

**SECTION** **LT**  
**LIGHTING SYSTEM**

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# PRECAUTIONS

## PRECAUTIONS

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

AKS007KP

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

#### **WARNING:**

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

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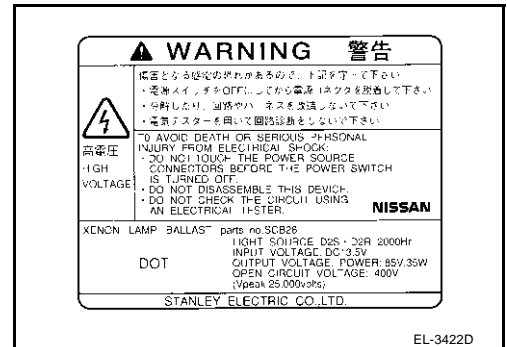
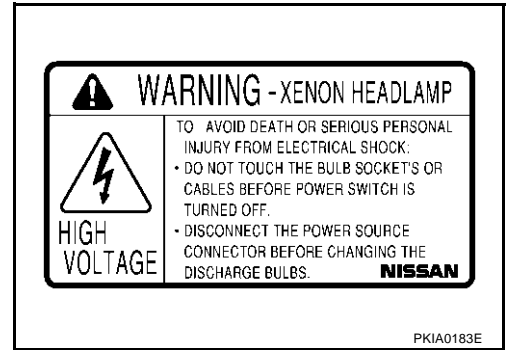
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# PRECAUTIONS

## General Precautions for Service Operations

AKS004ZU

- Never work with wet hands.
- Xenon headlamp includes high voltage generating part. Be sure to disconnect battery negative cable (negative terminal) or power fuse before removing, installing, or touching the xenon headlamp (including lamp bulb).
- Turn the lighting switch OFF before disconnecting and connecting the connector.
- When turning the xenon headlamp on and while it is illuminated, never touch the harness, bulb, and socket of the headlamp.
- When checking the headlamp on/off operation, check it on vehicle and with the power connected to the vehicle-side connector.
- Do not touch the headlamp bulb glass surface with bare hands or allow oil or grease to get on it. Do not touch the headlamp bulb just after the headlamp is turned off, because it is very hot.
- Install the xenon headlamp bulb socket correctly. If it is installed improperly, high-voltage leak or corona discharge may occur that can melt the bulb, connector, and housing. Do not illuminate the xenon headlamp bulb out of the headlamp housing. Doing so can cause fire and harm your eyes.
- When the bulb has burned out, wrap it in a thick vinyl bag and discard. Do not break the bulb.
- Leaving the bulb removed from the headlamp housing for a long period of time can deteriorate the performance of the lens and reflector (dirt, clouding). Always prepare a new bulb and have it on hand when replacing the bulb.
- When adjusting the headlamp aiming, turn the aiming adjustment screw only in the tightening direction. (If it is necessary to loosen the screw, first fully loosen the screw, and then turn it in the tightening direction.)
- Do not use organic solvent (paint thinner or gasoline) to clean lamps and to remove old sealant.



## Wiring Diagrams and Trouble Diagnosis

AKS004ZV

When you read wiring diagrams, refer to the following:

- Refer to [GI-15, "How to Read Wiring Diagrams"](#) in GI section.
- Refer to [PG-3, "POWER SUPPLY ROUTING CIRCUIT"](#) for power distribution in PG section.

When you perform trouble diagnosis, refer to the following:

- Refer to [GI-11, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES"](#) in GI section.
- Refer to [GI-27, "How to Perform Efficient Diagnosis for an Electrical Incident"](#) in GI section.

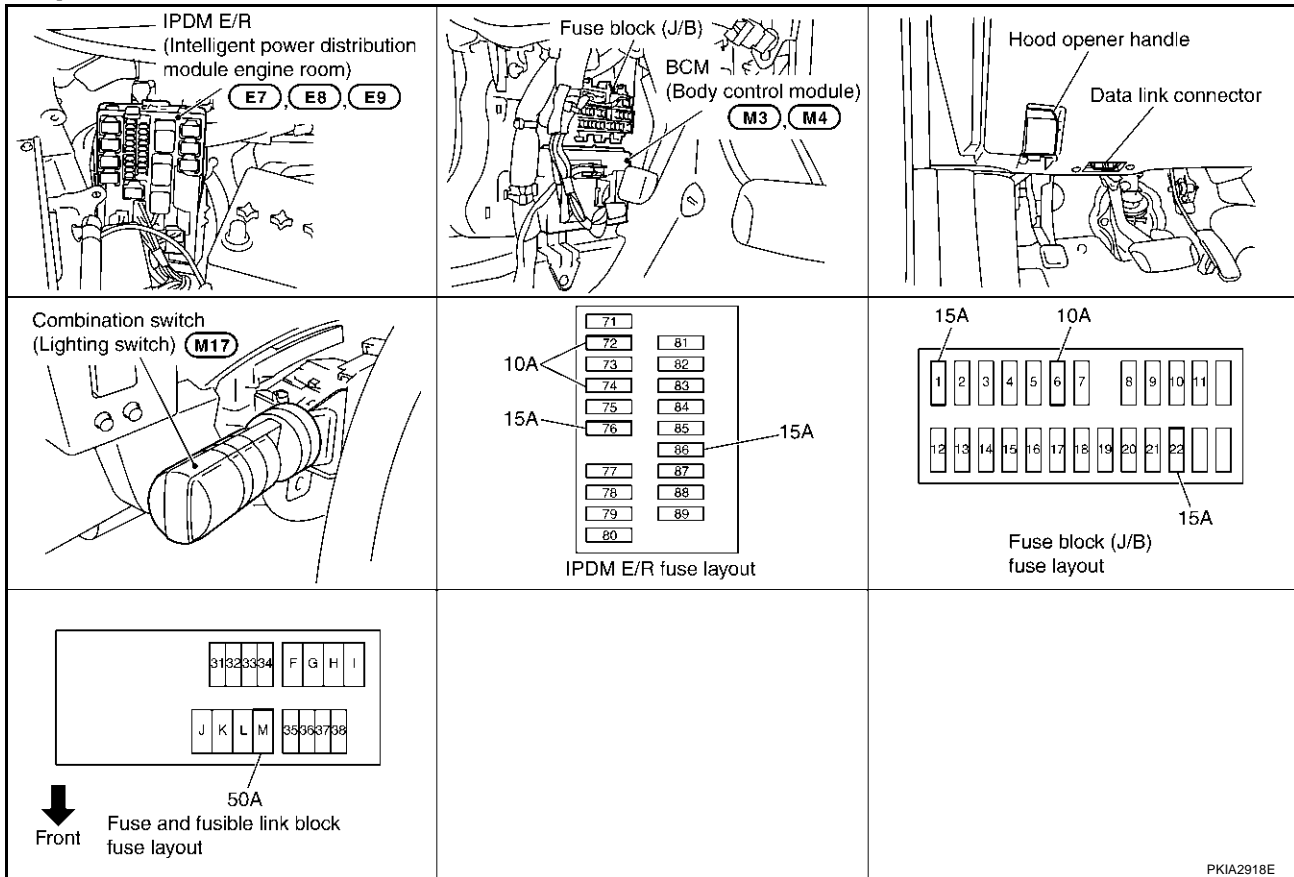
# HEADLAMP - XENON TYPE -

## HEADLAMP - XENON TYPE -

PPF:26010

### Component Parts and Harness Connector Location

AKS007M9



### System Description

AKS007MA

Control of the headlamp system operation is dependent upon the position of the combination switch (lighting switch). When the lighting switch is placed in the 2ND position, the BCM (body control module) receives input signal requesting the headlamps (and tail lamps) illuminate. This input signal is communicated to the IPDM E/R (intelligent power distribution module engine room) across the CAN communication lines. CPU (central processing unit) of IPDM E/R (intelligent power distribution module engine room) controls the headlamp high and headlamp low relay coils. These relays, when energized, direct power to the respective headlamps, which then illuminate.

If voltage is applied to a high beam solenoid, the bulb shade will move, even a xenon head lamp bulb comes out, and a high beam and a low beam are changed.

### OUTLINE

Power is supplied at all times

- to headlamp high relay [located in IPDM E/R (intelligent power distribution module engine room)]
- to headlamp low relay [located in IPDM E/R (intelligent power distribution module engine room)]
- to ignition relay [located in IPDM E/R (intelligent power distribution module engine room)]
- through 10A fuse [No. 71, located in IPDM E/R (intelligent power distribution module engine room)]
- to CPU (central processing unit) [located in IPDM E/R (intelligent power distribution module engine room)]
- through 15A fuse [No. 78, located in IPDM E/R (intelligent power distribution module engine room)]
- to CPU (central processing unit) [located in IPDM E/R (intelligent power distribution module engine room)]
- through 50A fusible link (letter M, located in fuse and fusible link block)
- to BCM (body control module) terminal 55
- through 15A fuse [No. 22, located in fuse block (J/B)]
- to BCM (body control module) terminal 42
- through 10A fuse [No. 19, located in fuse block (J/B)]

## HEADLAMP - XENON TYPE -

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- to combination meter terminal 8.

