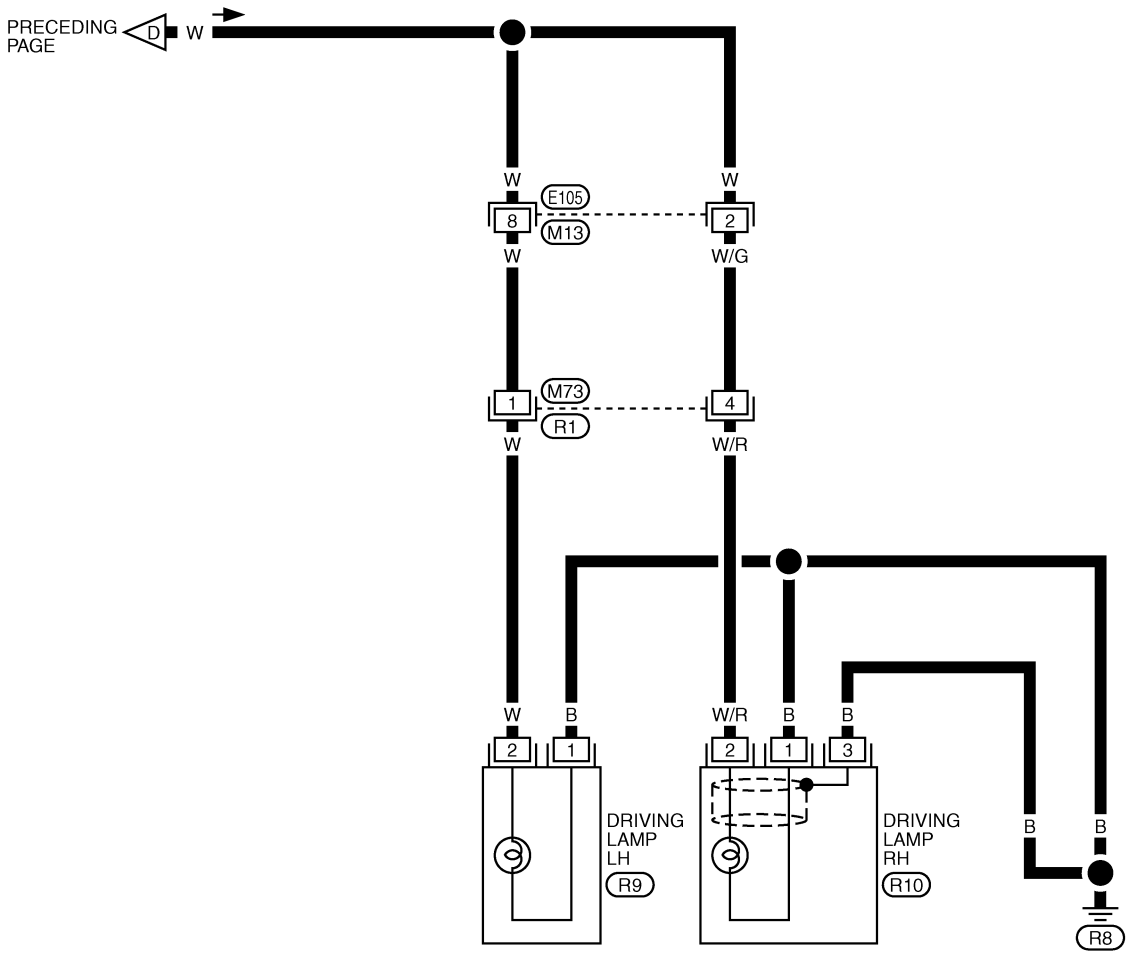
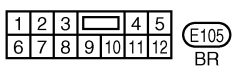
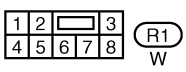
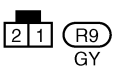
TKWA1519E

LT-H/LAMP-06









TKWA1520E

Trouble Diagnoses

EKS00N5A

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.

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 20 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 E24 and E50 7. Driving lamp relay-1 8. Open in driving lamp relay-1 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-1. 2. Check the wire between lighting switch terminal 9 and driving lamp switch terminal 7 for an open circuit. 3. Check driving lamp switch. 4. Check driving lamp relay-2. 5. Check the wire between driving switch terminal 4 and driving lamp relay-2 terminal 1 for an open circuit. Check the wire between driving switch terminal 6 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-1 terminal 2 and driving lamp relay-2 terminal 7 for an open circuit. 6. Check grounds E24 and E50. 7. Check driving lamp relay-1. 8. Check the wire between lighting switch terminal 9 and driving lamp relay-1 terminal 1 for an open circuit. 9. Check the wire between driving lamp relay-1 terminal 5 and driving lamp terminal 2 for an open circuit. 10.Check ground R8. 11.Check bulbs.

Aiming Adjustment of Headlamp

EKS00N5B

PREPARATION BEFORE ADJUSTING

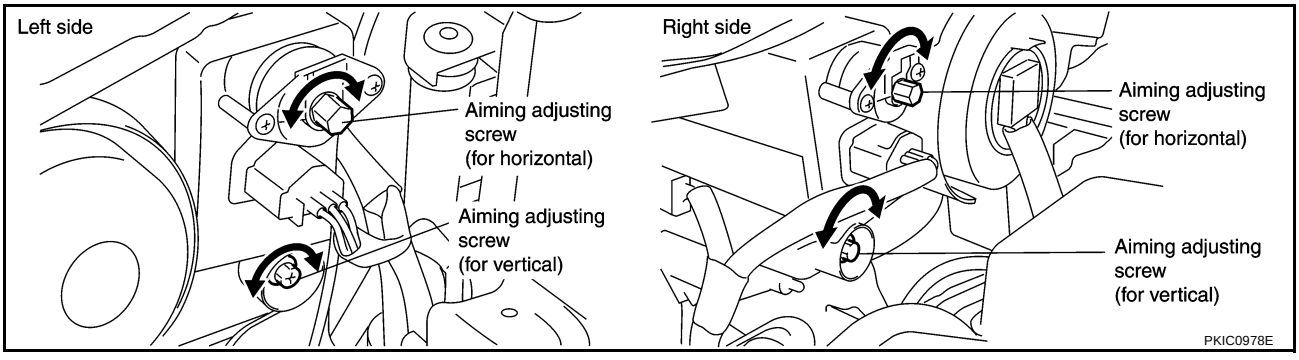
For Details, Refer To The Regulations In Your Own Country.

Before performing aiming adjustment, check the following.

1. Keep all tires inflated to correct pressures.
2. Place vehicle on flat surface.
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 and full fuel tank.

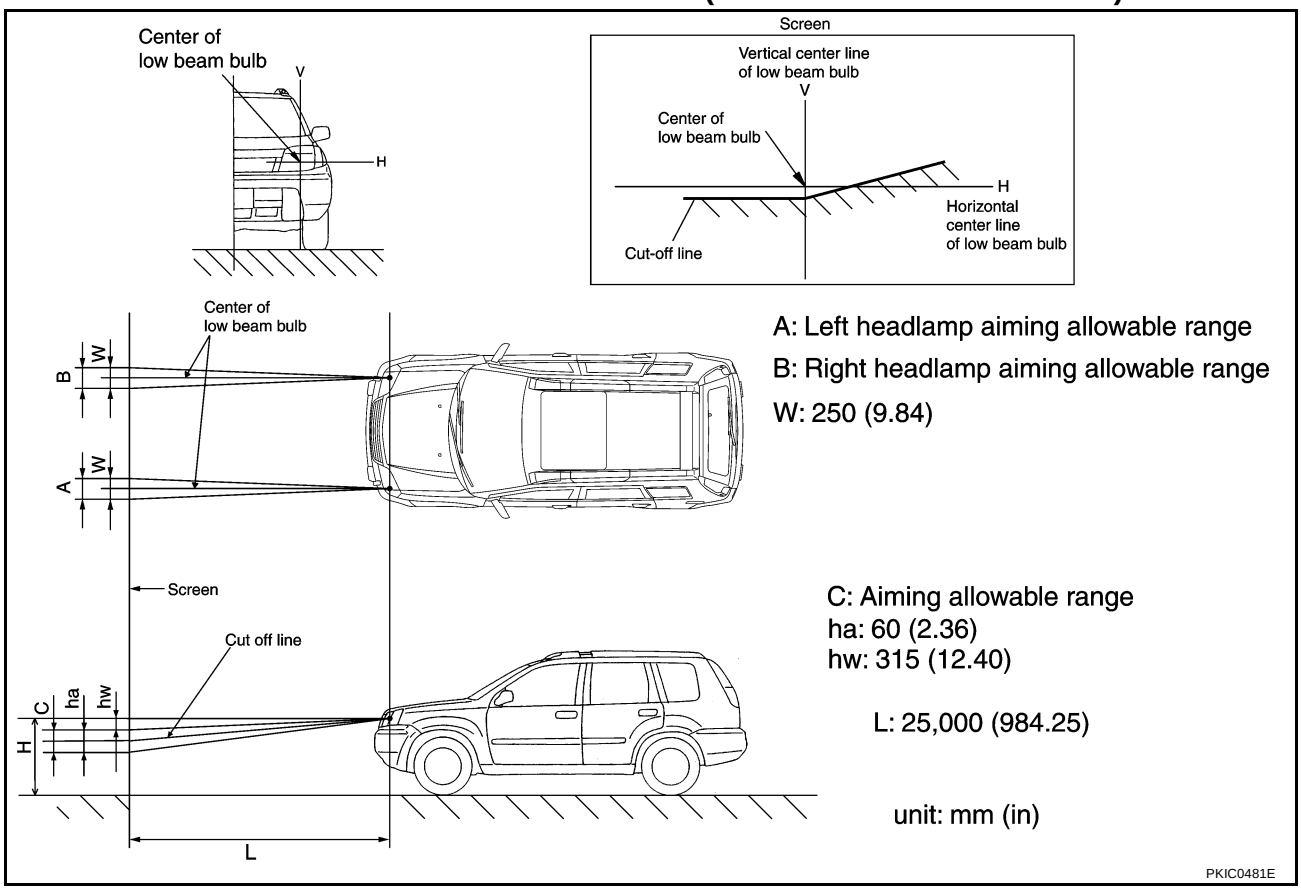
LOW BEAM AND HIGH BEAM

1. Turn headlamp low beam ON.



2. Use adjusting screws to perform aiming adjustment.

ADJUSTMENT USING AN ADJUSTMENT SCREEN (LIGHT/DARK BORDERLINE)



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 illumination area for adjustment should be within the range shown on the aiming chart. Adjust headlamp accordingly.

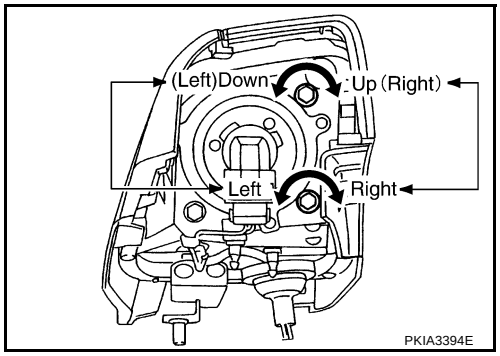
  CAUTION:

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

Aiming Adjustment of Driving Lamp

EKS00N5C

- Turn aiming adjusting screw to adjust.
- For positions of adjusting screws and direction to turn, refer to the figures.
- When adjusting horizontal direction (right and left), turn two adjusting screws to the same direction.



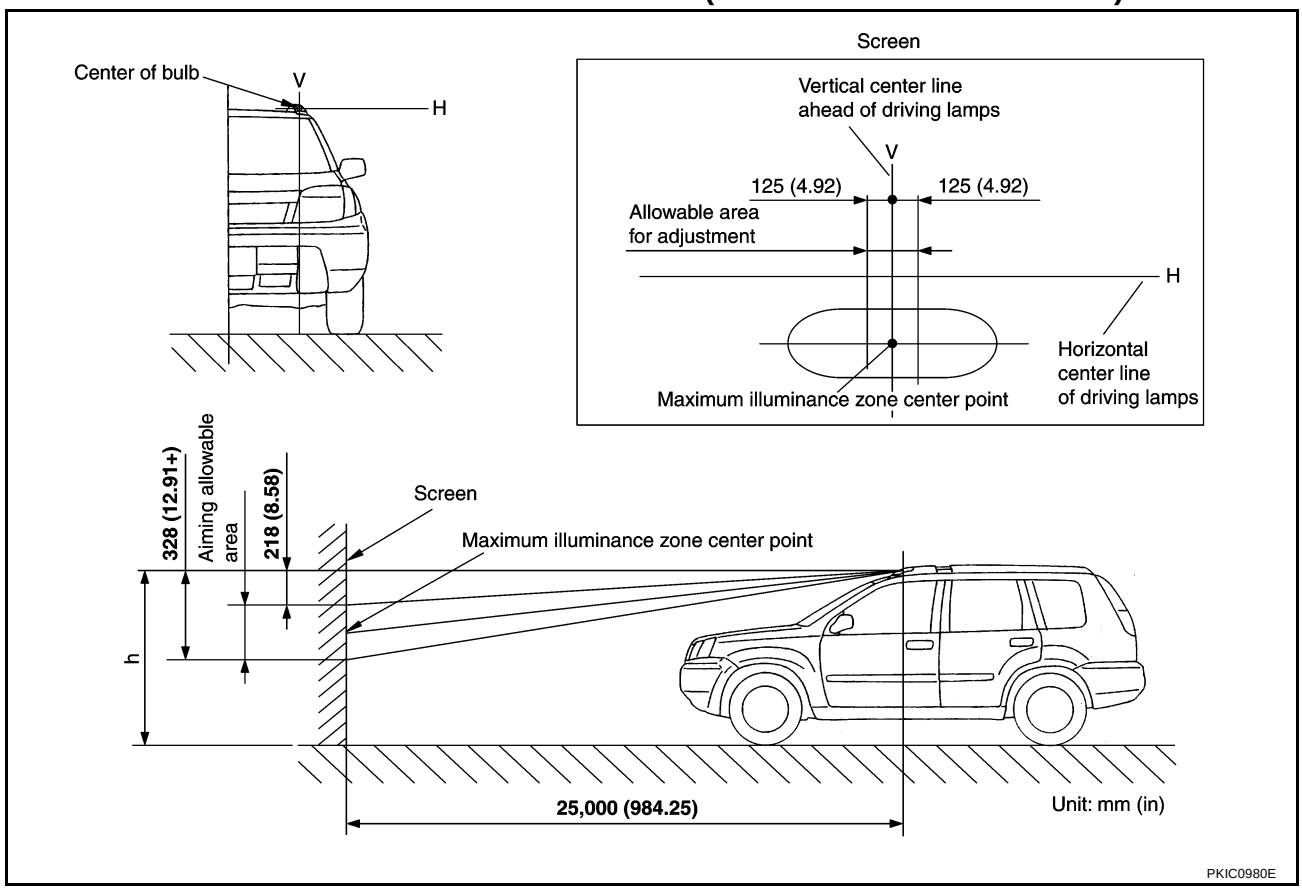
PREPARATION BEFORE ADJUSTING

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 flat surface.
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 and full fuel tank.

ADJUSTMENT USING AN ADJUSTMENT SCREEN (LIGHT/DARK BORDERLINE)



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 218mm (8.58in) below driving lamp height (h).
   - Horizontal deflection of maximum illuminance point to be adjusted to stand within 0 ± 125mm (0 ± 4.92in) against line (V) on screen where a line passing through driving lamp center, parallel to vehicle center line, cross screen.

Bulb Replacement of Headlamp and Clearance lamp

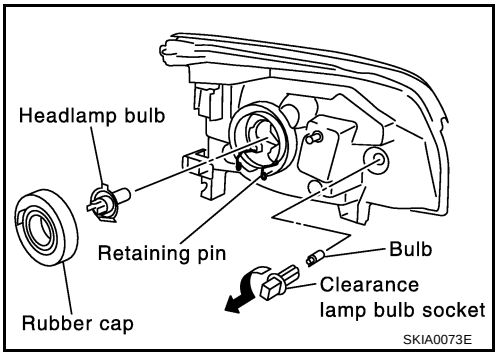
EKS00N5D

HEAD LAMP

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

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

4. Installation is the reverse order of removal.



CLEARANCE LAMP

1. Turn bulb socket counterclockwise and unlock them.
2. Remove the bulb from its socket.

Clearance lamp : 12V - 5W

3. Installation is the reverse of order removal.

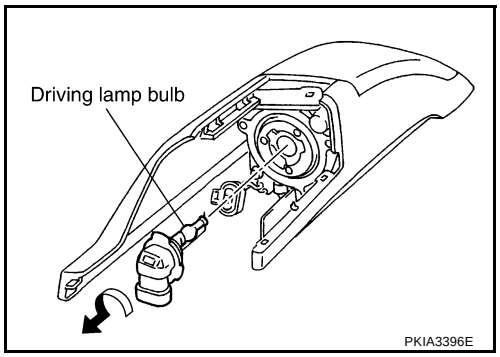
CAUTION:

- **Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it. Never 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. Never leave bulb out of headlamp housing for a long period, because dust, moisture or smoke will cause performance lowering (fouling, cloud, etc.) of headlamp reflector and lens.**
- **When bulb is installed, be sure to lock rubber cap to ensure watertightness.**

Bulb Replacement of Driving Lamp

EKS00N5E

1. Remove the driving lamp. Refer to LT-39, "Removal and Installation of Driving Lamp" in “HEADLAMP”.
2. Disconnect driving lamp connector.
3. Turn bulb socket counterclockwise and unlock it.



Driving lamp : 12 V - 65 W (H1R1)

4. Installation is the reverse order of removal.

CAUTION:

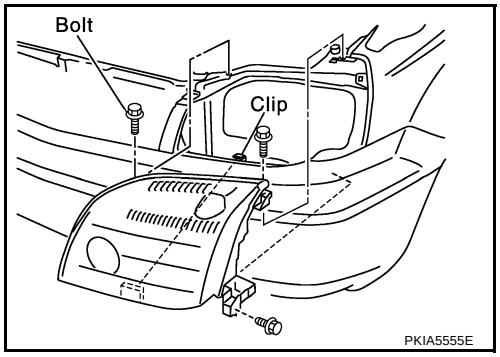
- **Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it. Never touch bulb by hand while it is lit or right after being turned off. Burning may result.**
- **When replacing bulb, prepare new bulb first of all. Never leave bulb out of driving lamp housing for a long period, because dust, moisture or smoke will cause performance lowering (fouling, cloud, etc.) of driving lamp reflector and lens.**

Removal and Installation of Headlamp

EKS00N5F

REMOVAL

1. Remove the front turn signal lamps. Refer toLT-94, "Removal and Installation of Front Turn Signal Lamp" .
2. Disconnect headlamp and clearance lamp connector.
3. Remove the front grille. Refer to EI-19, "FRONT GRILLE" in “EXTERIOR & INTERIOR (EI)” section.
4. Remove the headlamp mounting bolts.
5. Pull the headlamp forward the vehicle.



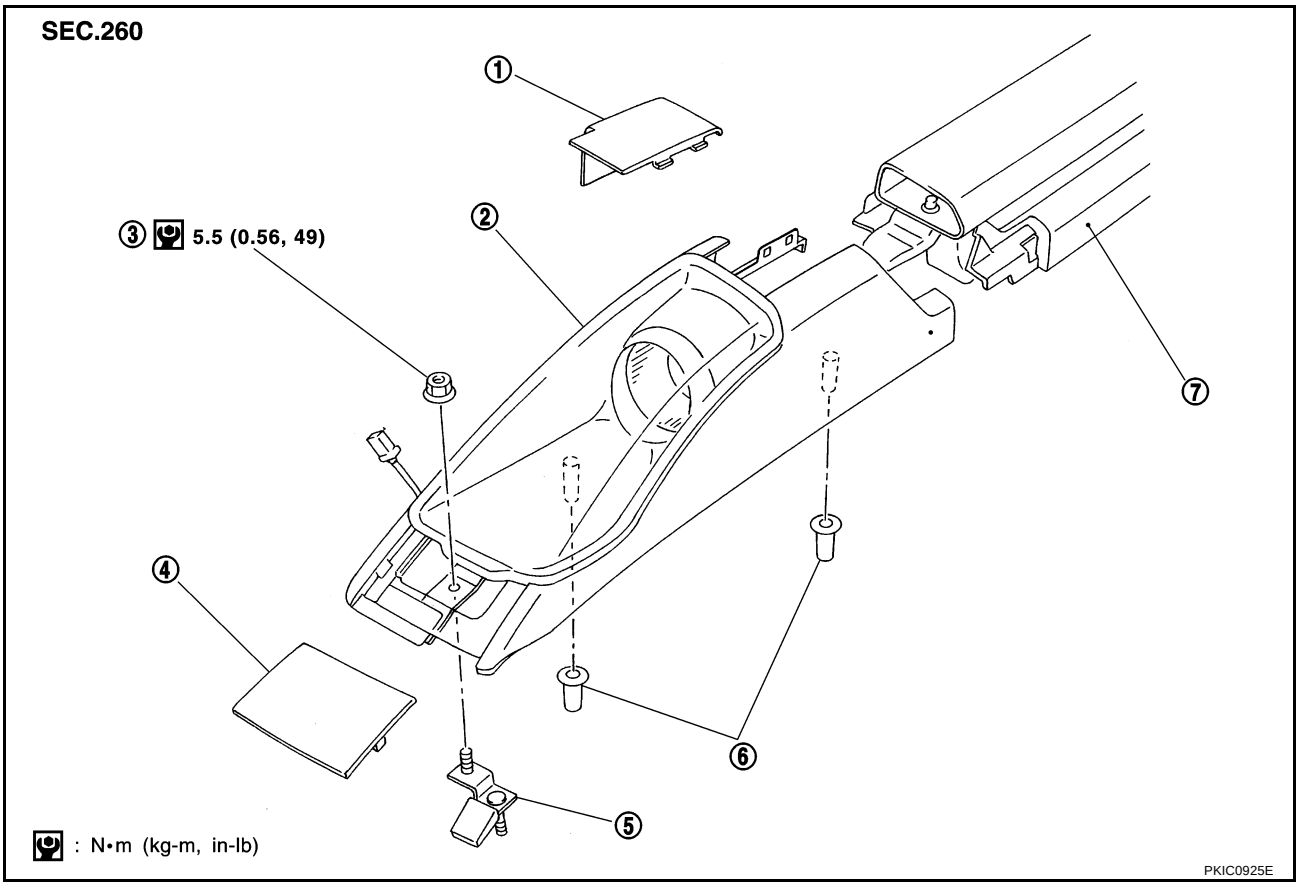
INSTALLATION

Installation is the reverse order of removal.

Headlamp mounting bolts : 5.5 N·m (0.56 kg-m, 49 in-lb)

Removal and Installation of Driving Lamp

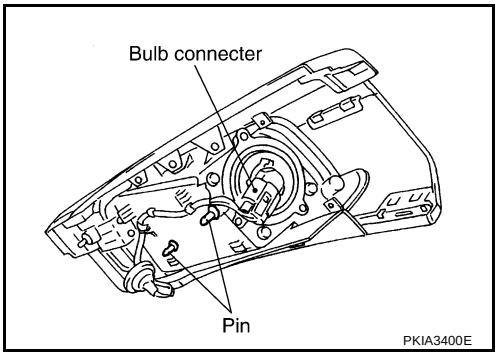
EKS00N5G



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

REMOVAL

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



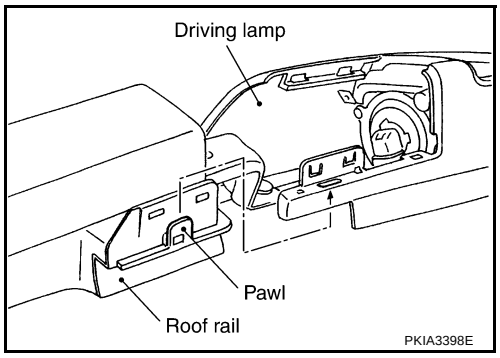
INSTALLATION

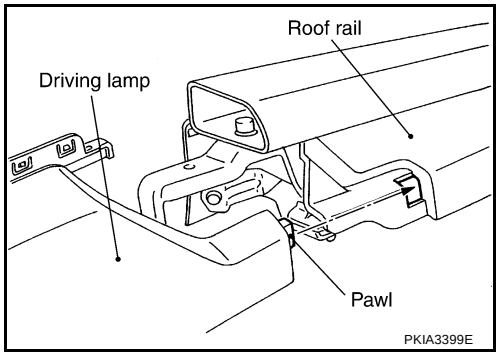
Installation is the reverse order of removal.

Driving lamp mounting nut : **5.5 N·m (0.56 kg-m, 49 in-lb)**

CAUTION:

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

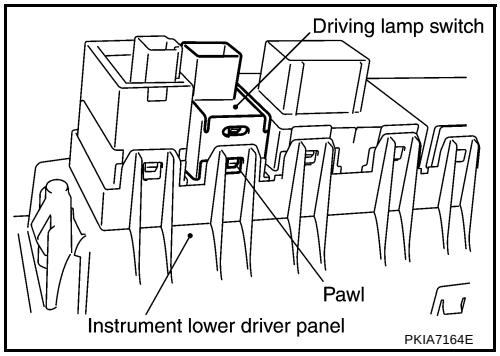




Removal and Installation for Driving Lamp Switch

EKS00N5H

1. Remove the Instrument lower driver panel. Refer to IP-11, "Removal and Installation" in “INSTRUMENT PANEL ASSEMBLY (IP)” section.
2. Press the driving lamp switch fixing pawls and remove it from the Instrument lower driver panel.



HEADLAMP (WITH DAYTIME) - XENON TYPE -

PFP:26010

System Description

EKS00N5I

DESCRIPTION

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 plate and tail lamps, and illumination.

Power is supplied at all times

- through 10A fuse (No. 31, located in fuse and fusible link box)
- to daytime light control unit terminal 1, and
- to lighting switch terminal 11,
- through 15A fuse (No. 41, located in fuse and fusible link box)
- to daytime light control unit terminal 3, and
- to lighting switch terminal 5,
- through 15A fuse (No. 40, located in fuse and fusible link box)
- to daytime light control unit terminal 2, and
- to lighting switch terminal 8,
- through 30A fusible link (letter M, located in fuse and fusible link box)
- through 20A fuse (No. 52, located in fuse block)
- to daytime light relay LH terminal 5, and
- through 20A fuse (No. 51, located in fuse block)
- to daytime light relay RH terminal 5,
- through 15A fuse (No. 38, located in fuse and fusible link box)
- to driving lamp relay-1 terminal 3.

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

- through 10A fuse [No. 13, located in fuse block (J/B)]
- to daytime light control unit terminal 7,
- through 10A fuse [No. 11, located in fuse block (J/B)]
- through combination meter terminal 2
- through combination meter terminal 5
- to daytime light control unit terminal 8.

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.

Ground is supplied

- to daytime light control unit terminal 9
- through grounds E24 and E50.

LOW BEAM OPERATION (DAYTIME LIGHT SYSTEM 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,
- through lighting switch terminal 10
- to daytime light relay LH terminal 1,
- through lighting switch terminal 7
- to daytime light relay RH terminal 1,
- through daytime light relay LH and RH terminal 3
- to headlamp LH and RH terminal 2.

Ground is supplied

- to daytime light relay LH and RH terminal 2
- through grounds E24 and E50,
- to headlamp LH and RH terminal 4
- through grounds E24 and E50.

With power and ground supplied, low beam headlamps illuminate.

HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

When the lighting switch is turned to the 2ND position and placed in HIGH BEAM position or PASSING position, power is supplied

- through lighting switch terminal 9
- to headlamp LH terminal 1
- to combination meter terminal 20, and
- to daytime light relay LH terminal 1,
- through lighting switch terminal 6
- to headlamp RH terminal 1, and
- to daytime light relay RH terminal 1,
- through daytime light relay LH and RH terminal 3
- to headlamp LH and RH terminal 2.

Ground is supplied

- to daytime light relay LH and RH terminal 2
- through grounds E24 and E50,
- to headlamp LH and RH terminal 3, and
- to headlamp LH and RH terminal 4
- through grounds E24 and E50,
- to combination meter terminal 19
- through grounds M27 and M70.

With power and ground supplied, low beam and high beam headlamps, and HIGH BEAM indicator illuminate.

DAYTIME LIGHT SYSTEM 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 daytime light relay LH terminal 1,
- through daytime light control unit terminal 4
- to daytime light relay RH terminal 1,
- through daytime light relay LH and RH terminal 3
- to headlamp LH and RH terminal 2,
- through daytime light control unit terminal 10
- to parking, license plate and tail lamps, and illumination.

Ground is supplied

- to daytime light relay LH and RH terminal 2
- through grounds E24 and E50,
- to headlamp LH and RH terminal 4
- through grounds E24 and E50.

With power and ground supplied, low beam headlamps, parking, license plate and tail lamps, and illumination illuminate.

DRIVING LAMP OPERATION

To illuminate the driving lamp, push the driving lamp switch when the lighting switch is turned to the 2ND position and placed in HIGH BEAM position or PASSING position, power is supplied

- through lighting switch terminal 9

- to headlamp LH terminal 1
- to combination meter terminal 20
- to daytime light relay LH terminal 1
- to driving lamp relay-1 terminal 1
- to driving lamp switch terminal 7, and
- to driving lamp relay-2 terminal 5,
- through lighting switch terminal 6
- to headlamp RH terminal 1, and
- to daytime light relay RH terminal 1,
- through driving lamp relay-2 terminal 3
- to driving lamp switch terminal 6,
- through driving lamp relay-1 terminal 5
- to driving lamp LH and RH terminal 2,
- through daytime light relay LH and RH terminal 3
- to headlamp LH and RH terminal 2.

Ground is supplied

- to driving lamp relay-1 terminal 2
- through driving lamp relay-2 terminal 7
- through driving lamp relay-2 terminal 6
- through grounds E24 and E50,
- to driving lamp switch terminal 4
- through driving lamp relay-2 terminal 1
- through driving lamp relay-2 terminal 2
- through grounds E24 and E50,
- to driving lamp LH terminal 1
- through ground R8,
- to driving lamp RH terminals 1 and 3
- through ground R8,
- to headlamp LH and RH terminal 3, and
- to headlamp LH and RH terminal 4
- through grounds E24 and E50,
- to combination meter terminal 19
- through grounds M27 and M70.

With power and ground supplied, low beam and high beam headlamps, driving lamp and the HIGH BEAM indicator illuminate.

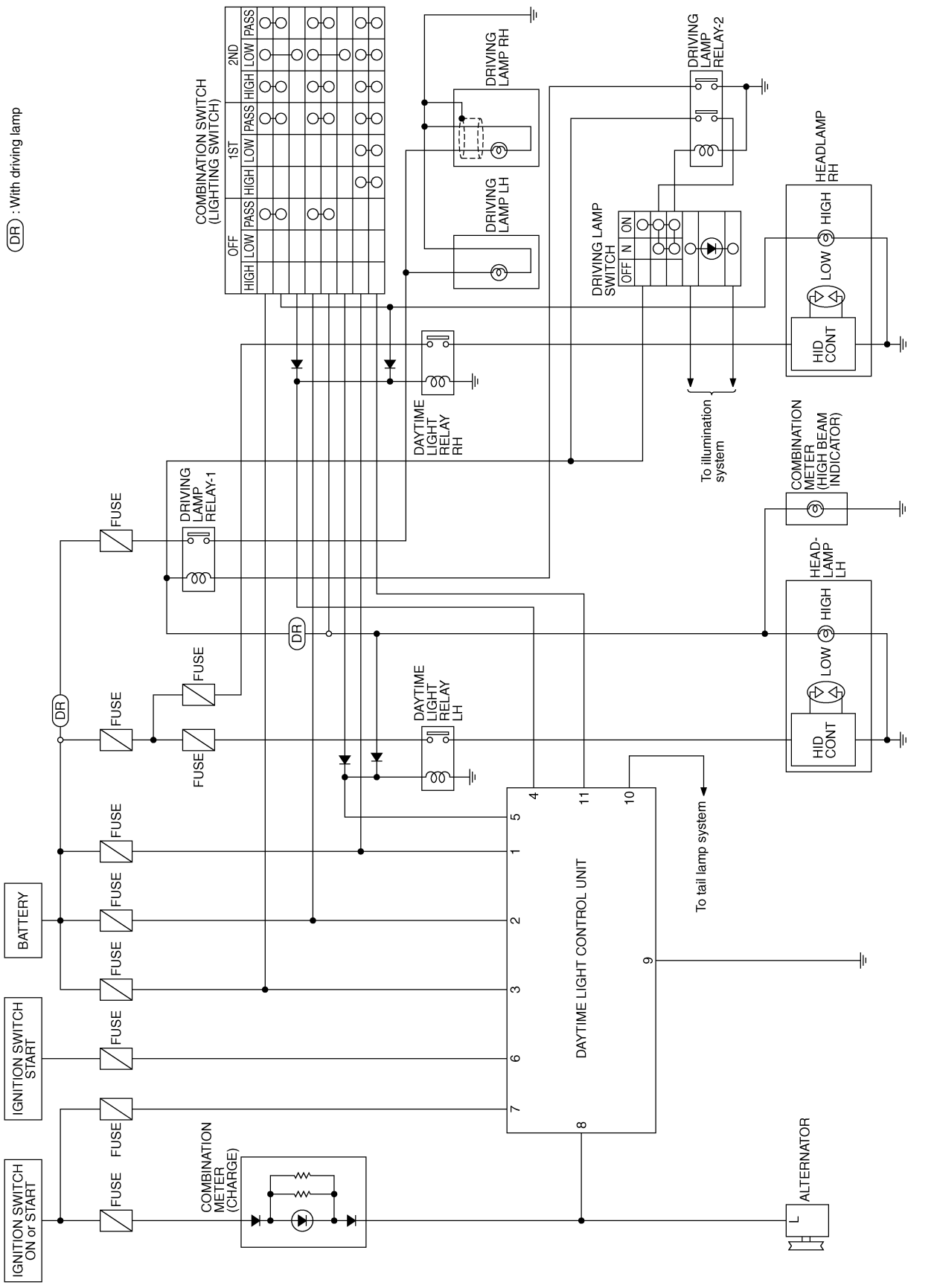
XENON HEADLAMP

Xenon type lamps are used for to the low beam headlamps. Xenon bulbs do not use a filament. Instead, they produce light when a high voltage current is passed between two tungsten electrodes through a mixture of xenon (an inert gas) and certain other metal halides. In addition to strong lighting power, electronic control of the power supply gives the headlamps stable quality and tone color.
Followings are some advantages of the xenon type headlamp.

- The light produced by the headlamps is white color similar to sunlight that is easy to the eyes.
- Light output is nearly double that of halogen headlamps, affording increased area of illumination.
- Counter-reflected luminance increases and the contrast enhances on the wet road in the rain. That makes visibility go up more than the increase of the light volume.
- Power consumption is approximately 25 percent less than halogen headlamps, reducing battery load.

Schematic

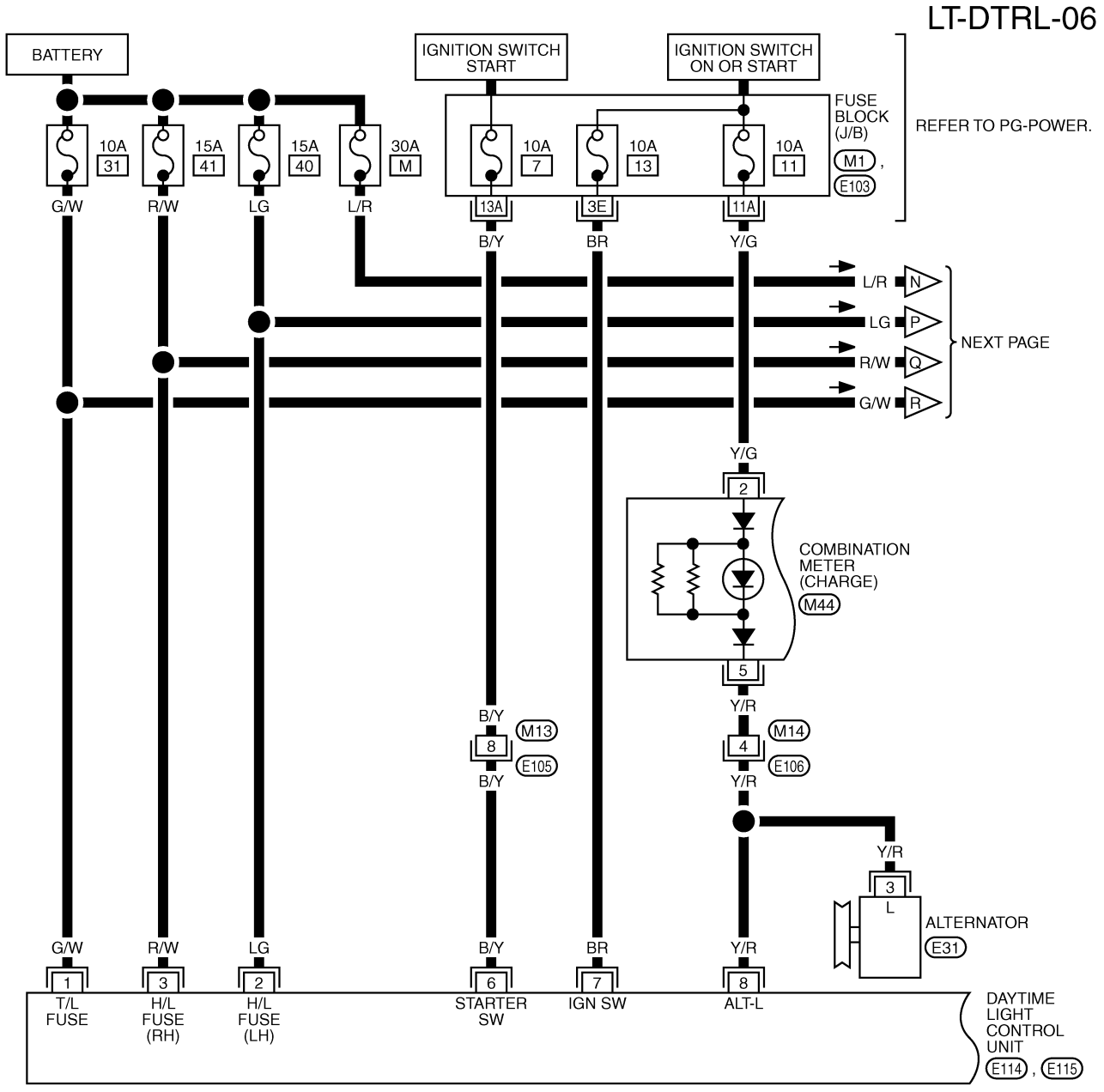
EKS00N5J

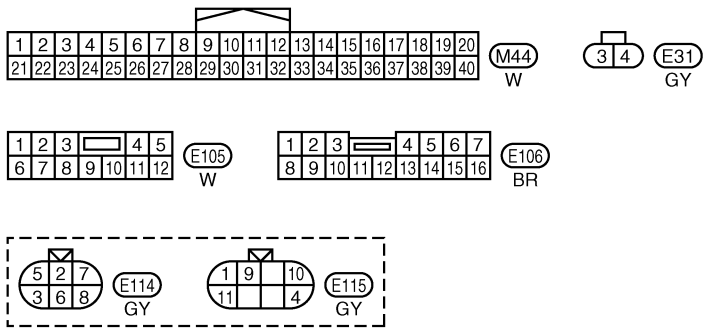


TKWB1124E

Wiring Diagram —DTRL—

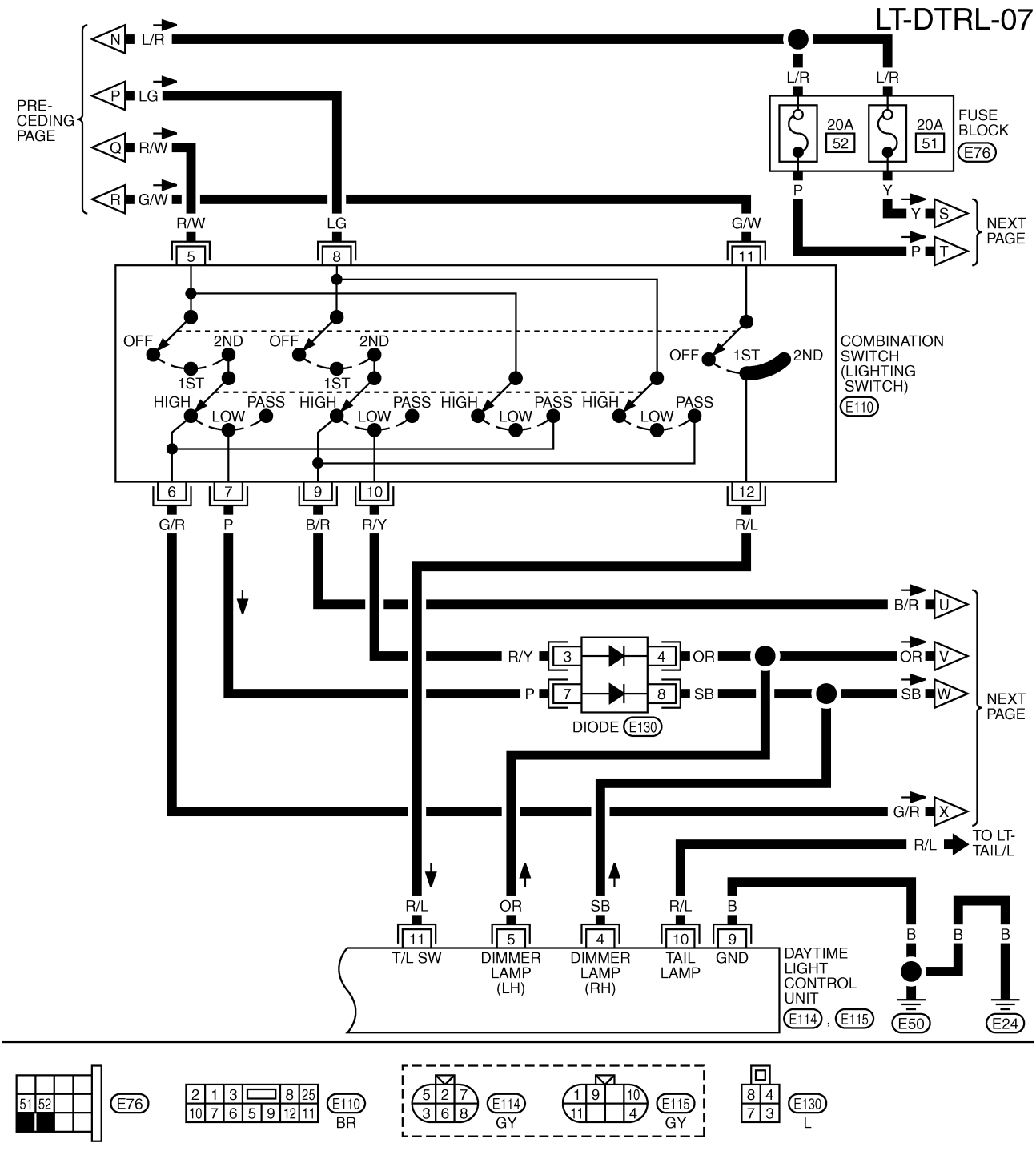
EKS00N5K





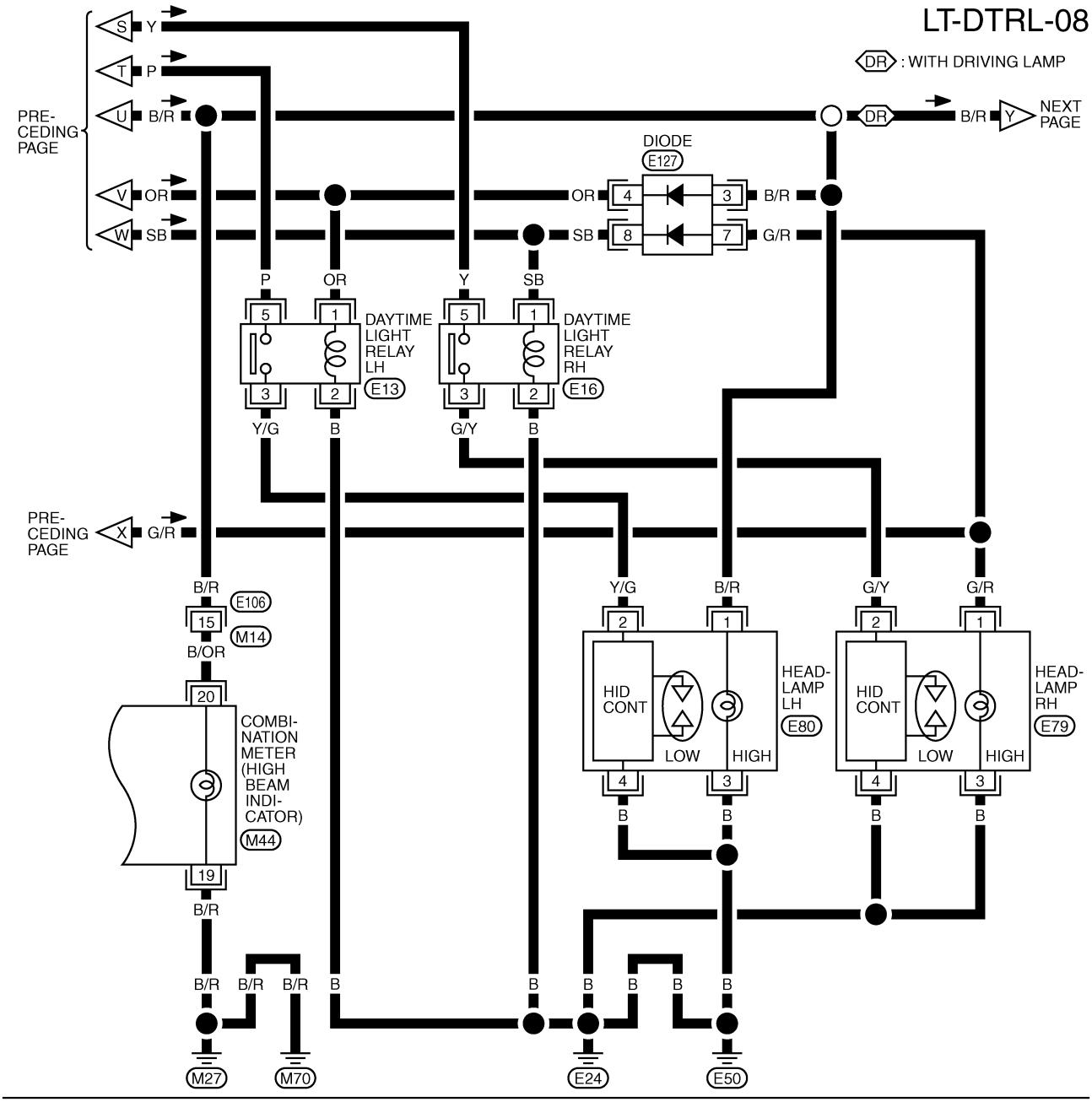
REFER TO THE FOLLOWING.
M1 , E103 -FUSE BLOCK-JUNCTION BOX (J/B)