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

- to ignition relay [located in IPDM E/R (intelligent power distribution module engine room)]
- through 15A fuse [No. 1, located in fuse block (J/B)]
- to BCM (body control module) terminal 38
- through 10A fuse [No. 14, located in fuse block (J/B)]
- to combination meter terminal 7.

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

- through 10A fuse [No. 6, located in fuse block (J/B)]
- to BCM (body control module) terminal 11.

Ground is supplied

- to BCM (body control module) terminals 49 and 52
- through grounds M35, M45 and M85
- to IPDM E/R (intelligent power distribution module engine room) terminals 38 and 60
- through grounds E21, E50 and E51
- to combination meter terminals 5, 6 and 15
- through grounds M35, M45 and M85.

### Low Beam Operation

With the lighting switch in 2ND position, the BCM receives input signal requesting the headlamps to illuminate. This input signal is communicated to the IPDM E/R across the CAN communication lines. The CPU in the IPDM E/R controls the headlamp low relay coil, which when energized, directs power

- to 15A fuse [No. 76, located in IPDM E/R]
- through IPDM E/R terminal 20
- to headlamp RH terminal 6
- to 15A fuse [No. 86, located in IPDM E/R]
- through IPDM E/R terminal 30
- to headlamp LH terminal 6.

Ground is supplied

- to headlamp RH terminal 7
- through grounds E21, E50 and E51
- to headlamp LH terminal 7
- through grounds E21, E50 and E51.

With power and ground supplied, low beam headlamps illuminate.

### High Beam Operation/Flash-to-Pass Operation

With the lighting switch in 2ND position and placed in HIGH or PASS position, the BCM receives input signal requesting the headlamp high beams to illuminate. This input signal is communicated to the IPDM E/R across the CAN communication lines. The CPU in the IPDM E/R controls the headlamp high relay coil and low relay coil, which when energized, directs power

- to 15A fuse [No. 76, located in IPDM E/R]
- through IPDM E/R terminal 20
- to headlamp RH terminal 6
- to 15A fuse [No. 86, located in IPDM E/R]
- through IPDM E/R terminal 30
- to headlamp LH terminal 6
- to 10A fuse [No. 72, located in IPDM E/R]
- through IPDM E/R terminal 27
- to headlamp RH terminal 5
- to 10A fuse [No. 74, located in IPDM E/R]
- through IPDM E/R terminal 28



## HEADLAMP - XENON TYPE -

- to headlamp LH terminal 5.

Ground is supplied

- to headlamp RH terminal 7
- through grounds E21, E50 and E51
- to headlamp LH terminal 7
- through grounds E21, E50 and E51.

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

If voltage is applied to a high beam solenoid, the bulb shade will move, even a xenon head lamp bulb comes out, and a high beam and a low beam are changed.

The unified meter and A/C amp that received the high beam request signal by BCM across the CAN communication makes a high beam indicator lamp turn on in combination meter.

### COMBINATION SWITCH READING FUNCTION

Refer to [BCS-3. "COMBINATION SWITCH READING FUNCTION"](#) .

### EXTERIOR LAMP BATTERY SAVER CONTROL

When the combination switch (lighting switch) is in the 2ND position (ON), and the ignition switch is turned from ON or ACC to OFF, the battery saver control function is activated.

Under this condition, the headlamps remain illuminated for 5 minutes, then the headlamps are turned off.

Exterior lamp battery saver control mode can be changed by the function setting of CONSULT-II.

### AUTO LIGHT OPERATION (IF EQUIPPED)

Refer to [LT-81. "System Description"](#) in "AUTO LIGHT SYSTEM".

### VEHICLE SECURITY SYSTEM

The vehicle security system will flash the high beams if the system is triggered. Refer to [BL-216. "VEHICLE SECURITY \(THEFT WARNING\) SYSTEM"](#) .

### XENON HEADLAMP

Xenon type headlamp is adopted to the low and high 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 added lighting power, electronic control of the power supply gives the headlamps stable quality and tone color.

Following are some of the many advantages of the xenon type headlamp.

- The light produced by the headlamps is a white color comparable to sunlight that is easy on the eyes.
- Light output is nearly double that of halogen headlamps, affording increased area of illumination.
- The light features a high relative spectral distribution at wavelengths to which the human eye is most sensitive. This means that even in the rain, more light is reflected back from the road surface toward the vehicle, for added visibility.
- Power consumption is approximately 25 percent less than halogen headlamps, reducing battery load.

### CAN Communication System Description

AKS007MB

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

# HEADLAMP - XENON TYPE -

## CAN Communication Unit

AKS0080S

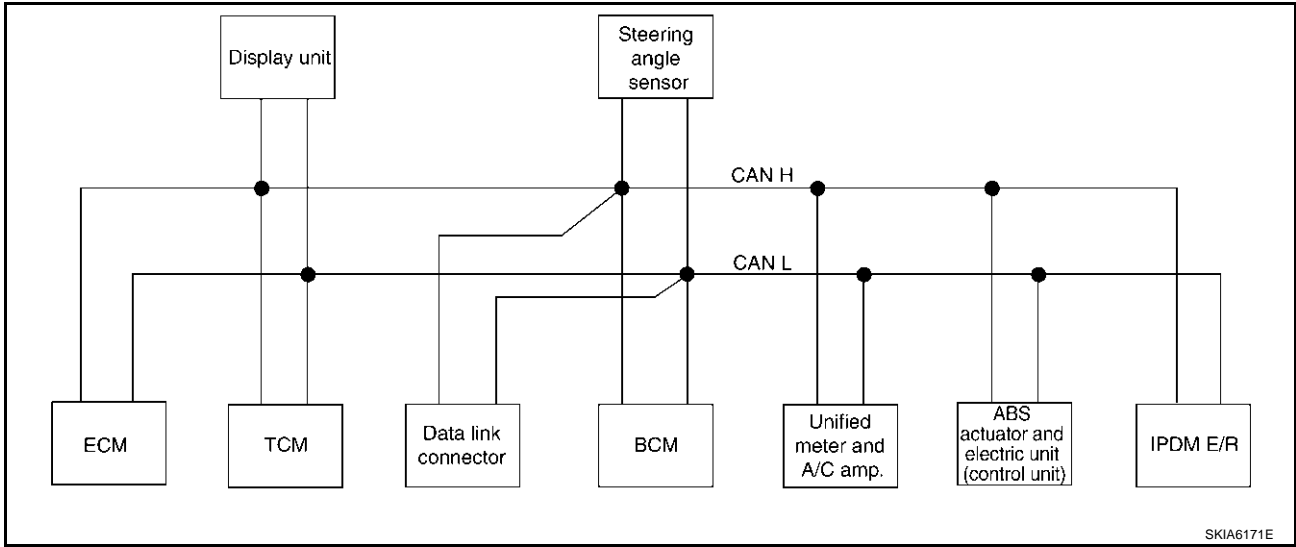
Body type	Wagon					
Axle	2WD			AWD		
Engine	VQ35DE			VQ35DE/VK45DE		
Transmission	A/T					
Brake control	VDC					
Navigation system			×			×
Low tire pressure warning system			×			×
ICC system			×			×
Intelligent Key system			×			×
Automatic drive positioner		×	×		×	×
CAN communication unit						
ECM	×	×	×	×	×	×
TCM	×	×	×	×	×	×
Display unit	×	×		×	×	
Display control unit			×			×
Low tire pressure warning control unit			×			×
AWD control unit				×	×	×
ICC unit			×			×
Intelligent Key unit			×			×
Data link connector	×	×	×	×	×	×
BCM	×	×	×	×	×	×
Steering angle sensor	×	×	×	×	×	×
Unified meter and A/C amp.	×	×	×	×	×	×
ICC sensor			×			×
ABS actuator and electric unit (control unit)	×	×	×	×	×	×
Driver seat control unit		×	×		×	×
IPDM E/R	×	×	×	×	×	×
CAN communication type	<u>LT-11. "TYPE 1/TYPE2"</u>		<u>LT-14. "TYPE 3"</u>	<u>LT-17. "TYPE 4/TYPE5"</u>		<u>LT-20. "TYPE 6"</u>

×: Applicable

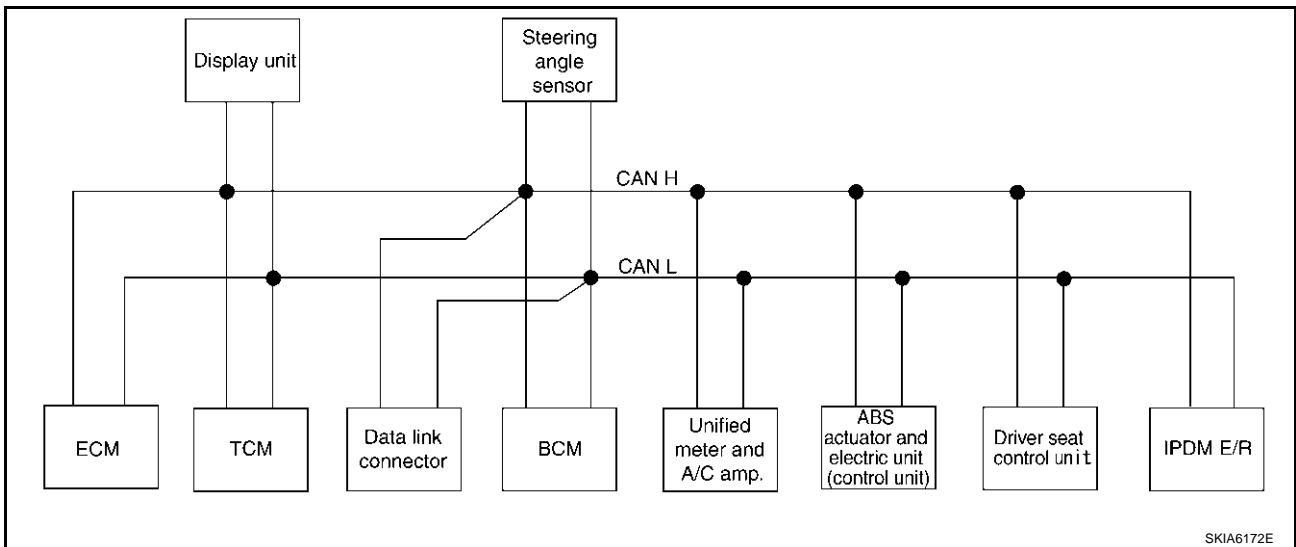
# HEADLAMP - XENON TYPE -

## TYPE 1/TYPE2 System Diagram

- Type1



- Type2



## Input/Output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Engine speed signal	T	R	R			R	R		
Engine status signal	T			R					
Engine coolant temperature signal	T	R				R			
A/T self-diagnosis signal	R	T							
Accelerator pedal position signal	T	R					R		
Closed throttle position signal	T	R							
Wide open throttle position signal	T	R							

## HEADLAMP - XENON TYPE -

Signals	ECM	TCM	Display unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Battery voltage signal	T	R							
Key switch signal				T				R	
Ignition switch signal				T				R	R
P range signal		T					R	R	
Stop lamp switch signal		R				T			
ABS operation signal	R						T		
TCS operation signal	R						T		
VDC operation signal	R						T		
Fuel consumption monitor signal	T		R			R			
Input shaft revolution signal	R	T							
Output shaft revolution signal	R	T							
A/C switch signal	R			T					
A/C compressor request signal	T								R
A/C relay status signal	R								T
A/C compressor feedback signal	T					R			
Blower fan motor switch signal	R			T					
A/C control signal			T			R			
			R			T			
Cooling fan speed request signal	T								R
Cooling fan speed signal	R								T
Position light request signal			R	T		R			R
Low beam request signal				T					R
Low beam status signal	R								T
High beam request signal				T		R			R
High beam status signal	R								T
Front fog light request signal				T					R
Day time running light request signal				T		R			
Turn LED burnout status signal				R		T			
Vehicle speed signal						R	T		
	R	R	R	R		T		R	
Sleep wake up signal				T		R		R	R
Door switch signal			R	T		R		R	R
Turn indicator signal				T		R			
Key fob ID signal				T				R	
Key fob door unlock signal				T				R	
Oil pressure switch signal				R					T
				T		R			
Buzzer output signal				T		R			
Fuel level sensor signal	R					T			
Fuel level low warning signal			R			T			

## HEADLAMP - XENON TYPE -

Signals	ECM	TCM	Dis- play unit	BCM	Steer- ing angle sensor	Unified meter and A/ C amp.	ABS actua- tor and electric unit (con- trol unit)	Driver seat control unit	IPDM E/R
ASCD operation signal	T	R							
ASCD OD cancel request	T	R							
Front wiper request signal				T					R
Front wiper stop position signal				R					T
Rear window defogger switch signal				T					R
Rear window defogger control signal	R		R	R					T
Hood switch signal				R					T
Theft warning horn request signal				T					R
Horn chirp signal				T					R
Steering angle sensor signal					T		R		
ABS warning lamp signal						R	T		
VDC OFF indicator lamp signal						R	T		
SLIP indicator lamp signal						R	T		
Brake warning lamp signal						R	T		
System setting signal			T	R				R	
A/T CHECK indicator lamp signal		T				R			
A/T position indicator lamp signal		T				R			
A/T shift schedule change demand signal		R					T		
Manual mode signal		R				T			
Not manual mode signal		R				T			
Manual mode shift up signal		R				T			
Manual mode shift down signal		R				T			
Manual mode indicator signal		T				R			
Distance to empty signal			R			T			
Hand brake switch				R		T			

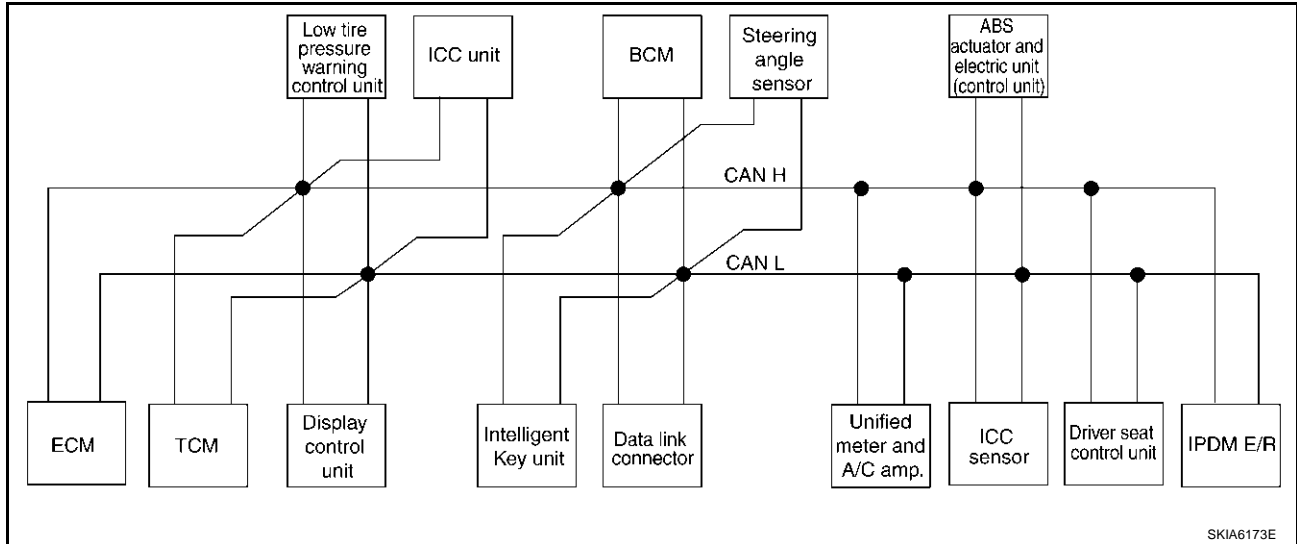
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# HEADLAMP - XENON TYPE -

## TYPE 3

### System Diagram

- Type3



### Input/Output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Engine speed signal	T	R	R		R				R		R		
Engine status signal	T						R						
Engine coolant temperature signal	T	R			R				R				
A/T self-diagnosis signal	R	T											
Accelerator pedal position signal	T	R			R						R		
Closed throttle position signal	T	R			R								
Wide open throttle position signal	T	R											
Battery voltage signal	T	R											
Key switch signal							T					R	
Ignition switch signal							T					R	R
P range signal		T			R						R	R	
Stop lamp switch signal		R							T				
ABS operation signal	R				R						T		
TCS operation signal	R				R						T		
VDC operation signal	R				R						T		
Fuel consumption monitor signal	T		R						R				

# HEADLAMP - XENON TYPE -

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Input shaft revolution signal	R	T			R								
Output shaft revolution signal	R	T			R								
A/C switch signal	R						T						
A/C compressor request signal	T												R
A/C relay status signal	R												T
A/C compressor feedback signal	T								R				
Blower fan motor switch signal	R						T						
A/C control signal			T						R				
			R						T				
Cooling fan speed signal	R												T
Position light request signal	R						T		R				R
Low beam request signal							T						R
Low beam status signal	R												T
High beam request signal							T		R				R
High beam status signal	R												T
Front fog light request signal							T						R
Day time running light request signal							T		R				
Turn LED burnout status signal							R		T				
Vehicle speed signal					R				R		T		
	R	R	R	R		R	R		T	R		R	
Sleep wake up signal							T		R			R	R
						T	R						
Door switch signal			R			R	T		R			R	R
Turn indicator signal							T		R				
Key fob ID signal							T					R	
Key fob door unlock signal							T					R	
Oil pressure switch signal							R						T
							T		R				
Buzzer output signal							T		R				
						T			R				
					T				R				