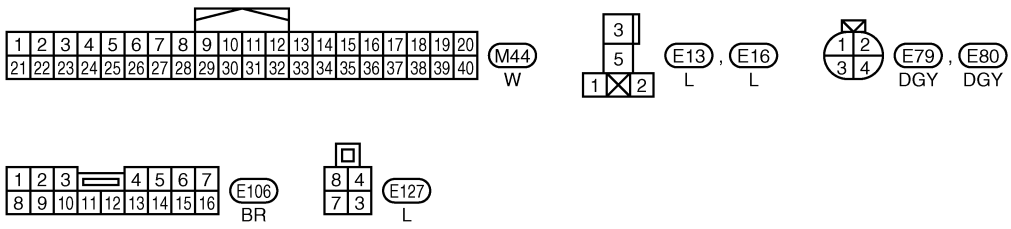
TKWB1125E


LT-DTRL-07
PRE-CEDING PAGE
N L/R
P LG
Q R/W
R G/W
L/R
L/R
20A 52
20A 51
FUSE BLOCK E76
P
Y
Y S
P T
NEXT PAGE
R/W
LG
G/W
5
8
11
OFF
2ND
1ST
HIGH
LOW
PASS
COMBINATION SWITCH (LIGHTING SWITCH) E110
6
7
9
10
12
G/R
P
B/R
R/Y
R/L
B/R U
R/Y
3
4
OR
OR V
P
7
8
SB
SB W
DIODE E130
NEXT PAGE
G/R X
TO LT-TAIL/L
R/L
OR
SB
R/L
B
11
5
4
10
9
T/L SW
DIMMER LAMP (LH)
DIMMER LAMP (RH)
TAIL LAMP
GND
DAYTIME LIGHT CONTROL UNIT E114, E115
B
B
B
E50
E24

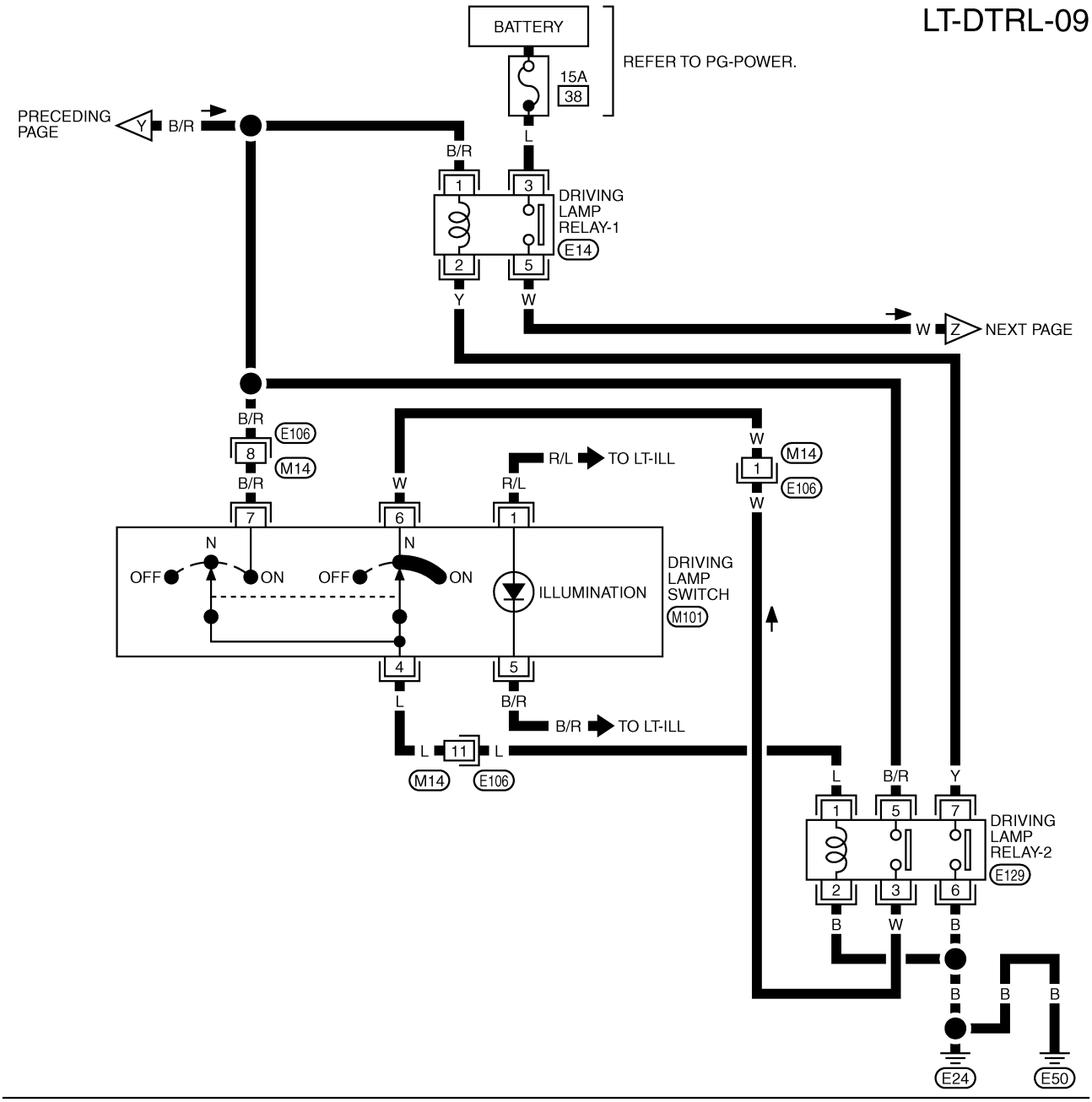
51 52
E76
2 1 3 8 25
10 7 6 5 9 12 11
E110
BR
5 2 7
3 6 8
E114
GY
1 9 10
11 4
E115
GY
8 4
7 3
E130
L

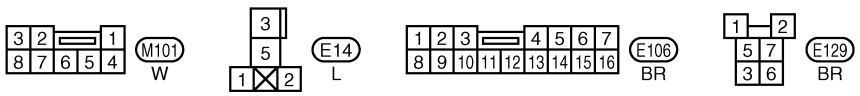
TKWB1126E


LT-DTRL-08
DR : WITH DRIVING LAMP
PRE-CEDING PAGE
NEXT PAGE
DIODE
E127
DAYTIME LIGHT RELAY LH
E13
DAYTIME LIGHT RELAY RH
E16
COMBI-NATION METER (HIGH BEAM INDI-CATOR)
M44
HID CONT
LOW
HIGH
HEAD-LAMP LH
E80
HEAD-LAMP RH
E79
E106
M14
M27
M70
E24
E50

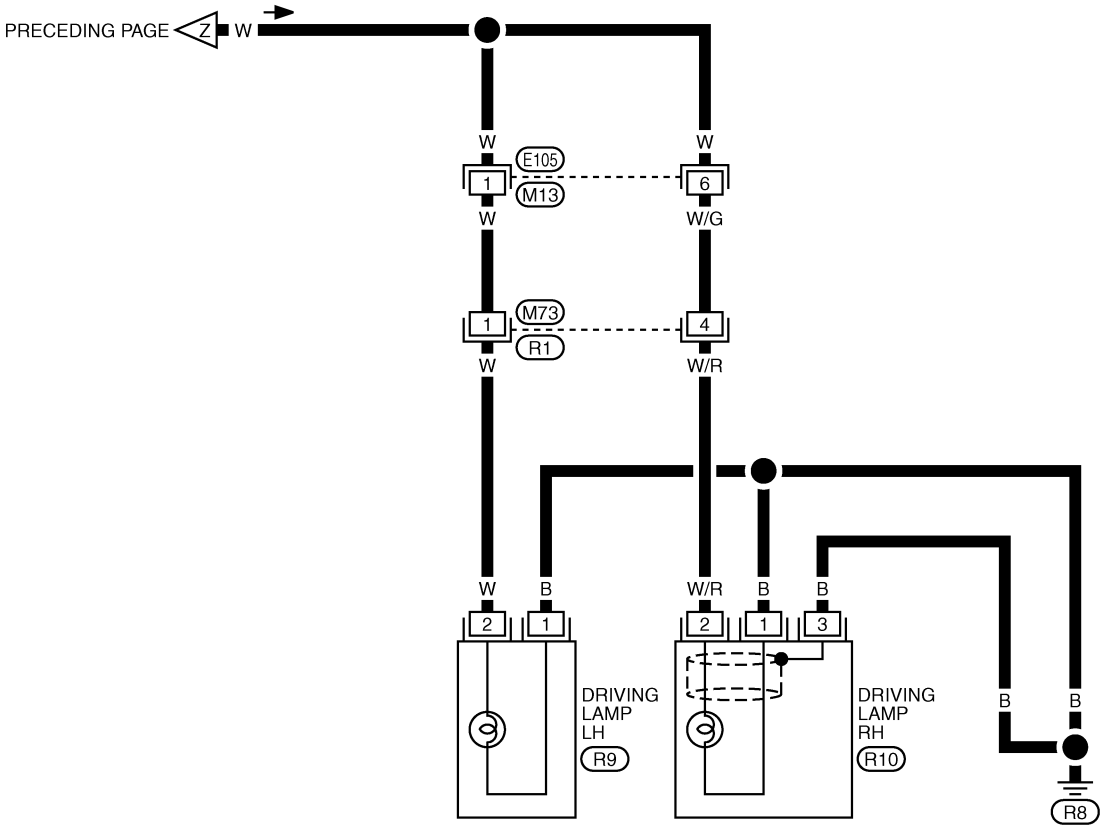

M44
W
E13 , E16
L , L
E79 , E80
DGY , DGY
E106
BR
E127
L

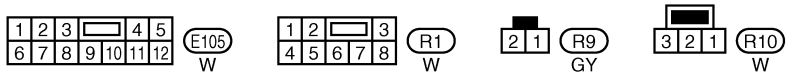
TKWB1127E


LT-DTRL-09
BATTERY
REFER TO PG-POWER.
15A
38
PRECEDING PAGE
Y
B/R
L
DRIVING LAMP RELAY-1
E14
W
Z
NEXT PAGE
E106
M14
R/L
TO LT-ILL
OFF
ON
ILLUMINATION
DRIVING LAMP SWITCH
M101
B/R
TO LT-ILL
DRIVING LAMP RELAY-2
E129
E24
E50


M101
W
E14
L
E106
BR
E129
BR

TKWB1128E


PRECEDING PAGE
Z
W
W
E105
M13
1
6
W
W/G
M73
R1
4
W/R
2
1
3
B
DRIVING LAMP LH
R9
DRIVING LAMP RH
R10
R8


E105
W
R1
W
R9
GY
R10
W

TKWB1129E

Trouble Diagnoses

EKS00N5L

DAYTIME LIGHT CONTROL UNIT INSPECTION TABLE

Terminal No.	Wire color	Connections	INPUT (I)/ OUTPUT (O)	Operated condition		Voltage
1	G/W	Power source for illumination & tail lamp	—	—		Battery voltage
2	LG	Power source for headlamp LH	—	—		Battery voltage
3	R/W	Power source for headlamp RH	—	—		Battery voltage
4	SB	Headlamp RH	O	ON (daytime light operating*)		Battery voltage
				OFF		Approx. 0V
5	OR	Headlamp LH	O	ON (daytime light operating*)		Battery voltage
				OFF		Approx. 0V
6	B/Y	Start signal	I	Ignition switch	START	Battery voltage
					ON, ACC or OFF	Approx. 0V
7	BR	IGN power supply	—	Ignition switch	ON or START	Battery voltage
					ACC or OFF	Approx. 0V
8	Y/R	Alternator “L” terminal	I	Engine	Running	Battery voltage
					Stopped	Approx. 0V
9	B	Ground	—	—		—
10	R/L	Illumination & tail lamp	O	ON (daytime light operating*)		Battery voltage
				OFF		Approx. 0V
11	R/L	Lighting switch	I	1ST·2ND position		Battery voltage
				OFF		Approx. 0V

*: Daytime light operating: Lighting switch in OFF position with engine running.

Bulb Replacement

EKS00N5M

Refer to LT-20, "Bulb Replacement of Headlamp and Clearance Lamp" or LT-21, "Bulb Replacement of Driving Lamp" in “HEADLAMP -XENON TYPE-”.

Aiming Adjustment

EKS00N5N

Refer to LT-18, "Aiming Adjustment of Headlamp" or LT-19, "Aiming Adjustment of Driving Lamp" in “HEADLAMP -XENON TYPE-”.

Removal and Installation

EKS00N5O

Refer to LT-21, "Removal and Installation of Headlamp" or LT-23, "Removal and Installation of Driving Lamp" in “HEADLAMP -XENON TYPE-”.

HEADLAMP (WITH DAYTIME) - CONVENTIONAL TYPE -

PFP:26010

System Description

EKS00N5P

DESCRIPTION

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 plate and tail lamps, and illumination.

Power is supplied at all times

- through 10A fuse (No. 31, located in fuse and fusible link box)
- to daytime light control unit terminal 1, and
- to lighting switch terminal 11,
- through 15A fuse (No. 41, located in fuse and fusible link box)
- to daytime light control unit terminal 3, and
- to lighting switch terminal 5,
- through 15A fuse (No. 40, located in fuse and fusible link box)
- to daytime light control unit terminal 2, and
- to lighting switch terminal 8,
- through 15A fuse (No. 38, located in fuse and fusible link box)
- to driving lamp relay-1 terminal 3.

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,
- through 10A fuse [No. 11, located in the fuse block (J/B)]
- through combination meter terminal 2
- through combination meter terminal 5
- to daytime light control unit terminal 8.

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.

Ground is supplied

- to daytime light control unit terminal 9
- through grounds E24 and E50.

LOW BEAM OPERATION (DAYTIME LIGHT SYSTEM 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
- to daytime light relay LH terminal 1, and
- to daytime light relay RH terminal 1,
- through lighting switch terminal 10
- through daytime light relay LH terminal 5
- through daytime light relay LH terminal 3
- to headlamp LH terminal 3,
- through lighting switch terminal 7
- through daytime light relay RH terminal 5
- through daytime light relay RH terminal 3
- to headlamp RH terminal 3.

Ground is supplied

- to daytime light relay LH and RH terminal 2

- through grounds E24 and E50,
- to headlamp LH and RH terminal 2
- through grounds E24 and E50.

With power and ground supplied, low beam headlamps illuminate.

HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

When the lighting switch is turned to the 2ND position and placed in HIGH BEAM position or PASSING position, power is supplied

- through lighting switch terminal 9
- to headlamp LH terminal 1, and
- to combination meter terminal 20,
- through lighting switch terminal 6
- to headlamp RH terminal 1.

Ground is supplied

- to headlamp LH and RH terminal 2
- through grounds E24 and E50,
- to combination meter terminal 19
- through grounds M27 and M70.

With power and ground supplied, high beam headlamps and HIGH BEAM indicator illuminate.

DAYTIME LIGHT SYSTEM 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 headlamp LH terminal 3,
- through daytime light control unit terminal 4
- to headlamp RH terminal 3,
- through daytime light control unit terminal 10
- to parking, license plate and tail lamps, and illumination.

Ground is supplied

- to headlamp LH and RH terminal 2
- through grounds E24 and E50.

With power and ground supplied, low beam headlamps, parking, license plate and tail lamps, and illumination illuminate.

DRIVING LAMP OPERATION

To illuminate the driving lamp, push the driving lamp switch when the lighting switch is turned to the 2ND position and placed in HIGH BEAM position or PASSING position, power is supplied

- through lighting switch terminal 9
- to headlamp LH terminal 1
- to combination meter terminal 20
- to driving lamp relay-1 terminal 1
- to driving lamp switch terminal 7, and
- to driving lamp relay-2 terminal 5,
- through lighting switch terminal 6
- to headlamp RH terminal 1,
- through driving lamp relay-2 terminal 3
- to driving lamp switch terminal 6,
- through driving lamp relay-1 terminal 5
- to driving lamp LH and RH terminal 2.

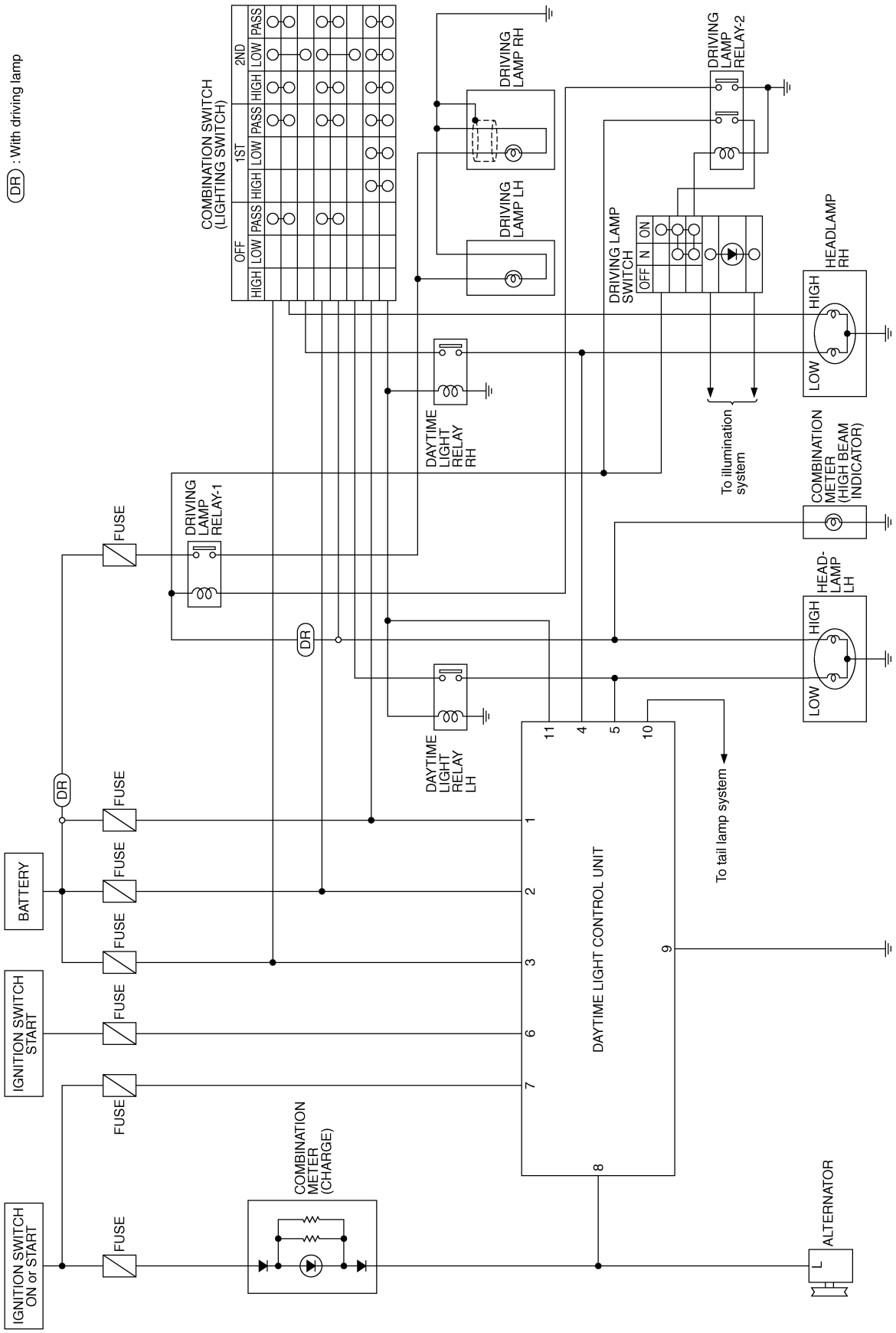
Ground is supplied

- to driving lamp relay-1 terminal 2
- through driving lamp relay-2 terminal 7
- through driving lamp relay-2 terminal 6
- through grounds E24 and E50,
- to driving lamp switch terminal 4
- through driving lamp relay-2 terminal 1
- through driving lamp relay-2 terminal 2
- through grounds E24 and E50,
- to driving lamp LH terminal 1
- through ground R8,
- to driving lamp RH terminals 1 and 3
- through ground R8,
- to headlamp LH and RH terminal 2
- through grounds E24 and E50,
- to combination meter terminal 19
- through grounds M27 and M70.

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

Schematic

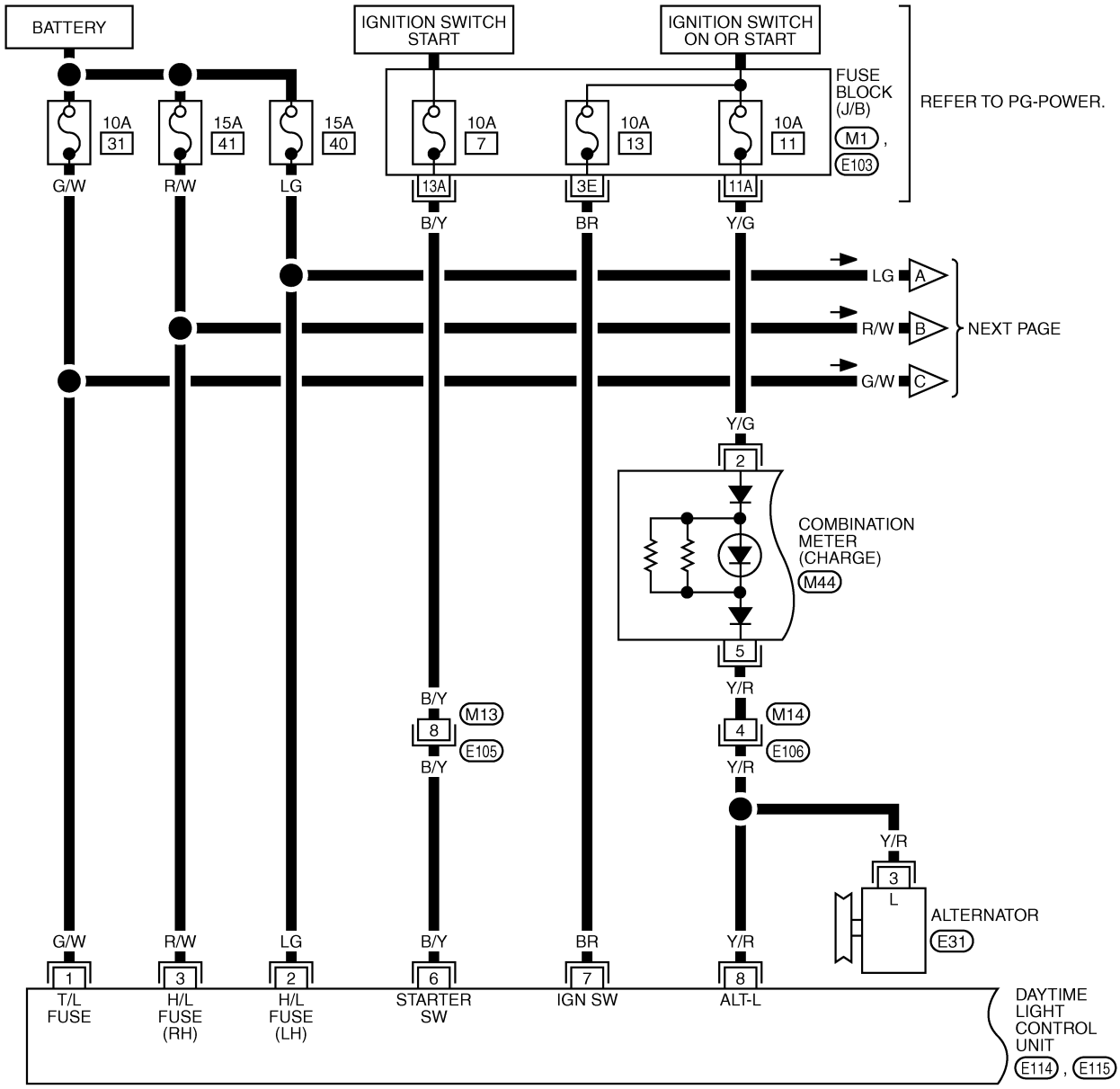
EKS00N5Q

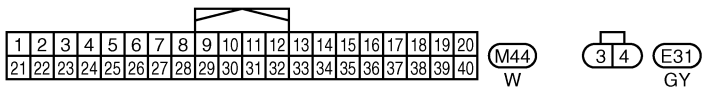


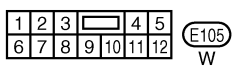
Wiring Diagram —DTRL—

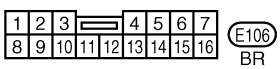
EKS00N5R

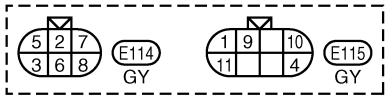
LT-DTRL-01







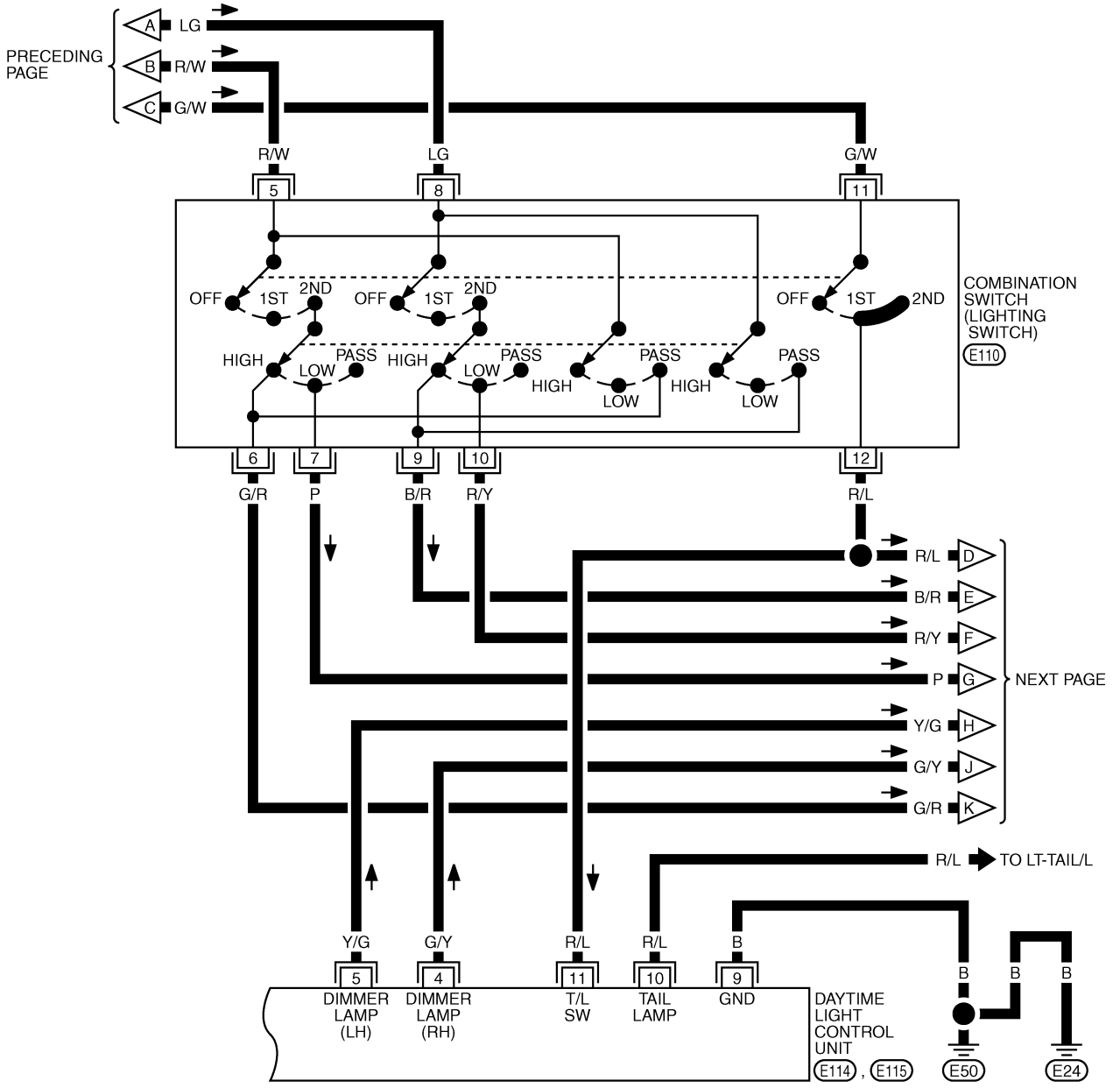


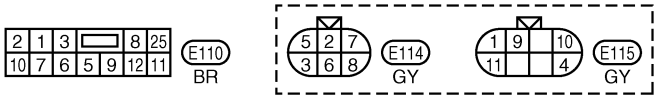


REFER TO THE FOLLOWING.
M1, E103 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWB1769E

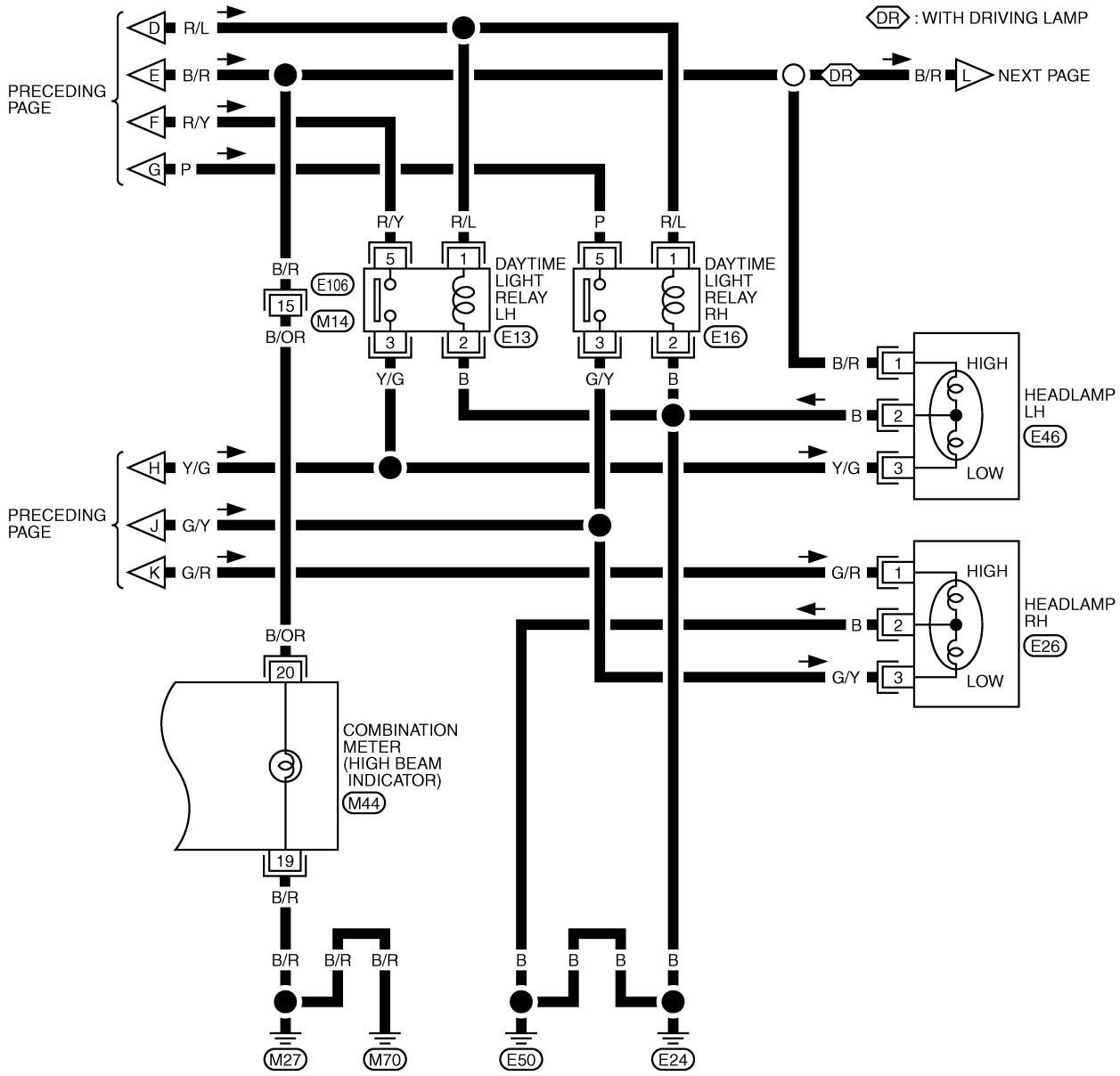
LT-DTRL-02

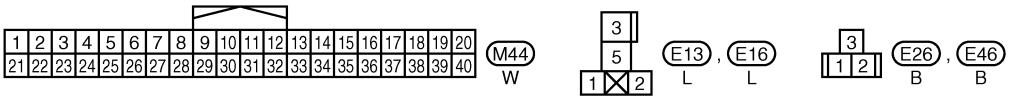


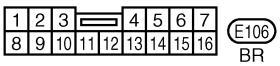


TKWB1770E

LT-DTRL-03

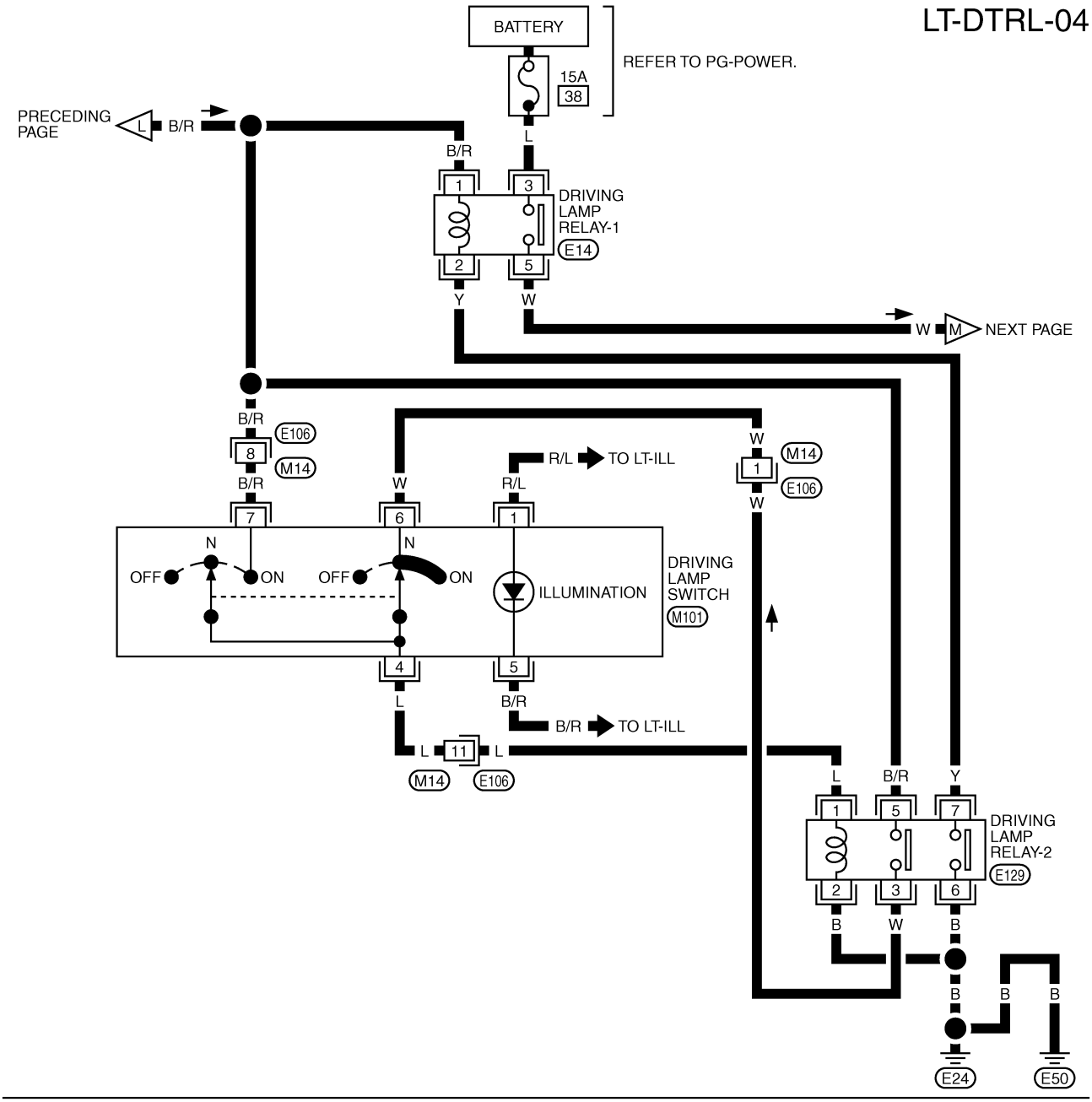


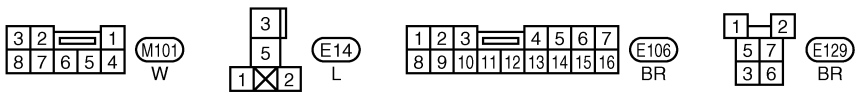




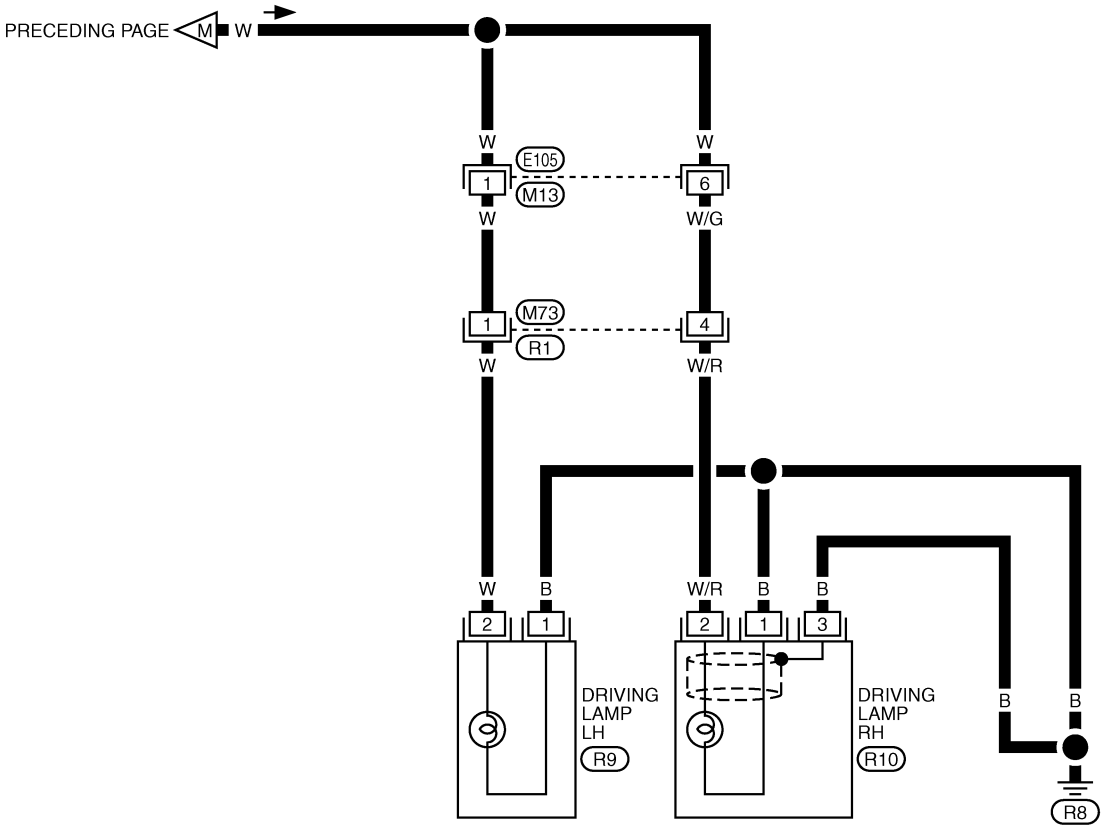
TKWA1523E

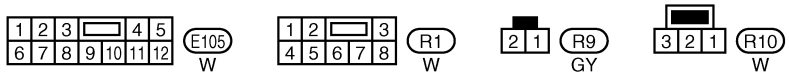
LT-DTRL-04





TKWA1524E


PRECEDING PAGE
M
W
W
E105
1
M13
6
W
W/G
M73
1
R1
4
W
W/R
W
B
W/R
B
B
2
1
2
1
3
DRIVING LAMP LH
R9
DRIVING LAMP RH
R10
B
B
R8


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

TKWB0081E

Trouble Diagnoses

EKS00N5S

DAYTIME LIGHT CONTROL UNIT INSPECTION TABLE

Terminal No.	Wire color	Connections	INPUT (I)/ OUTPUT (O)	Operated condition		Voltage
1	G/W	Power source for illumination & tail lamp	—	—		Battery voltage
2	LG	Power source for headlamp LH	—	—		Battery voltage
3	R/W	Power source for headlamp RH	—	—		Battery voltage
4	G/Y	Headlamp RH	O	ON (daytime light operating*)		Battery voltage
				OFF		Approx. 0V
5	Y/G	Headlamp LH	O	ON (daytime light operating*)		Battery voltage
				OFF		Approx. 0V
6	B/Y	Start signal	I	Ignition switch	START	Battery voltage
					ON, ACC or OFF	Approx. 0V
7	BR	IGN power supply	—	Ignition switch	ON or START	Battery voltage
					ACC or OFF	Approx. 0V
8	Y/R	Alternator “L” terminal	I	Engine	Running	Battery voltage
					Stopped	Approx. 0V
9	B	Ground	—	—		—
10	R/L	Illumination & tail lamp	O	ON (daytime light operating*)		Battery voltage
				OFF		Approx. 0V
11	R/L	Lighting switch	I	1ST·2ND position		Battery voltage
				OFF		Approx. 0V

*: Daytime light operating: Lighting switch in OFF position with engine running.

Bulb Replacement

EKS00N5T

Refer to LT-37, "Bulb Replacement of Headlamp and Clearance lamp" or LT-38, "Bulb Replacement of Driving Lamp" in “HEADLAMP-CONVENTIONAL TYPE-”.

Aiming Adjustment

EKS00N5U

Refer to LT-35, "Aiming Adjustment of Headlamp" or LT-36, "Aiming Adjustment of Driving Lamp" in “HEADLAMP-CONVENTIONAL TYPE-”.

Removal and Installation

EKS00N5V

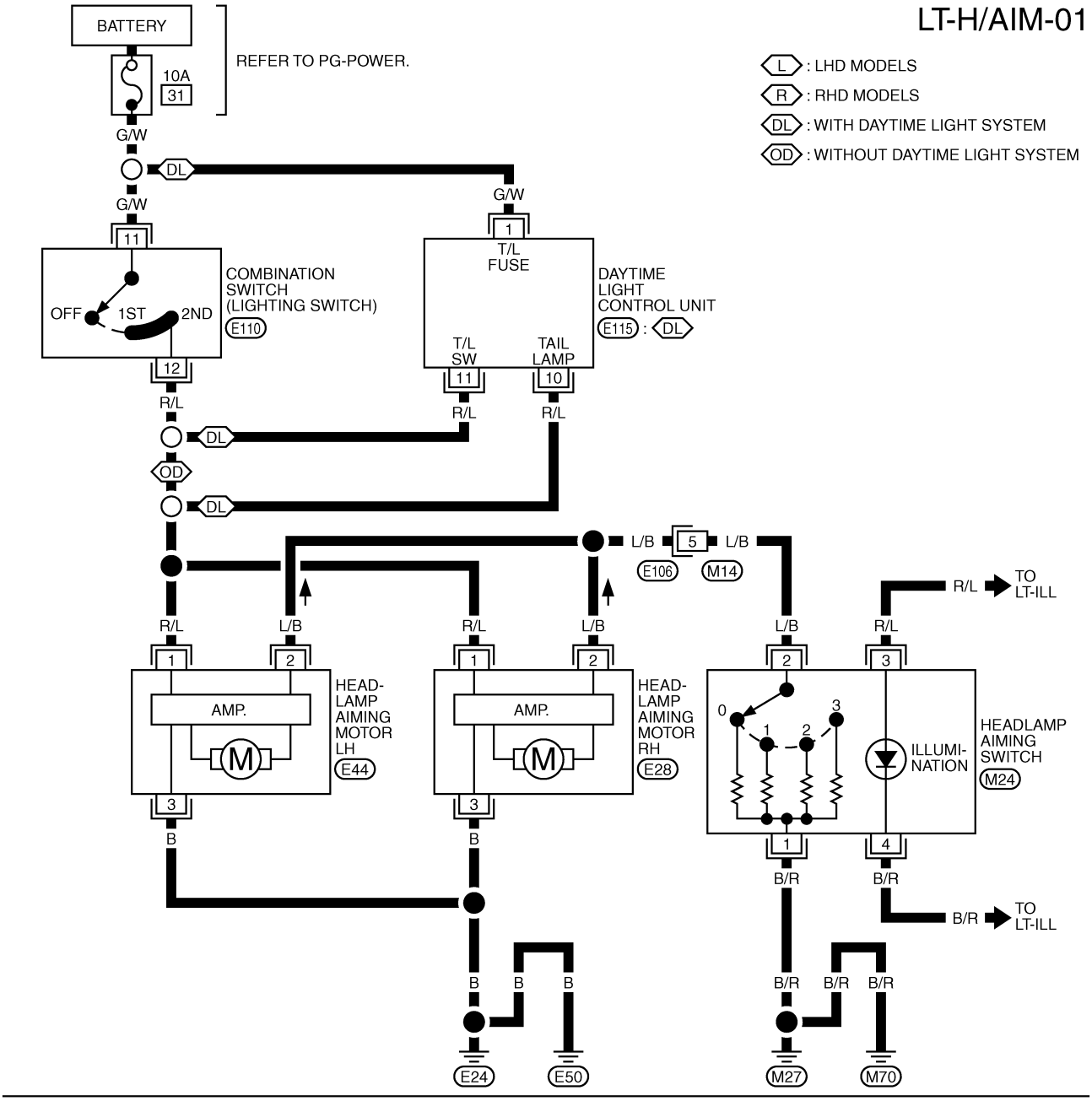
Refer to LT-38, "Removal and Installation of Headlamp" or LT-39, "Removal and Installation of Driving Lamp" in “HEADLAMP-CONVENTIONAL TYPE-”.