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## HEADLAMP - XENON TYPE -

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Fuel level sensor signal	R								T				
Fuel level low warning signal			R						T				
ICC operation signal	R				T								
Front wiper request signal					R		T						R
Front wiper stop position signal							R						T
Rear window defogger switch signal							T						R
Rear window defogger control signal	R		R				R						T
Hood switch signal							R						T
Theft warning horn request signal							T						R
Horn chirp signal							T						R
Steering angle sensor signal								T			R		
Tire pressure signal				T					R				
Tire pressure data signal			R	T									
ABS warning lamp signal					R				R		T		
VDC OFF indicator lamp signal					R				R		T		
SLIP indicator lamp signal									R		T		
Brake warning lamp signal									R		T		
System setting signal			T			R						R	
Distance to empty signal			R						T				
Hand brake switch signal							R		T				
Door lock/unlock request signal						T	R						
Door lock/unlock status signal						R	T						
Starter permission signal						T	R						
Back door open request signal						T	R						
Power window open request signal						T	R						
Alarm request signal						T	R						
Key warning signal						T			R				
ICC sensor signal					R					T			
ICC warning lamp signal					T				R				

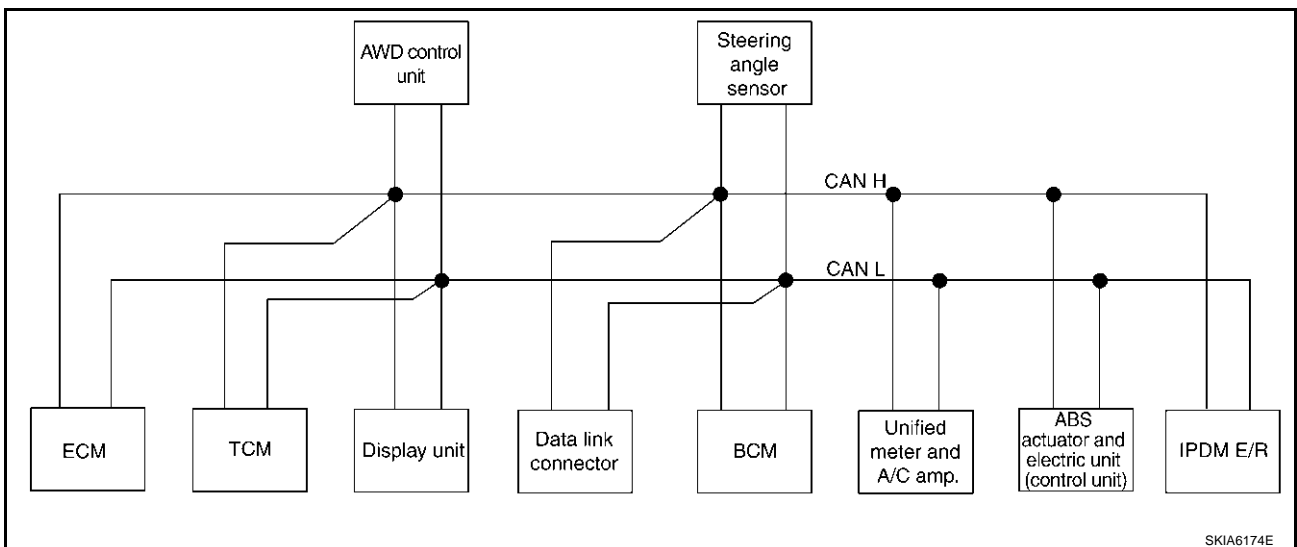


# HEADLAMP - XENON TYPE -

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
ICC system display signal					T				R				
Current gear position signal		T			R						R		
Steering switch signal	T				R								
ASCD operation signal	T	R											
ASCD OD cancel request	T	R											
ICC OD cancel request	R	R			T								
A/T CHECK indicator lamp signal		T							R				
A/T position indicator lamp signal		T							R				
A/T shift schedule change demand signal		R									T		
Manual mode signal		R							T				
Not manual mode signal		R							T				
Manual mode shift up signal		R							T				
Manual mode shift down signal		R							T				
Manual mode indicator signal		T			R				R				
Ignition knob switch signal						T	R						

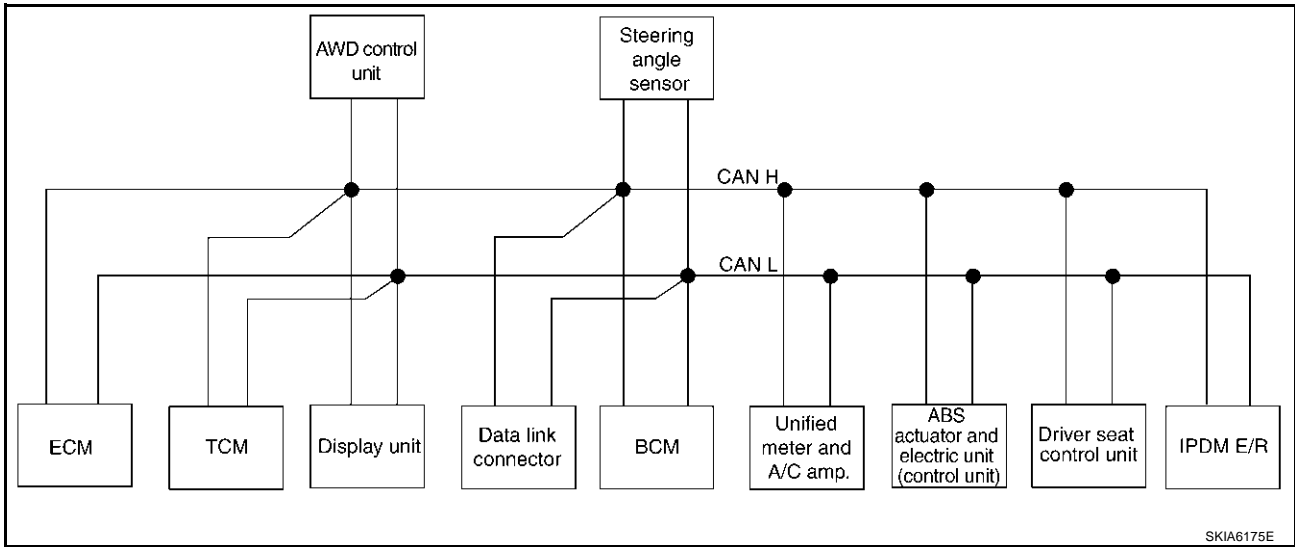
## TYPE 4/TYPES System Diagram

- Type4



# HEADLAMP - XENON TYPE -

## ● Type5



### Input/Output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display unit	AWD control unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
A/T self-diagnosis signal	R	T								
ABS operation signal	R			R				T		
TCS operation signal	R							T		
VDC operation signal	R			R				T		
Stop lamp switch signal		R		R			T			
Battery voltage signal	T	R								
Key switch signal					T				R	
Ignition switch signal					T				R	R
P range signal		T						R	R	
Closed throttle position signal	T	R								
Wide open throttle position signal	T	R								
Engine speed signal	T	R	R	R			R	R		
Engine status signal	T				R					
Engine coolant temperature signal	T	R					R			
Accelerator pedal position signal	T	R		R				R		
Fuel consumption monitor signal	T		R				R			
Input shaft revolution signal	R	T								
Output shaft revolution signal	R	T								
A/C switch signal	R				T					
A/C compressor request signal	T									R
A/C relay status signal	R									T
A/C compressor feedback signal	T						R			

## HEADLAMP - XENON TYPE -

Signals	ECM	TCM	Display unit	AWD control unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Blower fan motor switch signal	R				T					
A/C control signal			T				R			
			R				T			
Cooling fan speed signal	R									T
Position light request signal			R		T		R			R
Low beam request signal					T					R
Low beam status signal	R									T
High beam request signal					T		R			R
High beam status signal	R									T
Front fog light request signal					T					R
Day time running light request signal					T		R			
Turn LED burnout status signal					R		T			
Vehicle speed signal							R	T		
	R	R	R		R		T		R	
Sleep wake up signal					T		R		R	R
Door switch signal			R		T		R		R	R
Turn indicator signal					T		R			
Key fob ID signal					T				R	
Key fob door unlock signal					T				R	
Oil pressure switch signal					R					T
					T		R			
Buzzer output signal					T		R			
Fuel level sensor signal	R						T			
Fuel level low warning signal			R				T			
Front wiper request signal					T					R
Front wiper stop position signal					R					T
Rear window defogger switch signal					T					R
Rear window defogger control signal	R		R		R					T
Hood switch signal					R					T
Theft warning horn request signal					T					R
Horn chirp signal					T					R
Steering angle sensor signal						T		R		
ABS warning lamp signal							R	T		
VDC OFF indicator lamp signal							R	T		
SLIP indicator lamp signal							R	T		
Brake warning lamp signal							R	T		
System setting signal			T		R				R	
AWD warning lamp signal				T			R			