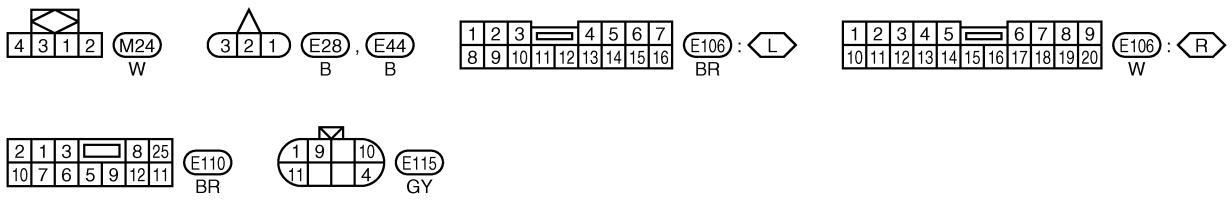
HEADLAMP AIMING CONTROL (MANUAL)

PFP:25190

Wiring Diagram — H/AIM —

EKS003BF



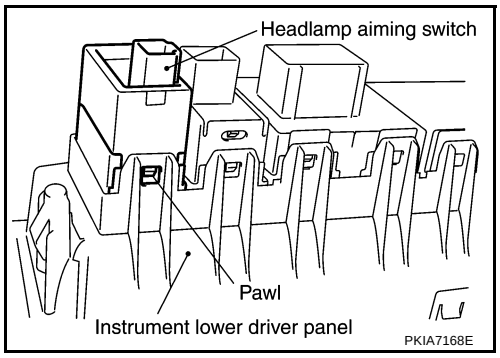


TKWA1525E

Removal and Installation

EKS003CA

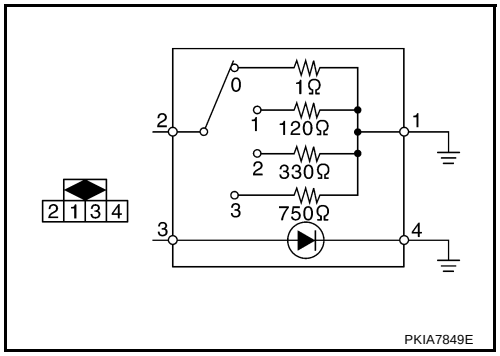
1. Remove the Instrument lower driver panel. Refer to IP-11, "Removal and Installation" in “INSTRUMENT PANEL ASSEMBLY (IP)” section.
2. Press the headlamp aiming switch fixing pawls and remove it from the Instrument lower driver panel.



Switch Circuit Inspection

EKS003CB

Using a circuit tester, check continuity between the headlamp aiming switch connector terminals in each operation status of the aiming switch.

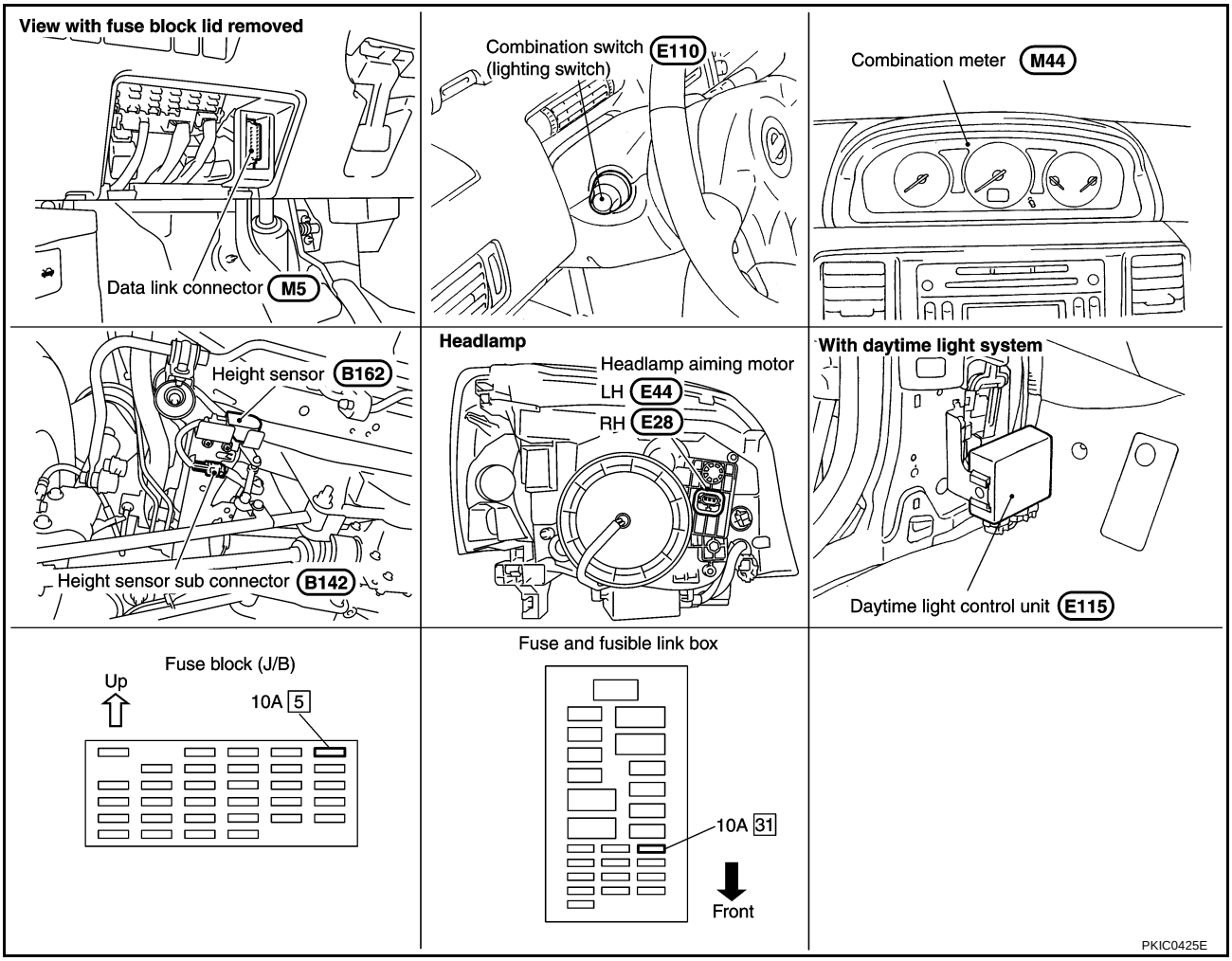


HEADLAMP AIMING CONTROL (AUTO)

PFP:53821

Component Parts and Harness Connector Location

EKS00N5W



System Description

EKS00N5X

With the lighting switch in the 1ST or 2ND position, the height sensor detects change in the vehicle height and transmits a corresponding signal to the headlamp aiming motors. The signal drives the headlamp aiming motors, which adjusts the low beam reflector of each headlamp to an angle appropriate for the vehicle height. When the vehicle is stationary, the motors move the reflectors if the vehicle height changes to a certain height and the height is maintained for a predetermined period. When the vehicle is running (excluded when accelerating/decelerating), the reflector angle is adjusted at predetermined intervals.

OUTLINE

Power is supplied at all times

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

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

- through 10A fuse [No. 5, located in fuse block (J/B)]
- to height sensor terminal 1, and
- to headlamp aiming motor RH and LH terminal 1.

Ground is supplied

- to height sensor terminal 5
- through grounds B107 and B119,
- to headlamp aiming motor RH and LH terminal 3

- through grounds E24 and E50.

HEADLAMP AIMING CONTROL OPERATION

The height sensor is located on the right side of the rear suspension member and detects vehicle height change by sensing the displacement of the suspension arm.
When the ignition switch is turned to the ON position, power is supplied

- through 10A fuse [No. 5 located in fuse block (J/B)]
- to height sensor terminal 1, and
- to headlamp aiming motor RH and LH terminal 1.

At the same time, the vehicle height signal (voltage signal that corresponds to the vehicle height) is applied

- through height sensor terminal 3
- to headlamp aiming motor RH and LH terminal 2.

Ground is supplied

- to headlamp aiming motor RH and LH terminal 3
- through grounds E24 and E50,
- to height sensor terminal 5
- through grounds B107 and B119.

And the voltage level of this signal is maintained.
When the lighting switch is placed in the 1ST or 2ND position, power is supplied (without daytime light system)

- through lighting switch terminal 12
- to height sensor terminal 8.

When the lighting switch is placed in the 1ST or 2ND position, power is supplied (with daytime light system)

- through lighting switch terminal 12
- to daytime light control unit terminal 11
- through daytime light control unit terminal 10
- to height sensor terminal 8.

Ground is supplied

- to height sensor terminal 5
- through grounds B107 and B119.

The height sensor starts the aiming control.
When the stopped vehicle changes the height and keeps it for more than 10 seconds, the height sensor outputs a headlamp aiming motor drive signal. And height sensor keeps signal voltage to headlamp aiming motor. (Voltage depends on the vehicle height.)
Upon reception of the headlamp aiming motor drive signal, both headlamp aiming motors cause the low beam reflectors to move to the position commanded by the signal.
When the vehicle is running (excluded when accelerating/decelerating), the height sensor transmits headlamp aiming motor drive signal to headlamp aiming motors at the predetermined intervals. The voltage level of every signal input is maintained unchanged until the next signal is input.
Upon reception of the headlamp aiming motor drive signal, both headlamp aiming motors cause the low beam reflectors to move to the position commanded by the signal.
When the vehicle is accelerating or decelerating, the height sensor keeps the same headlamp aiming motor drive signal voltage level rather than changing it, so that the low beam reflectors of both headlamps do not operate.
When the lighting switch is turned OFF, the height sensor retains the headlamp aiming motor drive signal level at that moment and stops transmitting the signal.

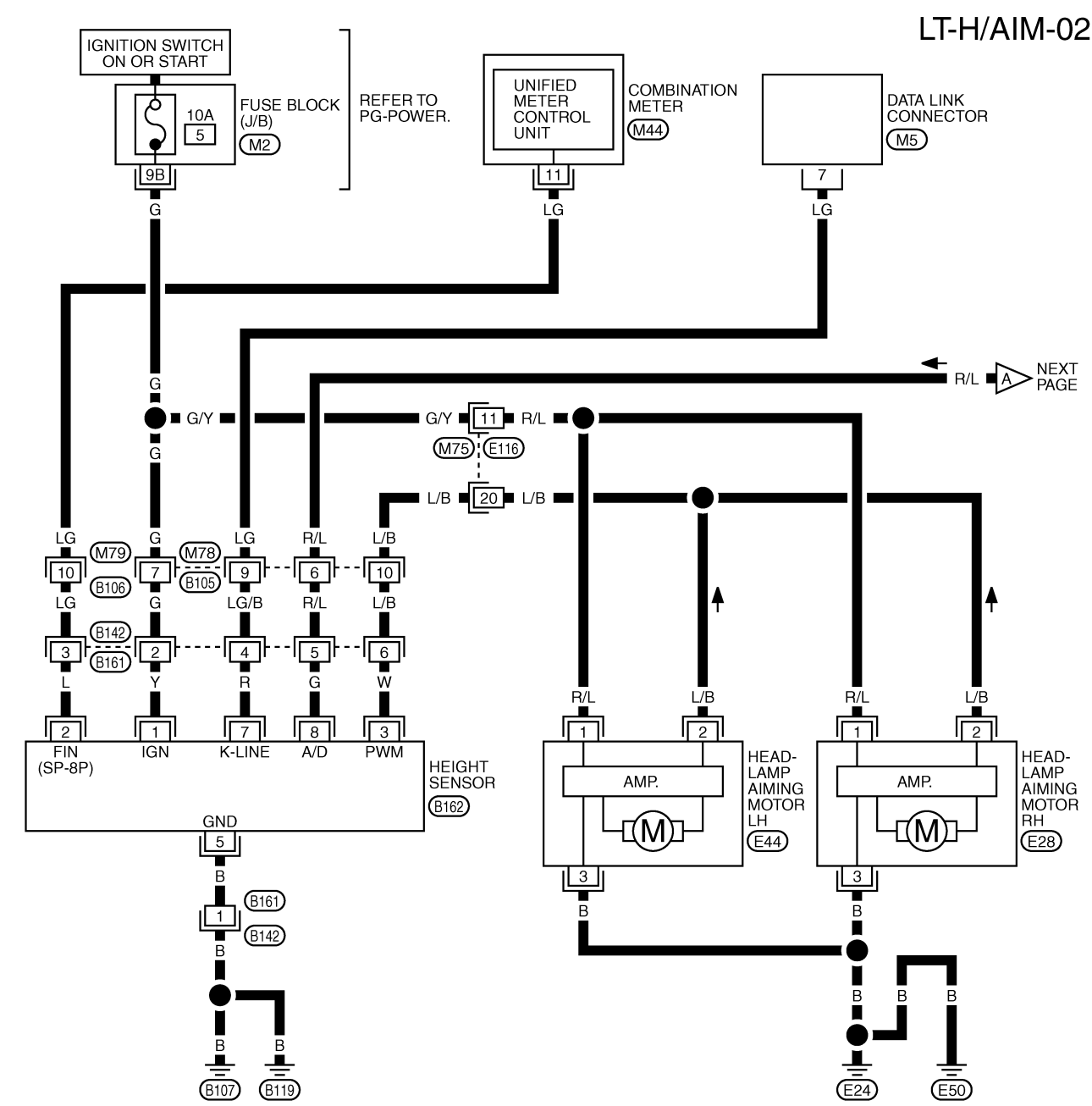
Height Sensor Control Operation

height sensor operating control interval	Vehicle is stopped *1	Headlamp aiming motor starts after vehicle is stopped for approx. 10 seconds.					
	Vehicle is running *2	Up to 31 seconds, and every 10 seconds after starting running with a constant speed	About 41 seconds	About 82 seconds	About 161 seconds	About 323 seconds	After 323 seconds or more, every 323 seconds

*1 Included when running at to 4 km/h (2.48 MPH) or less, but exclude when accelerating/decelerating.
*2 Included when running at more than 4 km/h (2.48 MPH), but exclude when accelerating/decelerating.

Schematic

EKS00N5Y



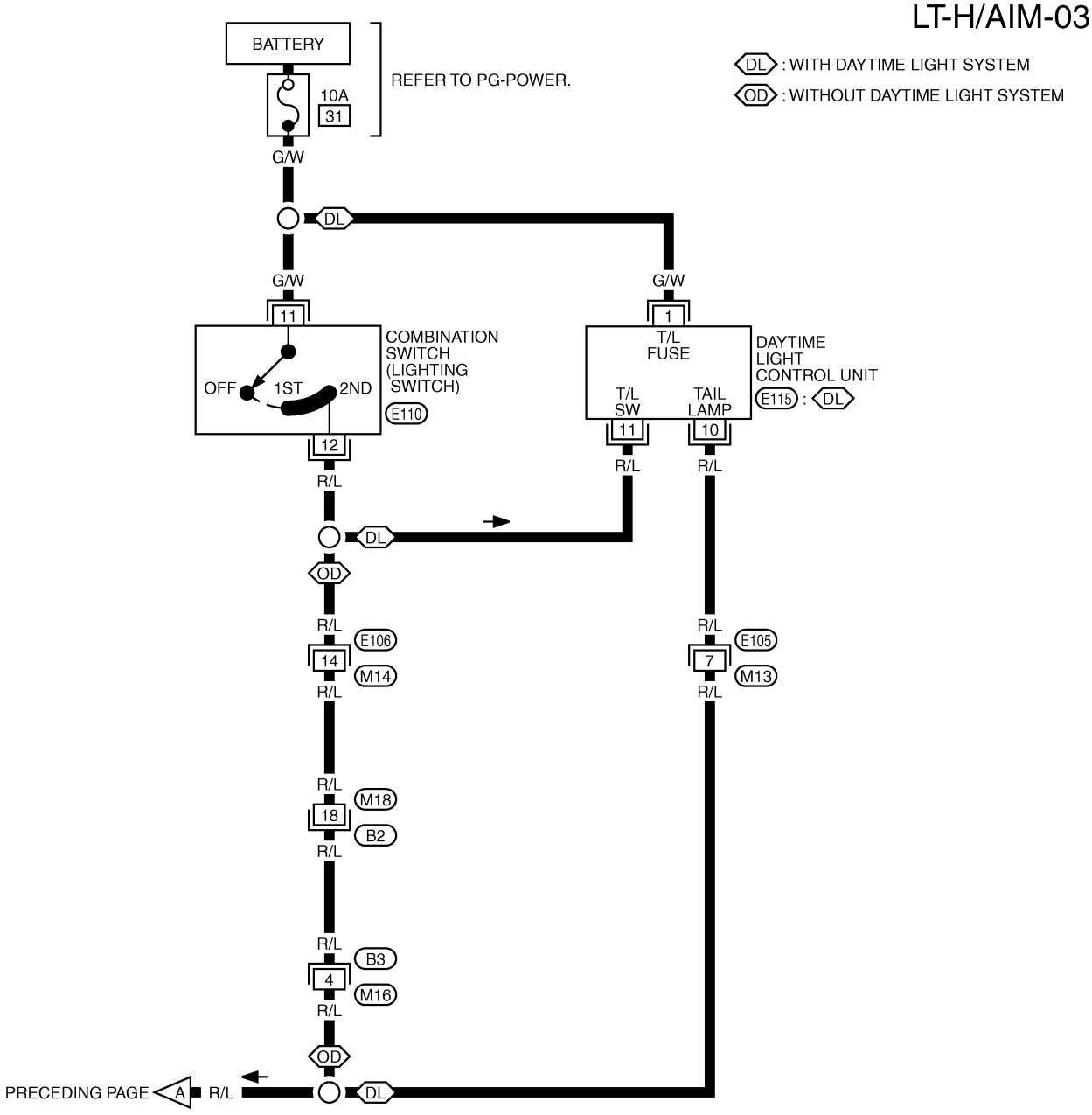
TKWB1130E

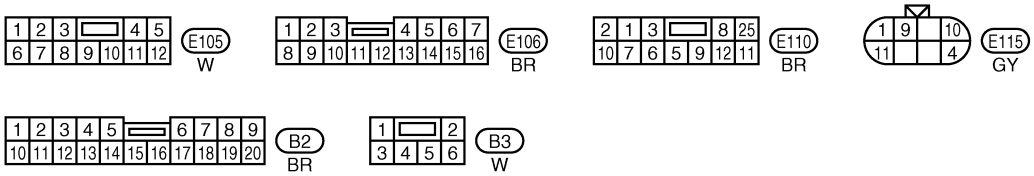
Wiring Diagram — H/AIM —

EKS00N5Z

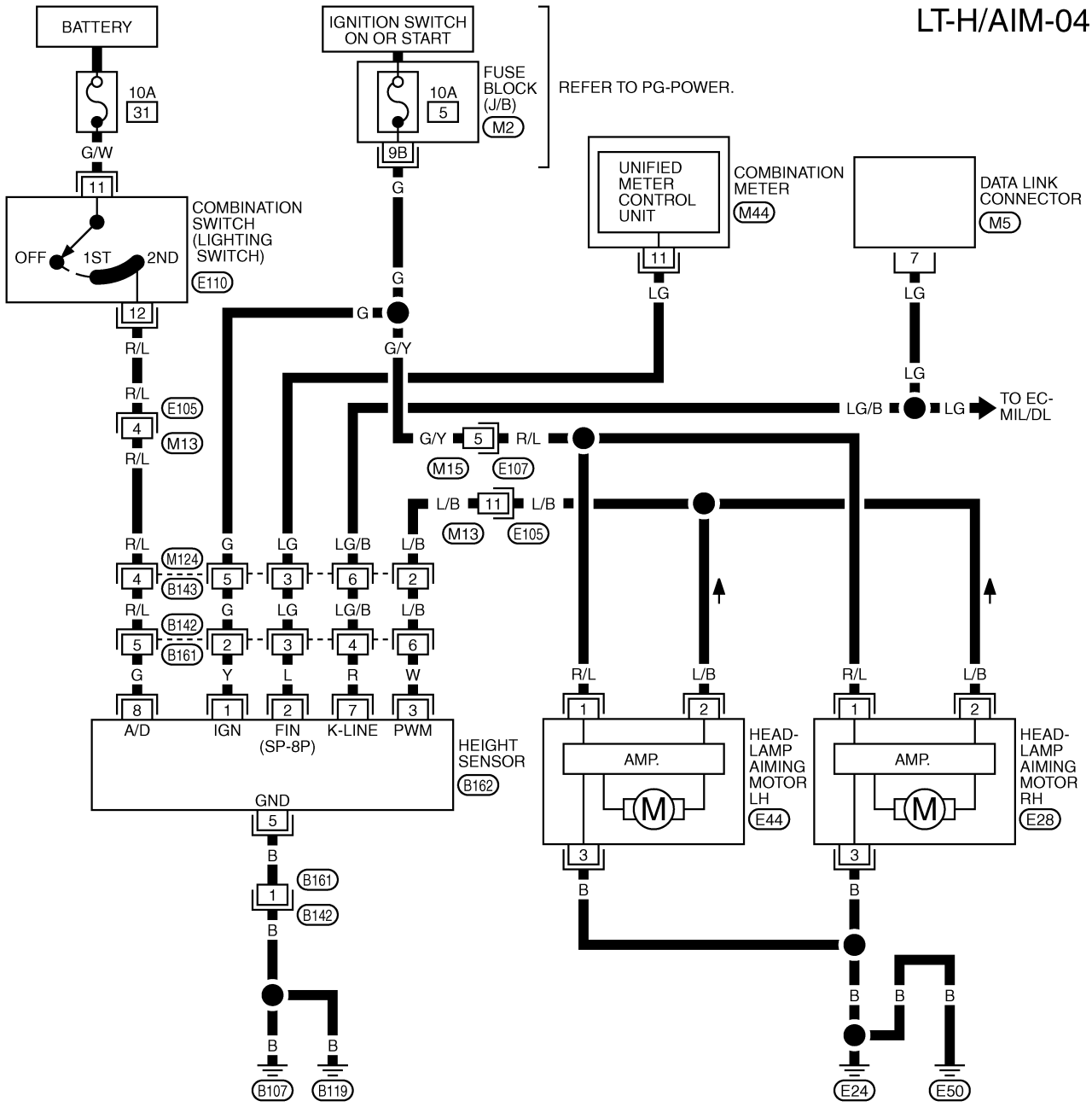
LHD MODELS

LT-H/AIM-03





TKWB1131E


LT-H/AIM-04
BATTERY
10A
31
G/W
IGNITION SWITCH ON OR START
10A
5
FUSE BLOCK (J/B)
M2
9B
REFER TO PG-POWER.
G
UNIFIED METER CONTROL UNIT
COMBINATION METER
M44
11
LG
DATA LINK CONNECTOR
M5
7
LG
COMBINATION SWITCH (LIGHTING SWITCH)
OFF
1ST
2ND
E110
12
R/L
G
G/Y
LG/B
TO EC-MIL/DL
E105
4
M13
G/Y
5
R/L
M15
E107
L/B
11
L/B
M13
E105
R/L
G
LG
LG/B
L/B
M124
B143
B142
B161
5
2
3
4
6
Y
L
R
W
8
1
2
7
3
A/D
IGN
FIN (SP-8P)
K-LINE
PWM
HEIGHT SENSOR
B162
GND
5
B
B161
B142
B107
B119
R/L
L/B
1
2
AMP.
M
HEAD-LAMP AIMING MOTOR LH
E44
HEAD-LAMP AIMING MOTOR RH
E28
3
B
E24
E50
M5
W
M44
W
M124
W
E28
B
E44
B
E105
BR
E107
W
E110
BR
B142
GY
B162
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.
REFER TO THE FOLLOWING.
M2 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWB1132E

Terminals and Reference Values of Daytime Light Control Unit

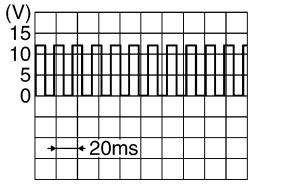
EKS00N60

Terminal No.	Wire color	Connections	Operated condition	Voltage
1	G/W	Power source for illumination & tail lamp	—	Battery Voltage
10	R/L	Illumination & tail lamp	ON (daytime light operating*)	Battery voltage
			OFF	Approx. 0V
11	R/L	Lighting switch	1ST·2ND position	Battery voltage
			OFF	Approx. 0V

*: Daytime light operating : Lighting switch in OFF position with engine running.

Terminals and Reference Values for Height Sensor

EKS00N62

Terminal No.	Wire color	Signal name	Measuring condition			Reference value
			Ignition switch	Operation or condition		
1	Y	Ignition switch (ON)	ON	—		Battery voltage
2	L	Vehicle speed signal	ON	about 40 km/h (25 MPH)		 PKIA1935E
3	W	Output signal for aiming motor	ON	Lighting switch 1ST position and vehicle speed 0 km/h (0 MPH)		Approx. 5.8 - 9.4V
5	B	Ground	ON	—		—
7	R	K – LINE	—	—		—
8	G	Tail lamp signal	—	Lighting switch 1ST position	OFF	2V or less
					ON	Battery voltage

How to Proceed With Trouble Diagnosis

EKS00N63

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to LT-63, "System Description" .
3. Perform self-diagnosis by CONSULT-II. Refer to LT-71, "SELF-DIAG RESULTS" .
4. Check symptom and repair or replace the cause of malfunction.
5. Does the headlamp aiming control operate normally? If YES, GO TO 6. If NO, GO TO 4.
6. INSPECTION END

CONSULT-II Functions (HEADLAMP LEVELIZER)

EKS00N64

CONSULT-II can display each diagnostic item using the diagnostic test modes shown following.

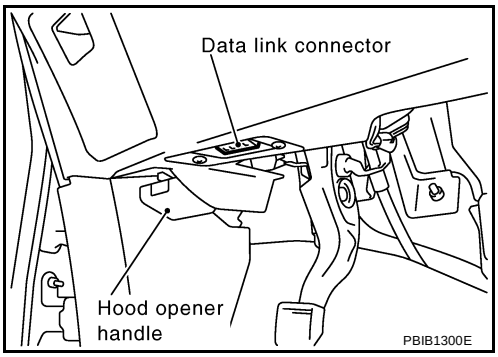
Diagnosis mode	Description
WORK SUPPORT	Height sensor can be initialized.
SELF-DIAG RESULTS	The result of self-diagnosis for height sensor can be displayed and erased.
DATA MONITOR	Displays height sensor inputs and outputs in real time.
ACTIVE TEST	Operation of headlamp aiming motor can be confirmed with “MAX”, “MID” or “MIN” touched.
ECU PART NUMBER	Height sensor part number can be read.
CONFIGURATION	(Not be used.)

CONSULT-II BASIC OPERATION

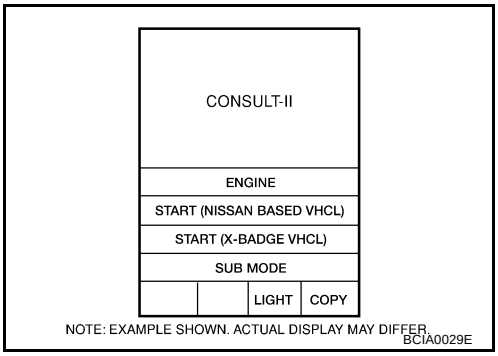
CAUTION:

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN communication.

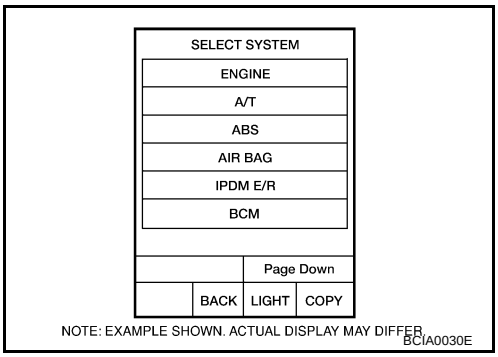
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, and then turn the ignition switch ON.



2. Touch “START (NISSAN BASED VHCL)”.



3. Touch “HEAD LAMP LEVELIZER” on “SELECT SYSTEM” screen. If “HEAD LAMP LEVELIZER” is not indicated, refer to GI-35, "CONSULT-II Data Link Connector (DLC) Circuit" .



WORK SUPPORT

Display Item List

Item	Description
SENSOR INITIALISE	Make it memorize height sensor stroke of unloaded vehicle condition. Perform when replacing height sensor.

Operation Procedure

Height sensor initialize

1. Set the vehicle in unladen condition. (Removal all loads in driver, passenger and trunk rooms.)
2. Touch “HEAD LAMP LEVELIZER” on “SELECT SYSTEM” screen.
3. Touch “WORK SUPPORT” on “SELECT DIAG MODE” screen.
4. Touch “SENSOR INITIALISE”.
5. Touch “WRITE”.
6. “INITIALISE COMPLETE” will be displayed.
7. Touch “END”.

Instruction of initialized results

Item	Description of indications
INITIALISE COMPLETE	Initialization completed.
INCORRECT CONDITION	Improper condition. (Wrong connection of height sensor connector or CONSULT-II connector.)
NO CAR TYPE SELECT	Program error of the height sensor.
INITIALISE NOT DONE	Initialization uncompleted.

DATA MONITOR

Operation Procedure

1. Touch “HEADLAMP LEVELIZER” on “SELECT SYSTEM” screen.
2. Touch “DATA MONITOR” on “SELECT DIAG MODE” screen.
3. Touch either “ALL SIGNALS” or “SELECTION FROM MENU” on “SELECT MONITOR ITEM” screen.

ALL SIGNALS	Monitors all the signals.
SELECTION FROM MENU	Selects items and monitors them.

4. When “SELECTION FROM MENU” is selected, touch items to be monitored. When “ALL SIGNALS” is selected, all the items will be monitored.
5. Touch “START”.
6. Touch “RECORD” while monitoring, then the status of the monitored item can be recorded. To stop recording, touch “STOP”.

Display Item List

Monitor item		Contents
INT SENSOR VALUE	“%”	Displays the ratio between the maximum sensor lever angle which the height sensor can recognize and the current sensor angle.
ACT OUTPUT	“%”	Displays the ratio between the headlamp aiming motor drive signal voltage calculated by the height sensor and the height sensor power supply voltage.
ACT MEASURED	“%”	Displays the ratio between the headlamp aiming motor drive signal voltage and the height sensor power supply voltage.
SPEED SIG	“km/h”	Displays vehicle speed calculated from the vehicle speed signal (8-pulse).
LIGHT SIGNAL	“V”	Displays the condition either “tail lamps ON (power supply voltage) ” or “tail lamps OFF (2 V or less)” judged from the tail lamp signal.
INT SEN VOLT	“V”	Displays the condition of IGN power supply.
EXT SEN VOLT NOTE	“V”	—
EXT SEN SIG NOTE	“V”	—

NOTE:
This item is displayed, but does not function.

ACTIVE TEST

Operation Procedure

1. Touch “HEAD LAMP LEVELIZER” on “SELECT SYSTEM” screen.
2. Touch “ACTIVE TEST” on “SELECT DIAG MODE” screen.
3. Touch “LAMP TEST”, then “MAX”, “MID” or “MIN” to change aiming line.
4. Touch “END” after the test.

Display Item List

Item (CONSULT-II screen terms)	Test item	Description
LAMP TEST	Aiming direction change	Operation of headlamp aiming motor can be confirmed with “MAX”, “MID” or “MIN” touched.

SELF-DIAG RESULTS

Operation Procedure

1. Touch “SELF-DIAG RESULTS” on the “SELECT DIAG MODE” screen.
2. Check display content in self-diagnostic results.

Description of DTC and Solutions after Detection

CONSULT-II can detect DTC (Diagnosis trouble code). The descriptions and solutions of DTC are listed below.

Details of error indication detected by CONSULT-II	Conditions of error detection	Code storage	Fail-safe		Reference
			Within 5 seconds after ignition switch ON, or vehicle speed less than or equal to 4 km/h (2.48 MPH).	5 seconds and more after ignition switch ON, or vehicle speed more than to 4 km/h (2.48 MPH).	
[B2080] [ECU TROUBLE]	ECU error of the height sensor.	YES	● Fix headlamp aiming motor drive signal around 0 V. ● Maintain a current position of light axis.		Replace height sensor, and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" .
[B2081] [INITIAL NOT DONE]	Initialization has not completed.	NO	Set and maintain light axis downward.		Refer to LT-78, "DTC B2081 [INITIAL NOT DONE]" .
[B2082] [SENSOR OUT OF RANGE]	Vehicle height detected by height sensor is unusual.				Refer to LT-79, "DTC B2082 [SENSOR OUT OF RANGE]" .

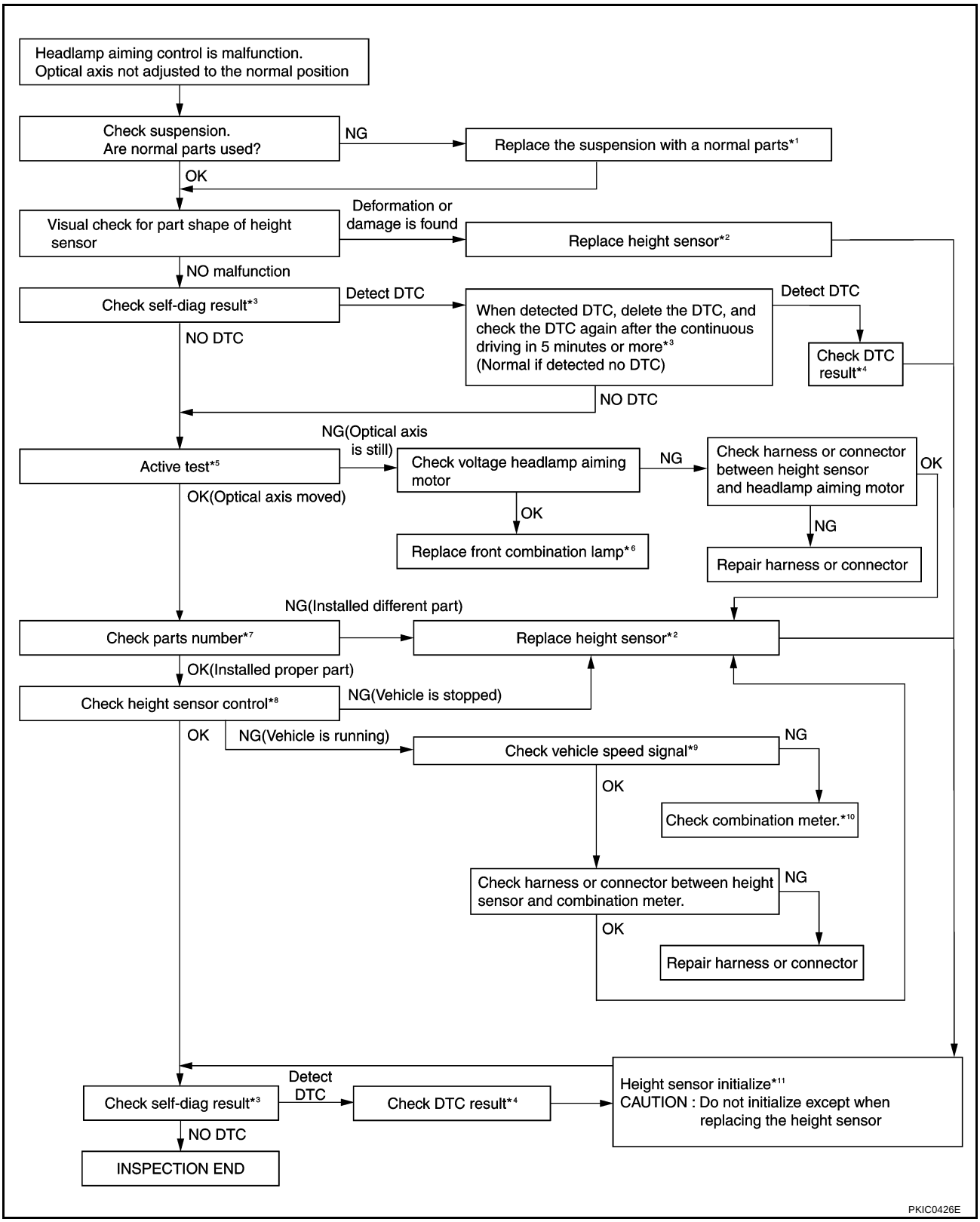
Details of error indication detected by CONSULT-II	Conditions of error detection	Code storage	Fail-safe		Reference
			Within 5 seconds after ignition switch ON, or vehicle speed less than or equal to 4 km/h (2.48 MPH).	5 seconds and more after ignition switch ON, or vehicle speed more than to 4 km/h (2.48 MPH).	
[B2083] [SEN SIG NOT PLAUSIBLE]	Vehicle height detected by height sensor while running does not change more than 5 minutes stretch.	YES	Maintain a current position of light axis.		Refer to LT-79, "DTC B2083 [SEN SIG NOT PLAUSIBLE]" .
[B2084] [VOLTAGE UNDER LIMIT]	Voltage of height sensor terminal 1 kept having less than or equal to 9 V for 1.5 seconds and over.		Set and maintain light axis downward.	Maintain a current position of light axis.	Refer to LT-80, "DTC B2084 [VOLTAGE UNDER LIMIT]" .
[B2085] [LOW BEAM SIG OPEN LINE]	height sensor terminal 8 had less than 6 V at lighting switch 1ST, or had more than 2V for 1.5 seconds or more at lighting switch OFF.				Refer to LT-81, "DTC B2085 [LOW BEAM SIG OPEN LINE]" .
[B2086] [FRQ. OVER LIMIT]	Vehicle speed signal kept showing over 340 km/h (221.3 MPH) for more than 1.5 seconds.				Refer to LT-82, "DTC B2086 [FRQ. OVER LIMIT]" .
[B2087] [SHORT TO GROUND]	height sensor terminal 3 had short-circuit with a ground more than 1.5 seconds.		Maintain a current position of light axis.		Refer to LT-82, "DTC B2087 [SHORT TO GROUND]" .
[B2088] [SHORT TO BATTERY]	height sensor terminal 3 had short-circuit with a power supply line more than 1.5 seconds.				Refer to LT-84, "DTC B2088 [SHORT TO BATTERY]" .
[B208A]	Program error of the height sensor.		● Fix headlamp aiming motor drive signal around 0 V. ● Maintain a current position of light axis.		Replace height sensor, and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" .

CAUTION:

- **As for [B2084] to [B2086], fail-safe is performed in accordance with running condition when code is detected, and maintains the condition until ignition switch is turned OFF.**
  When ignition switch is turned ON, fail-safe is set to “within 5 seconds after starting vehicle” or “vehicle speed less than or equal to 4 km/h (2.48 MPH)”. Perform fail-safe only when having a current abnormality.
- **As for [B2084] to [B2088], perform fail-safe only when having a current abnormality.**

Check Aiming Control System

EKS00N65



*1 Refer to FSU-5, "FRONT SUSPENSION ASSEMBLY" in "FSU section" and RSU-5, "REAR SUSPENSION ASSEMBLY" in" RSU section".

*2 Refer to LT-86, "Removal and Installation of Height Sensor" .

*3 Refer to LT-71, "SELF-DIAG RESULTS" .

*4 Refer to LT-71, "Description of DTC and Solutions after Detection" .

*5 Refer to LT-71, "ACTIVE TEST" .

*6 Refer to LT-21, "Removal and Installation of Headlamp" in "HEADLAMP -XENON TYPE-".

*7 Refer to LT-69, "CONSULT-II Functions (HEADLAMP LEVELIZER)" .

*8 Refer to LT-64, "Height Sensor Control Operation" and LT-70, "DATA MONITOR" .

*9 Refer to LT-70, "DATA MONITOR" .

*10 Refer to DI-28, "Vehicle Speed Signal Inspection [With ESP]" , DI-28, "Vehicle Speed Signal Inspection [Without ESP]" in “DI section”.

*11 Refer to LT-70, "WORK SUPPORT" .

CAUTION:

If the vehicle height is outside the proper height, aiming control may not be performed normally even when the headlamp aiming control system is normal.

Symptom Chart

EKS00N66

Symptom	Reference
Headlamp aiming motor does not operate (Both sides)	Refer to LT-74, "Headlamp Aiming Motor Does Not Operate (Both Sides)" .
Headlamp aiming motor does not operate (One side)	Refer to LT-77, "Headlamp Aiming Motor Does Not Operate (One Side)" .

Headlamp Aiming Motor Does Not Operate (Both Sides)

EKS00N67

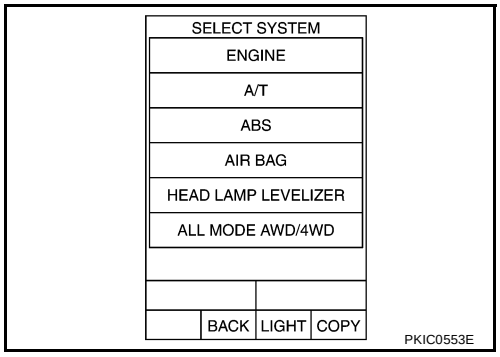
1. CHECK DIAGNOSIS RESULT-1

Select “HEAD LAMP LEVELIZER” on CONSULT-II.

Is “HEAD LAMP LEVELIZER” displayed?

YES >> GO TO 4.

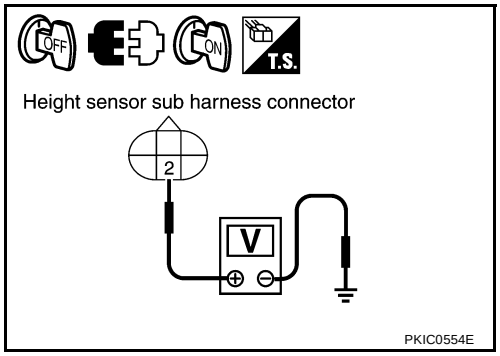
NO >> GO TO 2.



2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect height sensor sub harness connector.
3. Turn ignition switch ON.
4. Check voltage between height sensor sub harness connector B142 terminal 2 (G) and ground.

2 (G) – Ground : Battery voltage.



OK or NG

OK >> GO TO 3.

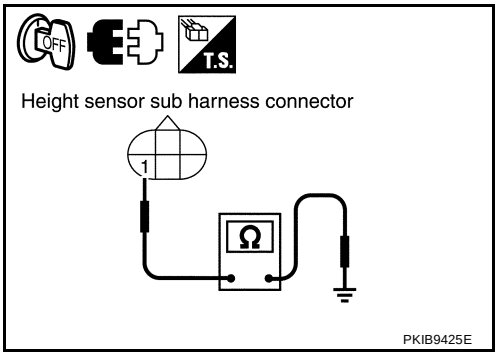
NG >> Check the following.

- 10A fuse [No. 5, located in fuse block (J/B)]
- Harness for open or short between 10A fuse (No. 5) and height sensor
- Harness connector

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between height sensor sub harness connector B142 terminal 1 (B) and ground.

1 (B) – Ground : Continuity should exist.



OK or NG

OK >> Replace height sensor, and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" , LT-70, "WORK SUPPORT" .

NG >> Repair harness or connector.

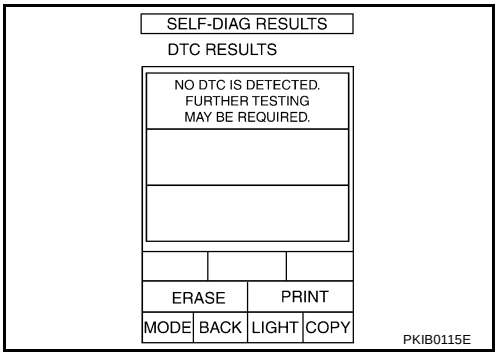
4. CHECK DIAGNOSIS RESULT - 2

1. Select “HEAD LAMP LEVELIZER” on CONSULT-II, and select “SELF-DIAG RESULTS” on “SELECT DIAG MODE” screen.
2. Check display content in self-diagnostic results.

Is DTC detected?

YES >> Check with obeying indicated DTC. Refer to LT-71, "Description of DTC and Solutions after Detection" .

NO >> GO TO 5.

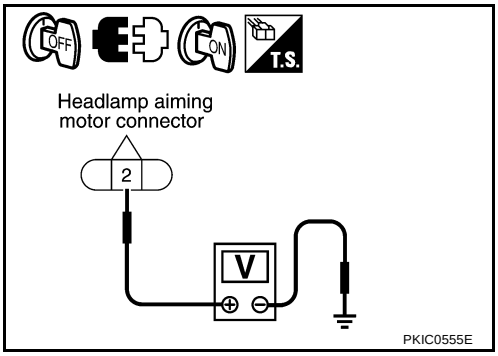


5. CHECK HEADLAMP AIMING MOTOR INPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect headlamp aiming motor RH and LH connector.
3. Turn ignition switch ON.
4. Lighting switch is turned 2ND position.
5. Check voltage between headlamp aiming motor RH harness connector E28 terminal 2 (L/B) and ground.

2 (L/B) – Ground

: Voltage elevates after about 10 seconds when a load imposes on rear axle. Voltage drops after about 10 seconds when remove a load.



6. Check voltage between headlamp aiming motor LH harness connector E44 terminal 2 (L/B) and ground.

2 (L/B) – Ground

: Voltage elevates after about 10 seconds when a load imposes on rear axle. Voltage drops after about 10 seconds when remove a load.

OK or NG

OK >> GO TO 6.

NG >> 1. There is no change even though voltage is from about 5V through 10V.
: Replace height sensor, and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" , LT-70, "WORK SUPPORT" .
2. Voltage is 0V.
: GO TO 8.

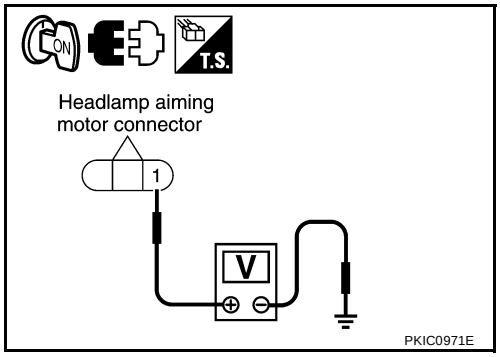
6. CHECK POWER SUPPLY CIRCUIT

1. Check voltage between headlamp aiming motor RH harness connector E28 terminal 1 (R/L) and ground.

1 (R/L) – Ground : Battery voltage.

2. Check voltage between headlamp aiming motor LH harness connector E44 terminal 1 (R/L) and ground.

1 (R/L) – Ground : Battery voltage.



OK or NG

OK >> GO TO 7.
NG >> Check the following.

- Harness for open or short between 10A fuse [No. 5, located in fuse block (J/B)] and front combination lamp
- Harness connector

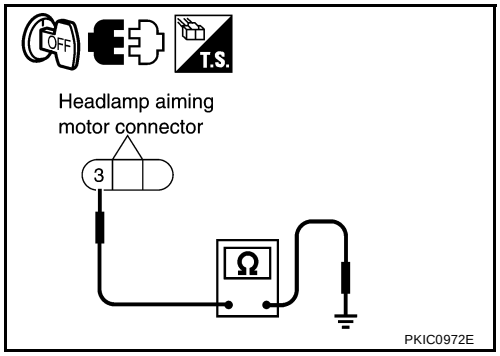
7. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between headlamp aiming motor RH harness connector E28 terminal 3 (B) and ground.

3 (B) – Ground : Continuity should exist.

3. Check continuity between headlamp aiming motor LH harness connector E44 terminal 3 (B) and ground.

3 (B) – Ground : Continuity should exist.



OK or NG

OK >> Replace headlamp. Refer to LT-21, "Removal and Installation of Headlamp" in “HEADLAMP - XENON TYPE -”.
NG >> Repair harness or connector.

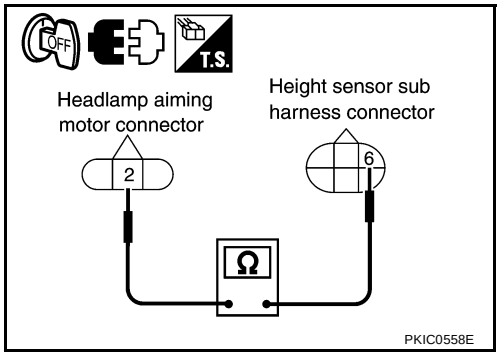
8. CHECK HEADLAMP AIMING MOTOR INPUT SIGNAL CIRCUIT

1. Turn ignition switch OFF, and lighting switch OFF.
2. Disconnect height sensor sub harness connector.
3. Check continuity between headlamp aiming motor RH harness connector E28 terminal 2 (L/B) and height sensor sub harness connector B142 terminal 6 (L/B).

2 (L/B) – 6 (L/B) : Continuity should exist.

4. Check continuity between headlamp aiming motor LH harness connector E44 terminal 2 (L/B) and height sensor sub harness connector B142 terminal 6 (L/B).

2 (L/B) – 6 (L/B) : Continuity should exist.



OK or NG

OK >> Replace height sensor, and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" , LT-70, "WORK SUPPORT" .
NG >> Repair harness or connector.

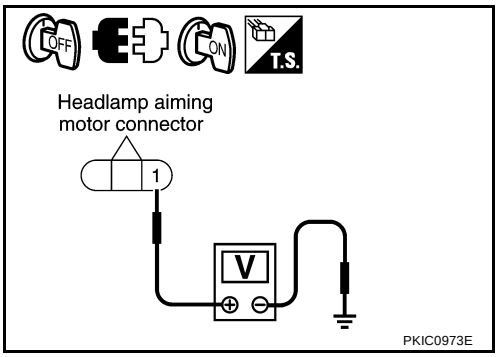
Headlamp Aiming Motor Does Not Operate (One Side)

EKS00N68

1. CHECK POWER SUPPLY CIRCUIT

1. Disconnect headlamp aiming motor connector which does not operate.
2. Turn ignition switch ON.
3. Check voltage between headlamp aiming motor RH or LH harness connector E28 or E44 terminal 1 (R/L) and ground.

1 (R/L) – Ground : Battery voltage.



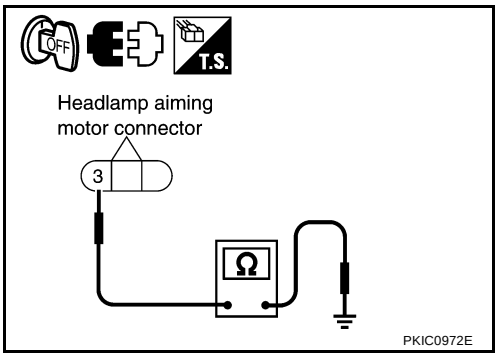
OK or NG

OK >> GO TO 2.
NG >> Repair harness or connector.

2. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between headlamp aiming motor RH or LH harness connector E28 or E44 terminal 3 (B) and ground.

3 (B) – Ground : Continuity should exist.



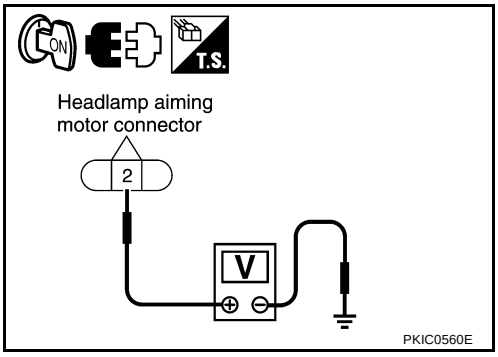
OK or NG

OK >> GO TO 3.
NG >> Repair harness or connector.

3. CHECK HEADLAMP AIMING MOTOR INPUT SIGNAL

1. Turn ignition switch ON.
2. Check voltage between headlamp aiming motor RH or LH harness connector E28 or E44 terminal 2 (L/B) and ground.

2 (L/B) – Ground : Approx. 5 - 10 V



OK or NG

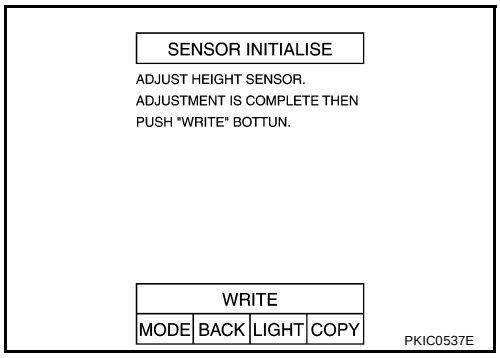
OK >> Replace headlamp. Refer to LT-21, "Removal and Installation of Headlamp" in “HEADLAMP - XENON TYPE -”.
NG >> Repair harness or connector.

DTC B2081 [INITIAL NOT DONE]

EKS00N69

1. INITIALIZE HEIGHT SENSOR

1. Turn ignition switch OFF.
2. Set the vehicle in unladen condition. (Removal all loads in passenger and trunk rooms.)
3. Turn ignition switch ON.
4. Select “HEAD LAMP LEVELIZER” on CONSULT-II, and select “WORK SUPPORT” on “SELECT DIAG MODE” screen.
5. Select “SENSOR INITIALISE” on “SELECT WORK ITEM” screen.
6. Touch “WRITE”.
7. When “INITIALISE COMPLETE” is indicated, touch “END”.



OK or NG

OK >> INSPECTION END

NG >>
- When “INCORRECT CONDITION” is displayed, check connect CONSULT-II and height sensor connector, and then initialize again. Refer to LT-70, "WORK SUPPORT" .
- When “INITIALISE NOT DONE“ is displayed, initialize again. If “ INITIALISE NOT DONE” is displayed again, replace height sensor and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" and LT-70, "WORK SUPPORT" .

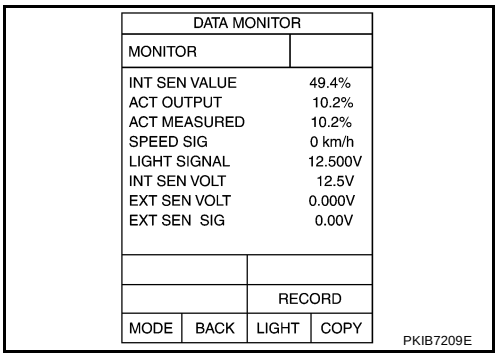
DTC B2082 [SENSOR OUT OF RANGE]

EKS00N6A

1. CHECK HEIGHT SENSOR

1. Select “HEAD LAMP LEVELIZER” on CONSULT-II and “DATA MONITOR” on “SELECT DIAG MODE” screen.
2. Lighting switch is turned 1ST position.
3. Check “INT SEN VALUE” in unloaded condition. (Remove all loads in the passenger and trunk room.)

INT SEN VALUE : Should not be approx. 0% or approx. 100%.



OK or NG

OK >> Erase the self-diagnosis result and perform the self-diagnosis again.

- [B2082] is displayed again: Replace height sensor, and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" and LT-70, "WORK SUPPORT" .
- NO DTC is displayed: INSPECTION END

NG >> GO TO 2.

2. CHECK INSTALLATION CONDITION OF HEIGHT SENSOR

Check height sensor and linkage for deformation or damage.

NOTE:
[B2082] may be displayed when the vehicle is lifted up.

OK or NG

OK >> Replace height sensor, and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" and LT-70, "WORK SUPPORT" .

NG >> Adjust height sensor, or replace height sensor, and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" and LT-70, "WORK SUPPORT" .

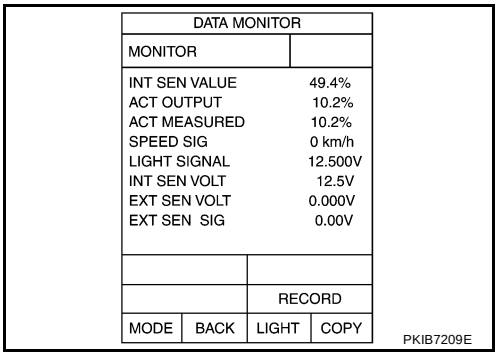
DTC B2083 [SEN SIG NOT PLAUSIBLE]

EKS00N6B

1. CHECK HEIGHT SENSOR

1. Select “HEAD LAMP LEVELIZER” on CONSULT-II and “DATA MONITOR” on “SELECT DIAG MODE” screen.
2. Lighting switch is turned 1ST position.
3. Check if the “INT SEN VALUE” changes as the rear height of the vehicle changes.

INT SEN VALUE : Should vary as rear height of the vehicle changes.



OK or NG

OK >> Erase the self-diagnosis result and perform the self-diagnosis again.

- [B2083] is displayed again: Replace height sensor, and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" and LT-70, "WORK SUPPORT" .
- NO DTC is displayed: INSPECTION END

NG >> GO TO 2.

2. CHECK INSTALLATION CONDITION OF HEIGHT SENSOR

Check height sensor and linkage for deformation or damage.

OK or NG

OK >> Replace height sensor, and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" and LT-70, "WORK SUPPORT" .

NG >> Adjust height sensor, or replace height sensor, and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" and LT-70, "WORK SUPPORT" .

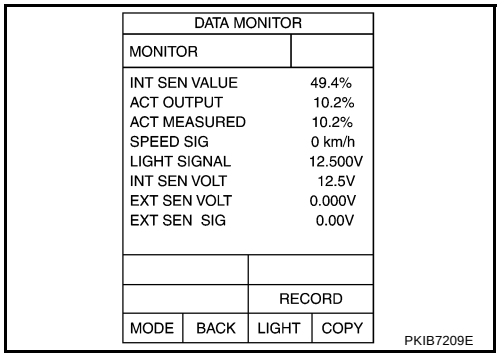
DTC B2084 [VOLTAGE UNDER LIMIT]

EKS00N6C

1. CHECK HEIGHT SENSOR

1. Select “HEAD LAMP LEVELIZER” on CONSULT-II and “DATA MONITOR” on “SELECT DIAG MODE” screen.
2. Check voltage on “INT SEN VOLT” screen.

INT SEN VOLT : Battery voltage.



OK or NG

OK >> Erase the self-diagnosis result and perform the self-diagnosis again.

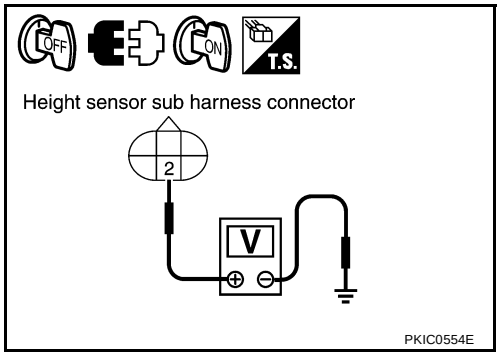
- [B2084] is displayed again: Replace height sensor, and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" and LT-70, "WORK SUPPORT" .
- NO DTC is displayed: INSPECTION END

NG >> GO TO 2.

2. CHECK HEIGHT SENSOR POWER SUPPLY

1. Turn ignition switch OFF.
2. Disconnect height sensor sub harness connector.
3. Turn ignition switch ON.
4. Check voltage between height sensor sub harness connector B142 terminal 2 (G) and ground.

2 (G) – Ground : Battery voltage.



OK or NG

OK >> Replace height sensor, and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" and LT-70, "WORK SUPPORT" .

NG >> Repair harness or connector.

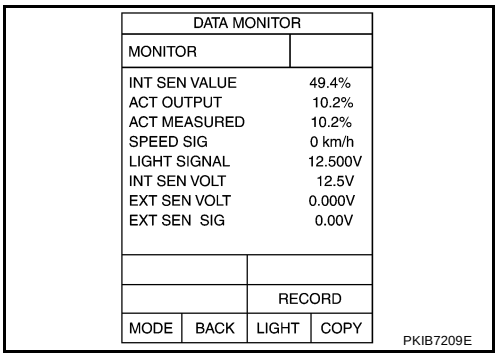
DTC B2085 [LOW BEAM SIG OPEN LINE]

EKS00N6D

1. CHECK HEIGHT SENSOR

1. Select “HEAD LAMP LEVELIZER” on CONSULT-II and “DATA MONITOR” on “SELECT DIAG MODE” screen.
2. Check voltage on “LIGHT SIGNAL” screen when lighting switch OFF and 1ST position.

Item	Condition	Voltage
LIGHT SIGNAL	lighting switch OFF position	2V or less
	lighting switch 1ST position	6V or more



NOTE:
The height sensor performs the self-diagnosis to check the open-circuit of the low-beam circuit.

OK or NG

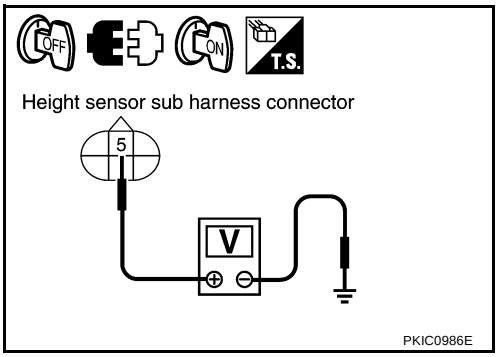
OK >> Erase the self-diagnosis result and perform the self-diagnosis again.
- [B2085] is displayed again: Replace height sensor, and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" and LT-70, "WORK SUPPORT" .
- NO DTC is displayed: INSPECTION END

NG >> GO TO 2.

2. CHECK TAIL LAMP RELAY SIGNAL

1. Turn ignition switch OFF.
2. Disconnect height sensor sub harness connector.
3. Turn ignition switch ON.
4. Lighting switch is turned 1ST position.
5. Check voltage between height sensor sub harness connector B142 terminal 5 (R/L*1 , LG/B*2) and ground.

5 (R/L*1 , LG/B*2) – Ground : Battery voltage.



*1: LHD models, *2: RHD models

OK or NG

OK >> Replace height sensor, and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" and LT-70, "WORK SUPPORT" .

NG >> Repair harness or connector.

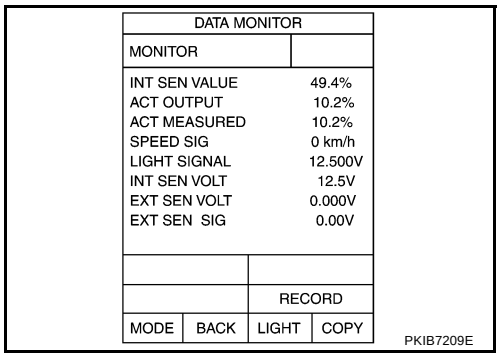
DTC B2086 [FRQ. OVER LIMIT]

EKS00N6E

1. CHECK HEIGHT SENSOR

1. Start engine and place vehicle in a driving condition.
2. Select “HEAD LAMP LEVELIZER” on CONSULT-II and “DATA MONITOR” on “SELECT DIAG MODE” screen.
3. Check the vehicle speed on “SPEED SIG” screen.

SPEED SIG : Correct vehicle speed should be displayed.



OK or NG

OK >> Erase the self-diagnosis. After drive the vehicle more than 5 minutes, perform the self-diagnosis again.

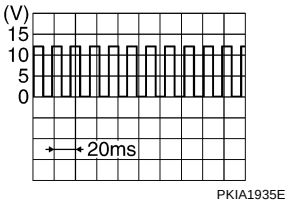
- [B2086] is displayed again: Replace height sensor, and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" and LT-70, "WORK SUPPORT" .
- NO DTC is displayed: INSPECTION END

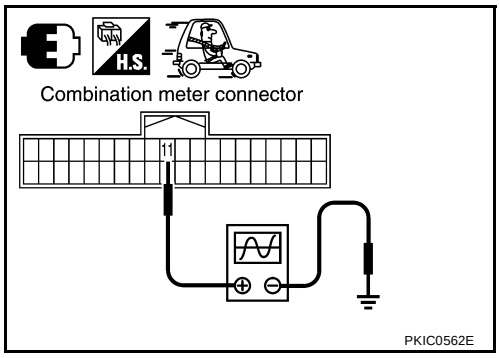
NG >> GO TO 2.

2. CHECK VEHICLE SPEED SIGNAL

Check the waveform of voltage between combination meter harness connector M44 terminal 11 (LG) and ground when the vehicle is in driving condition at a speed of about 40 km/h (25 MPH).

11 (LG) – Ground:





OK or NG

OK >> Replace height sensor, and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" and LT-70, "WORK SUPPORT" .

NG >> Refer to DI-28, "Vehicle Speed Signal Inspection [With ESP]" , DI-28, "Vehicle Speed Signal Inspection [Without ESP]" in DI section.

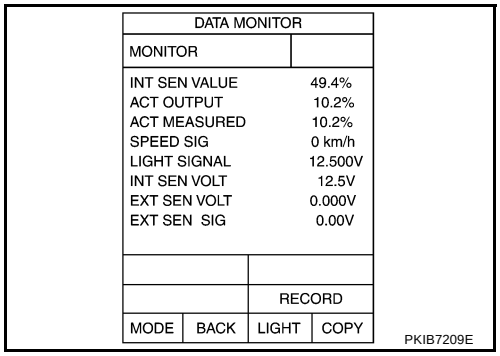
DTC B2087 [SHORT TO GROUND]

EKS00N6F

1. CHECK HEIGHT SENSOR

1. Select “HEAD LAMP LEVELIZER” on CONSULT-II and “DATA MONITOR” on “SELECT DIAG MODE” screen.
2. Lighting switch is turned 1ST position.
3. Check if “ACT OUTPUT” and “ACT MEASURED” indicated the same value.

NOTE:
If shorted to ground, “ACT MEASURED” indicates approx. 0%.



OK or NG

OK >> Erase the self-diagnosis and perform the self-diagnosis again.

- [B2087] is displayed again: Replace height sensor, and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" and LT-70, "WORK SUPPORT" .
- NO DTC is displayed: INSPECTION END

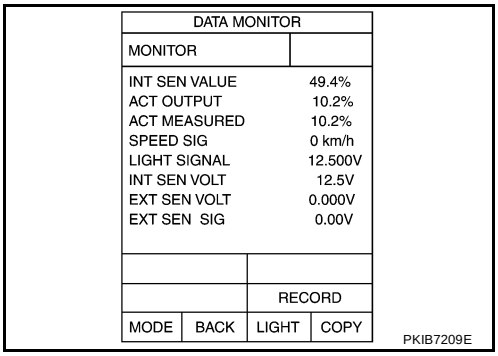
NG >> GO TO 2.

2. CHECK HEADLAMP LEVELIZER

1. Turn ignition switch OFF.
2. Disconnect headlamp aiming motor RH and LH connector.
3. Turn ignition switch ON.
4. Select “HEAD LAMP LEVELIZER” on CONSULT-II and “DATA MONITOR” on “SELECT DIAG MODE” screen.
5. Check if “ACT OUTPUT” and “ACT MEASURED” indicated the same value.

OK or NG

OK >> GO TO 4.
NG >> GO TO 3.



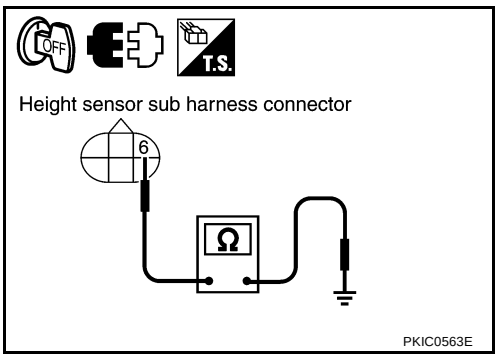
3. CHECK SHORT CIRCUIT BETWEEN HEIGHT SENSOR AND HEADLAMP LEVELIZER

1. Turn ignition switch OFF.
2. Disconnect height sensor sub harness connector.
3. Check continuity between height sensor sub harness connector B142 terminal 6 (L/B) and ground.

6 (L/B) – Ground : Continuity should not exist.

OK or NG

OK >> Replace height sensor, and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" and LT-70, "WORK SUPPORT" .
NG >> Repair harness or connector.

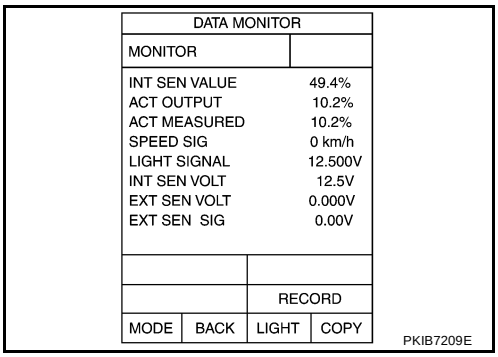


4. CHECK HEADLAMP AIMING MOTOR RH

1. Connect headlamp aiming motor RH connector only.
2. Turn ignition switch ON.
3. Check if “ACT OUTPUT” and “ACT MEASURED” indicated the same value.

OK or NG

OK >> GO TO 5.
NG >> Replace headlamp RH. Refer to LT-21, "Removal and Installation of Headlamp" in “HEADLAMP - XENON TYPE -”.

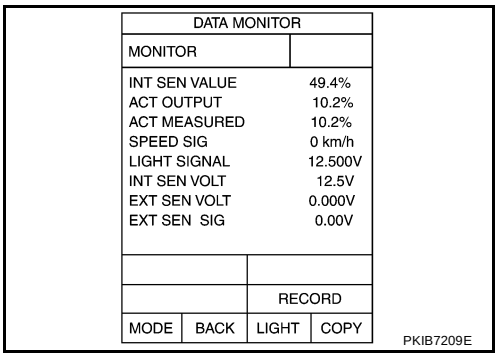


5. CHECK HEADLAMP AIMING MOTOR LH

1. Turn ignition switch OFF.
2. Disconnect headlamp aiming motor RH connector.
3. Connect headlamp aiming motor LH connector.
4. Turn ignition switch ON.
5. Check if “ACT OUTPUT” and “ACT MEASURED” indicated the same value.

OK or NG

OK >> Replace height sensor, and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" and LT-70, "WORK SUPPORT" .
NG >> Replace headlamp LH. Refer to LT-21, "Removal and Installation of Headlamp" in “HEADLAMP - XENON TYPE -”.



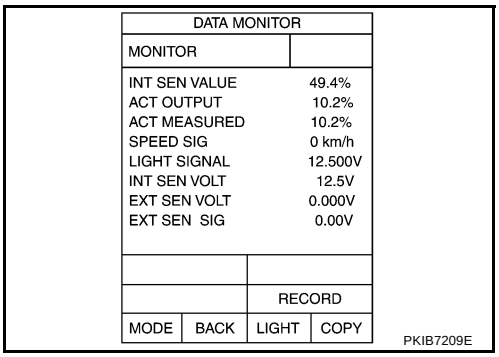
DTC B2088 [SHORT TO BATTERY]

EKS00N6G

1. CHECK HEIGHT SENSOR

1. Select “HEAD LAMP LEVELIZER” on CONSULT-II and “DATA MONITOR” on “SELECT DIAG MODE” screen.
2. Lighting switch is turned 1ST position.
3. Check if “ACT OUTPUT” and “ACT MEASURED” indicated the same value.

   NOTE:
   If shorted to battery, “ACT MEASURED” indicates approx. 100%.



OK or NG

OK >> Erase the self-diagnosis and perform the self-diagnosis again.

- [B2088] is displayed again: Replace height sensor, and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" and LT-70, "WORK SUPPORT" .
- NO DTC is displayed: INSPECTION END

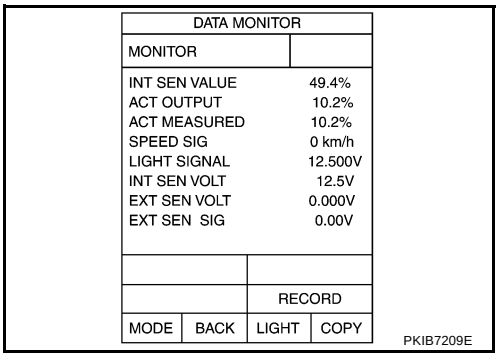
NG >> GO TO 2.

2. CHECK HEADLAMP LEVELIZER

1. Turn ignition switch OFF.
2. Lighting switch is turned OFF position.
3. Disconnect headlamp aiming motor RH and LH connector.
4. Select “HEAD LAMP LEVELIZER” on CONSULT-II and “DATA MONITOR” on “SELECT DIAG MODE” screen.
5. Lighting switch is turned 1ST position.
6. Check if “ACT OUTPUT” and “ACT MEASURED” indicated the same value.

OK or NG

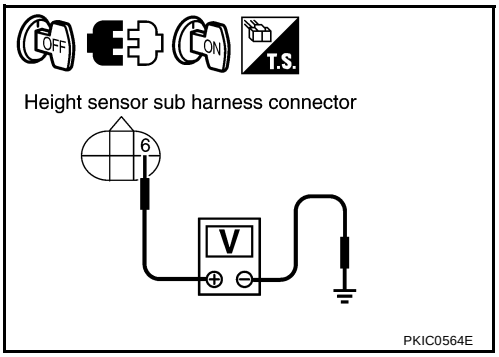
OK >> GO TO 4.
NG >> GO TO 3.



3. CHECK SHORT CIRCUIT BETWEEN HEIGHT SENSOR AND HEADLAMP LEVELIZER

1. Turn ignition switch OFF.
2. Lighting switch is turned OFF position.
3. Disconnect height sensor sub harness connector.
4. Turn ignition switch ON.
5. Check voltage between height sensor sub harness connector B142 terminal 6 (L/B) and ground.

6 (L/B) – Ground : Approx. 0 V



OK or NG

OK >> Replace height sensor, and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" and LT-70, "WORK SUPPORT" .
NG >> Repair harness or connector.

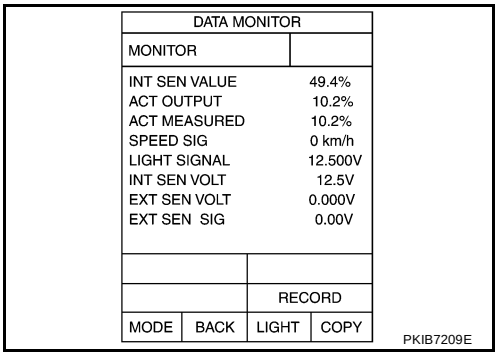
4. CHECK HEADLAMP AIMING MOTOR RH

1. Connect headlamp aiming motor RH connector only.
2. Turn ignition switch ON.
3. Check if “ACT OUTPUT” and “ACT MEASURED” indicated the same value.

OK or NG

OK >> GO TO 5.

NG >> Replace headlamp RH. Refer to LT-21, "Removal and Installation of Headlamp" in HEADLAMP - XENON TYPE -.



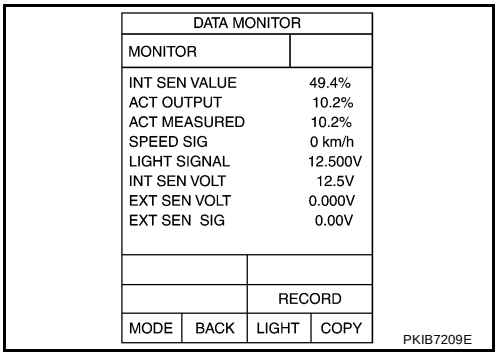
5. CHECK HEADLAMP AIMING MOTOR LH

1. Turn ignition switch OFF.
2. Disconnect headlamp aiming motor RH connector.
3. Connect headlamp aiming motor LH connector.
4. Turn ignition switch ON.
5. Check if “ACT OUTPUT” and “ACT MEASURED” indicated the same value.

OK or NG

OK >> Replace height sensor, and initialize it. Refer to LT-86, "Removal and Installation of Height Sensor" and LT-70, "WORK SUPPORT" .

NG >> Replace headlamp LH. Refer to LT-21, "Removal and Installation of Headlamp" in HEADLAMP - XENON TYPE -.

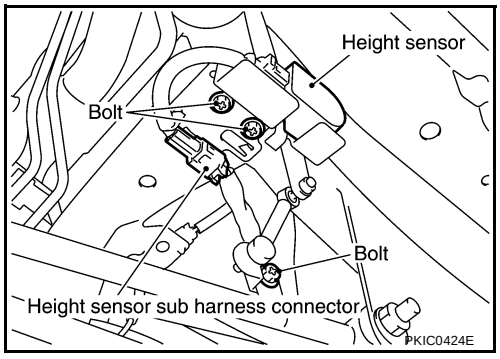


Removal and Installation of Height Sensor

EKS00N6H

REMOVAL

1. Turn ignition switch OFF.
2. Disconnect the battery cable from the negative terminal or remove power fuse.
3. Lift-up the vehicle.
4. Disconnect height sensor sub harness connector.
5. Remove linkage mounting bolt.
6. Remove height sensor mounting bolt and remove height sensor from vehicle.



INSTALLATION

Installation is the reverse order of removal.

Height sensor mounting bolt		**: 5.5 N·m (0.56 kg-m, 49 in-lb)**
Linkage mounting bolt		**: 5.5 N·m (0.56 kg-m, 49 in-lb)**

NOTE:
Initialize whenever replacing the height sensor. Refer to LT-70, "WORK SUPPORT" .

TURN SIGNAL AND HAZARD WARNING LAMPS

PFP:26120

System Description

EKS003BX

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 10A fuse [No. 2, located in fuse block (J/B)]
- through hazard switch terminal 2
- through hazard switch terminal 1
- to combination flasher unit terminal 1,
- through combination flasher unit terminal 3
- to turn signal switch terminal 1.

Ground is supplied

- to combination flasher unit terminal 2
- through grounds M27 and M70.

LH Turn Signal Lamp

When the turn signal switch is moved to the left position, power is supplied

- through turn signal switch terminal 3
- to front turn signal lamp LH terminal 1
- to side turn signal lamp LH terminal 1
- to combination meter terminal 52, and
- to rear combination lamp LH terminal 2.

Ground is supplied

- to front turn signal lamp LH terminal 2
- through grounds E24 and E50,
- to side turn signal lamp LH terminal 2
- through grounds E24 and E50,
- to rear combination lamp LH terminal 4
- through grounds B8 and B18,
- to combination meter terminal 64
- through grounds M27 and M70.

With power and ground supplied, the combination flasher unit controls the flashing of the LH turn signal lamps.

RH Turn Signal Lamp

When the turn signal switch is moved to the right position, power is supplied

- through turn signal switch terminal 2
- to front turn signal lamp RH terminal 1
- to side turn signal lamp RH terminal 1
- to combination meter terminal 18, and
- to rear combination lamp RH terminal 2.

Ground is supplied

- to front turn signal lamp RH terminal 2
- through grounds E24 and E50,
- to side turn signal lamp RH terminal 2
- through grounds E24 and E50,
- to rear combination lamp RH terminal 4
- through grounds B8 and B18,
- to combination meter terminal 64
- through grounds M27 and M70.

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

- through 10A fuse (No. 35, located in the fuse and fusible link box)
- to hazard switch terminal 3.

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

- through hazard switch terminal 1
- to combination flasher unit terminal 1,
- through combination flasher unit terminal 3
- to hazard switch terminal 4.

Ground is supplied

- to combination flasher unit terminal 2
- through grounds M27 and M70.

Power is supplied

- through hazard switch terminal 5
- to front turn signal lamp LH terminal 1
- to side turn signal lamp LH terminal 1
- to combination meter terminal 52, and
- to rear combination lamp LH terminal 2,
- through hazard switch terminal 6
- to front turn signal lamp RH terminal 1
- to side turn signal lamp RH terminal 1
- to combination meter terminal 18, and
- to rear combination lamp RH terminal 2.

Ground is supplied

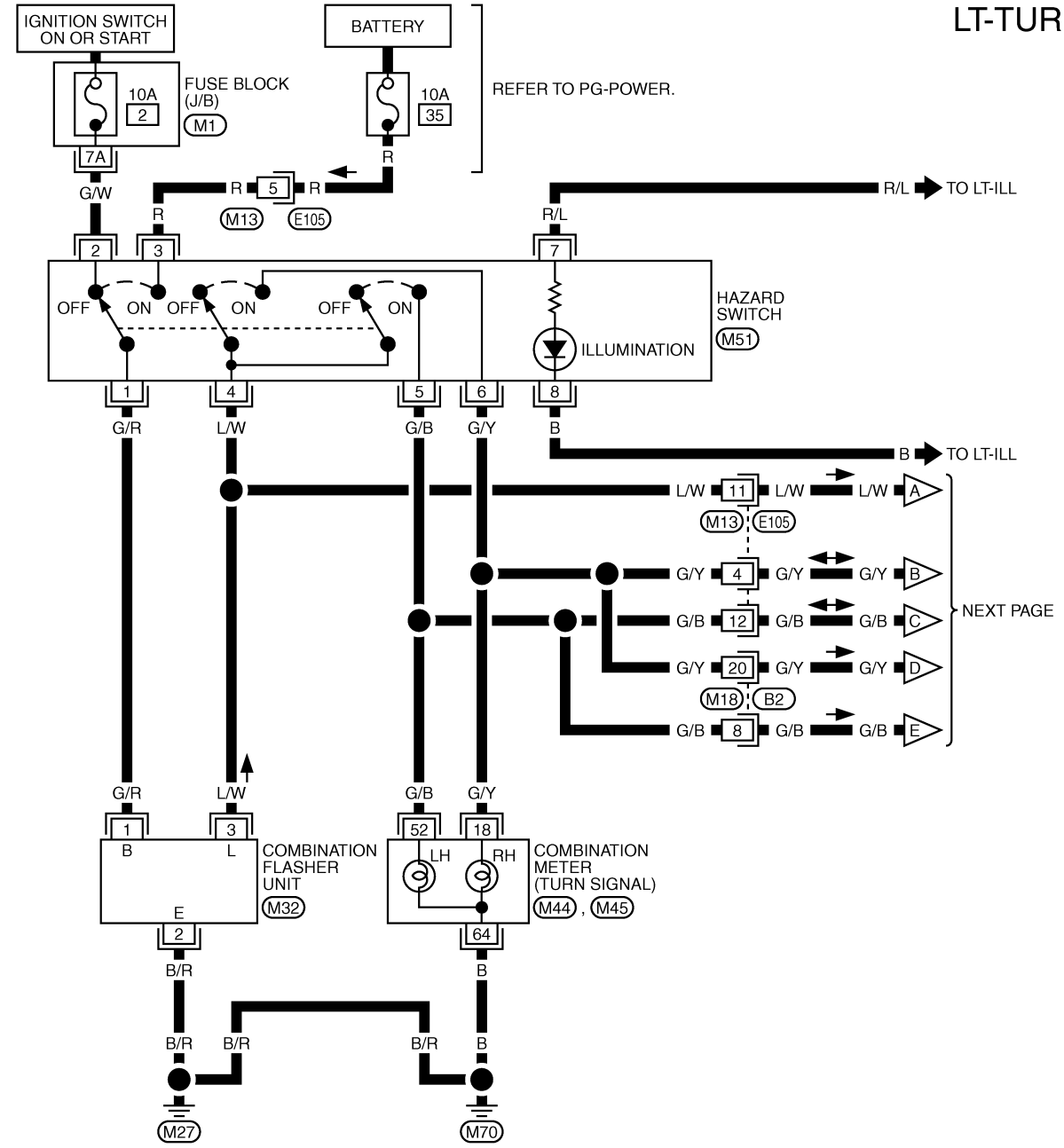
- to front turn signal lamp LH and RH terminal 2
- through grounds E24 and E50,
- to side turn signal lamp LH and RH terminal 2
- through grounds E24 and E50,
- to rear combination lamp LH and RH terminal 4
- through grounds B8 and B18,
- to combination meter terminal 64
- through grounds M27 and M70.

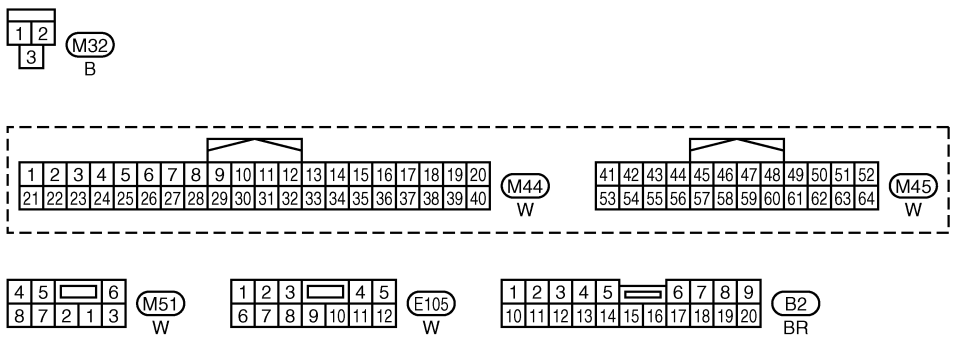
With power and ground supplied, the combination flasher unit controls the flashing of the hazard warning lamps.

Wiring Diagram — TURN —

EKS003BY

LHD MODELS



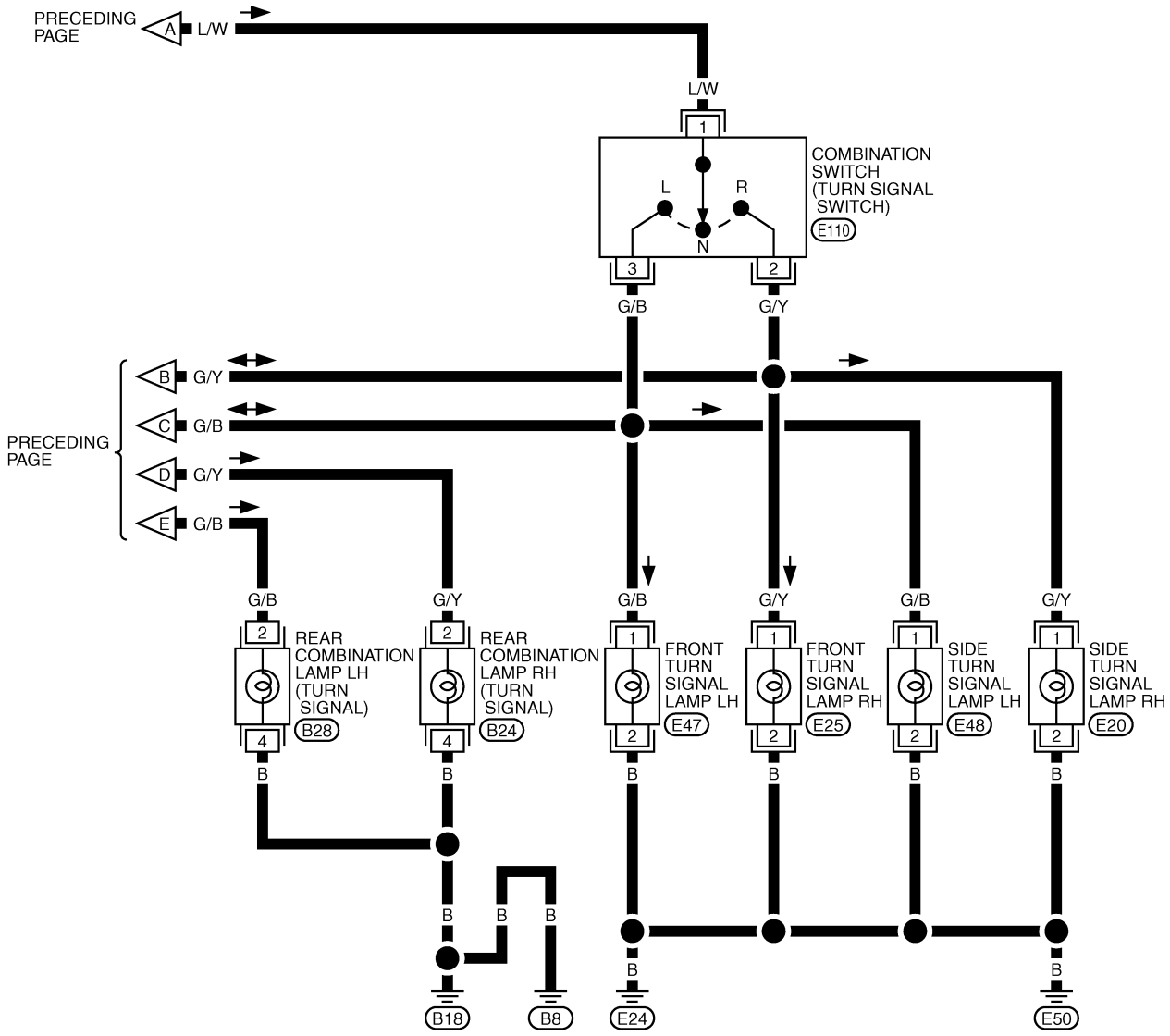


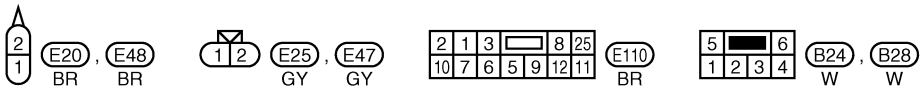
REFER TO THE FOLLOWING.