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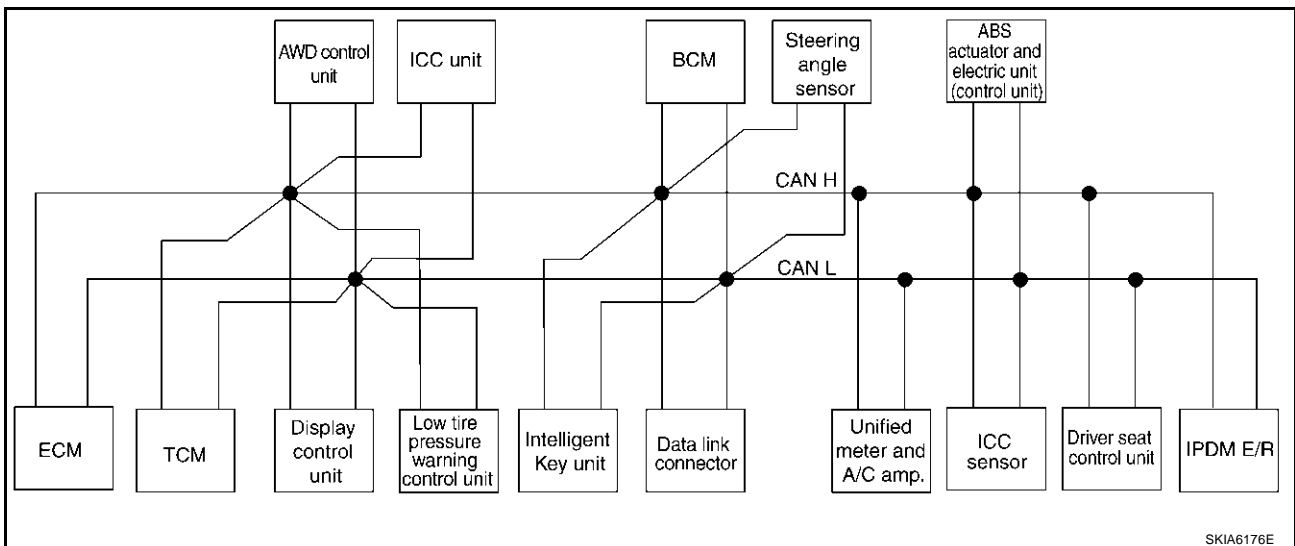
# HEADLAMP - XENON TYPE -

Signals	ECM	TCM	Display unit	AWD control unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
AWD lock indicator lamp signal				T			R			
Distance to empty signal			R				T			
Hand brake switch signal				R	R		T			
ASCD operation signal	T	R								
ASCD OD cancel request	T	R								
A/T CHECK indicator lamp signal		T					R			
A/T position indicator lamp signal		T					R			
A/T shift schedule change demand signal		R						T		
Manual mode signal		R					T			
Not manual mode signal		R					T			
Manual mode shift up signal		R					T			
Manual mode shift down signal		R					T			
Manual mode indicator signal		T					R			

## TYPE 6

### System Diagram

- Type6



# HEADLAMP - XENON TYPE -

## Input/Output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	AWD control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPD M E/R
A/T self-diagnosis signal	R	T												
ABS operation signal	R				R	R						T		
TCS operation signal	R					R						T		
VDC operation signal	R				R	R					R	T		
Stop lamp switch signal		R			R					T				
Battery voltage signal	T	R												
Key switch signal								T					R	
Ignition switch signal								T					R	R
P range signal		T				R						R	R	
Closed throttle position signal	T	R				R								
Wide open throttle position signal	T	R												
Engine speed signal	T	R	R		R	R				R		R		
Engine status signal	T							R						
Engine coolant temperature signal	T	R				R				R				
Accelerator pedal position signal	T	R			R	R						R		
Fuel consumption monitor signal	T		R							R				
A/T self-diagnosis signal	R	T												
Input shaft revolution signal	R	T				R								
Output shaft revolution signal	R	T				R								
A/C switch signal	R							T						
A/C compressor request signal	T													R
A/C relay status signal	R													T
A/C compressor feedback signal	T									R				
Blower fan motor switch signal	R							T						
A/C control signal			T							R				
			R							T				
Cooling fan speed signal	R													T
Position light request signal			R					T		R				R
Low beam request signal								T						R
Low beam status signal	R													T
High beam request signal								T		R				R

## HEADLAMP - XENON TYPE -

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	AWD control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPD M E/R
High beam status signal	R													T
Front fog light request signal								T						R
Day time running light request signal								T		R				
Turn LED burnout status signal								R		T				
Vehicle speed signal						R				R		T		
	R	R	R	R			R	R		T	R		R	
Sleep wake up signal								T		R			R	R
							T	R						
Door switch signal			R				R	T		R			R	R
Key fob ID signal								T					R	
Key fob door unlock signal								T					R	
Oil pressure switch signal								R						T
								T		R				
Buzzer output signal							T			R				
						T				R				
Fuel level sensor signal	R									T				
Fuel level low warning signal			R							T				
ICC operation signal	R					T								
Front wiper request signal						R		T						R
Front wiper stop position signal								R						T
Rear window defogger switch signal								T						R
Rear window defogger control signal	R		R					R						T
Hood switch signal								R						T
Theft warning horn request signal								T						R
Horn chirp signal								T						R
Steering angle sensor signal									T			R		
Tire pressure signal				T						R				
Tire pressure data signal			R	T										
ABS warning lamp signal						R				R		T		
VDC OFF indicator lamp signal						R				R		T		
SLIP indicator lamp signal										R		T		

## HEADLAMP - XENON TYPE -

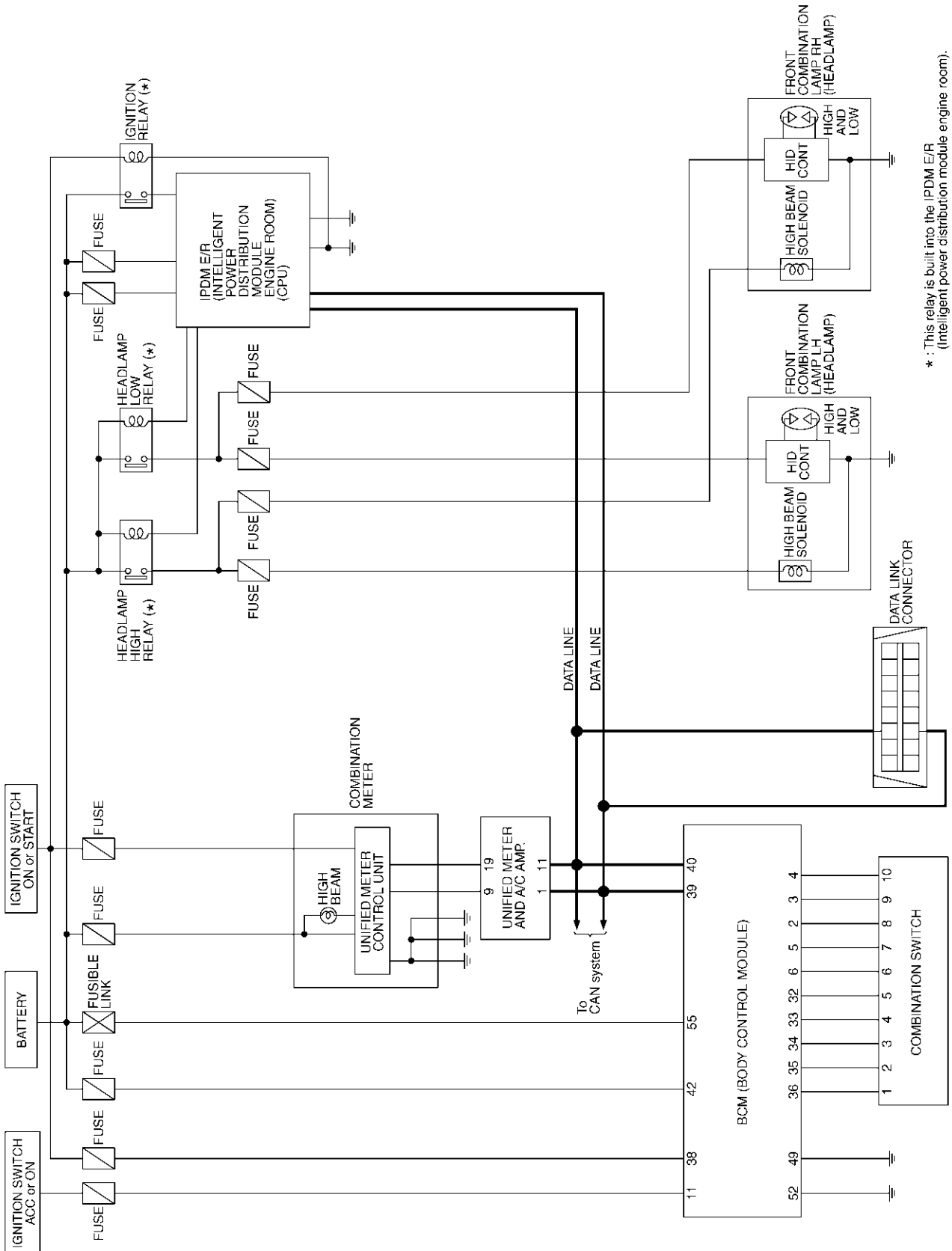
Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	AWD control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPD M E/ R
Brake warning lamp signal										R		T		
System setting signal			T				R						R	
AWD warning lamp signal					T					R				
AWD lock indicator lamp signal					T					R				
Distance to empty signal			R							T				
Hand brake switch signal					R			R		T				
Door lock/unlock request signal							T	R						
Door lock/unlock status signal							R	T						
Starter permission signal							T	R						
Back door open request signal							T	R						
Power window open request signal							T	R						
Alarm request signal							T	R						
Key warning signal							T			R				
ICC sensor signal						R					T			
ICC warning lamp signal						T				R				
ICC system display signal						T				R				
Current gear position signal		T				R						R		
Steering switch signal	T					R								
ASCD operation signal	T	R												
ASCD OD cancel request	T	R												
ICC OD cancel request	R	R				T								
A/T CHECK indicator lamp signal		T								R				
A/T position indicator lamp signal		T								R				
A/T shift schedule change demand signal		R										T		
Manual mode signal		R								T				
Not manual mode signal		R								T				
Manual mode shift up signal		R								T				
Manual mode shift down signal		R								T				
Manual mode indicator signal		T								R				
Ignition knob switch signal							T	R						