M1 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWA1526E

LT-TURN-02

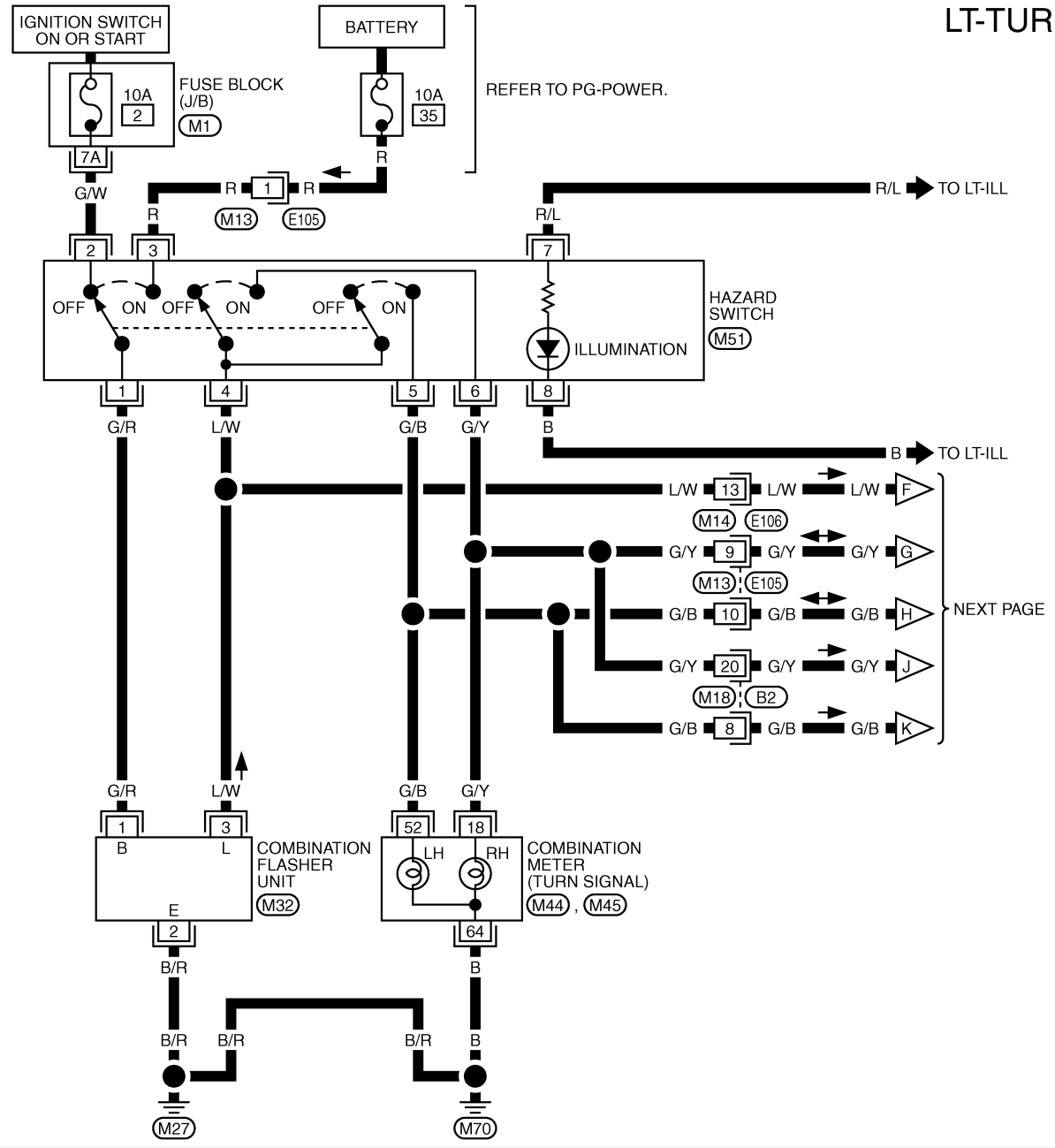


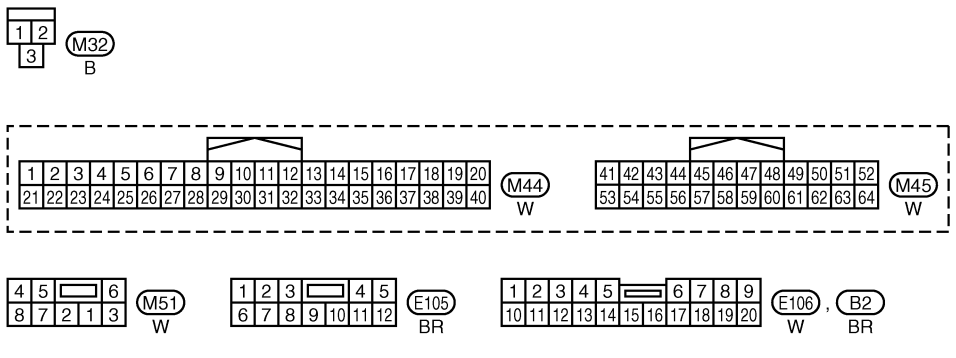


TKWA0073E

RHD MODELS

LT-TURN-03

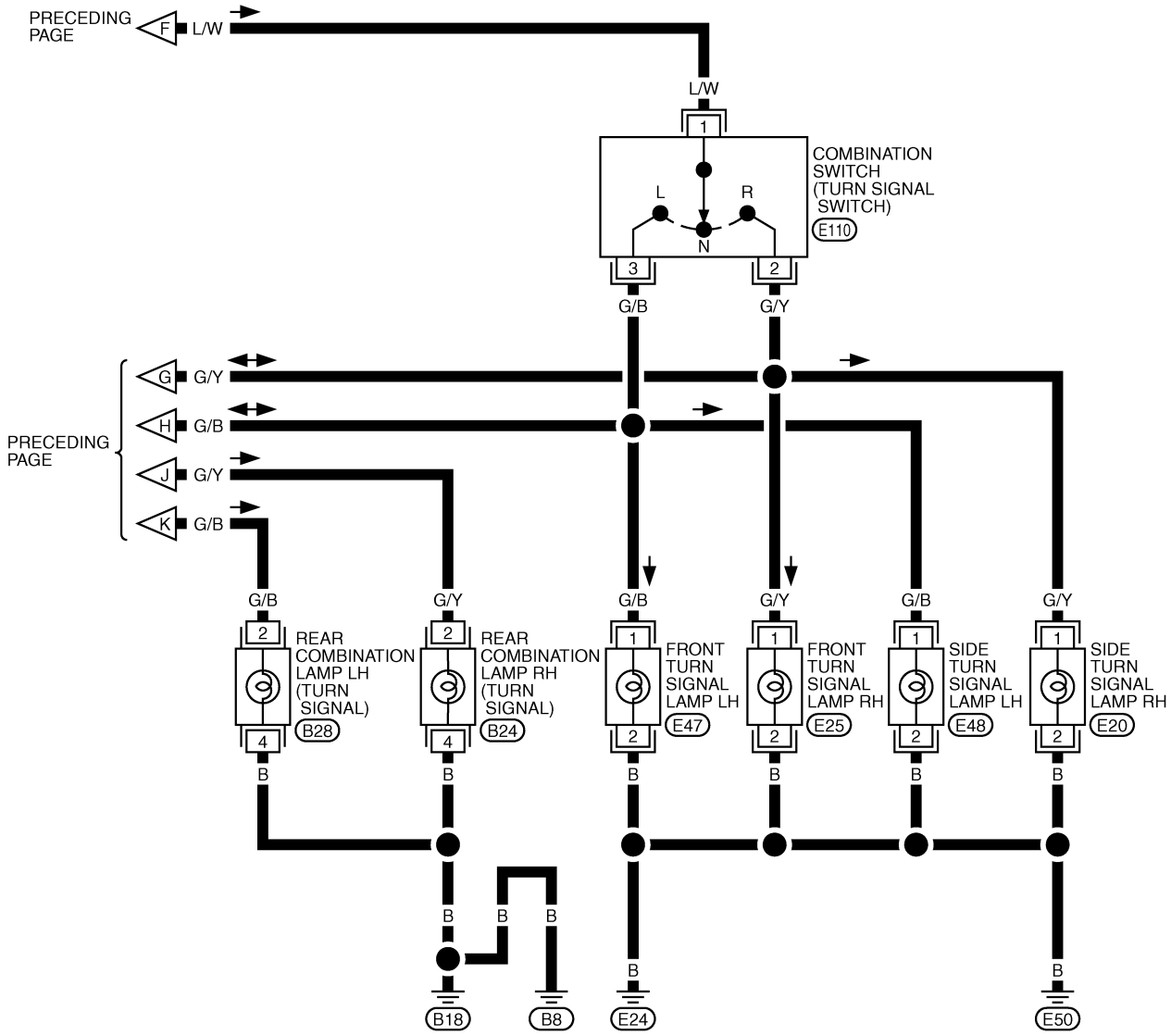


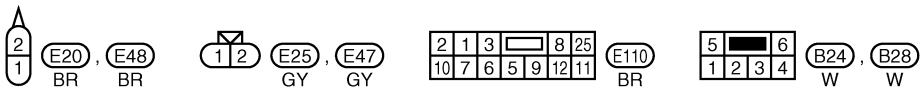


REFER TO THE FOLLOWING.
M1 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWA1527E

LT-TURN-04





TKWA1528E

Trouble Diagnoses

EKS003BG

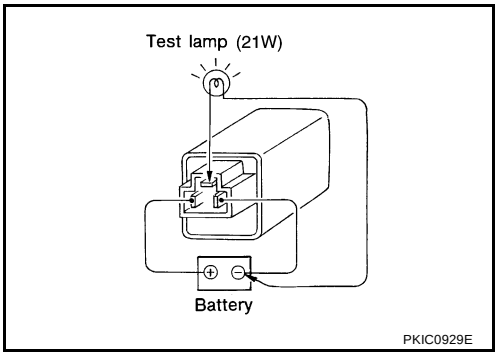
Symptom	Possible cause	Repair order
Turn signal and hazard warning lamps do not operate.	1. Hazard switch 2. Combination flasher unit 3. Open in combination flasher unit circuit	1. Check hazard switch. 2. Refer to combination flasher unit check. 3. Check wiring to combination flasher unit for open circuit.
Turn signal lamps do not operate but hazard warning lamps operate.	1. 10A fuse 2. Hazard switch 3. Turn signal switch 4. Open in turn signal switch circuit	1. Check 10A 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. 2. Check hazard switch. 3. Check turn signal switch. 4. Check the wire between combination flasher unit terminal 3 and turn signal switch terminal 1 for open circuit.
Hazard warning lamps do not operate but turn signal lamps operate.	1. 10A fuse 2. Hazard switch 3. Open in hazard switch circuit	1. Check 10A fuse (No. 35, located in the fuse and fusible link box). Verify battery positive voltage is present at terminal 3 of hazard switch. 2. Check hazard switch. 3. Check the wire between combination flasher unit terminal 3 and hazard switch terminal 4 for open circuit.
Front turn signal lamp LH or RH does not operate.	1. Bulb 2. Grounds E24 and E50	1. Check bulb. 2. Check grounds E24 and E50.
Rear turn signal lamp LH or RH does not operate.	1. Bulb 2. Grounds B8 and B18	1. Check bulb. 2. Check grounds B8 and B18.
Side turn signal lamp LH or RH does not operate.	1. Bulb 2. Grounds E24 and E50	1. Check bulb. 2. Check grounds E24 and E50.
LH and RH turn indicators do not operate.	1. Ground	1. Check grounds M27 and M70.
LH or RH turn indicator does not operate.	1. Bulb	1. Check bulb in combination meter.

Electrical Components Inspection

EKS0034C

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.



Bulb Replacement

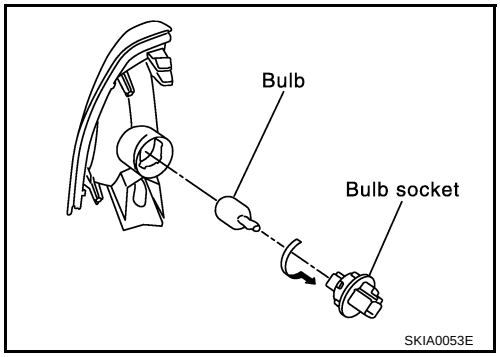
EKS0034D

FRONT TURN SIGNAL LAMP

1. Remove the front turn signal lamp. Refer to LT-94, "Removal and Installation of Front Turn Signal Lamp"
2. Turn the bulb socket counterclockwise and unlock it.
3. Remove the bulb from its socket.

Front turn signal lamp : 12V - 21W (amber)

4. Installation is the reverse order of removal.

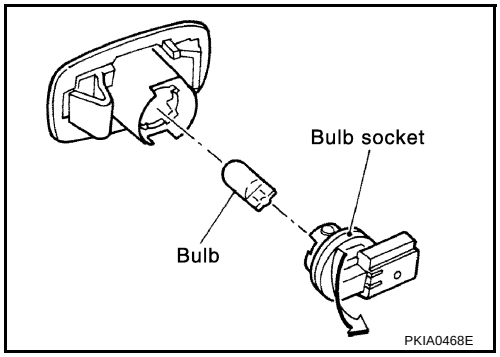


SIDE TURN SIGNAL LAMP

1. Remove side turn signal lamp. Refer to LT-95, "Removal and Installation of Side Turn Signal Lamp"
2. Turn the bulb socket counterclockwise and unlock it.
3. Remove the bulb from its socket.

Side turn signal lamp : 12V - 5W

4. Installation is the reverse order of removal.



REAR TURN SIGNAL LAMP

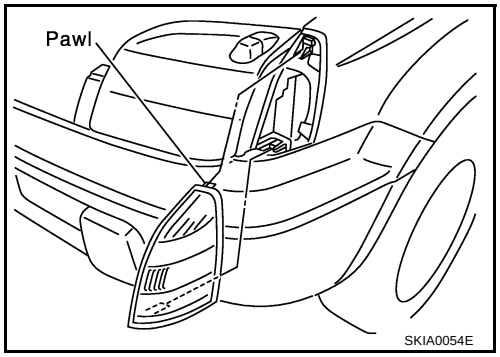
Refer to LT-119, "Bulb Replacement" in “REAR COMBINATION LAMP”.

Removal and Installation of Front Turn Signal Lamp

EKS003BH

REMOVAL

1. Press the upper pawl to remove front turn signal lamp forward the front of the vehicle.
2. Disconnect front turn signal lamp connector.



INSTALLATION

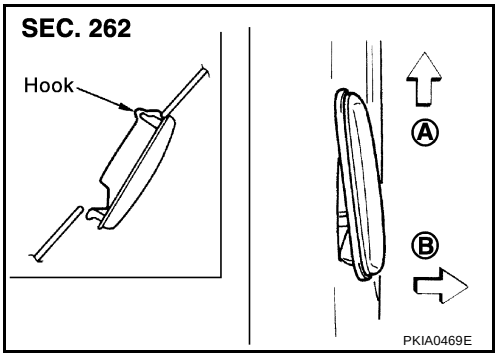
1. Connect front turn signal lamp connector.
2. Insert the pawl into head lamp hole, and install front turn signal lamp.

Removal and Installation of Side Turn Signal Lamp

EKS003BI

REMOVAL

1. Push the side turn signal lamp toward A direction in the figure, and pull up B direction in the figure.
2. Disconnect the side turn signal lamp connector.



INSTALLATION

Installation is the reverse order of removal.

Removal and Installation of Rear Turn Signal Lamp

EKS003BJ

Refer to LT-119, "Removal and Installation" in “REAR COMBINATION LAMP”.

LIGHTING AND TURN SIGNAL SWITCH

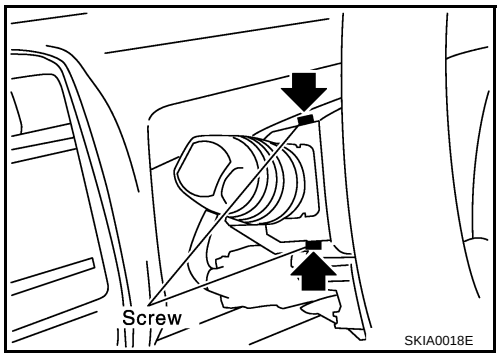
PFP:25540

Removal and Installation

EKS0034F

REMOVAL

1. Remove the steering column cover. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" in “INSTRUMENT PANEL (IP)” section.
2. Remove two screws, then remove the lighting and turn signal switch from the spiral cable.
3. Disconnect the lighting and turn signal switch connector.



INSTALLATION

Installation is the reverse order of removal.

Switch Circuit Inspection

EKS0034G

Using circuit tester, check continuity between the lighting and turn signal switch connector terminals in each operation status of the switch.
Lighting switch is refer to LT-28, "Wiring Diagram — H/LAMP —" .
Turn signal lamp switch is refer to LT-89, "Wiring Diagram — TURN —" .
Front fog lamp switch is refer to LT-109, "Wiring Diagram — F/FOG —" .
Rear fog lamp switch is refer to LT-113, "Wiring Diagram — R/FOG —/Without Front Fog Lamp" ,LT-114, "Wiring Diagram — R/FOG —/With Front Fog Lamp" .

HAZARD SWITCH

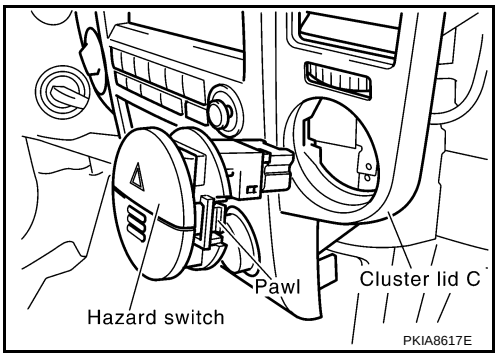
PFP:25290

Removal and Installation

EKS003BZ

REMOVAL

1. Remove cluster lid C. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" in “INSTRUMENT PANEL (IP)” section.
2. Press the hazard switch fixing pawls and remove it from the cluster lid C.



INSTALLATION

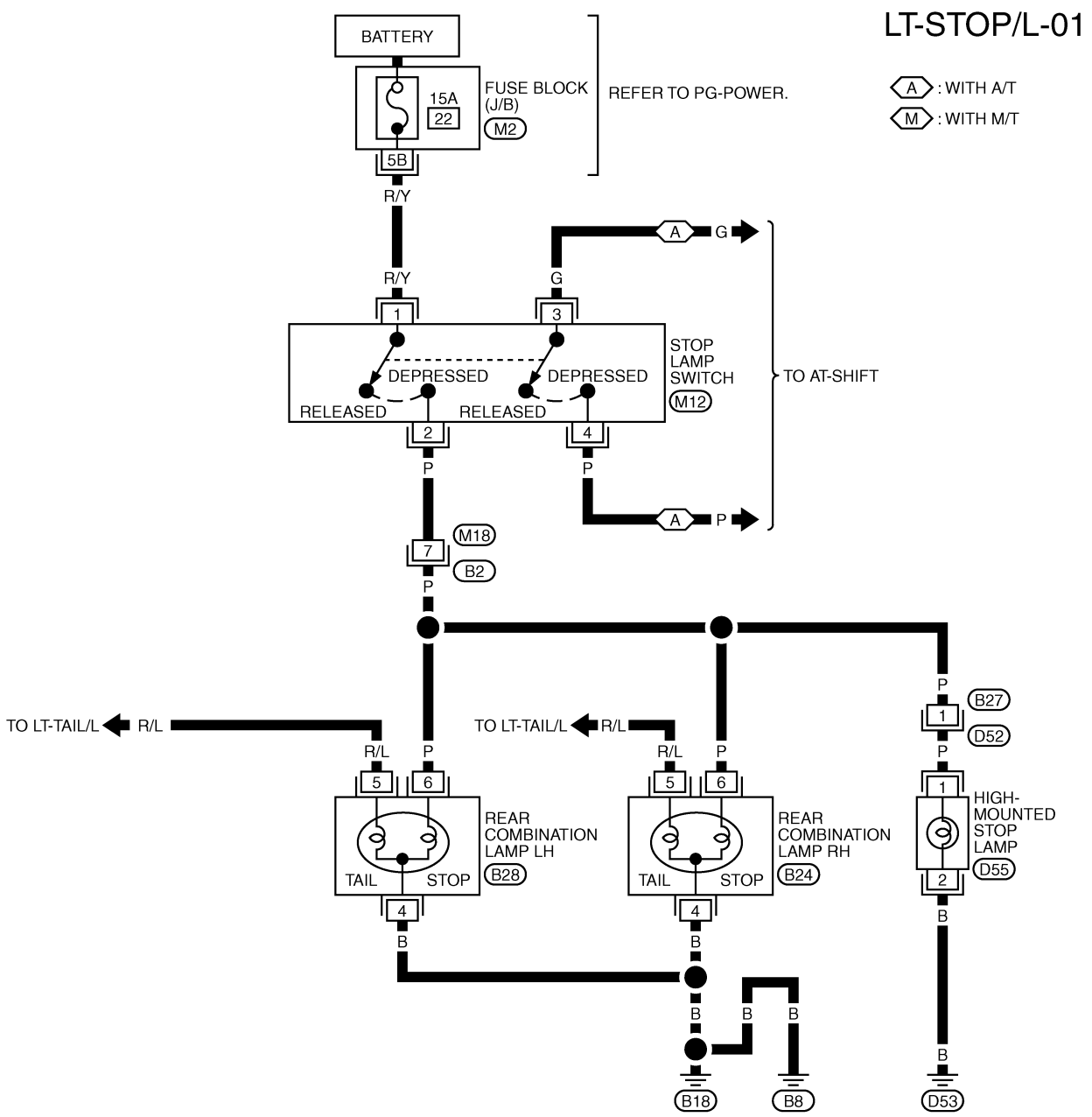
Installation is the reverse order of removal.

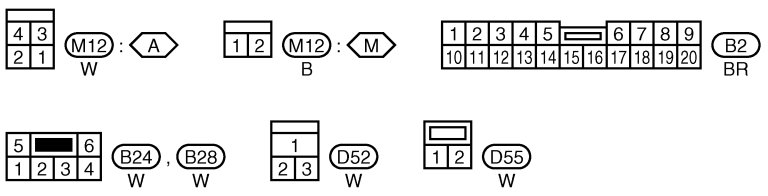
STOP LAMP

PFP:26550

Wiring Diagram — STOP/L —

EKS0034I





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

TKWA1529E

Bulb Replacement

EKS0034K

STOP LAMP

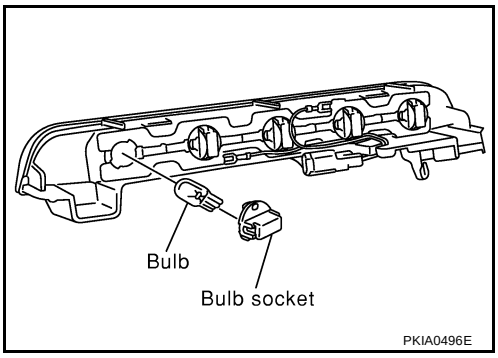
Refer to LT-119, "Bulb Replacement" in “REAR COMBINATION LAMP”.

HIGH-MOUNTED STOP LAMP

1. Remove the high-mounted stop lamp cover. Refer to LT-99, "HIGH-MOUNTED STOP LAMP" .
2. Turn the high-mounted stop lamp bulb socket counterclockwise and unlock it.
3. Remove the bulb.

High-mounted Stop Lamp : 12V - 5W

4. Installation is the reverse order of removal.



Removal and Installation

EKS0034L

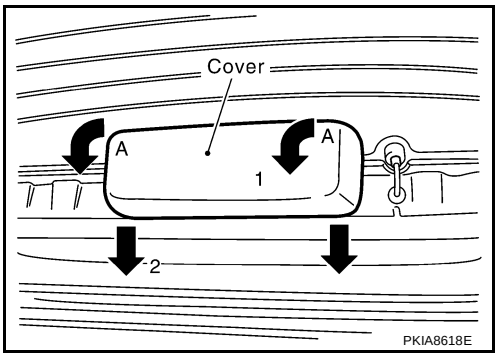
STOP LAMP

Refer toLT-119, "Removal and Installation" in “REAR COMBINATION LAMP”.

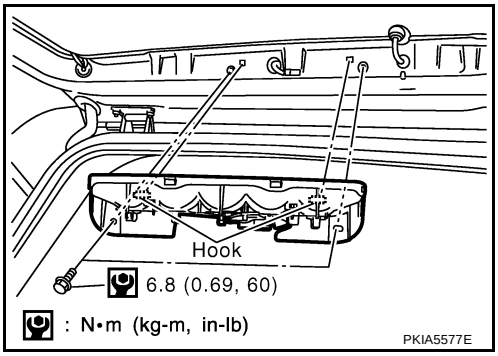
HIGH-MOUNTED STOP LAMP

Removal

1. Pull the edge of the cover (A in the figure below) to each side in turn downward until the pawls inside the cover are released.
2. Pull down the cover.



3. Remove the high-mounted stop lamp mounting bolts.
4. Disconnect the high-mounted stop lamp connector and remove it from the vehicle.



Installation

Installation is the reverse order of removal.

High-mounted stop lamp mounting bolt : 6.8 N·m (0.69 kg-m, 60 in-lb)

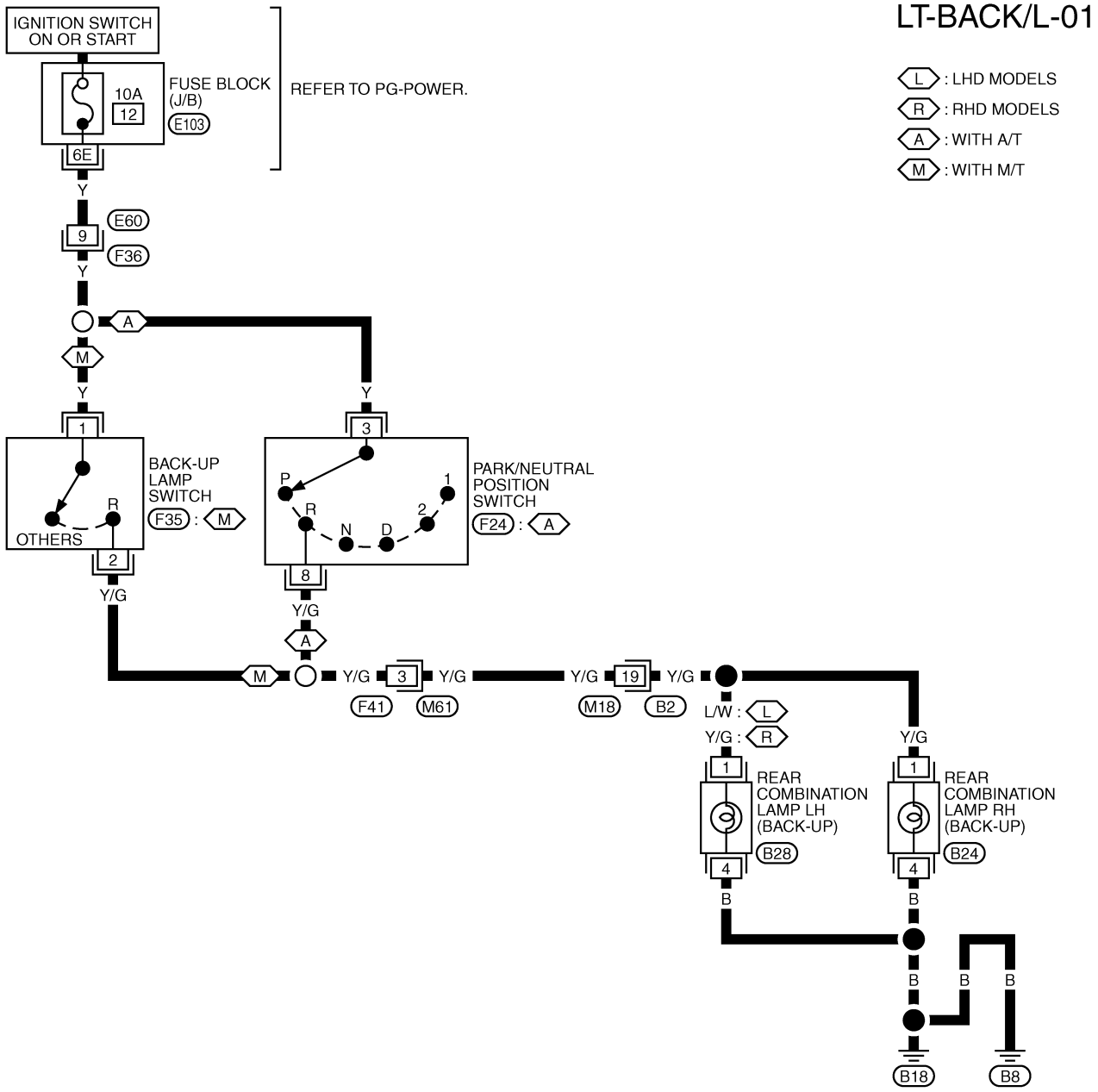
BACK-UP LAMP

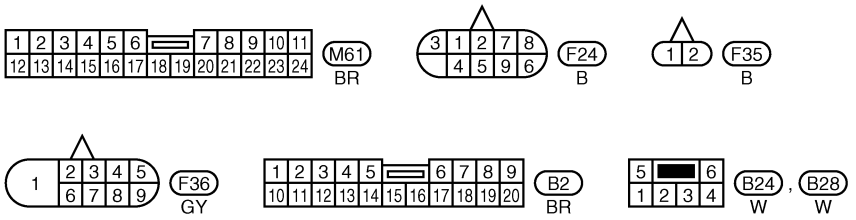
PFP:26550

Wiring Diagram — BACK/L —

EKS003C3

GASOLINE ENGINE

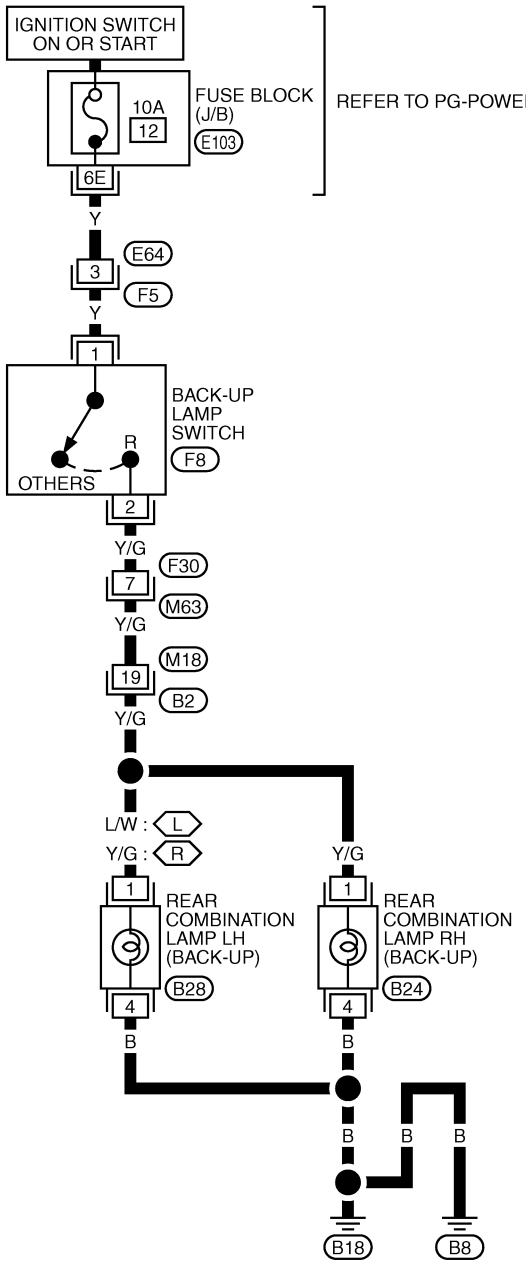


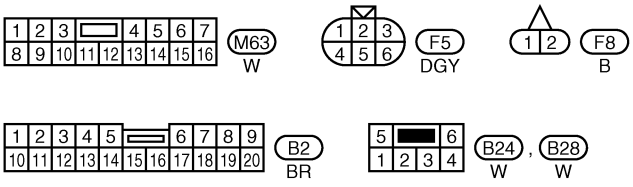


REFER TO THE FOLLOWING.
E103 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWA1530E

DIESEL ENGINE





REFER TO THE FOLLOWING.
E103 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWA1531E

Bulb Replacement

EKS003C4

Refer to LT-119, "Bulb Replacement" in “REAR COMBINATION LAMP”.

Removal and Installation

EKS003C5

Refer to LT-119, "Removal and Installation" in “REAR COMBINATION LAMP”.

PARKING, LICENSE PLATE AND TAIL LAMPS

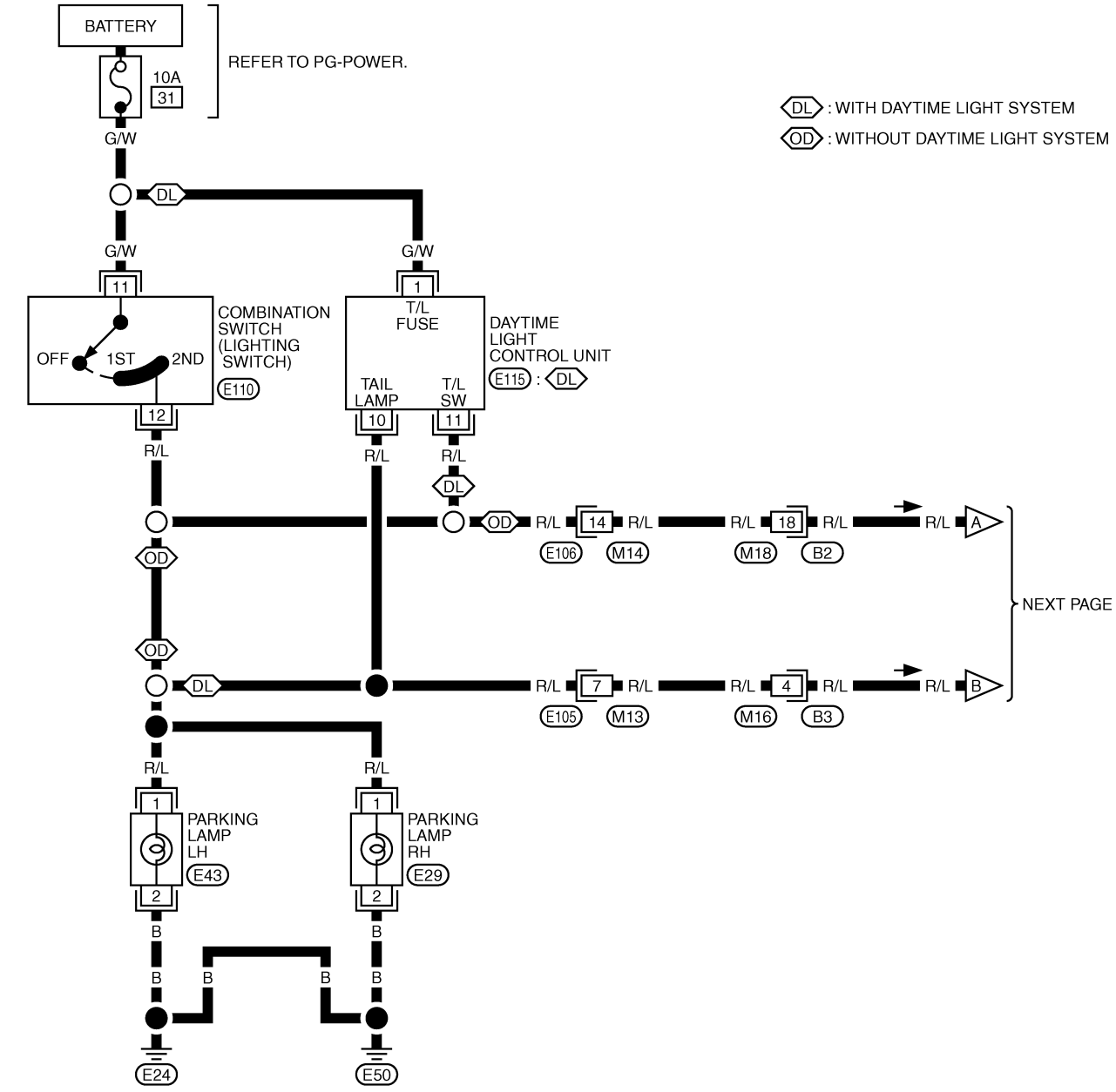
PFP:26550

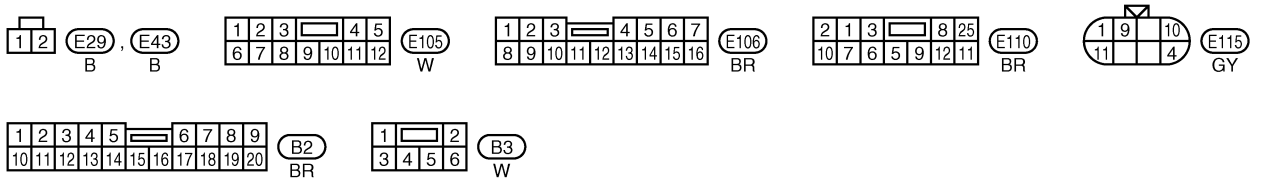
Wiring Diagram — TAIL/L —

EKS003C0

LHD MODELS

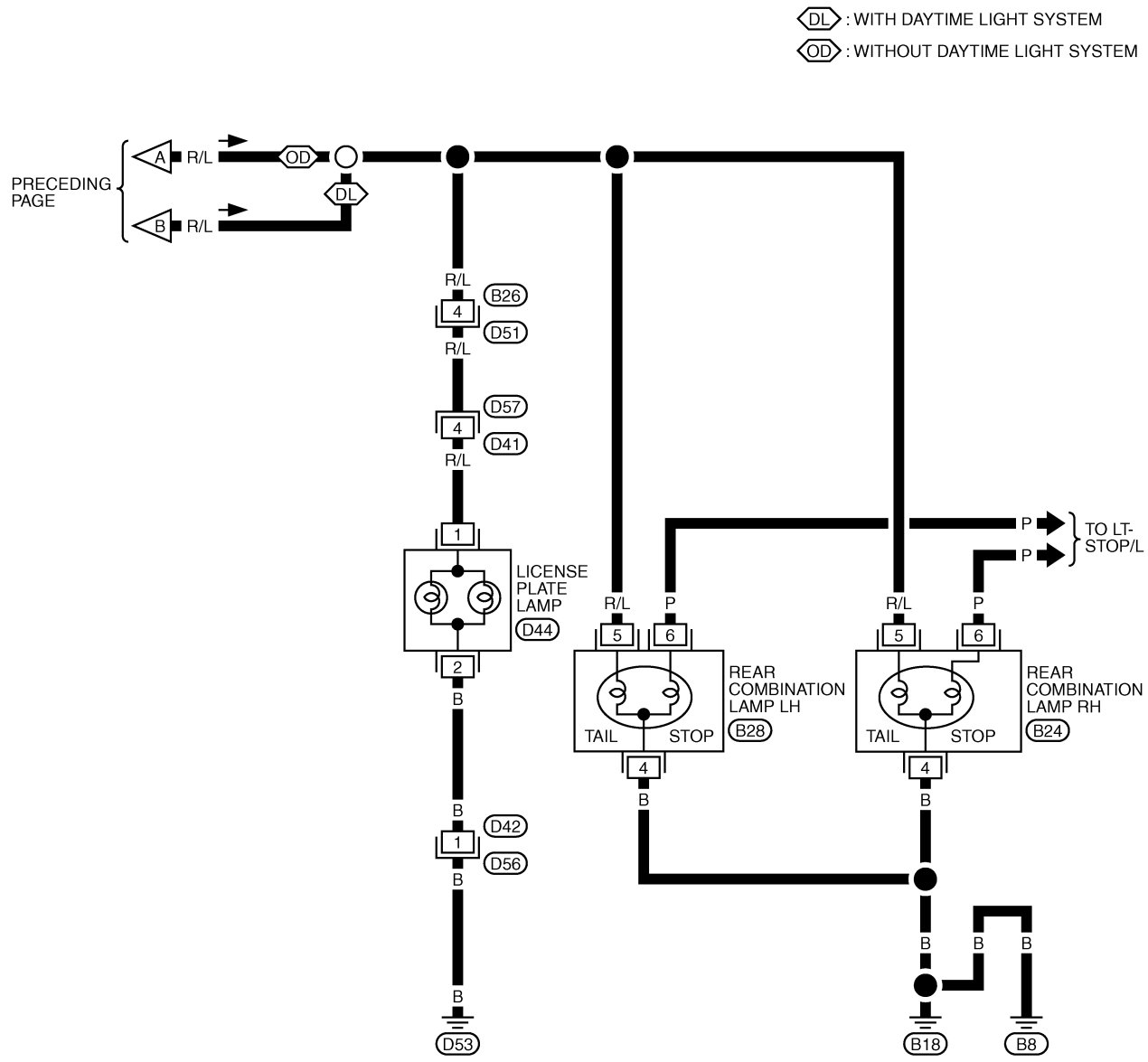
LT-TAIL/L-01

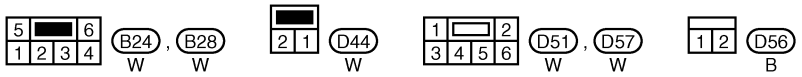




TKWA1532E

LT-TAIL/L-02

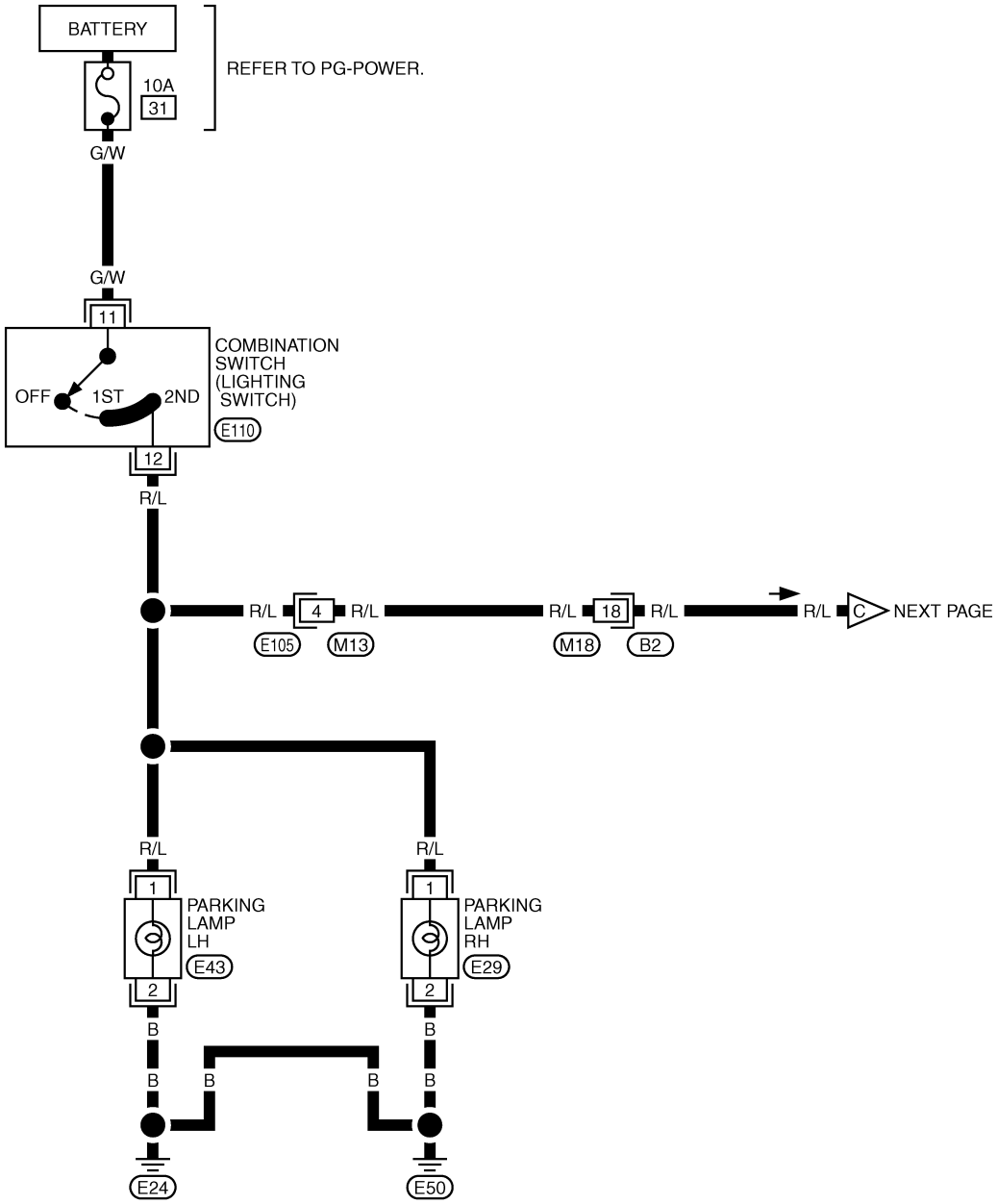


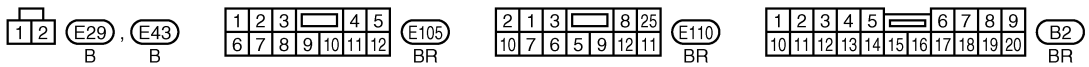


TKWA0066E

RHD MODELS

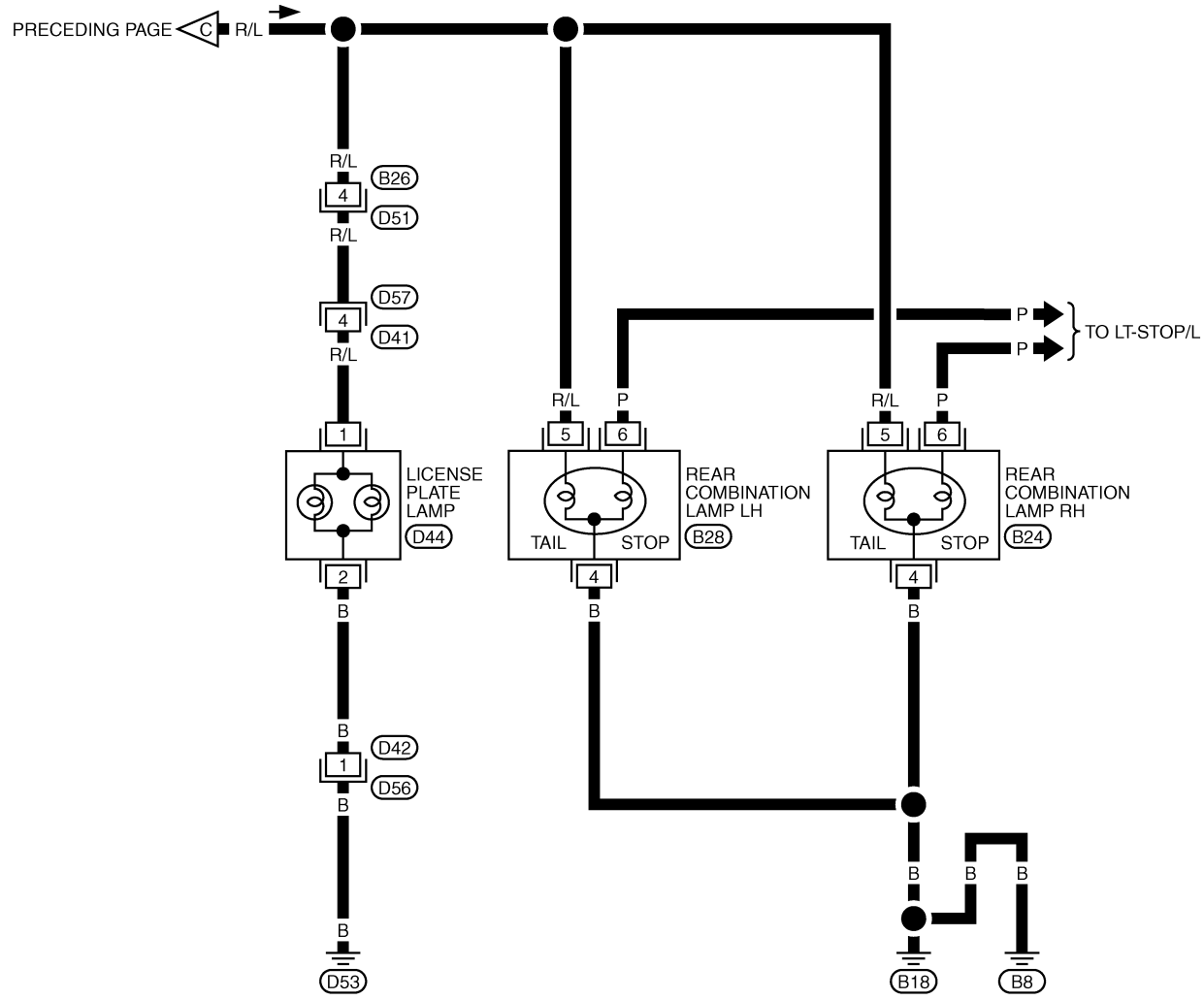
LT-TAIL/L-03

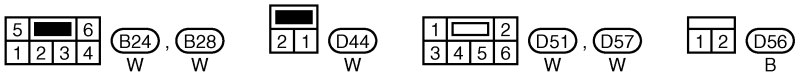




TKWA1533E

LT-TAIL/L-04





TKWA1534E

Bulb Replacement

EKS003C1

PARKING AND TAIL LAMPS

Refer to LT-37, "Bulb Replacement of Headlamp and Clearance lamp" in “HEADLAMP -CONVENTIONAL TYPE-” or LT-20, "Bulb Replacement of Headlamp and Clearance Lamp" in “HEADLAMP -XENON TYPE-”.

TAIL LAMP

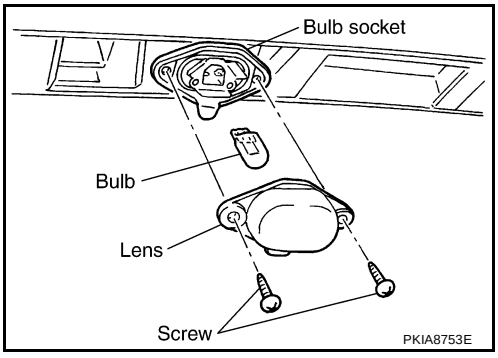
Refer to LT-119, "Bulb Replacement" in “REAR COMBINATION LAMP”.

LICENSE PLATE LAMP

1. Remove license plate lamp mounting screws.
2. Remove lens of license plate lamp.
3. Remove bulb from its socket.

License plate lamp : 12V - 5W

4. Installation is the reverse order of removal.



Removal and Installation

EKS003C2

PARKING LAMP

Refer to LT-38, "Removal and Installation of Headlamp" in “HEADLAMP -CONVENTIONAL TYPE-” or LT-21, "Removal and Installation of Headlamp" in “HEADLAMP -XENON TYPE-”.

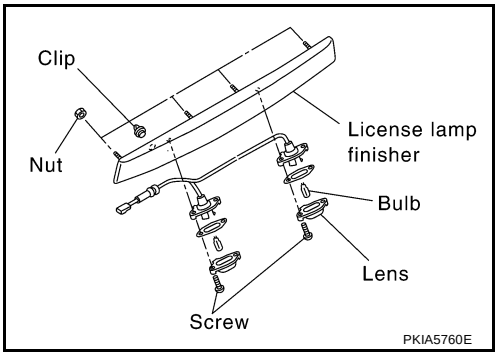
TAIL LAMP

Refer to LT-119, "Removal and Installation" in “REAR COMBINATION LAMP”.

LICENSE PLATE LAMP

Removal

1. Remove the license lamp finisher. Refer to EI-31, "LICENSE LAMP FINISHER" in “EXTERIOR & INTERIOR (EI)” section.
2. Remove the harness from installation pawl for harness.
3. Remove license plate lamp mounting screws (2 each, RH and LH).
4. Pull out license plate lamp from license lamp finisher.



Installation

Installation is the reverse order of removal.

License plate lamp mounting screws : 1.4 N·m (0.15 kg-m, 13 in-lb)

FRONT FOG LAMP

PFP:00011

System Description

EKS003DF

DESCRIPTION

Power is supplied at all times

- through 10A fuse (No. 31, located in fuse and fusible link box)
- to lighting switch terminal 11,
- through 15A fuse (No. 42, located in fuse and fusible link box)
- to front fog lamp relay terminal 3.

With the lighting switch in the 2ND position, power is supplied

- through lighting switch terminal 12
- to fog lamp switch terminal 32.

FOG LAMP OPERATION

The fog lamp switch is built into the combination switch. The lighting switch must be in the 1ST or 2ND position for front fog lamp operation.
With the fog lamp switch in the FRONT FOG ON position or FRONT & REAR FOG ON position, power is supplied

- through fog lamp switch terminal 31
- to front fog lamp relay terminal 2.

Ground is supplied

- to front fog lamp relay terminal 1
- through grounds E24 and E50.

The front fog lamp relay is energized and power is supplied

- through front fog lamp relay terminal 5
- to front fog lamp LH and RH terminal 1, and
- to combination meter terminal 15.

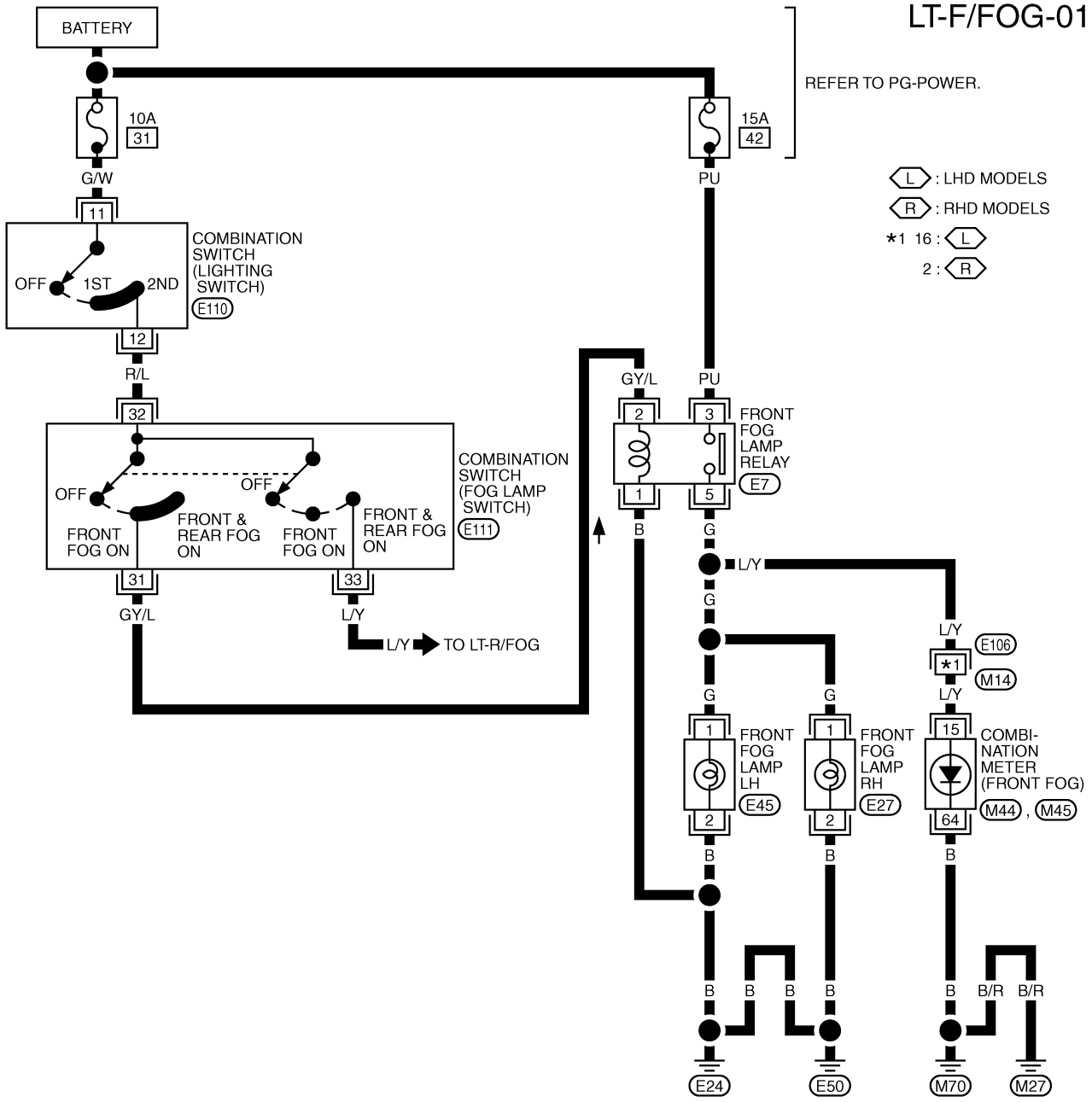
Ground is supplied

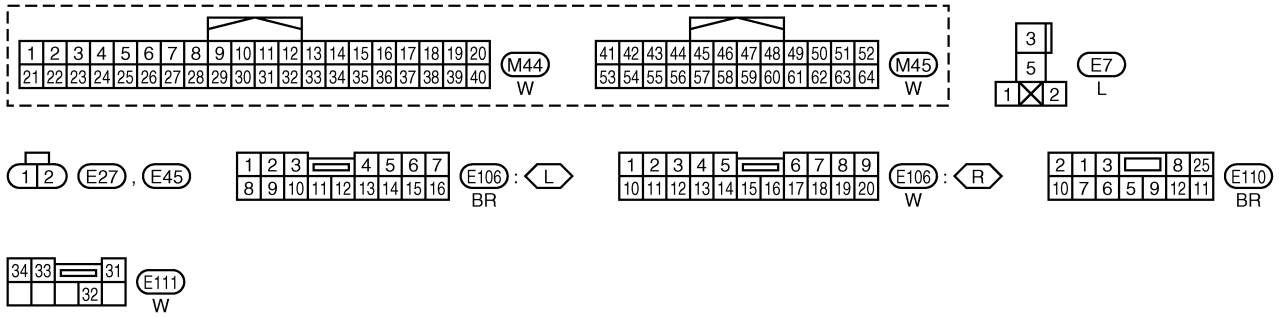
- to front fog lamp LH and RH terminal 2
- through grounds E24 and E50,
- to combination meter terminal 64
- through grounds M27 and M70.

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

Wiring Diagram — F/FOG —

EKS003DG



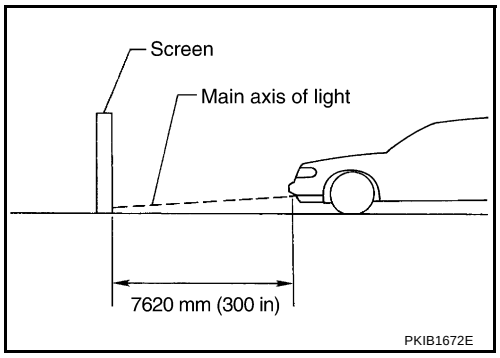


TKWA1535E

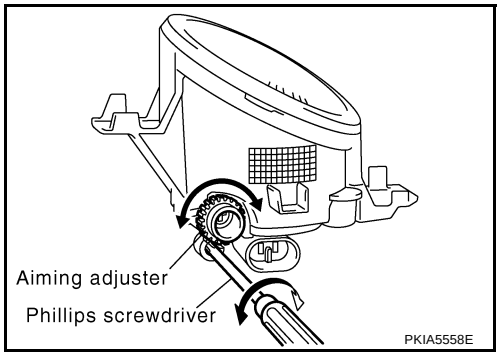
Aiming Adjustment

EKS003DH

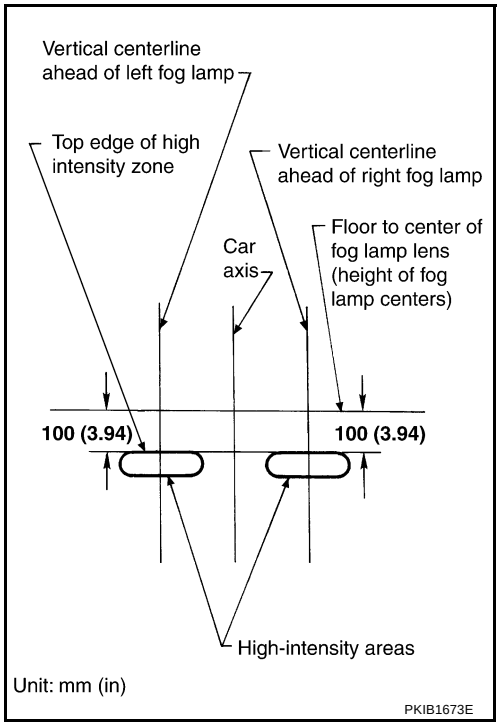
1. Set the distance between the screen and the center of the fog lamp lens as shown at left.
2. Turn fog lamp switch ON.



3. Insert a phillips screwdriver into the access hole and engage the tip of the screwdriver with the gear of the adjuster as shown at left. The aiming adjuster can now be turned by turning the screwdriver.



4. Adjust front fog lamps so that the top edge of the high intensity zone is 100 mm (3.94 in) below the height of the fog lamp centers as shown at left.
   - When performing adjustment, if necessary, cover the headlamps and opposite fog lamp.

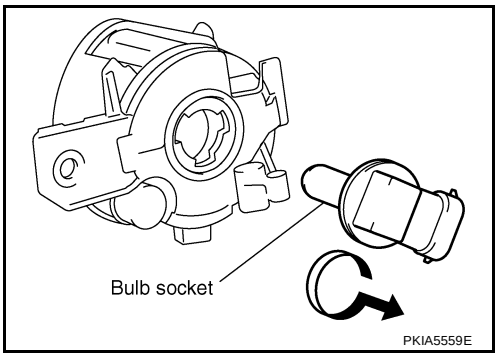


Bulb Replacement

EKS003DI

1. Remove fog lamp. Refer to LT-111, "Removal and Installation" .
2. Turn the bulb socket counterclockwise and unlock it.
3. Remove the bulb from its socket.
4. Installation is the reverse order of removal.

Front fog lamp : 12V - 55W (H11)



CAUTION:

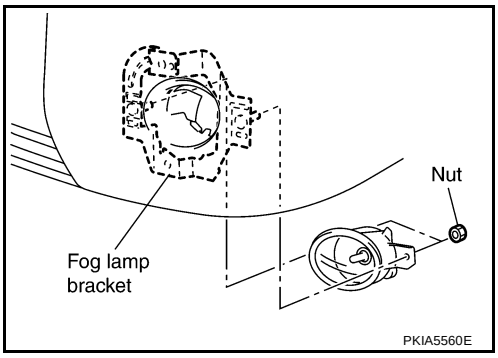
- **Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it. Never touch bulb by hand while it is lit or right after being turned off. Burning may result.**
- **Never leave bulb out of fog lamp housing for a long time because dust, moisture smoke, etc. May affect the performance of fog lamp. When replacing bulb, be sure to replace it with new one.**

Removal and Installation

EKS003DJ

REMOVAL

1. Remove fender protector. Refer to EI-21, "FENDER PROTECTOR" .
2. Disconnect fog lamp connector.
3. Remove fog lamp mounting nuts from fog lamp bracket.
4. Pull out fog lamp from vehicle and disconnect connector.



INSTALLATION

Installation is the reverse order of removal.

Fog lamp mounting bolt : 5.5 N·m (0.56 kg-m, 49 in-lb)

REAR FOG LAMP

PFP:26550

System Description

EKS00ESB

DESCRIPTION

Power is supplied at all times (without front fog lamp)

- through 15A fuse (No. 41, located in fuse and fusible link box)
- to lighting switch terminal 5,
- through 10A fuse (No. 36, located in fuse and fusible link box)
- to rear fog lamp relay terminal 3.

Power is supplied at all times (with front fog lamp)

- through 10A fuse (No. 31, located in the fuse and fusible link box)
- to lighting switch terminal 11,
- through 10A fuse (No. 36, located in fuse and fusible link box)
- to rear fog lamp relay terminal 3.

With the lighting switch in the 2ND position, power is supplied (without front fog lamp)

- through lighting switch terminal 25
- to fog lamp switch terminal 34.

With the lighting switch in the 2ND position, power is supplied (with front fog lamp)

- through lighting switch terminal 12
- to fog lamp switch terminal 32.

FOG LAMP OPERATION

The front and rear fog lamp switch is built into the combination switch. The lighting switch must be in the 1ST or 2ND position for rear fog lamp operation.
With the fog lamp switch in the REAR FOG ON position, ground is supplied

- through fog lamp switch terminal 33
- to rear fog lamp relay terminal 2.

Ground is supplied

- to rear fog lamp relay terminal 1
- through grounds E24 and E50.

The rear fog lamp relay is energized and power is supplied

- through rear fog lamp relay terminal 5
- to rear fog lamp terminal 1, and
- to combination meter terminal 13.

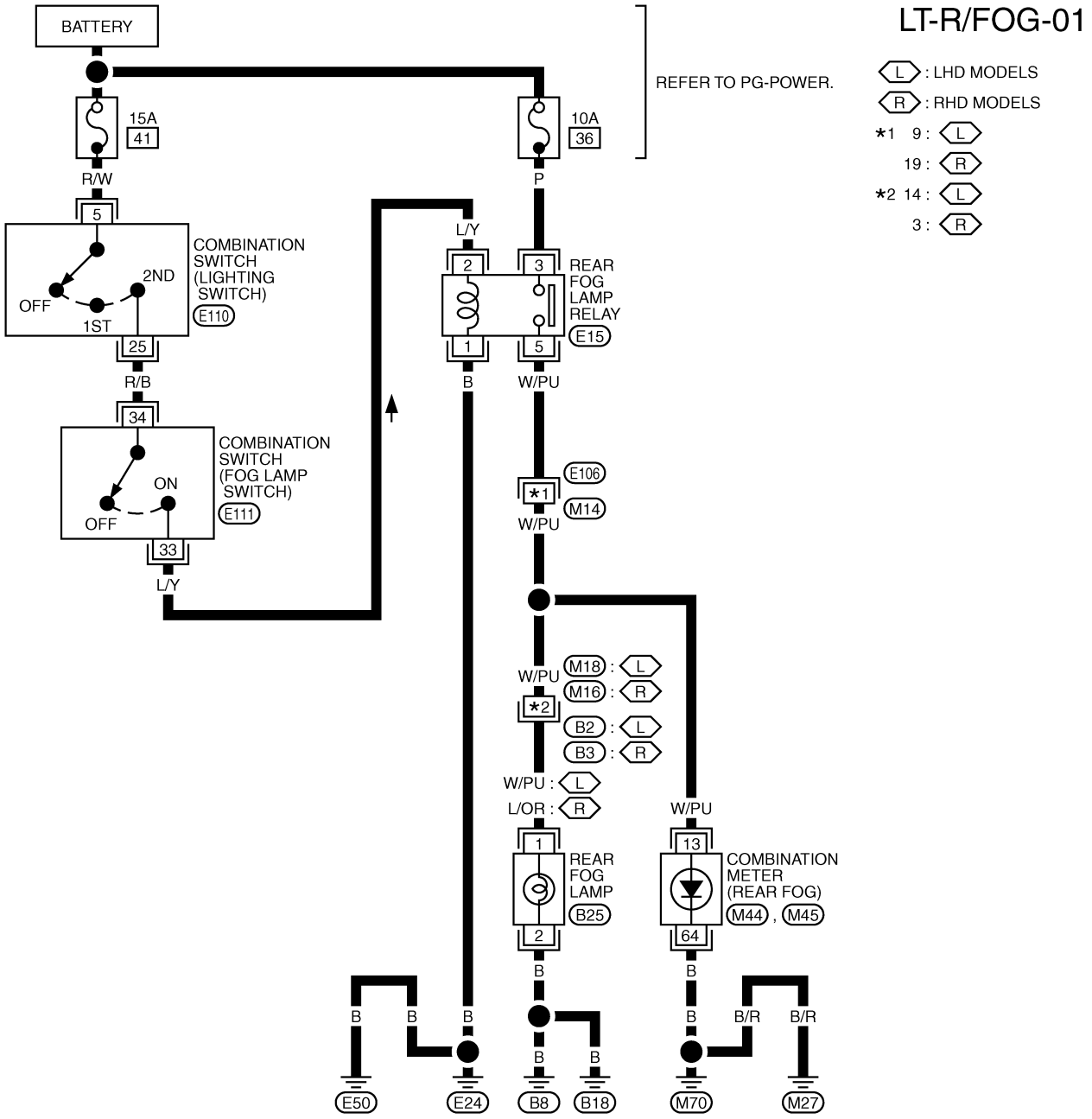
Ground is supplied

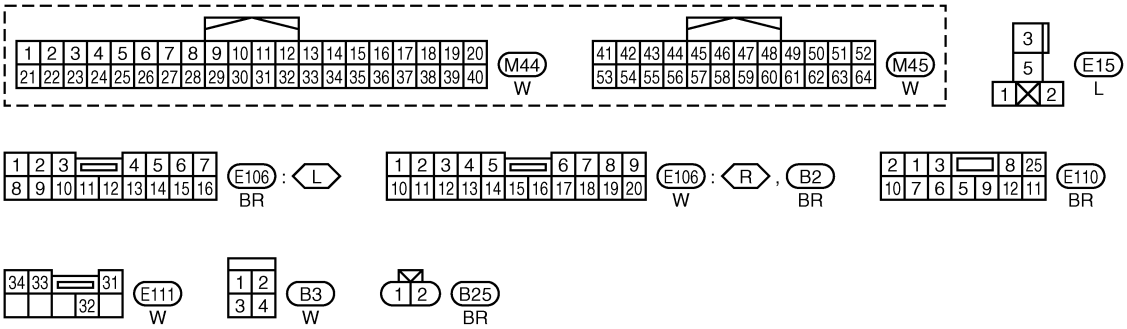
- to rear fog lamp terminal 2
- through grounds B8 and B18,
- to combination meter terminal 64
- through grounds M27 and M70.

With power and ground supplied, the rear fog lamps and REAR FOG indicator illuminate.

Wiring Diagram — R/FOG —/Without Front Fog Lamp

EKS003BV

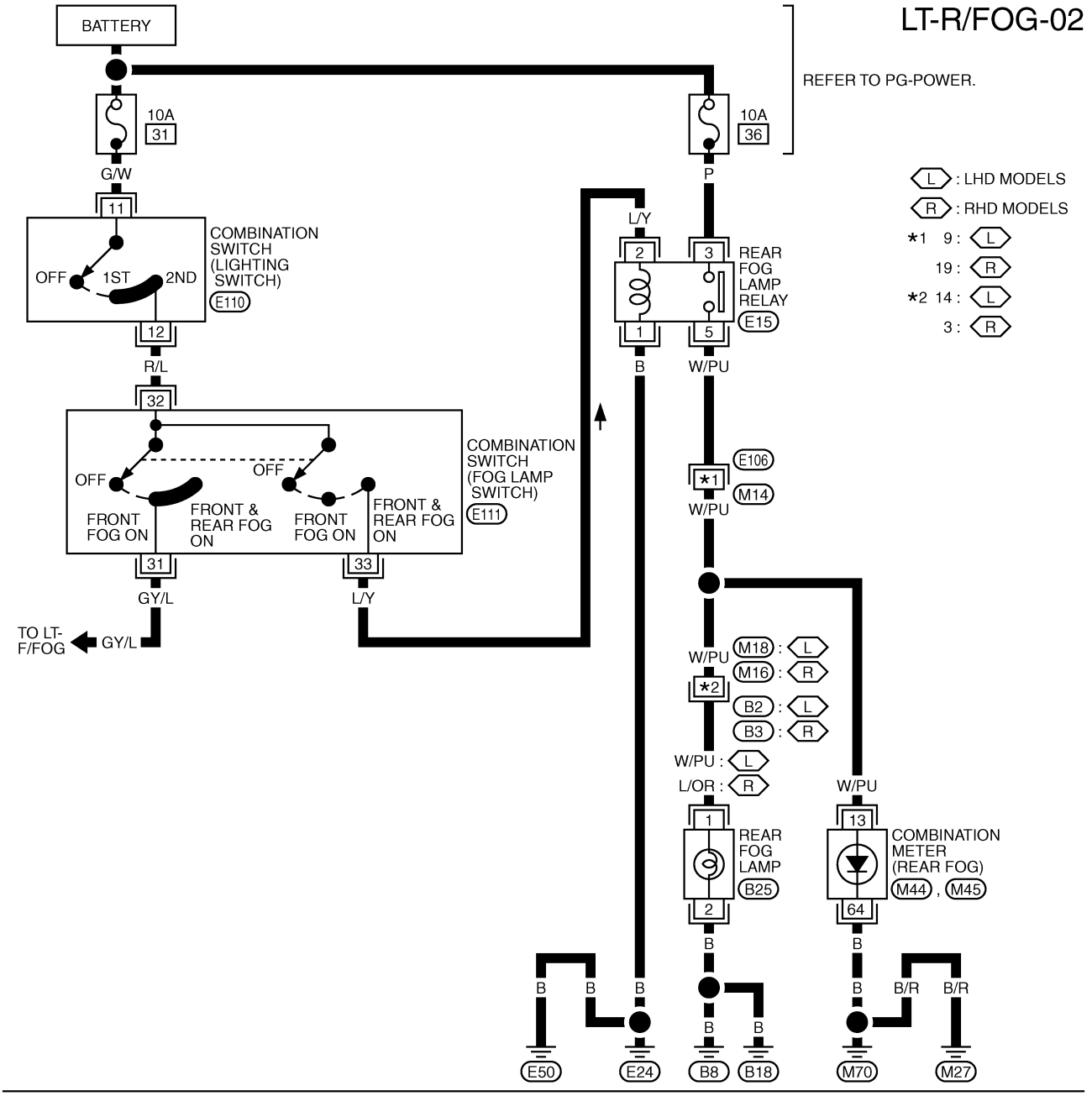


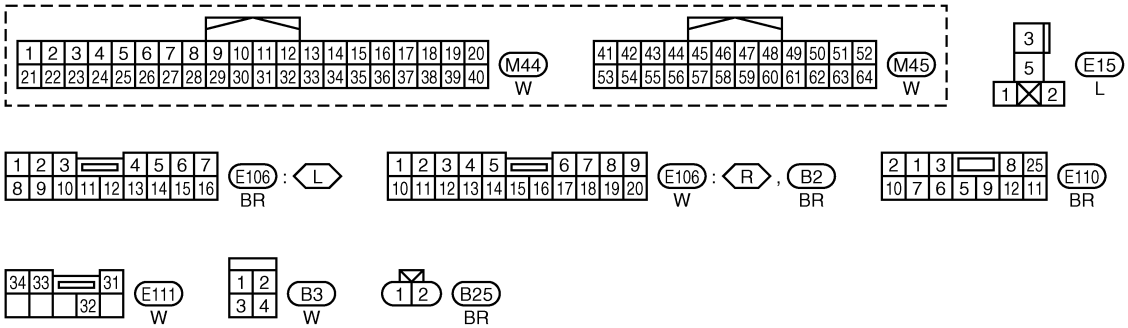


TKWA1536E

Wiring Diagram — R/FOG —/With Front Fog Lamp

EKS003BW





TKWA1537E

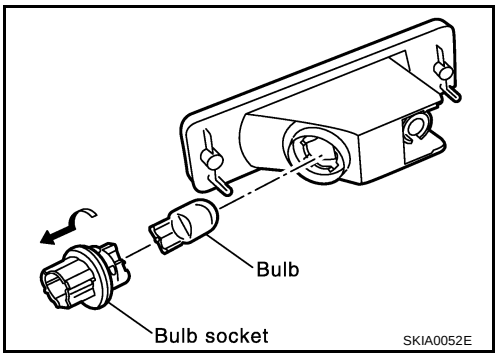
Bulb Replacement

EKS0015L

1. Remove rear fog lamp. Refer to LT-115, "Removal and Installation" .
2. Turn bulb socket counterclockwise and unlock it.
3. Remove bulb.

Rear fog lamp : 12V - 21W

4. Installation is the reverse order of removal.

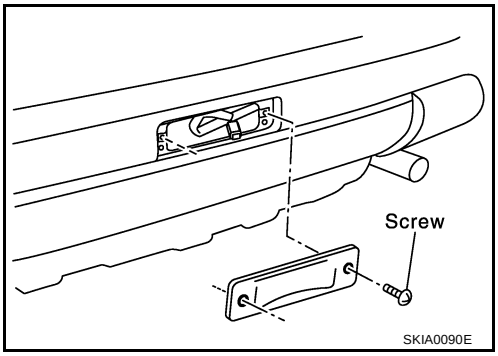


Removal and Installation

EKS0015M

REMOVAL

1. Remove rear fog lamp mounting screws.
2. Take out rear fog lamp from bumper, then disconnect connector.



INSTALLATION

Installation is the reverse order of removal.

Rear fog lamp mounting screws : 1.4 N·m (0.14 kg-m, 12 in-lb)

CLEARANCE LAMP/TAIL LAMP

PFP:26010

Bulb Replacement (Clearance Lamp)

EKS001UR

Refer to LT-20, "Bulb Replacement of Headlamp and Clearance Lamp" in “HEADLAMP-XENON TYPE-” or LT-37, "Bulb Replacement of Headlamp and Clearance lamp" in “HEADLAMP-CONVENTIONAL TYPE-”.

Bulb Replacement (Tail lamp)

EKS001US

Refer to LT-119, "Bulb Replacement" in “REAR COMBINATION LAMP”.

Removal and Installation of Clearance Lamp

EKS001UT

Refer to LT-21, "Removal and Installation of Headlamp" in “HEADLAMP-XENON TYPE-” or LT-38, "Removal and Installation of Headlamp" in “HEADLAMP-CONVENTIONAL TYPE-”.

Removal and Installation of Tail lamp

EKS001UU

Refer to LT-119, "Removal and Installation" in “REAR COMBINATION LAMP”.

HIGH-MOUNTED STOP LAMP

PFP:26590

Bulb Replacement

EKS0034W

Refer to LT-99, "Bulb Replacement" in “STOP LAMP”.

Removal and Installation

EKS0034X

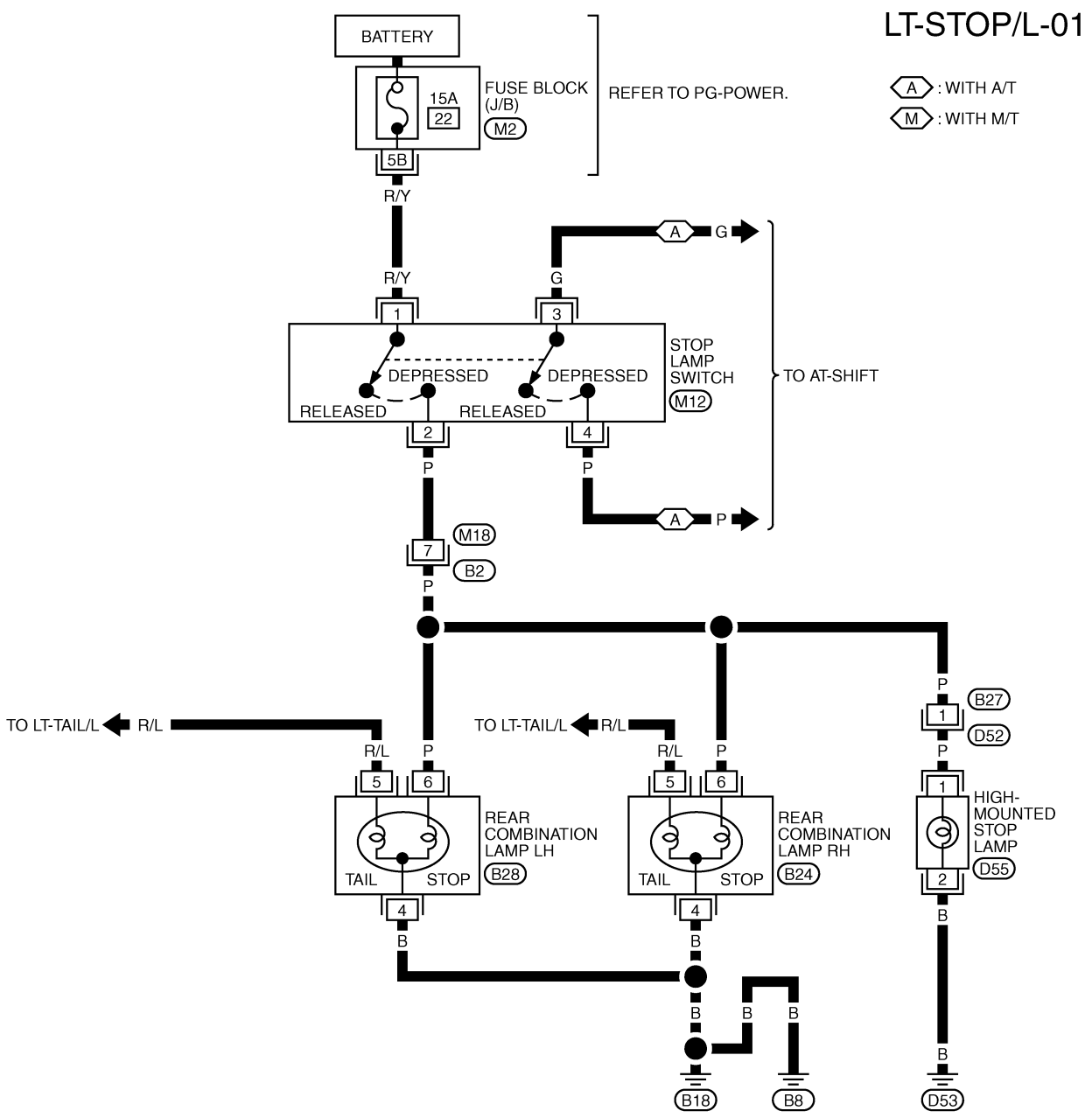
Refer to LT-99, "Removal and Installation" in “STOP LAMP”.

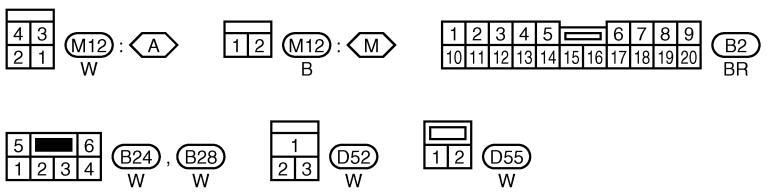
REAR COMBINATION LAMP

PFP:26554

Wiring Diagram —STOP/L—

EKS003C6





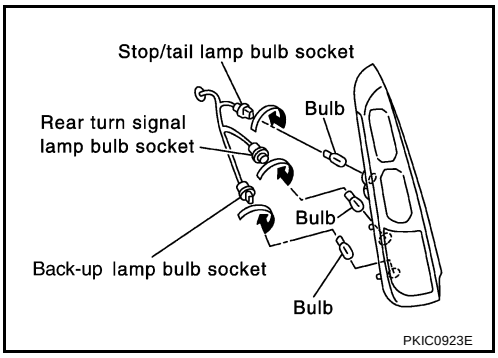
REFER TO THE FOLLOWING.
M2 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWA1529E

Bulb Replacement

EKS00164

1. Remove rear combination lamp mounting bolts.
2. Pull rear combination lamp toward rear of vehicle. Disengage locating pins.
3. Turn bulb socket counterclockwise and unlock it.
4. Remove bulb.
5. Installation is the reverse order of removal.



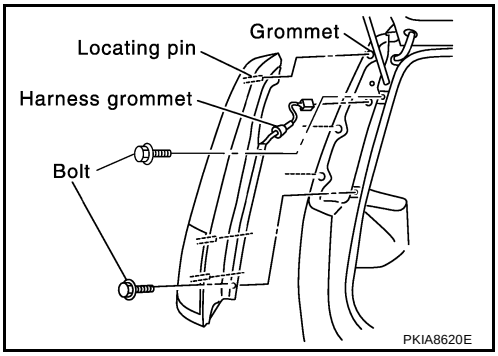
Stop/tail lamp	**: 12V - 21/5W**
Rear turn signal lamp	**: 12V - 21W**
Back-up lamp	**: 12V - 21W**

Removal and Installation

EKS00165

REMOVAL

1. Remove luggage-side lower finisher. Refer to EI-35, "BODY SIDE TRIM" in “EI EXTERIOR & INTERIOR” section.
2. Disconnect rear combination lamp connector.
3. Remove rear combination lamp mounting bolts.
4. Pull rear combination lamp rearward the vehicle. Disengage locating pins.
5. Pull harness grommet and remove harness.



INSTALLATION

Installation is the reverse order of removal.

Rear combination lamp mounting bolts	**: 5.4 N·m (0.55 kg-m, 48 in-lb)**

COMBINATION SWITCH

PFP:25567

Removal and Installation

EKS001V6

Refer to SRS-33, "SPIRAL CABLE" in “SUPPLEMENTAL RESTRAINT SYSTEM (SRS)” section.

Switch Circuit Inspection

EKS001V7

Refer to LT-96, "Switch Circuit Inspection" in “LIGHTING AND TURN SIGNAL SWITCH”, and WW-8, "Terminal and Reference Values for Combination Switch" , WW-16, "Terminal and Reference Values for Combination Switch" in “Wiper, Washer&Horn (WW)” section.

ASHTRAY ILLUMINATION

PFP:25860

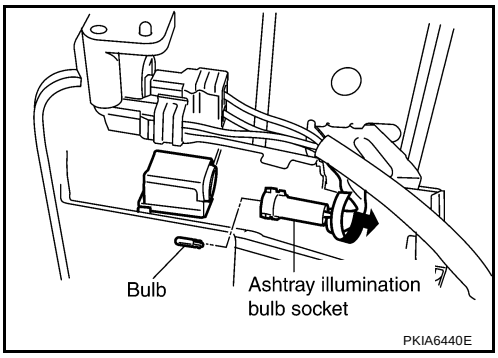
Bulb Replacement, Removal and Installation

EKS00F86

1. Remove the instrument center lower panel. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" in “IP” section.
2. Turn bulb socket counterclockwise and unlock it.
3. Pull the bulb from socket.

Ashtray illumination lamp : 12V - 1.4W

4. Installation is the reverse order of removal.



ILLUMINATION

PFP:27545

System Description

EKS003C7

Power is supplied at all times

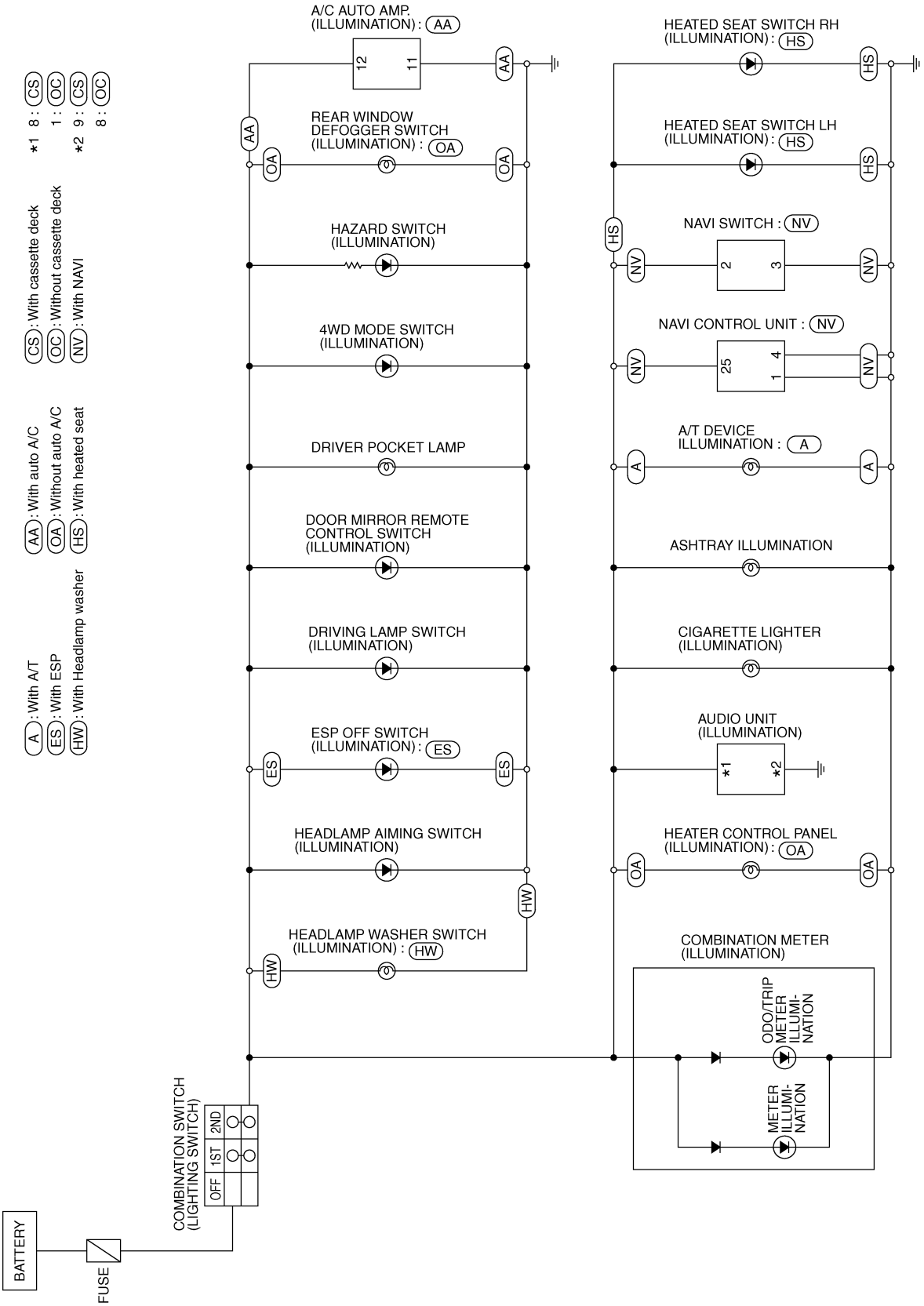
- through 10A fuse (No. 31, located in fuse and fusible link box)
- to lighting switch terminal 11.

The lighting switch must be in the 1ST or 2ND position for illumination.
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
Headlamp washier switch	M23	4	3
Headlamp aiming switch	M24	3	4
ESP off switch	M25	3	4
Driving lamp switch	M101	1	5
Door mirror remote control switch	M26	10	3
Driver pocket lamp	M119	1	2
4WD mode switch	M39	5	6
Hazard switch	M51	7	8
Rear window defogger switch	M50	5	6
A/C auto amp.	M52	12	11
Combination meter	M45	60	63
Heater control panel	M55	2	6
Audio unit (with cassette deck)	M108	8	case ground
Audio unit (without cassette deck and with NAVI)	M47	1	case ground
Audio unit (without cassette deck and without NAVI)	M207	1	case ground
Cigarette lighter socket	M301, M302	3	2
Ashtray illumination	M303	5	6
A/T device	M58	3	4
NAVI control unit	M116, M117	25	1, 4
NAVI switch	M113	2	3
Heated seat switch LH (LHD models)	B212	5	6
Heated seat switch RH (LHD models)	B213	5	6