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# HEADLAMP - XENON TYPE -

## Schematic

AKS007MD



\* : This relay is built into the IPDM E/R (Intelligent power distribution module engine room).

TKWM0601E

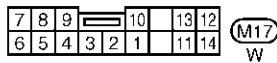
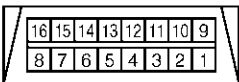
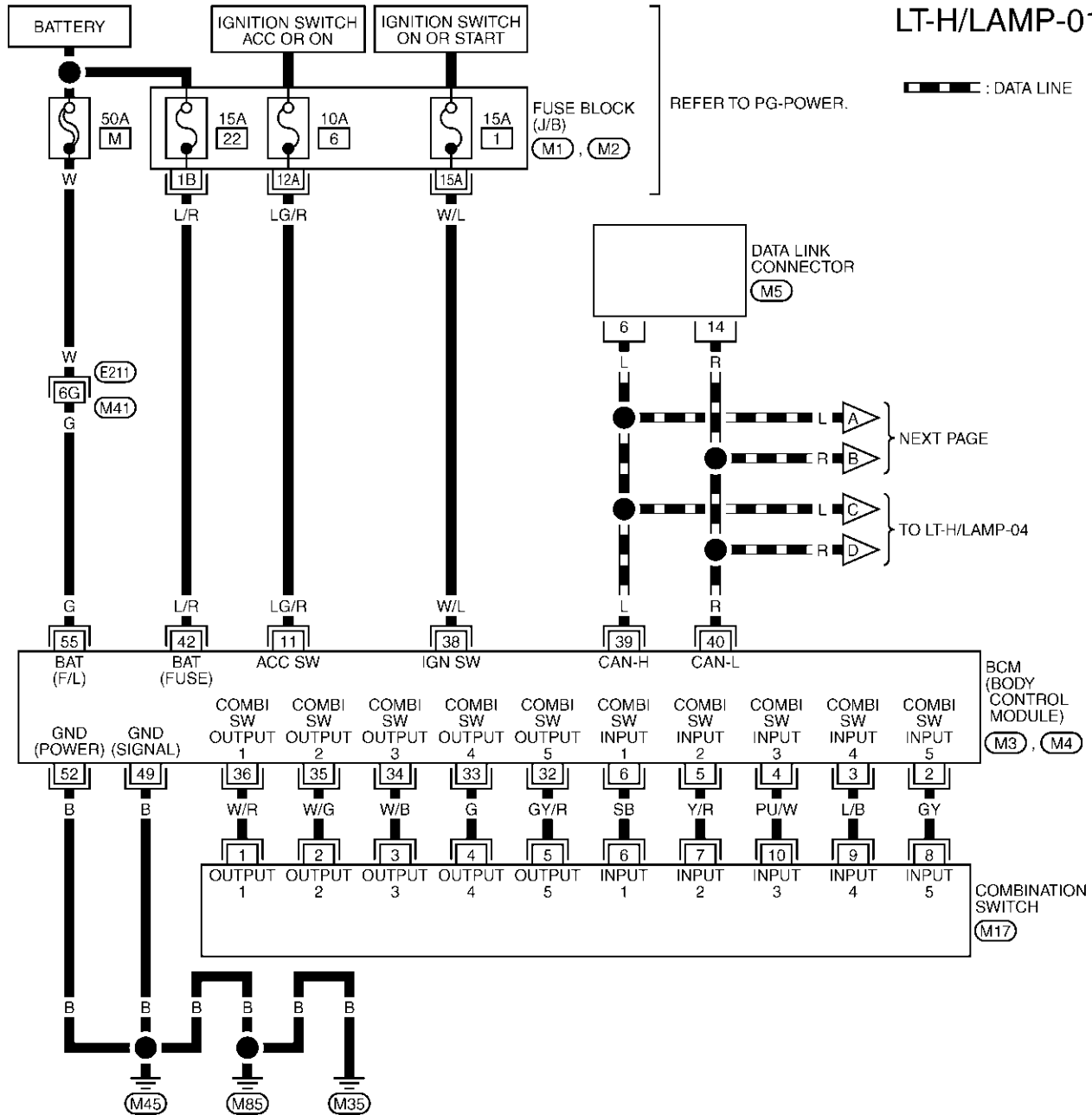