Schematic

EKS003BL

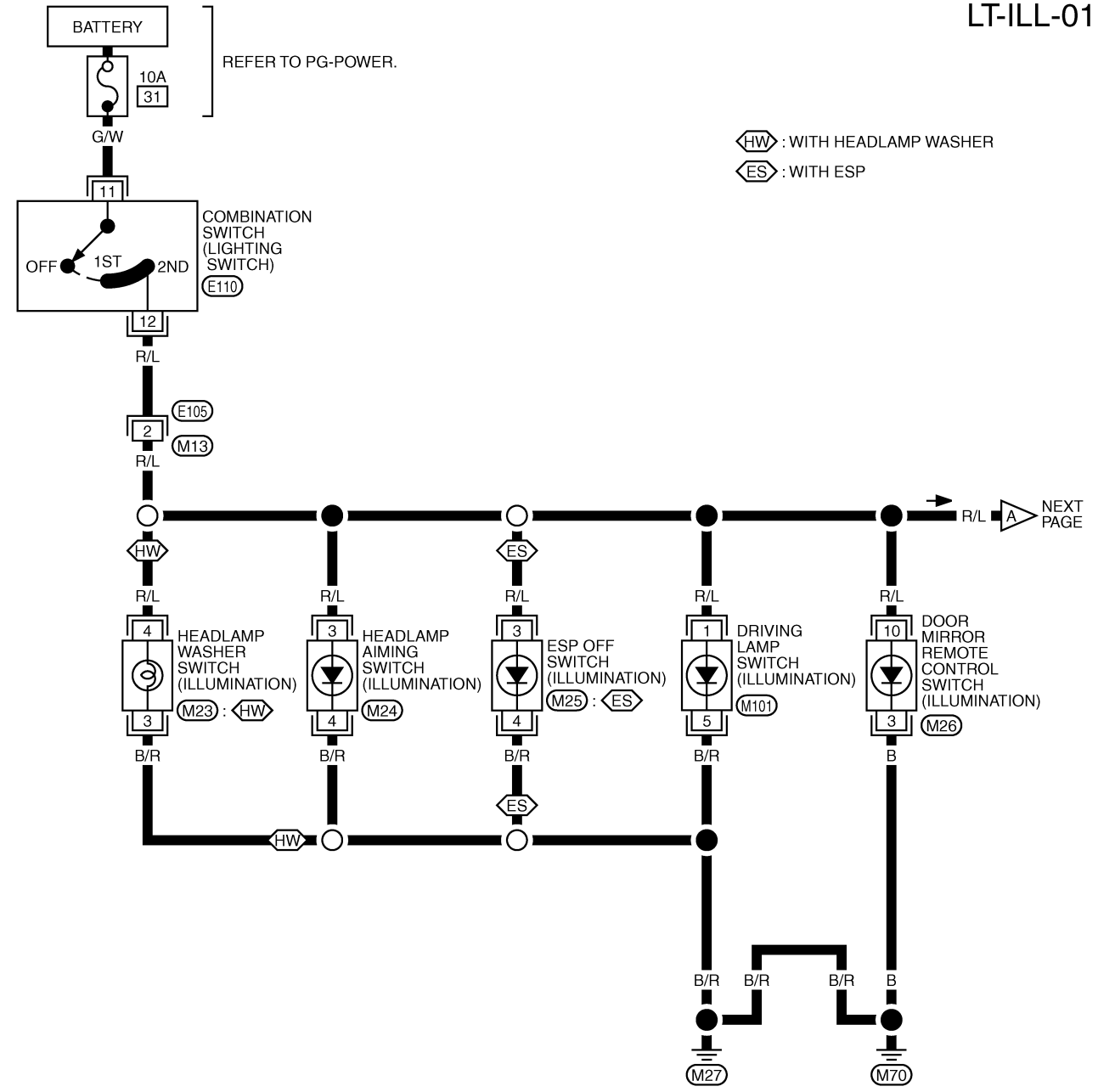


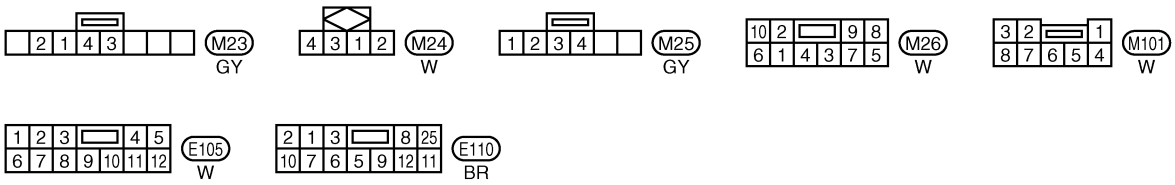
TKWA1538E

Wiring Diagram —ILL—

EKS003BM

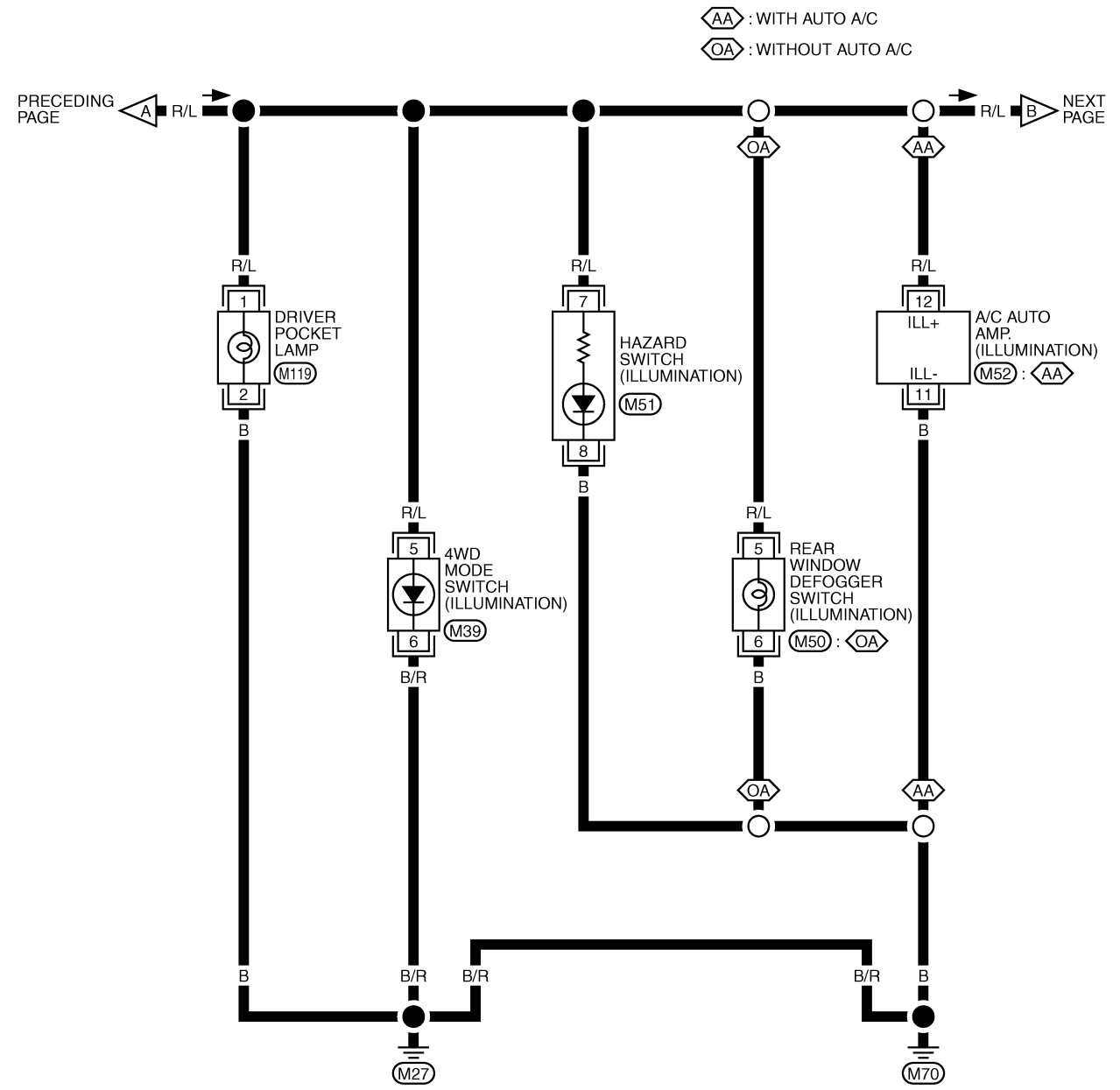
LHD MODELS

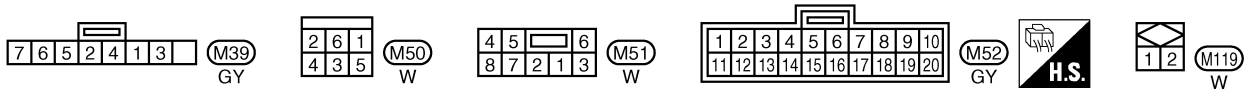




TKWB1133E

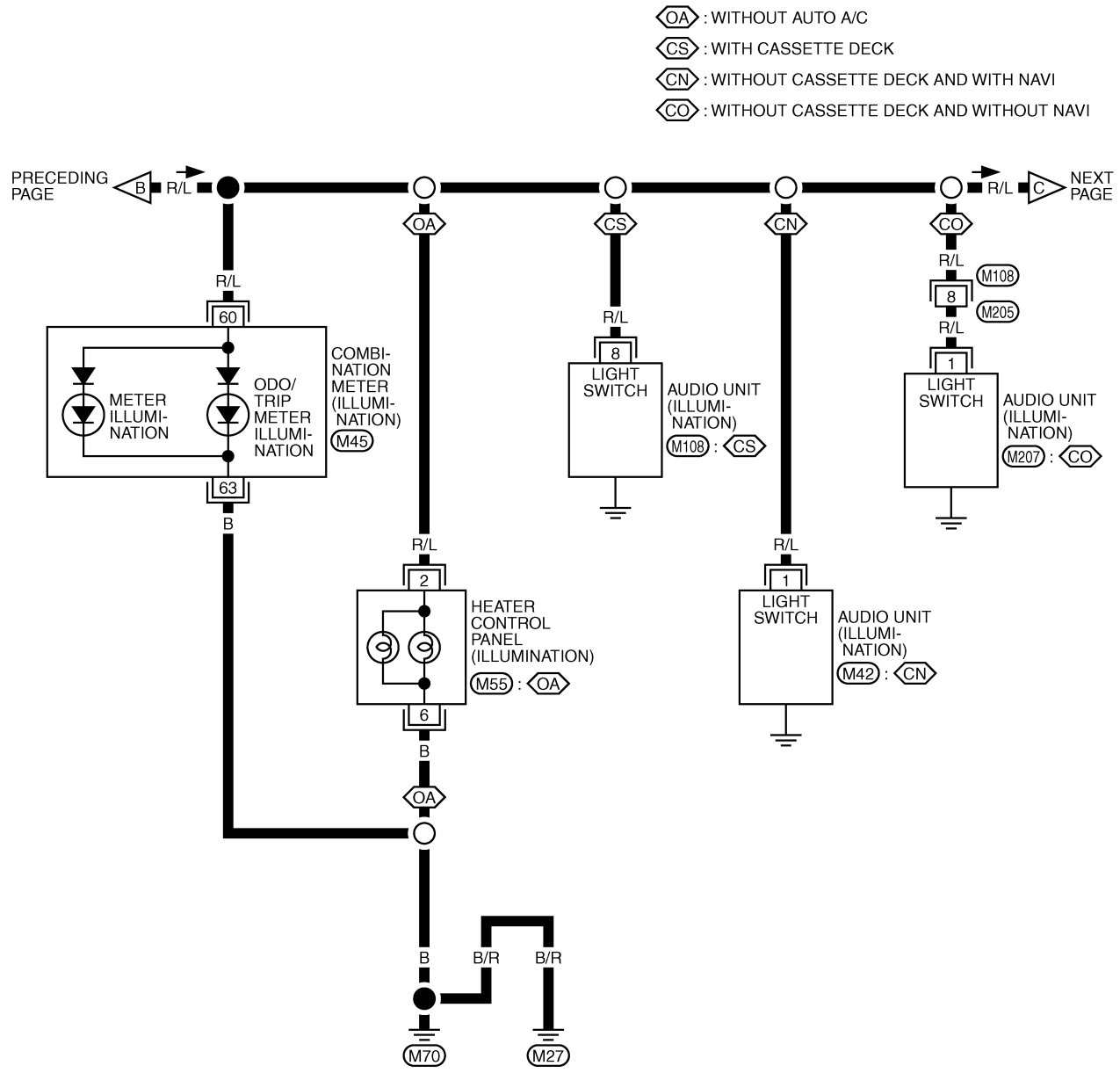
LT-ILL-02

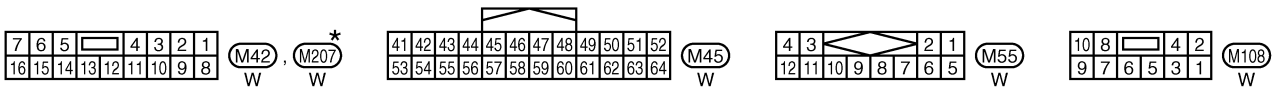




TKWA1540E

LT-ILL-03

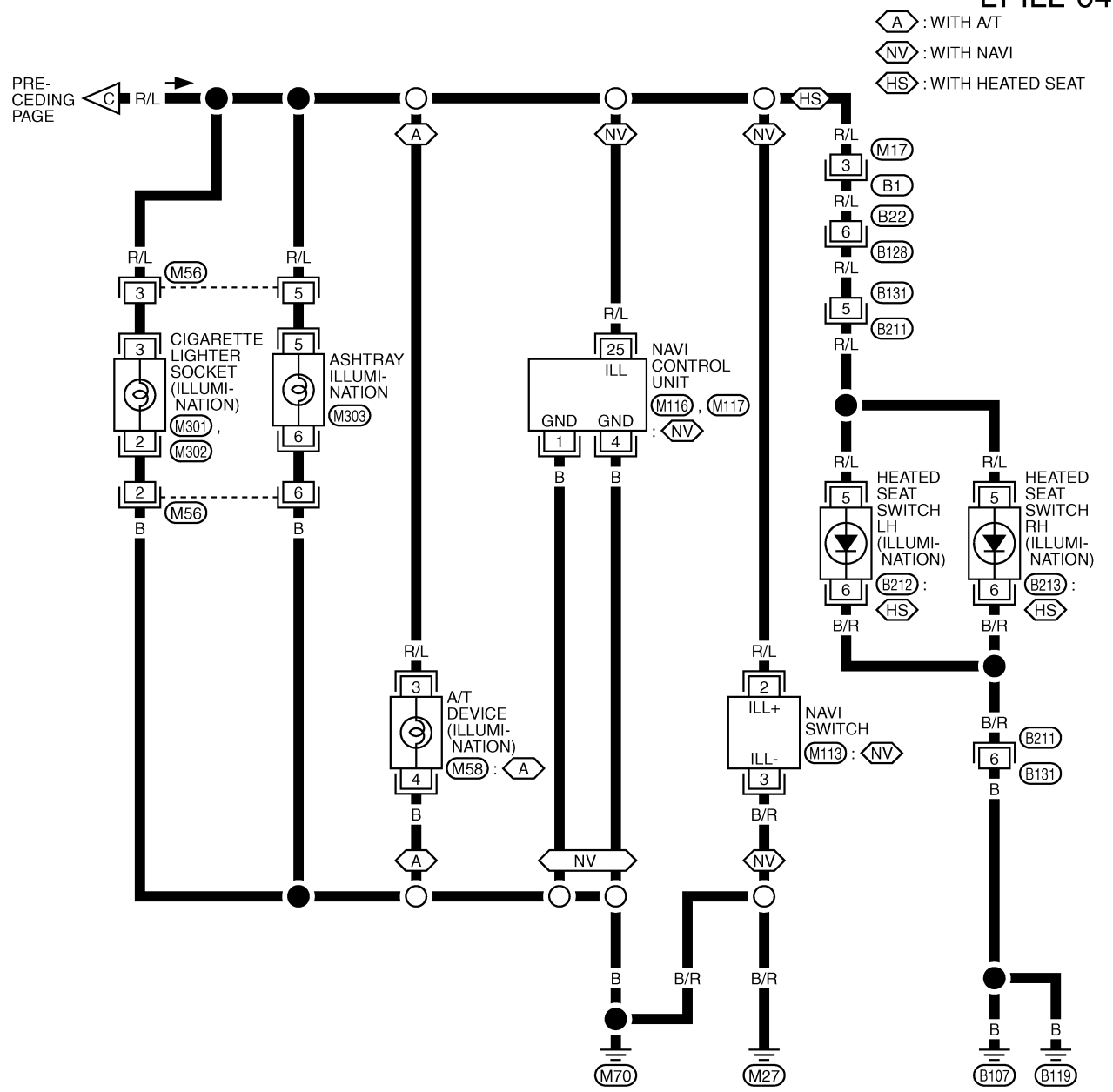


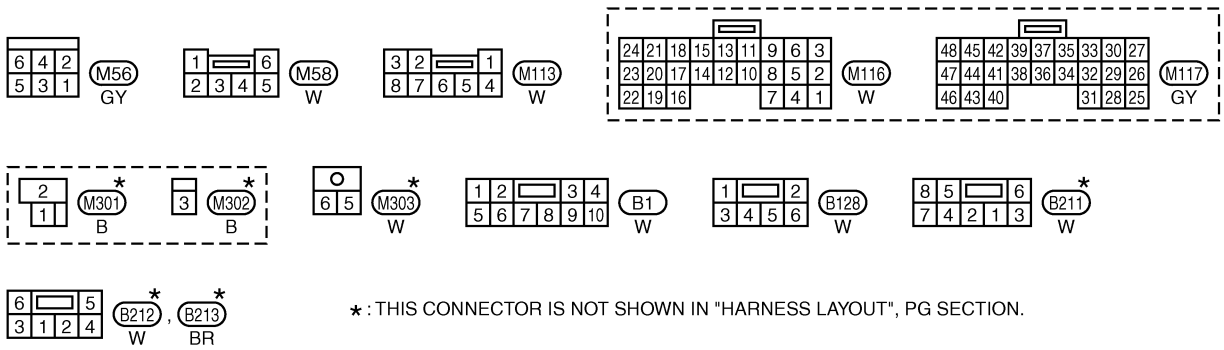


* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWA1541E

LT-ILL-04



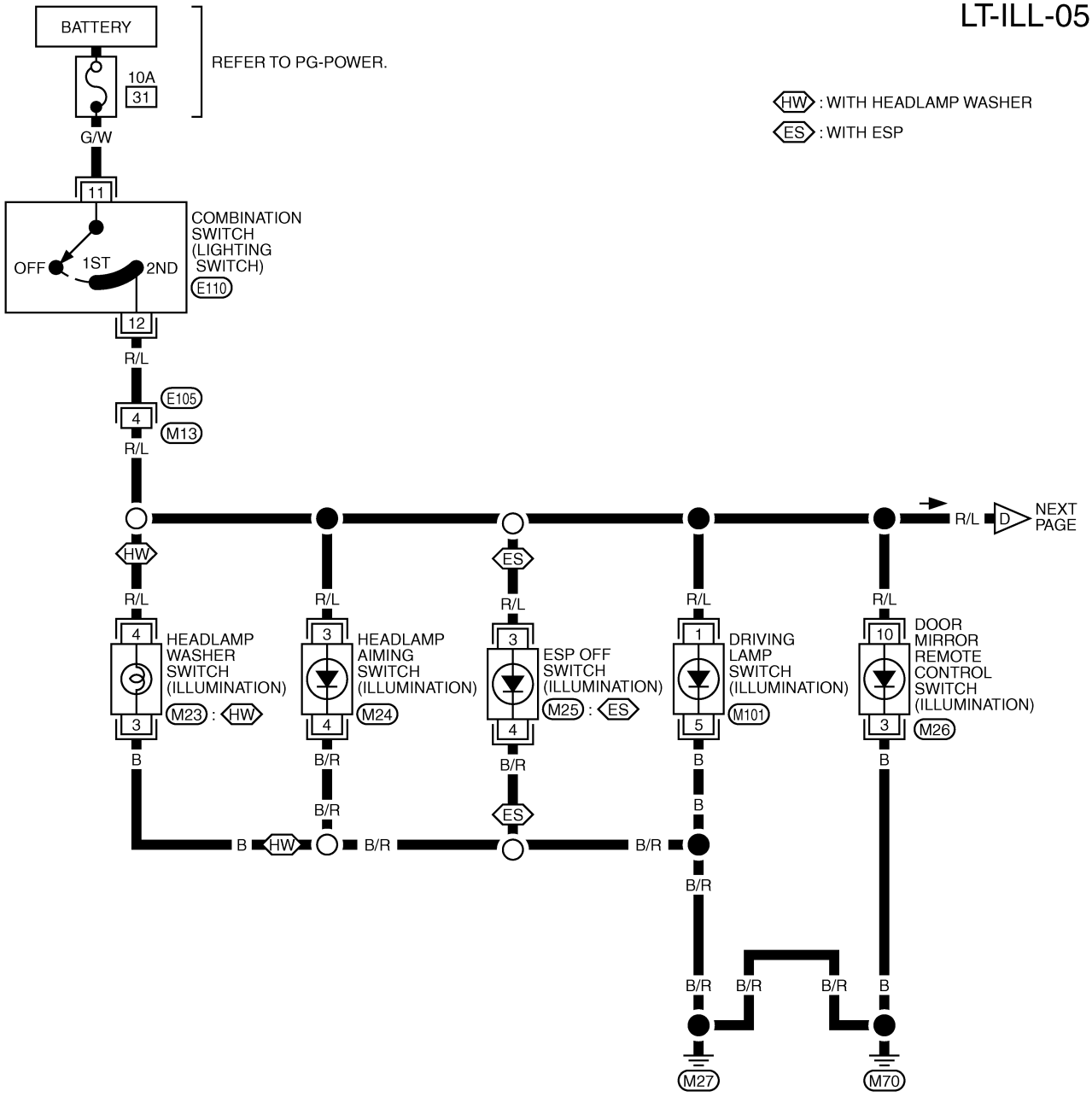


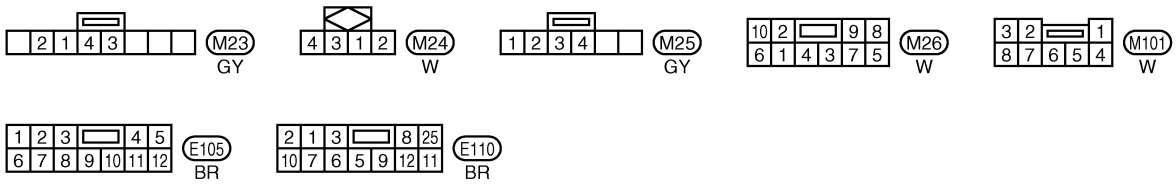
∗ : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWA1542E

RHD MODELS

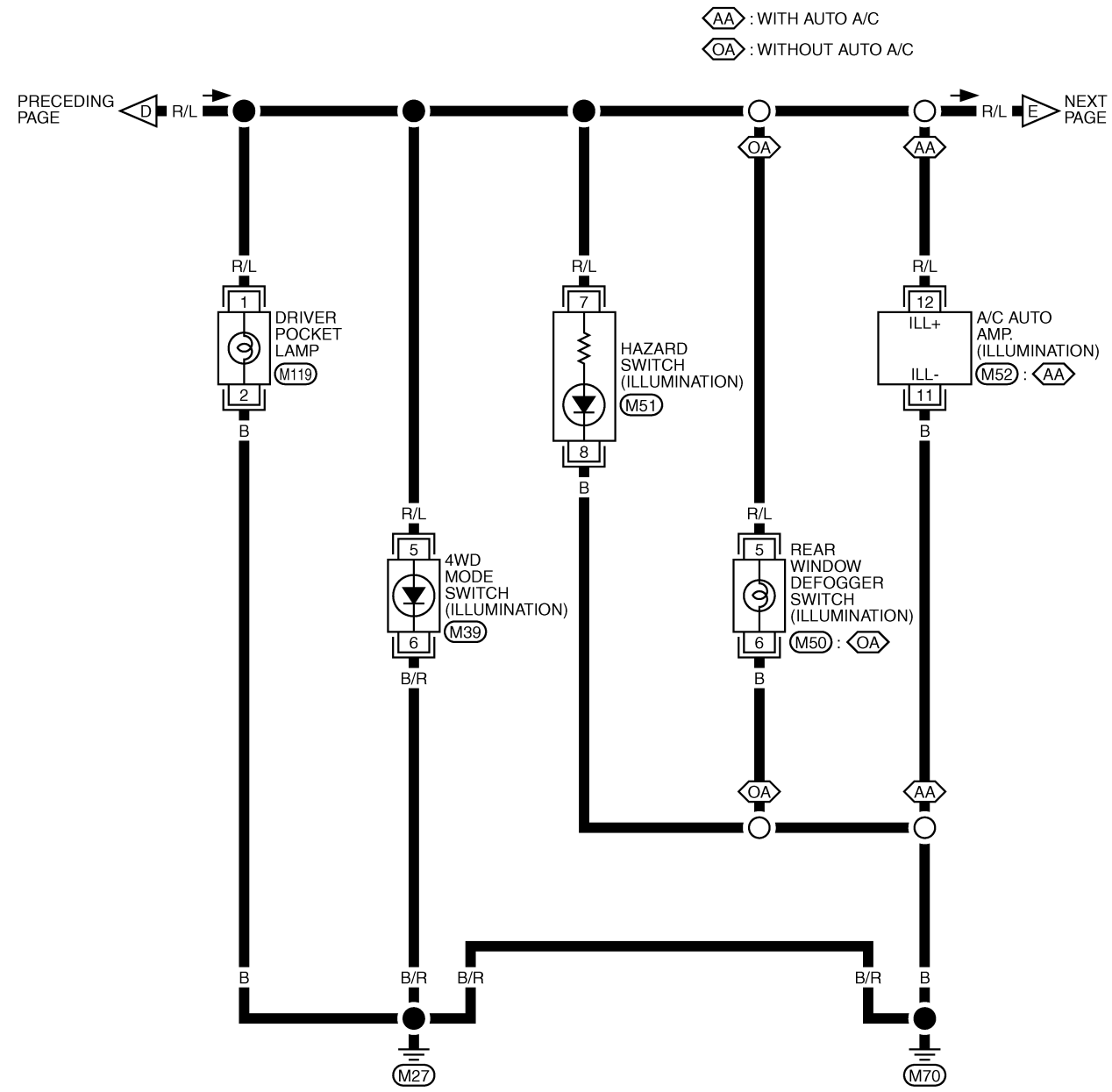
LT-ILL-05

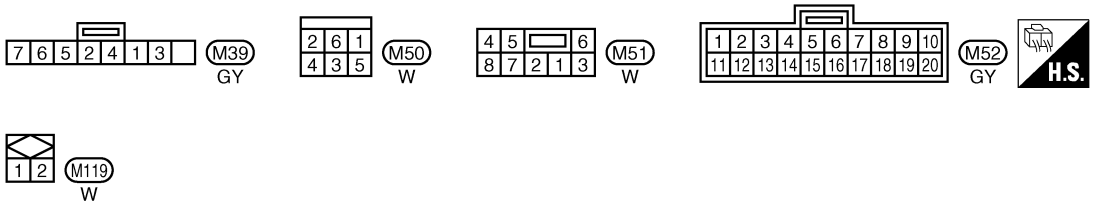




TKWA1543E

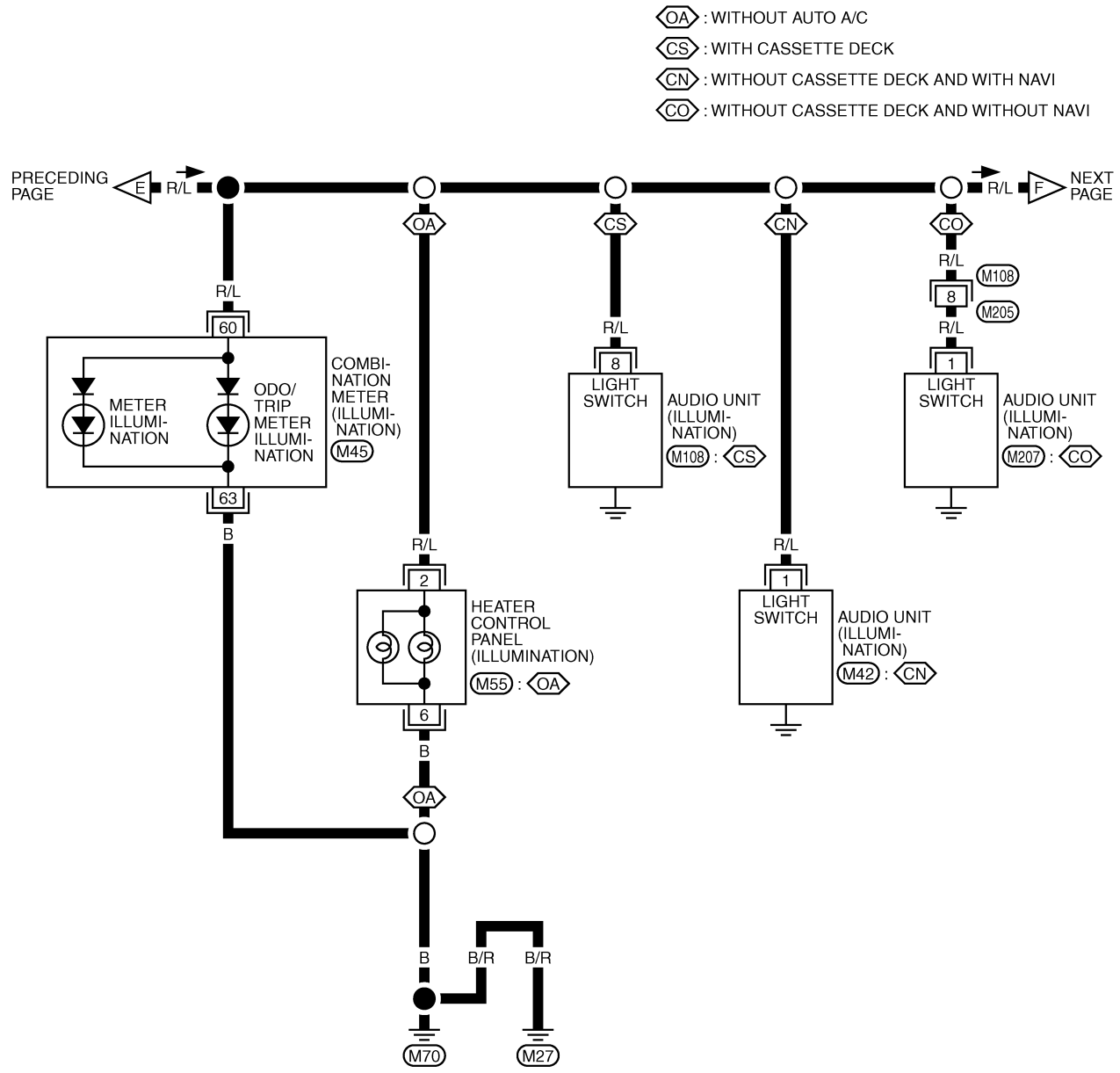
LT-ILL-06

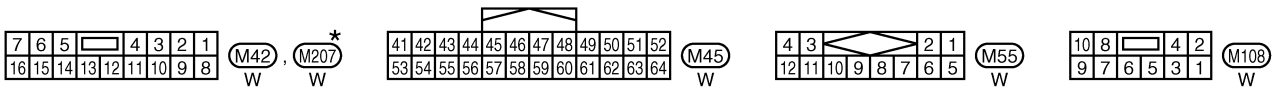




TKWA1544E

LT-ILL-07

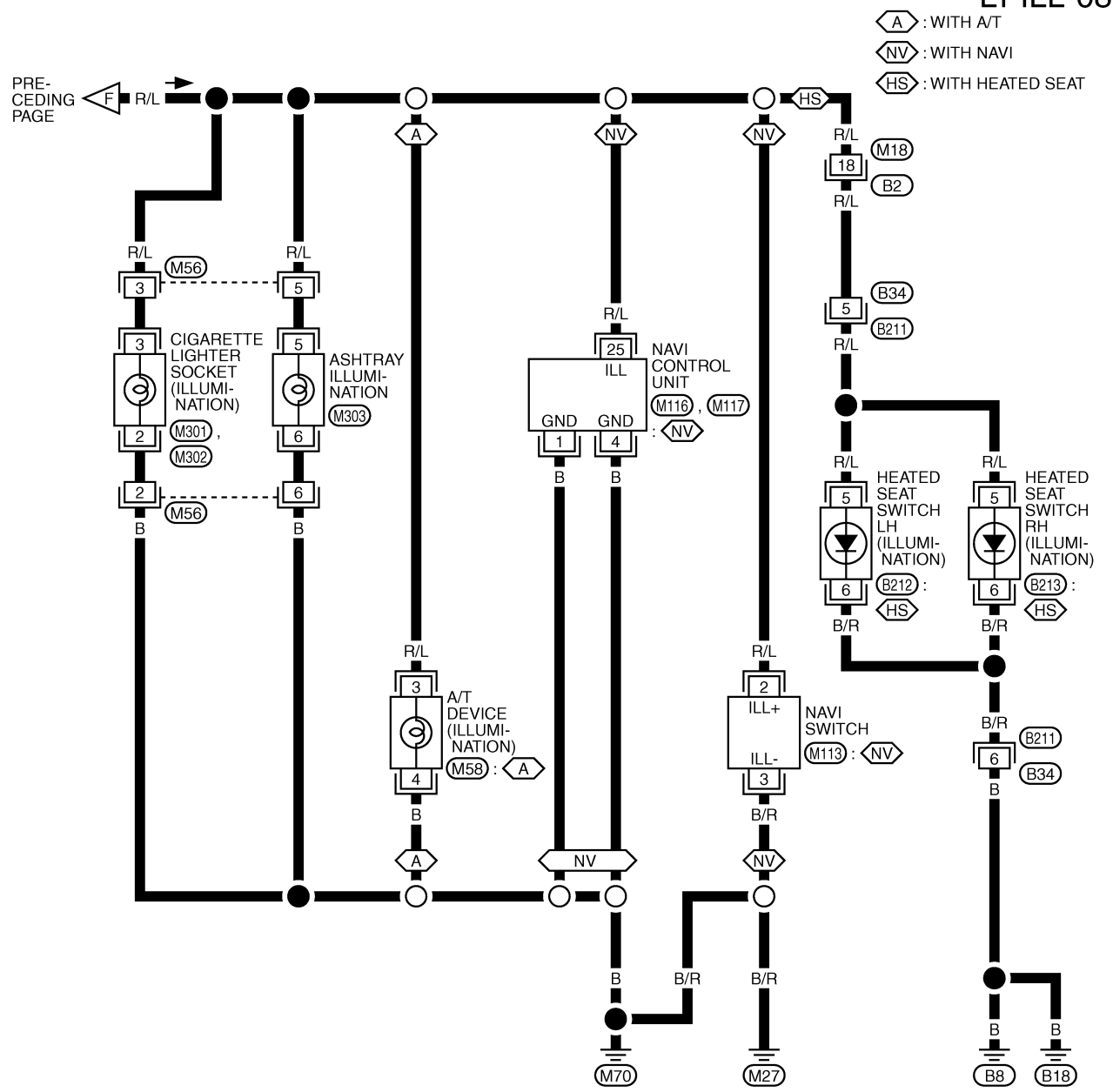


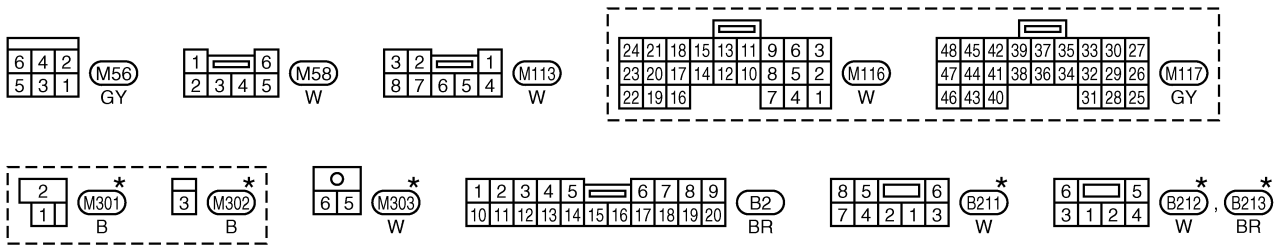


*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWA1545E

LT-ILL-08





*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWA1546E

INTERIOR ROOM LAMP

PFP:26410

System Description

EKS003BQ

POWER SUPPLY AND GROUND

Power is supplied at all times

- through 10A fuse [No. 28, located in fuse block (J/B)]
- to key switch terminal 1, and
- to time control unit terminal 1,
- through 10A fuse [No. 26, located in fuse block (J/B)]
- to interior room lamp terminal 1
- to luggage room lamp terminal 1, and
- to map lamp terminal 1 (with sunroof).

When the key is removed from ignition key cylinder, power is interrupted

- through key switch terminal 2
- to time control unit terminal 18.

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

- through 10A fuse [No. 5, located in fuse block (J/B)]
- to time control unit terminal 17.

Ground is supplied

- to time control unit terminal 16
- through grounds M27 and M70.

When the driver's door is opened, ground is supplied

- to time control unit terminal 30
- through front door switch (driver side) terminal 2
- through front door switch (driver side) terminal 3
- through grounds B8 and B18.

When the door (except driver's door) is opened, ground is supplied

- to time control unit terminal 31
- through front door switch (passenger side) terminal 1
- through case ground of front door switch (passenger side),
- through rear door switch LH and RH terminal 1
- through case ground of rear door switch LH and RH, and
- through back door switch terminal 1
- through back door switch terminal 3
- through ground D53.

When the driver's door is unlocked, the time control unit receives a ground signal

- to time control unit terminal 28
- through front door lock actuator (driver side) terminal 5
- through front door lock actuator (driver side) terminal 2
- through grounds M27 and M70.

When a signal, or combination of signals is received by the time control unit, ground is supplied

- to interior room lamp terminal 2, and
- to map lamp terminal 3 (with sunroof)
- through time control unit terminal 26.

With power and ground supplied, the interior room lamp and map lamp (with sunroof) illuminates.

SWITCH OPERATION

When interior room lamp switch is ON, ground is supplied

- to interior room lamp
- through case grounds of interior room lamp.

When map lamp switch is ON, ground is supplied (with sunroof)

- to map lamp terminal 2
- through ground M27 and M70.

INTERIOR ROOM LAMP TIMER OPERATION

When interior room lamp and map lamp (with sunroof) switch is in the DOOR position, the time control unit keeps the interior room lamp and map lamp (with sunroof) illuminated for about 30 seconds when

- unlock signal is supplied from driver's door unlock sensor while all doors are closed and key is out of ignition key cylinder
- key is removed from ignition key cylinder while all doors are closed
- driver's door is opened and then closed while key is out of the ignition key cylinder. (However, if the driver's door is closed with the key inserted in the ignition key cylinder after the driver's door is opened with the key removed, the timer is operated.)

The timer is canceled when

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

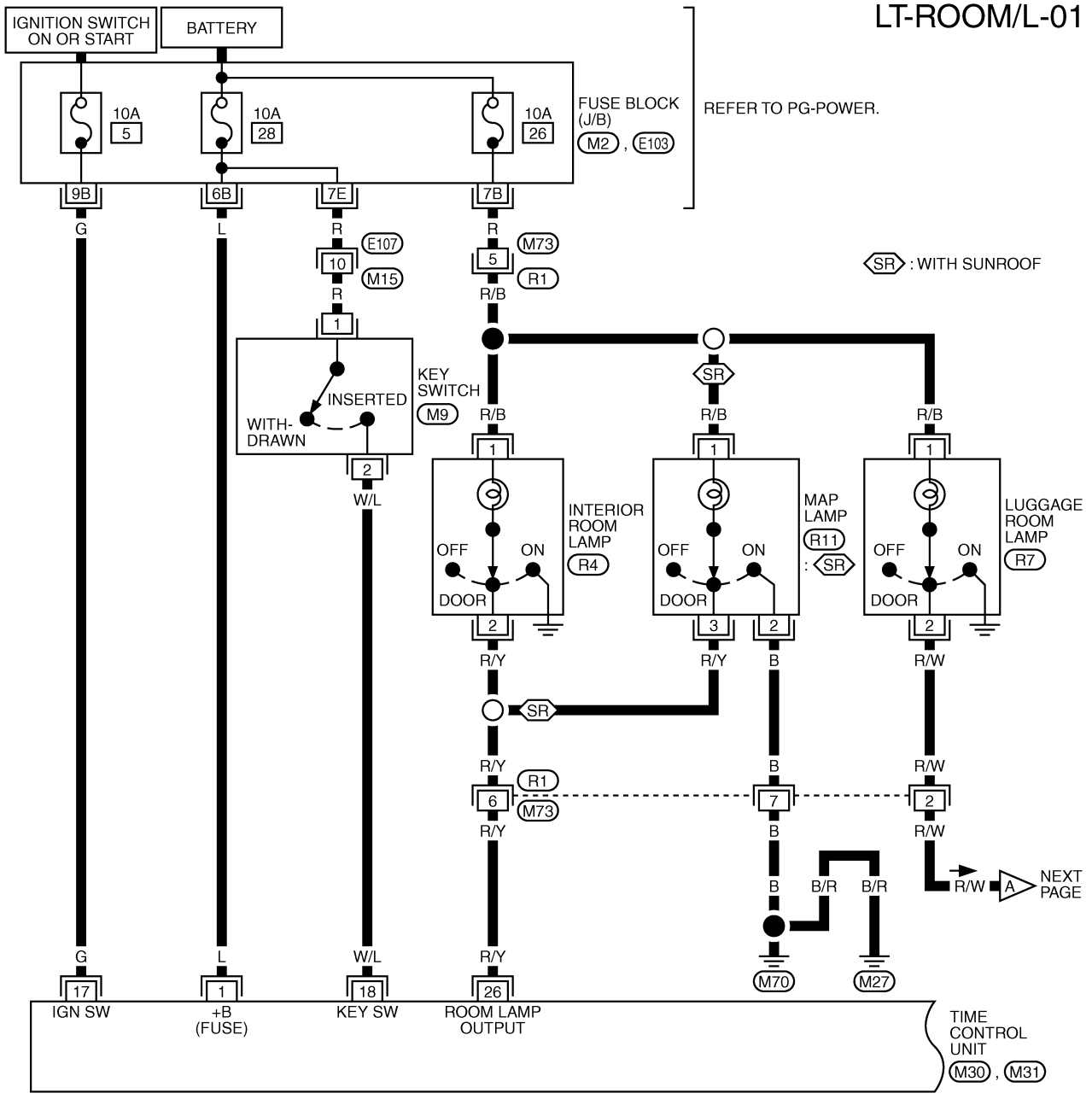
ON-OFF CONTROL

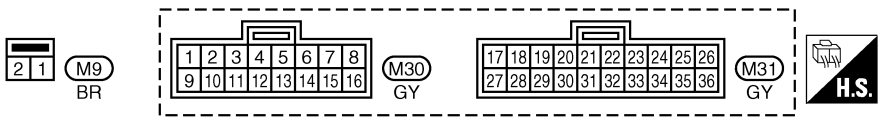
When the driver’s door, passenger’s door, rear LH door or rear RH door is opened, the interior room lamp and map lamp (with sunroof) turns on while the interior room lamp and map lamp (with sunroof) switch is in the DOOR position.

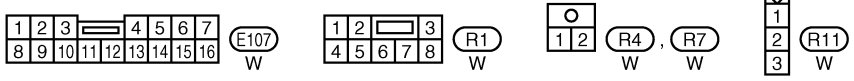
Wiring Diagram — ROOM/L—

EKS003BR

LHD MODELS



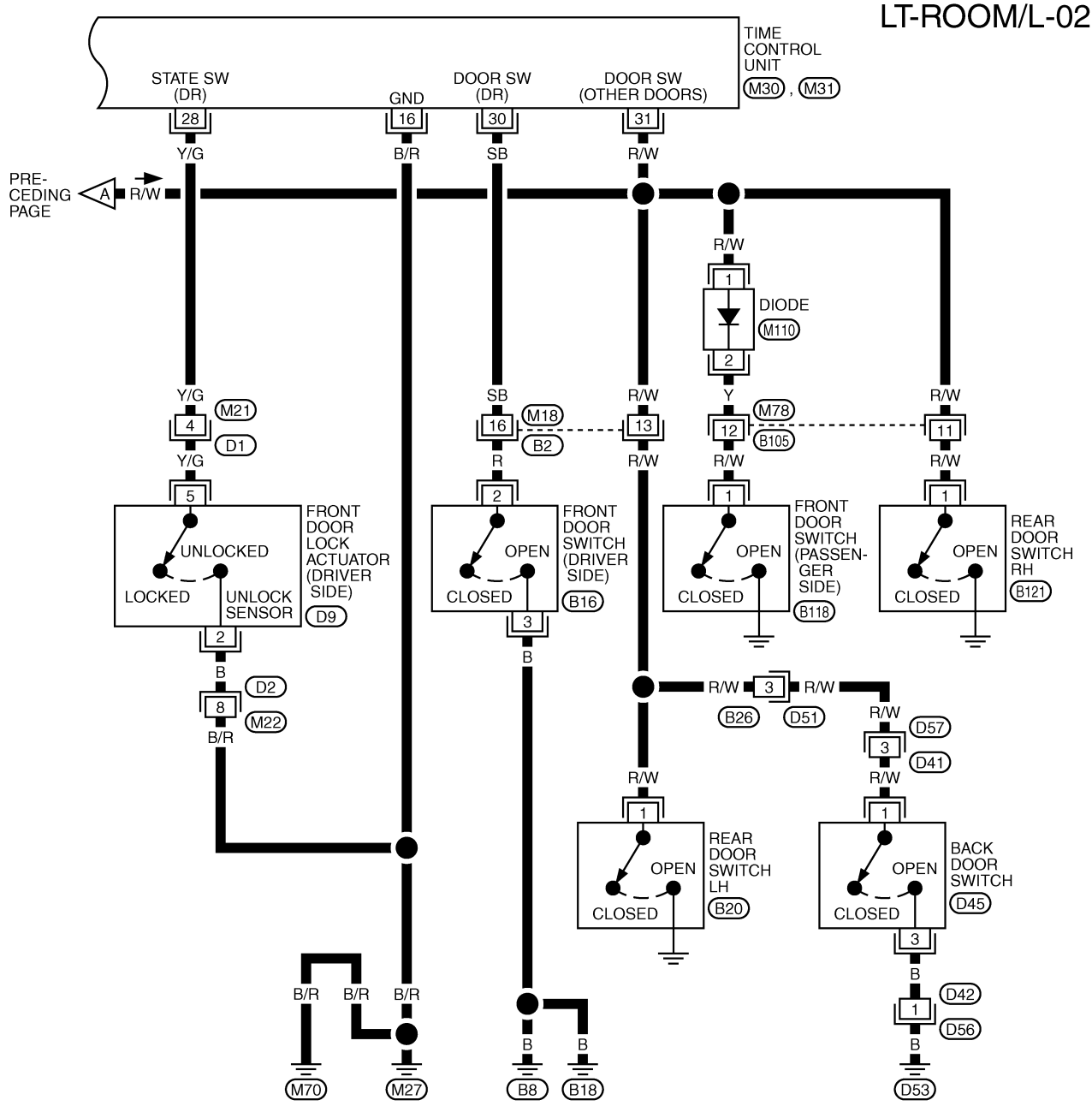


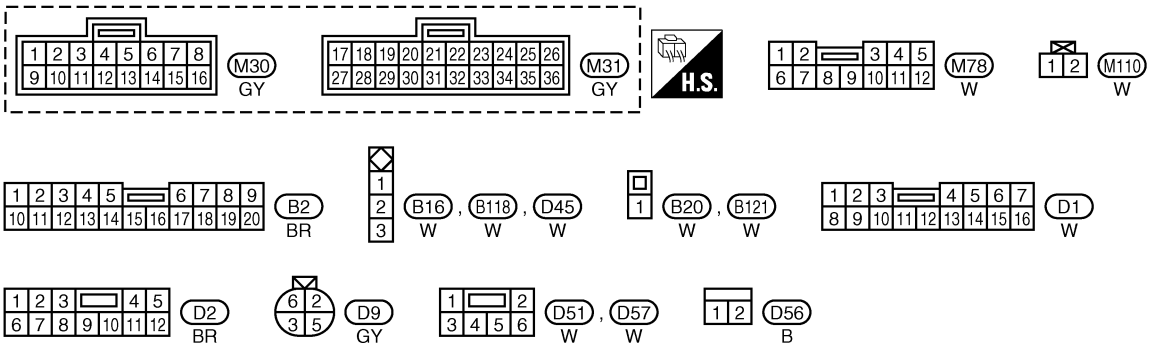


REFER TO THE FOLLOWING.
M2, E103 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWA1547E

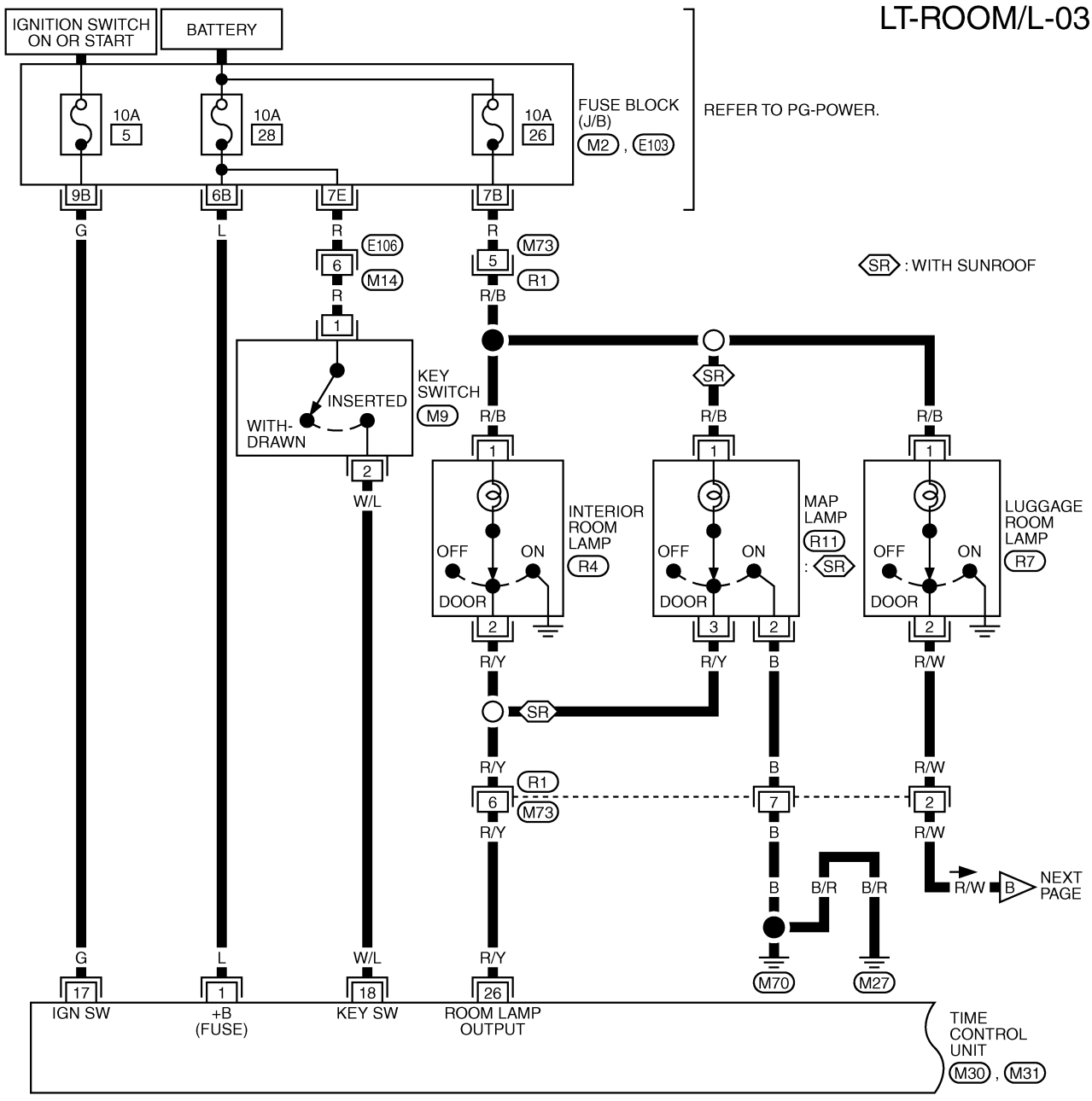
LT-ROOM/L-02





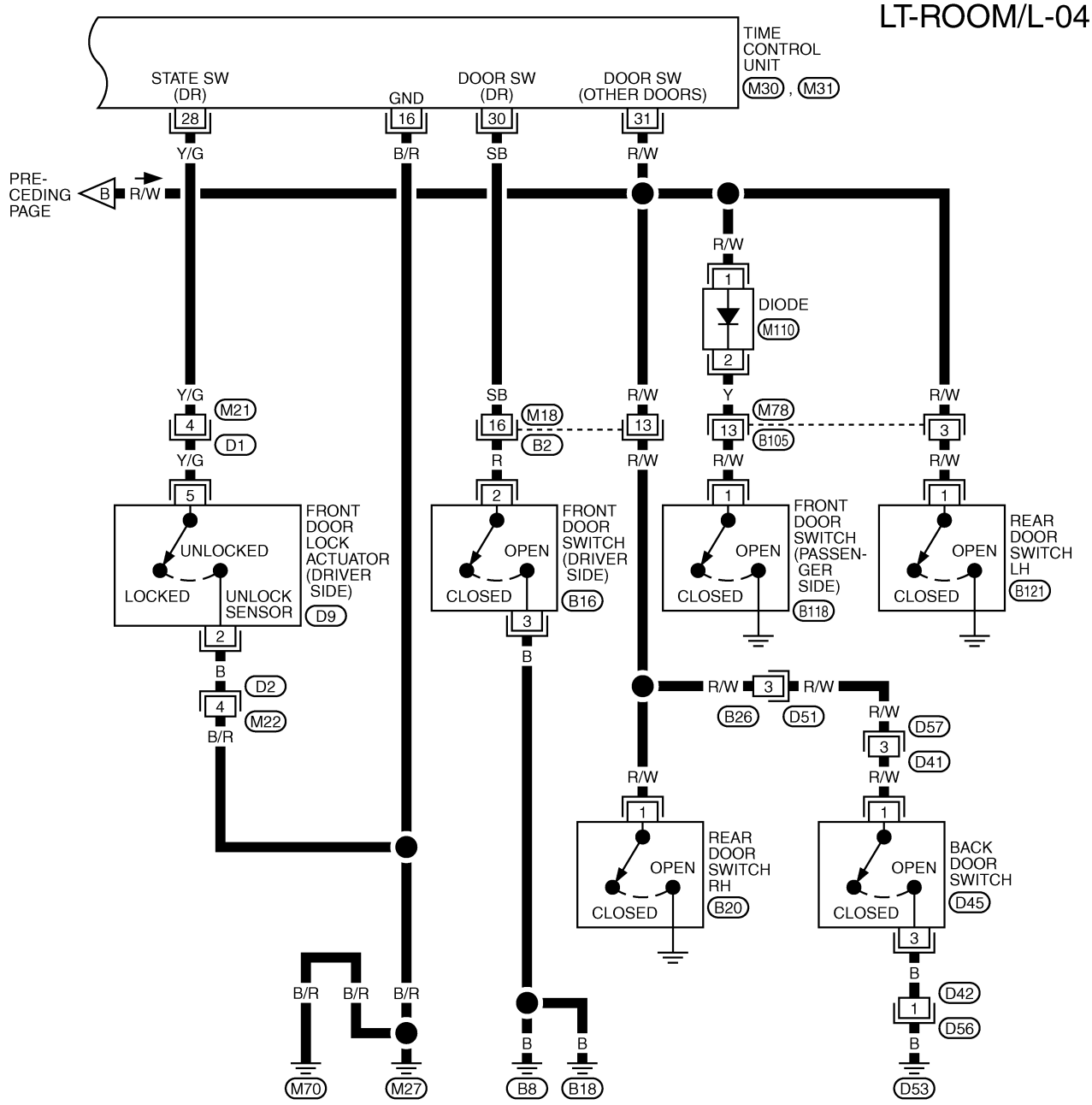
TKWA1548E

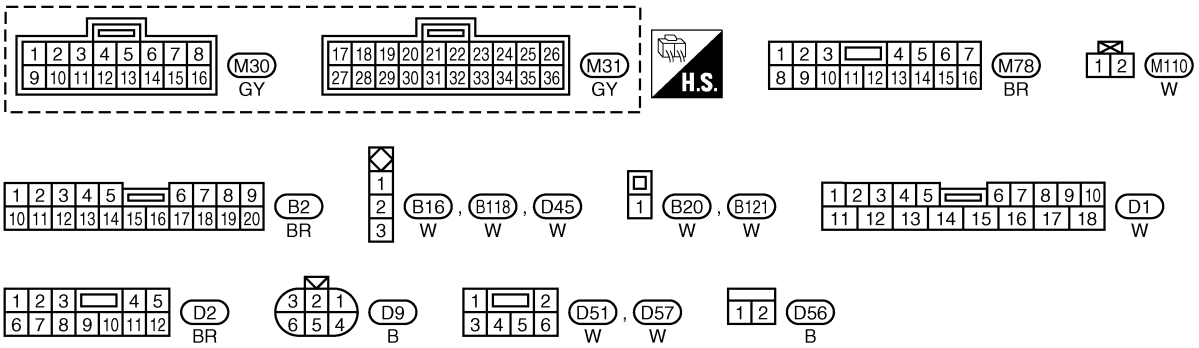
RHD MODELS



TKWA1549E

LT-ROOM/L-04





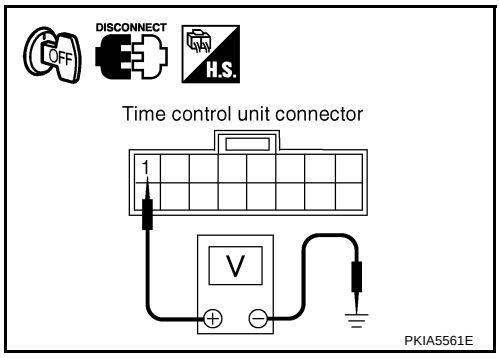
TKWA1550E

Interior Room Lamp Timer Does Not Operate

EKS00OM7

1. CHECK POWER SUPPLY SIGNAL

1. Turn ignition switch OFF.
2. Disconnect time control unit connector.
3. Check voltage between time control unit harness connector and ground.