# HEADLAMP - XENON TYPE -

## Wiring Diagram — H/LAMP —

AKS007ME

### LT-H/LAMP-01



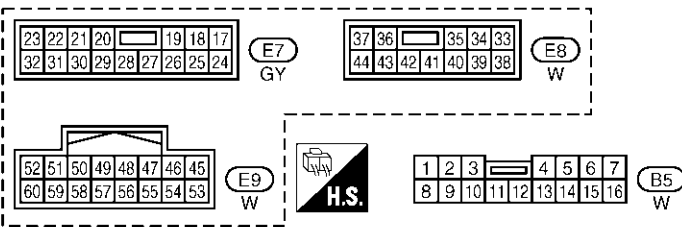
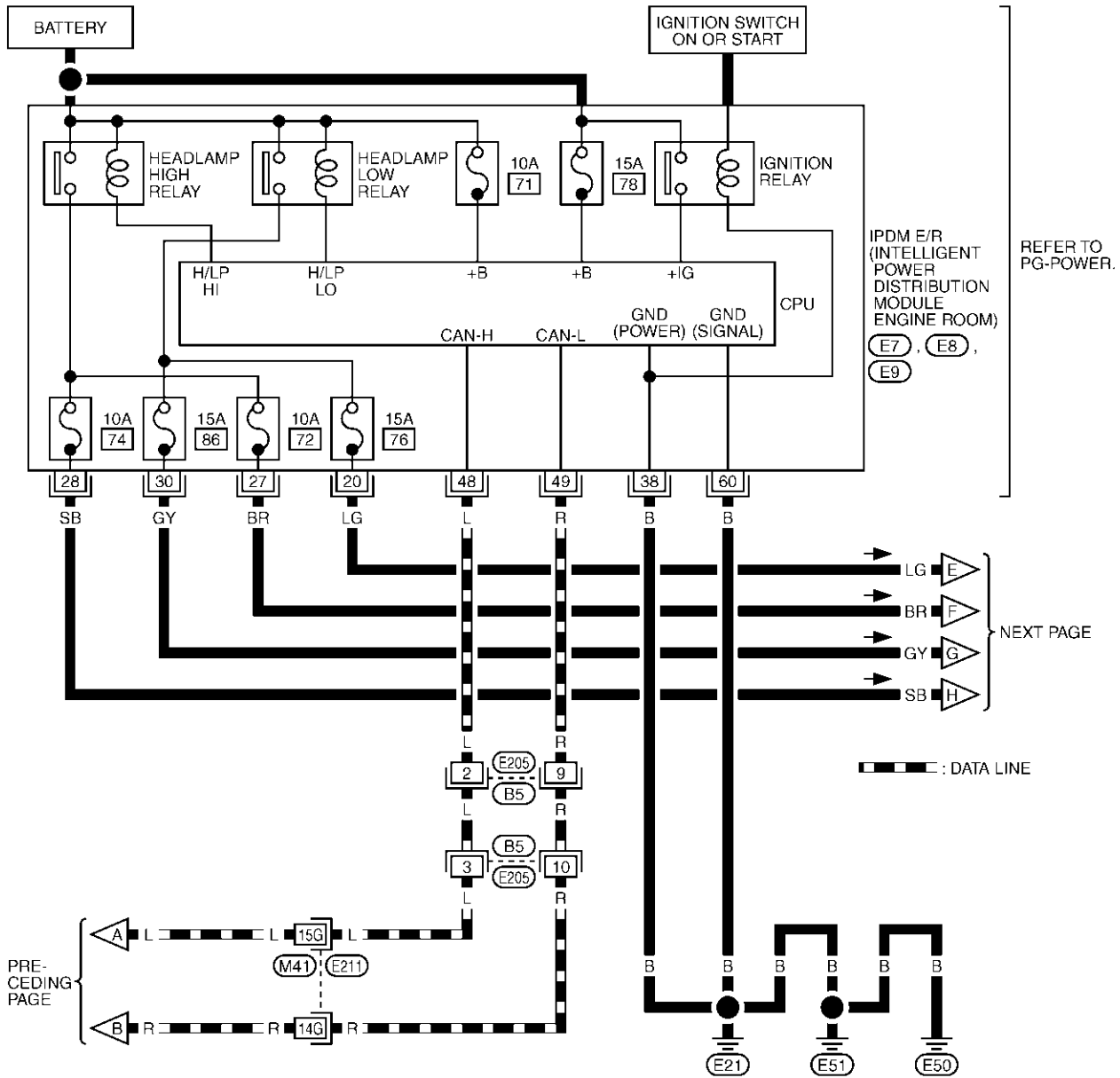
REFER TO THE FOLLOWING.

- (E21) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1), (M2) -FUSE BLOCK-JUNCTION BOX (J/B)
- (M3), (M4) -ELECTRICAL UNITS

TKWM0815E

# HEADLAMP - XENON TYPE -

LT-H/LAMP-02

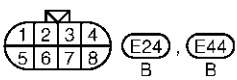
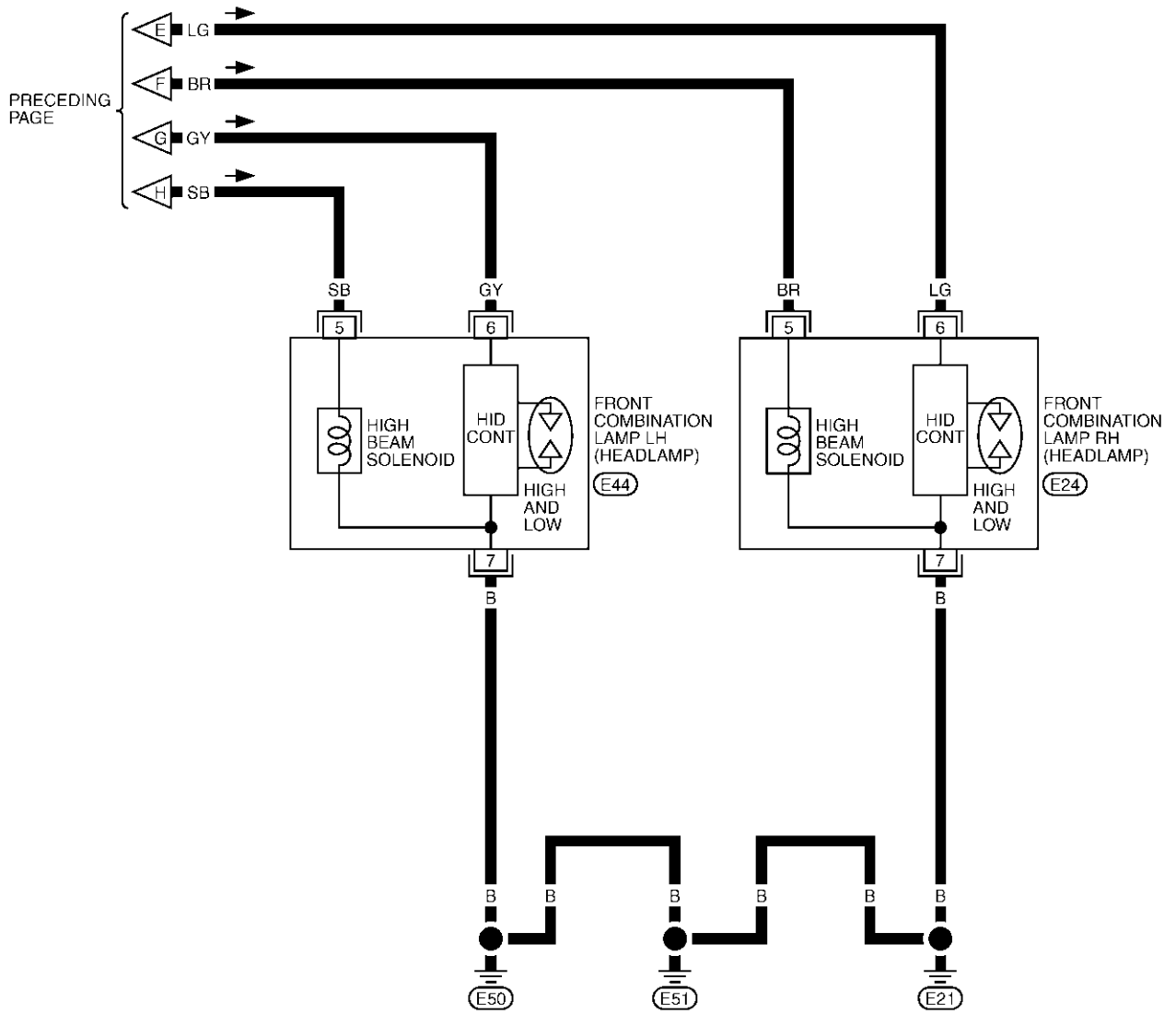


REFER TO THE FOLLOWING.  
 (E21) -SUPER MULTIPLE JUNCTION (SMJ)

TKWM0603E

# HEADLAMP - XENON TYPE -

LT-H/LAMP-03



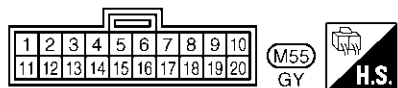
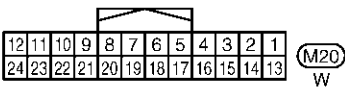
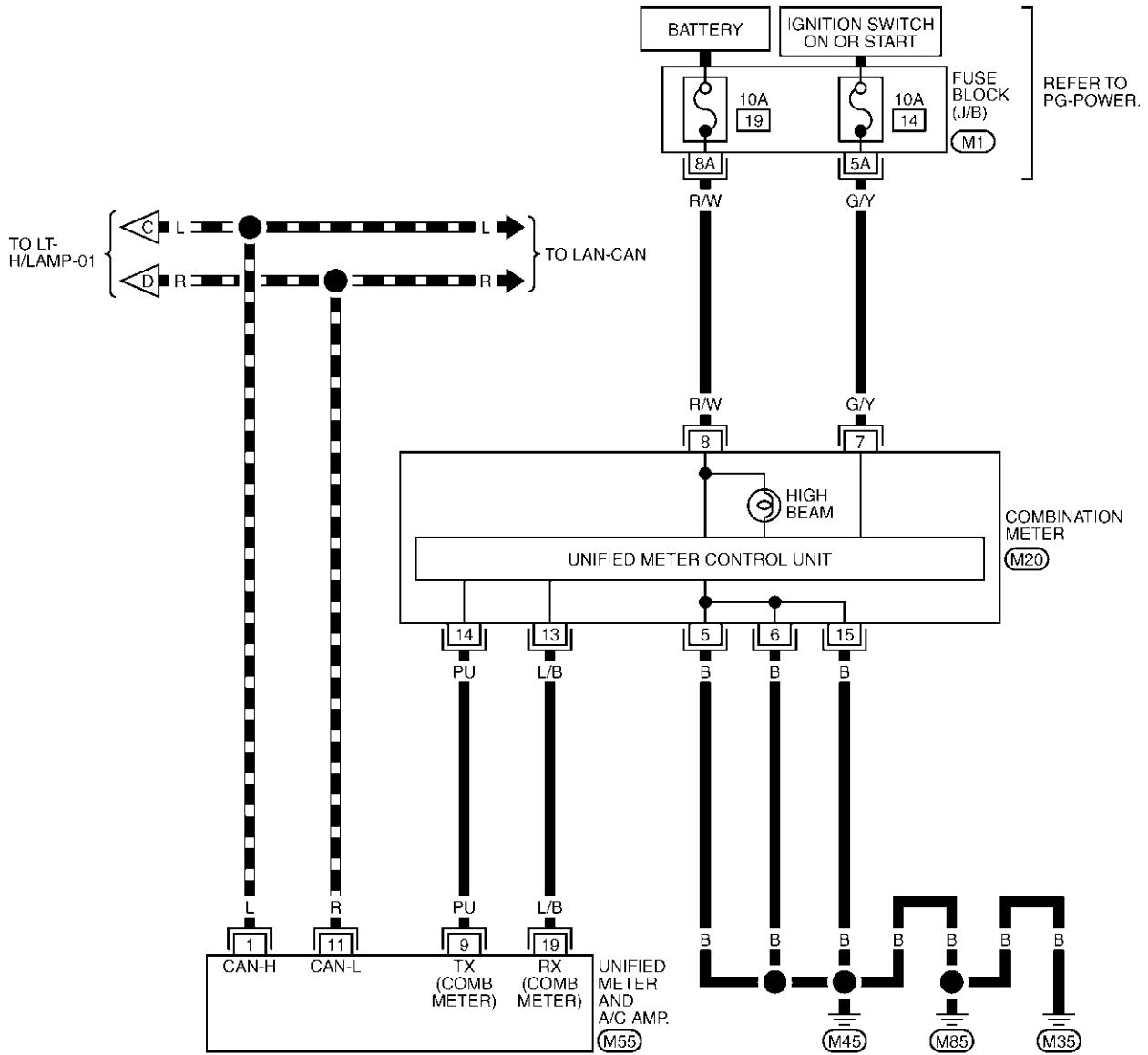
A  
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LT  
L  
M