Terminal			Voltage
(+)		(–)	
Connector	Terminal (Wire color)		
M30	1 (L)	Ground	Battery voltage

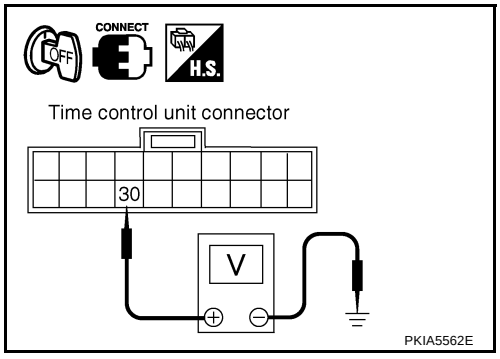
OK or NG

OK >> GO TO 2.
NG >> Check the following.

- 10A fuse [No. 28, located in fuse block (J/B)]
- Harness for open or short between time control unit and 10A fuse (No. 28)

2. CHECK FRONT DOOR SWITCH (DRIVER SIDE) INPUT SIGNAL

1. Connect time control unit connector.
2. Check voltage between time control unit harness connector and ground.



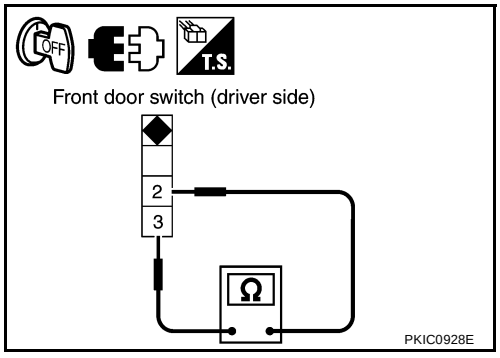
Terminal			Condition	Voltage
(+)		(–)		
Connector	Terminal (Wire color)			
M31	30 (SB)	Ground	OFF (closed)	Approx. 5V
			ON (open)	Approx. 0V

OK or NG

OK >> GO TO 4.
NG >> GO TO 3.

3. CHECK FRONT DOOR SWITCH (DRIVER SIDE)

1. Disconnect front door switch (driver side) connector.
2. Check continuity between front door switch (driver side) terminals.



Connector	Terminal		Condition	Continuity
B16	2	3	Pushed (closed)	No
			Released (open)	Yes

OK or NG

OK >> Check the following.

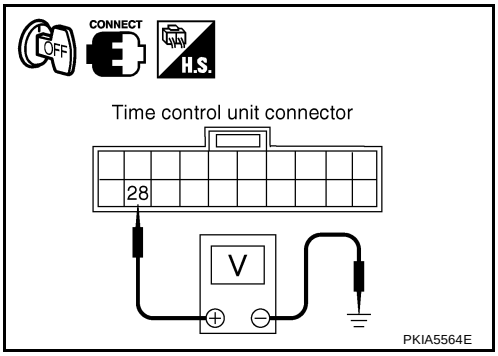
- Front door switch (driver side) ground circuit condition
- Harness for open or short between time control unit and front door switch (driver side)

NG >> Replace front door switch (driver side).

4. CHECK FRONT DOOR UNLOCK SENSOR INPUT SIGNAL (DRIVER SIDE)

Check voltage between time control unit harness connector and ground.

Terminal			Condition	Voltage
(+)		(–)		
Connector	Terminal (Wire color)			
M31	28 (Y/G)	Ground	Locked	Approx. 5V
			Unlocked	Approx. 0V



OK or NG

OK >> GO TO 6.
NG >> GO TO 5.

5. CHECK FRONT DOOR UNLOCK SENSOR (DRIVER SIDE)

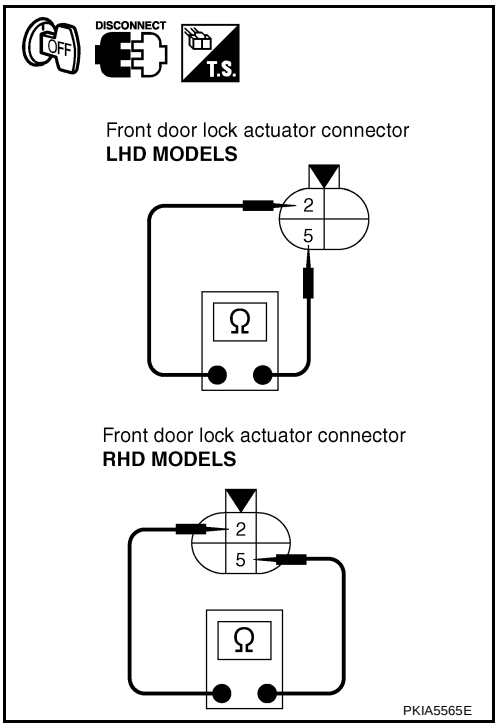
1. Disconnect front door lock actuator (driver side) connector.
2. Check continuity between front door lock actuator (driver side) terminals.

Connector	Terminal		Condition	Continuity
D9	2	5	Locked	No
			Unlocked	Yes

OK or NG

OK >> Check the following.
- Front door lock actuator (driver side) ground circuit
- Harness for open or short between time control unit and front door lock actuator (driver side).

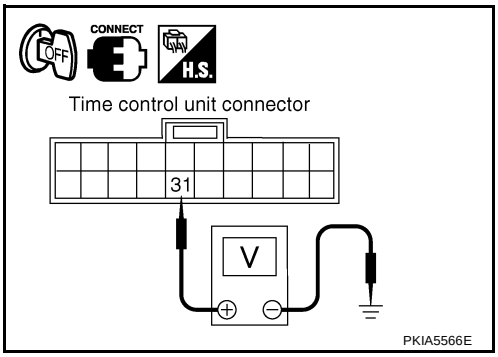
NG >> Replace front door lock actuator (driver side).



6. CHECK DOOR SWITCHES INPUT SIGNAL (EXCEPT DRIVER SIDE)

Check voltage between time control unit harness connector and ground.

Terminal			Condition (Except driver side door)	Voltage
(+)		(–)		
Connector	Terminal (Wire color)			
M31	31 (R/W)	Ground	ON (open)	Approx. 0V
			OFF (closed)	Approx. 5V



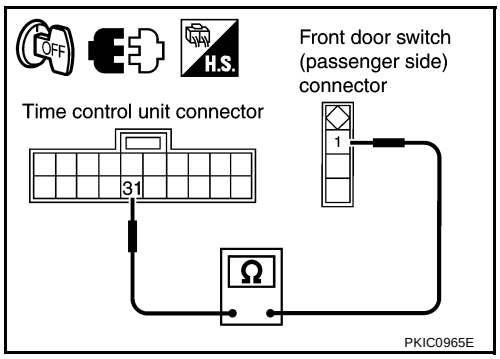
OK or NG

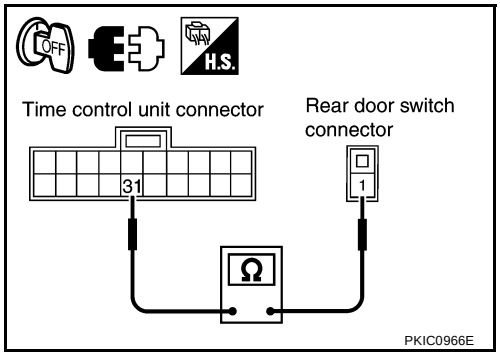
OK >> GO TO 8.
NG >> GO TO 7.

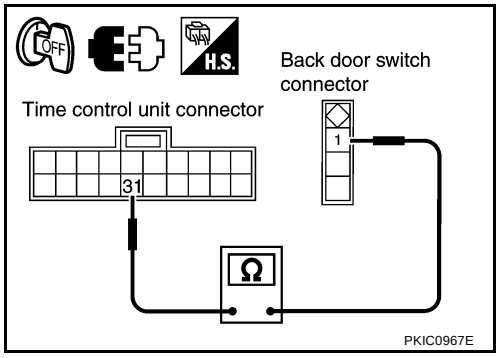
7. CHECK DOOR SWITCHES (EXCEPT DRIVER SIDE)

1. Disconnect each door switch connector (except driver side) and time control unit connector.
2. Check continuity between time control unit harness connector and each door switch harness connector.

Terminal					Continuity
Time control unit		Door switch			
Connector	Terminal (Wire color)	Connector		Terminal (Wire color)	
M31	31 (R/W)	B121	Rear door switch RH	1 (R/W)	Yes
		B118	Front door switch (passenger side)		
		B20	Rear door switch LH		
		D45	Back door switch		







OK or NG

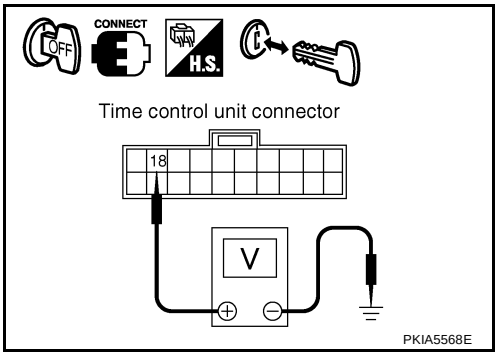
OK >> Check the following.
- Door switch ground condition.
- Replace door switch.

NG >> Harness for open or short between time control unit and each door switch (except driver side).

8. CHECK KEY SWITCH INPUT SIGNAL

Check voltage between time control unit harness connector and ground.

Terminal			Condition	Voltage
(+)		(–)		
Connector	Terminal (Wire color)			
M31	18 (W/L)	Ground	Inserted	Battery voltage
			Removed	Approx. 0V



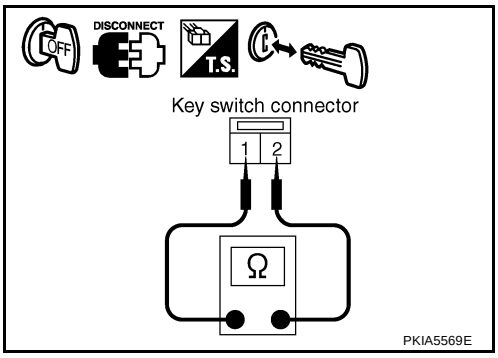
OK or NG

OK >> Replace time control unit.
NG >> GO TO 9.

9. CHECK KEY SWITCH

1. Disconnect key switch connector.
2. Check continuity between key switch terminals.

Connector	Terminal		Condition	Continuity
M9	1	2	Inserted	Yes
			Removed	No



OK or NG

OK >> Check the following.
- Harness for open or short between key switch and 10A fuse (No. 28)
- Harness for open or short between time control unit and key switch

NG >> Replace key switch.

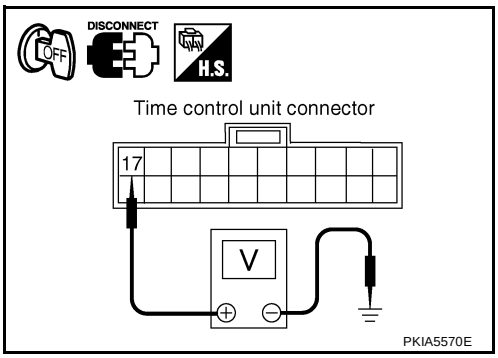
Interior Room Lamp Timer Does Not Cancel

EKS00OM8

1. CHECK IGNITION ON SIGNAL

1. Turn ignition switch OFF.
2. Disconnect time control unit connector.
3. Check voltage between time control unit harness connector and ground.

Terminal			Ignition switch position		
(+)		(–)	OFF	ACC	ON
Connector	Terminal (Wire color)				
M31	17 (G)	Ground	Approx. 0V	Approx. 0V	Battery voltage



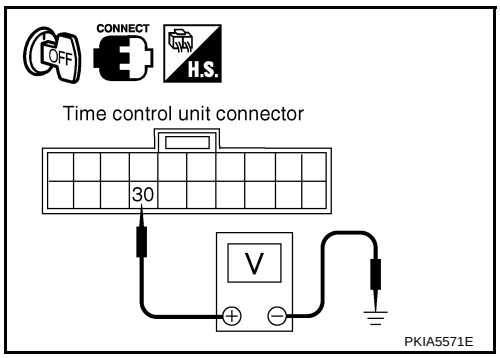
OK or NG

OK >> GO TO 2.
NG >> Check the following.
- 10A fuse [No. 5, located in fuse block (J/B)]
- Harness for open or short between time control unit and 10A fuse (No. 5)

2. CHECK FRONT DOOR SWITCH (DRIVER SIDE) INPUT SIGNAL

1. Connect time control unit connector.
2. Check voltage between time control unit harness connector and ground.

Terminal			Condition	Voltage
(+)		(–)		
Connector	Terminal (Wire color)			
M31	30 (SB)	Ground	OFF (closed)	Approx. 5V
			ON (open)	Approx. 0V



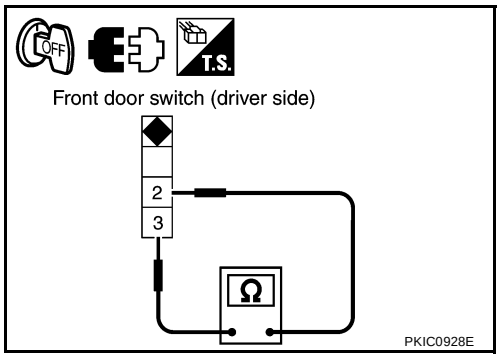
OK or NG

OK >> GO TO 4.
NG >> GO TO 3.

3. CHECK FRONT DOOR SWITCH (DRIVER SIDE)

1. Disconnect front door switch (driver side) connector.
2. Check continuity between front door switch (driver side) terminals.

Connector	Terminal		Condition	Continuity
B16	2	3	Pushed (closed)	No
			Released (opened)	Yes



OK or NG

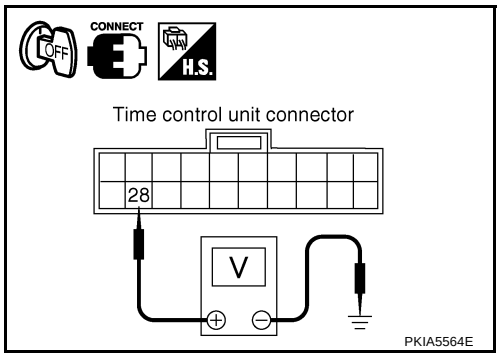
OK >> Check the following.
- Front door switch (driver side) ground circuit condition
- Harness for open or short between time control unit and front door switch (driver side).

NG >> Replace front door switch (driver side).

4. CHECK FRONT DOOR UNLOCK SENSOR INPUT SIGNAL (DRIVER SIDE)

Check voltage between time control unit harness connector and ground.

Terminal			Condition	Voltage
(+)		(–)		
Connector	Terminal (Wire color)			
M31	28 (Y/G)	Ground	Locked	Approx. 5V
			Unlocked	Approx. 0V



OK or NG

OK >> Replace time control unit.
NG >> GO TO 5.

5. CHECK FRONT DOOR UNLOCK SENSOR (DRIVER SIDE)

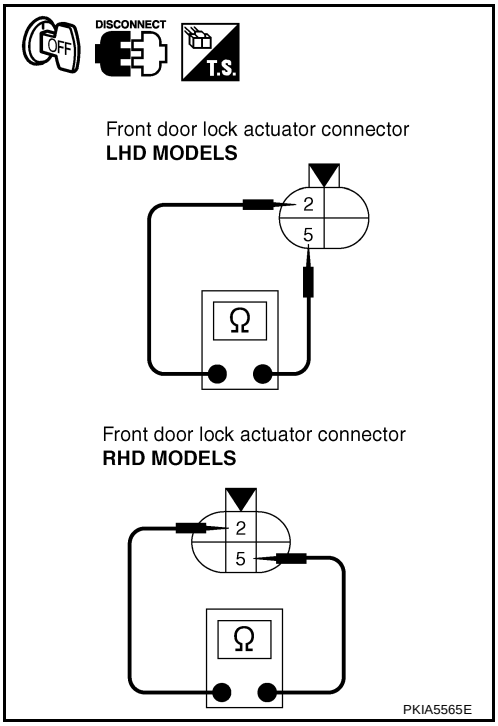
1. Disconnect front door lock actuator (driver side) connector.
2. Check continuity between front door lock actuator (driver side) terminals.

Connector	Terminal		Condition	Continuity
D9	2	5	Locked	No
			Unlocked	Yes

OK or NG

OK >> Check the following.
- Front door lock actuator (driver side) ground circuit
- Harness for open or short between time control unit and front door lock actuator (driver door).

NG >> Replace front door lock actuator (driver door).



EKS003DB

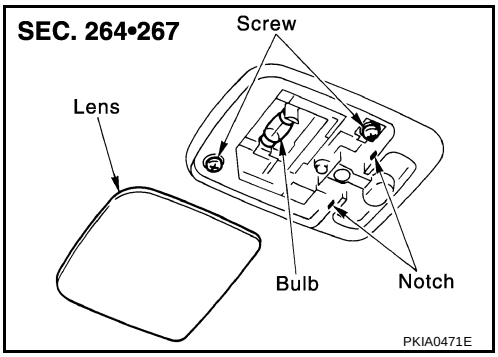
Bulb Replacement

INTERIOR ROOM LAMP

1. Insert a narrow slotted screwdriver in the cutout, and remove lens.
2. Remove the bulb.

Interior room lamp : 12V - 10W

3. Installation is the reverse order of removal.



LUGGAGE ROOM LAMP

Refer to LT-143, "Bulb Replacement" in “INTERIOR ROOM LAMP”.

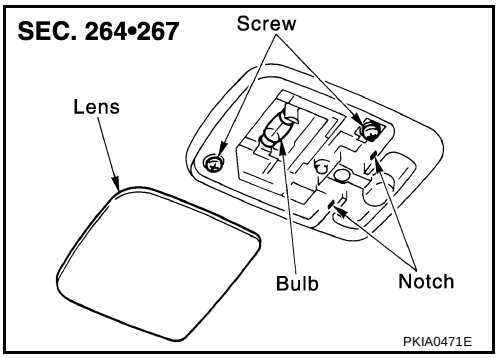
Removal and Installation

EKS003DC

INTERIOR ROOM LAMP

Removal

1. Insert a narrow slotted screwdriver in the cutout, and remove lens.
2. Remove room lamp mounting screws, and remove room lamp.
3. Disconnect the interior room lamp connector.



Installation

Installation is the reverse order of removal.

LUGGAGE ROOM LAMP

Refer to LT-143, "Removal and Installation" in “INTERIOR ROOM LAMP”.

STEP LAMP

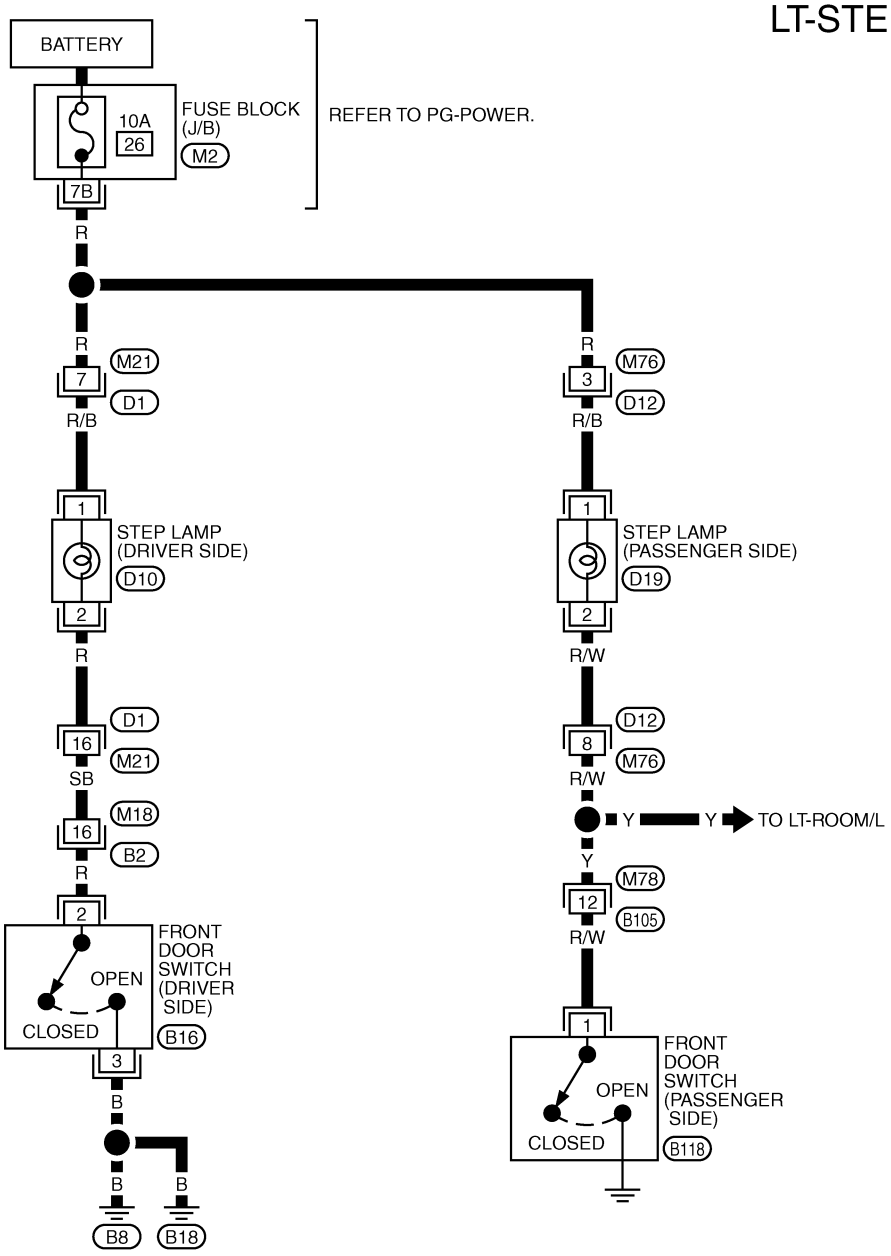
PFP:26420

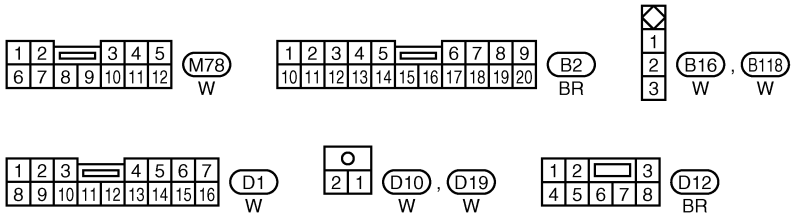
Wiring Diagram — STEP/L —

EKS00F8B

LHD MODELS

LT-STEP/L-01





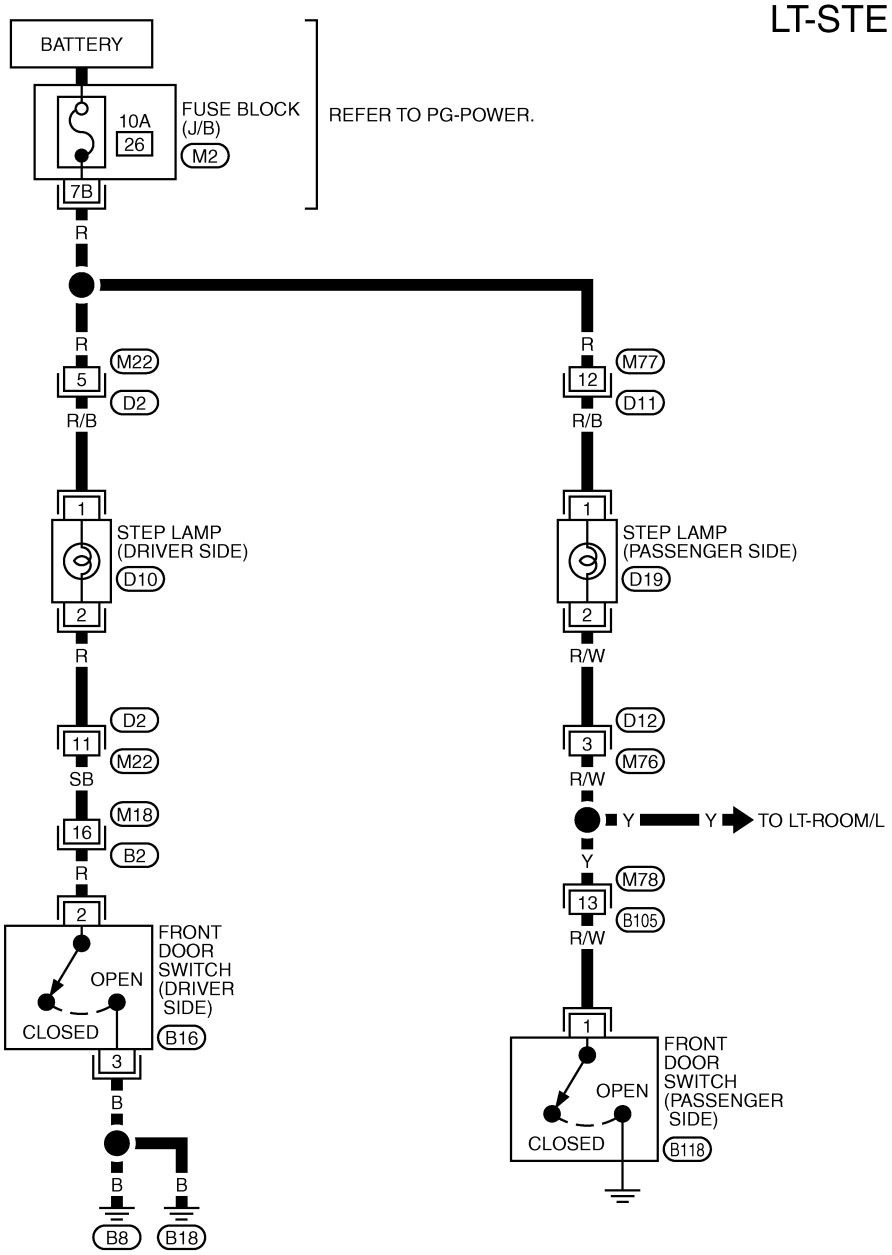
REFER TO THE FOLLOWING.

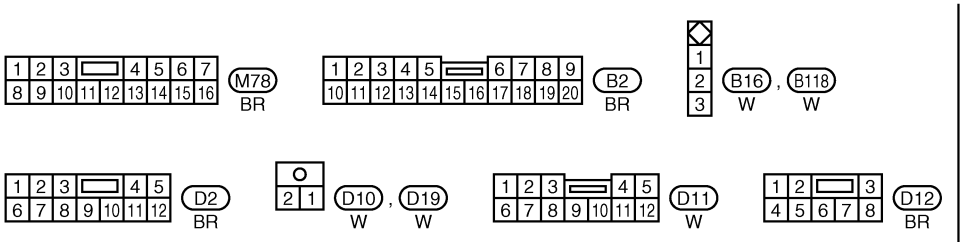
M2 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWA1551E

RHD MODELS

LT-STEP/L-02





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

TKWA1552E

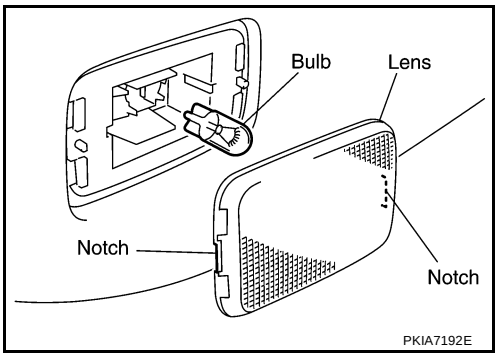
Bulb Replacement

EKS00N7Q

1. Remove lens using a clip driver or a suitable tool.
2. Remove bulb.

Step lamp : 12V - 2.7W

3. Installation is the reverse order of removal.

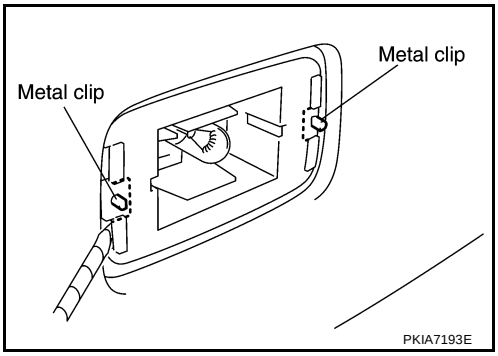


Removal and Installation

EKS00N7R

REMOVAL

1. Remove lens.
2. Using a clip driver or a suitable tool, press and remove metal clip of step lamp.
3. Disconnect step lamp connector.



INSTALLATION

Installation is the reverse order of removal.

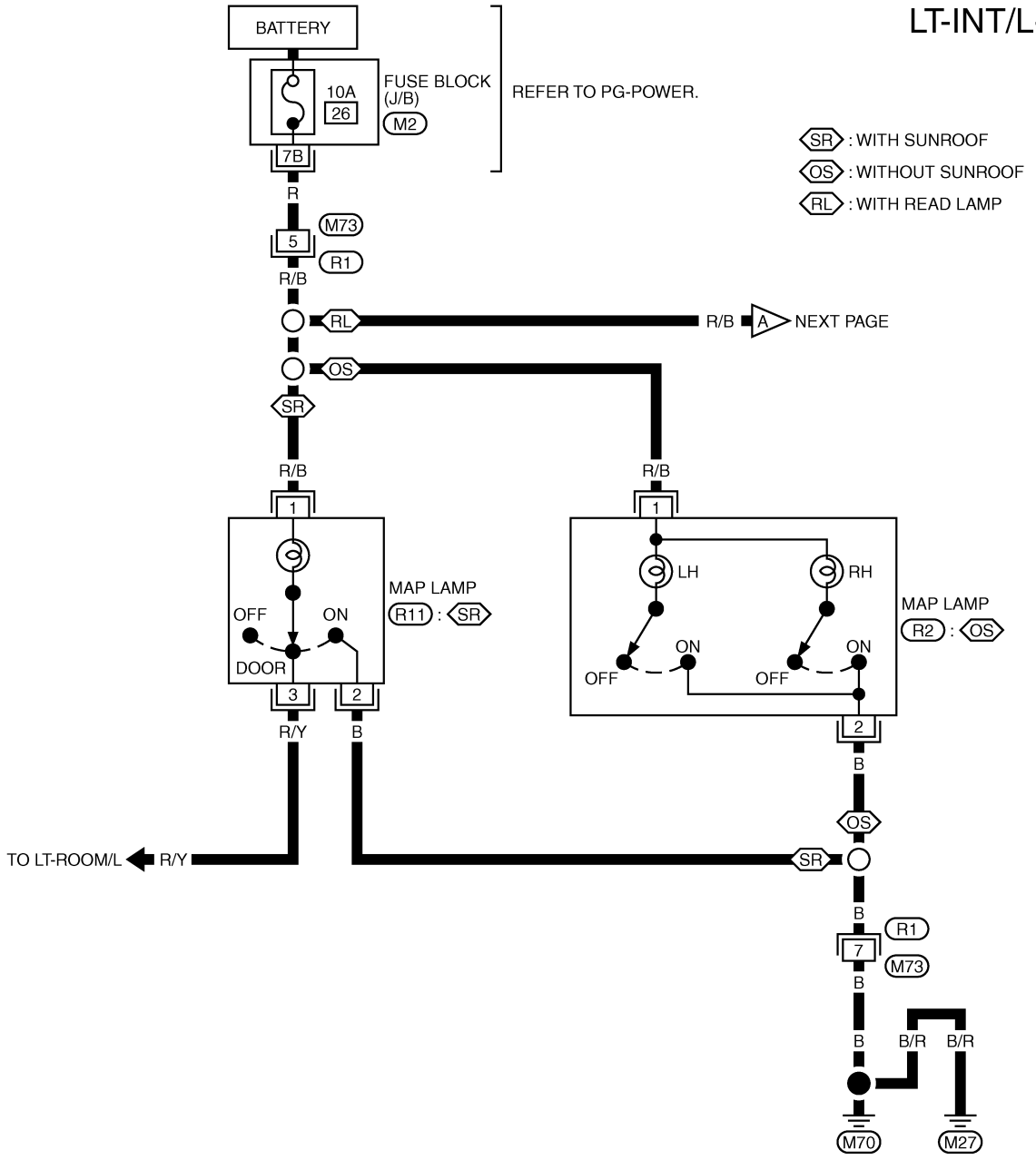
INTERIOR LAMP

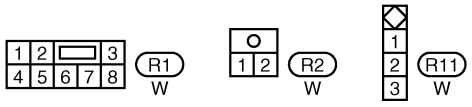
PFP:28491

Wiring Diagram — INT/L —

EKS00OM9

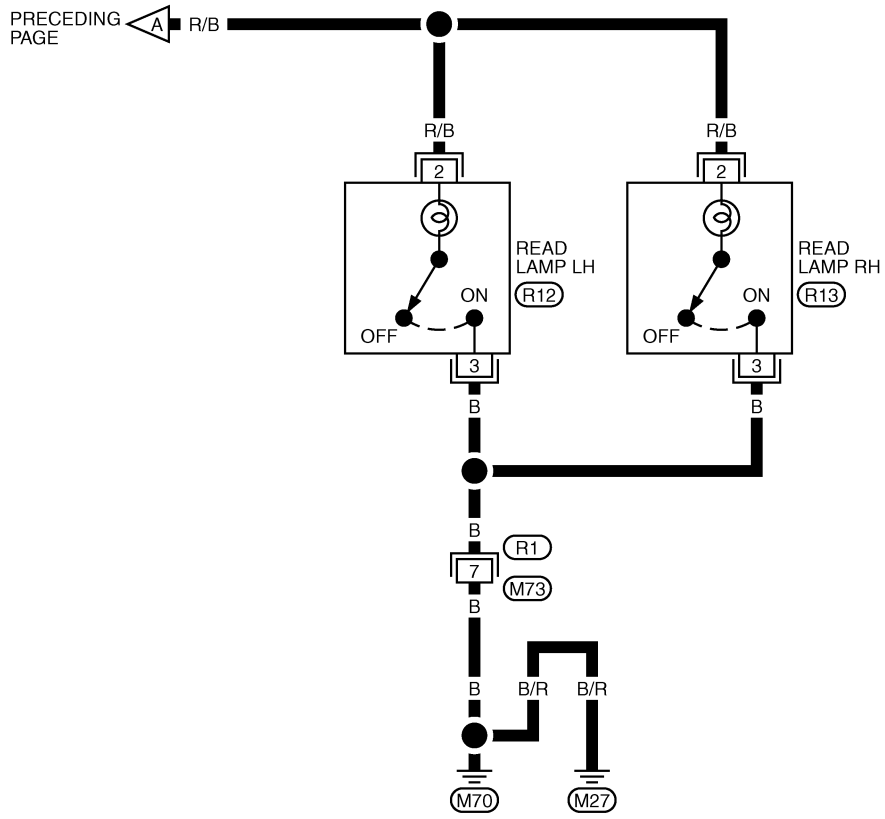
LT-INT/L-01

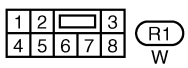




REFER TO THE FOLLOWING.
M2 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWB1883E


PRECEDING PAGE
A
R/B
R/B
2
READ LAMP LH
R12
ON
OFF
3
B
R/B
2
READ LAMP RH
R13
ON
OFF
3
B
B
R1
7
M73
B
B
B/R
B/R
M70
M27


1 2 3
4 5 6 7 8
R1
W


1 2 3
R12
W
R13
W

TKWB1773E

Bulb Replacement

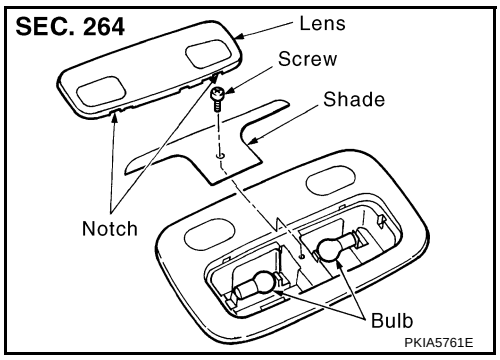
EKS00OMA

MAP LAMP (WITHOUT SUNROOF)

1. Remove the lens using a clip driver or a suitable tool.
2. Remove the shade mounting screw and remove the shade from the map lamp.
3. Remove the bulb.

Map lamp (Without sunroof) : 12V - 8W

4. Installation is the reverse order of removal.

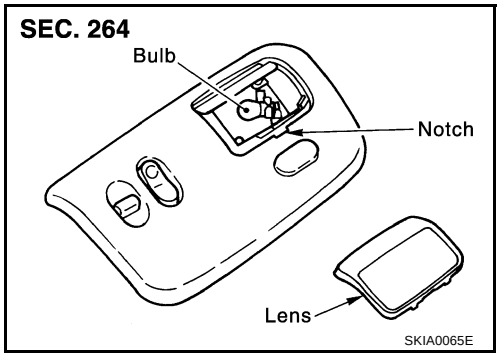


MAP LAMP (WITH SUNROOF)

1. Remove the lens using a clip driver or a suitable tool.
2. Remove the bulb.

Map lamp (Without sunroof) : 12V - 10W

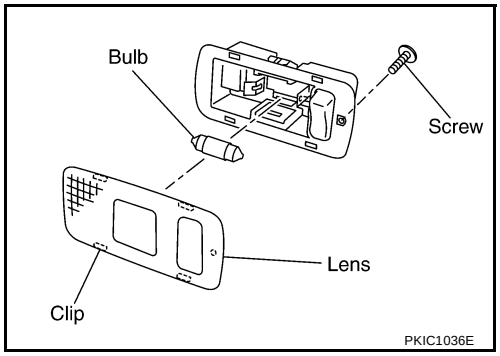
3. Installation is the reverse order of removal.



READ LAMP

1. Remove the read lamp. Refer to LT-150, "Removal and Installation" .
2. Remove the lens mounting screw.
3. Release four clips and remove the lens.
4. Remove the bulb.

Read lamp : 12V - 8W



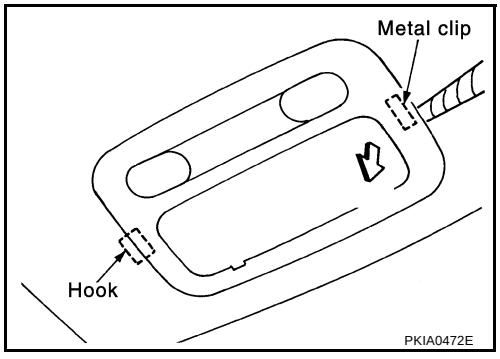
Removal and Installation

EKS00OMB

REMOVAL

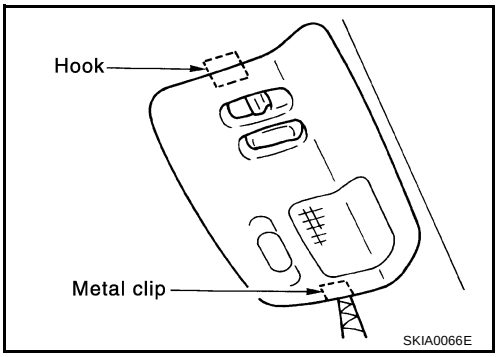
Map Lamp (Without sunroof)

1. Using a clips driver or a suitable tool, press and remove the metal clip of the map lamp.
2. Disconnect the map lamp connector.



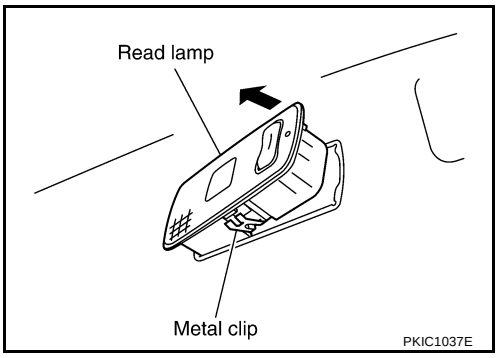
Map Lamp (With sunroof)

1. Using a clips driver or a suitable tool, press and remove the metal clip of the map lamp.
2. Disconnect the map lamp connector.



Read Lamp

1. Take out the read lamp while pushing the metal clip using a clip remover.
2. Disconnect the connector to release the read lamp.



INSTALLATION

Installation is the reverse order of removal.

BULB SPECIFICATIONS

PFP:26297

Headlamp

EKS003GS

Item		Wattage (W)
Xenon type	Low	35 (D2R)
	High	55 (H1)
Conventional type	High/Low	60/55 (H4)
Driving lamp		65 (H1R1)

Exterior Lamp

EKS003GT

Item		Wattage (W)
Front combination lamp	Clearance lamp	5
Front turn signal lamp		21 (amber)
Side turn signal lamp		5
Fog lamp	Front fog lamp	55 (H11)
	Rear fog lamp	21
Rear combination lamp	Stop/Tail lamp	21/5
	Rear turn signal lamp	21
	Back-up lamp	21
License plate lamp		5
High-mounted stop lamp		5

Interior Lamp/Illumination

EKS003GU

Item		Wattage (W)
Interior room lamp		10
Map lamp	Without sunroof	8
	With sunroof	10
Luggage room lamp		10
Step lamp		2.7
Ashtray illumination lamp		1.4