TKWM0604E

# HEADLAMP - XENON TYPE -

LT-H/LAMP-04

▬ : DATA LINE



REFER TO THE FOLLOWING.

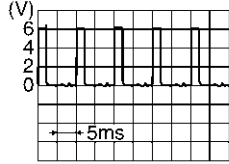
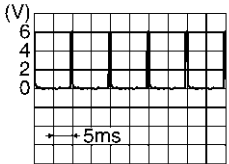



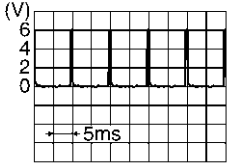

(M1) - FUSE BLOCK-JUNCTION BOX (J/B)

TKWM0605E

# HEADLAMP - XENON TYPE -

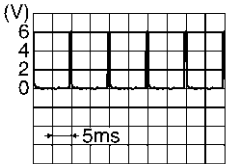
## Terminals and Reference Values for BCM

AKS007MF

Terminal No.	Wire color	Signal name	Measuring condition		Reference value
			Ignition switch	Operation or condition	
2	GY	Combination switch input 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5291E</p>
3	L/B	Combination switch input 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5292E</p>
4	PU/W	Combination switch input 3	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5291E</p>
5	Y/R	Combination switch input 2	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5292E</p>
6	SB	Combination switch input 1			
11	LG/R	Ignition switch (ACC)	ACC	—	Battery voltage
32	GY/R	Combination switch output 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5291E</p>
33	G	Combination switch output 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5292E</p>
34	W/B	Combination switch output 3	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5291E</p>

A  
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L  
M

# HEADLAMP - XENON TYPE -

Terminal No.	Wire color	Signal name	Measuring condition		Reference value
			Ignition switch	Operation or condition	
35	W/G	Combination switch output 2	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <small>SKIA5292E</small>
36	W/R	Combination switch output 1			
38	W/L	Ignition switch (ON)	ON	—	Battery voltage
39	L	CAN- H	—	—	—
40	R	CAN- L	—	—	—
42	L/R	Battery power supply	OFF	—	Battery voltage
49	B	Ground	ON	—	Approx. 0V
52	B	Ground	ON	—	Approx. 0V
55	G	Battery power supply	OFF	—	Battery voltage

## Terminals and Reference Values for IPDM E/R

AKS007MG

Terminal No.	Wire color	Signal name	Measuring condition		Reference value	
			Ignition switch	Operation or condition		
20	LG	Headlamp low (RH)	ON	Lighting switch 2ND position	OFF	Approx. 0V
					ON	Battery voltage
27	BR	Headlamp high (RH)	ON	Lighting switch HIGH or PASS position	OFF	Approx. 0V
					ON	Battery voltage
28	SB	Headlamp high (LH)	ON	Lighting switch HIGH or PASS position	OFF	Approx. 0V
					ON	Battery voltage
30	GY	Headlamp low (LH)	ON	Lighting switch 2ND position	OFF	Approx. 0V
					ON	Battery voltage
38	B	Ground	ON	—	Approx. 0V	
48	L	CAN- H	—	—	—	
49	R	CAN- L	—	—	—	
60	B	Ground	ON	—	Approx. 0V	

## How to Proceed With Trouble Diagnosis

AKS007MH

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to [LT-7, "System Description"](#) .
3. Perform the Preliminary Check. Refer to [LT-31, "Preliminary Check"](#) .
4. Check symptom and repair or replace the cause of malfunction.
5. Does the headlamp operate normally? If YES: GO TO 6. If NO: GO TO 4.
6. INSPECTION END

# HEADLAMP - XENON TYPE -

AKS007MI

## Preliminary Check CHECK POWER SUPPLY AND GROUND CIRCUIT

### 1. CHECK FUSES

- Check fuses for blown-out.

Unit	Power source	Fuse and fusible link No.
BCM	Battery	M
		22
	Ignition switch ON or START position	1
	Ignition switch ACC or ON position	6
IPDM E/R	Battery	72
		74
		76
		86

Refer to [LT-25. "Wiring Diagram — H/LAMP —"](#) .

OK or NG

OK >> GO TO 2.

NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to [PG-3. "POWER SUPPLY ROUTING CIRCUIT"](#) .

### 2. CHECK POWER SUPPLY CIRCUIT

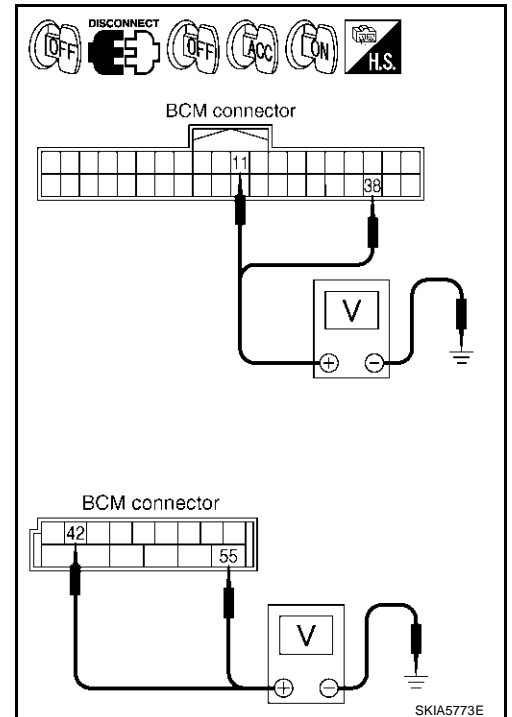
1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check voltage between BCM harness connector and ground.

Terminals		(-)	Ignition switch position		
(+)	Connector		Terminal (Wire color)	OFF	ACC
M3	Ground	11 (LG/R)	0V	Battery voltage	Battery voltage
		38 (W/L)	0V	0V	Battery voltage
M4	Ground	42 (L/R)	Battery voltage	Battery voltage	Battery voltage
		55 (G)	Battery voltage	Battery voltage	Battery voltage

OK or NG

OK >> GO TO 3.

NG >> Check harness for open or short between BCM and fuse.



# HEADLAMP - XENON TYPE -

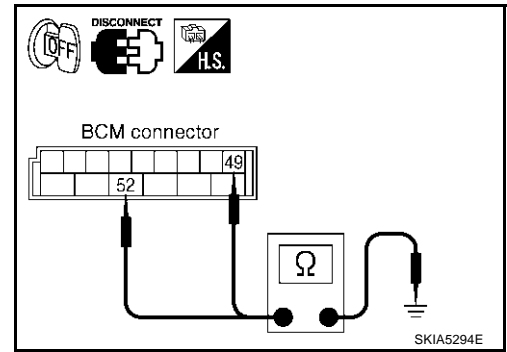
## 3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

Terminals		Continuity
Connector	Terminal (Wire color)	
M4	49 (B)	Ground Yes
	52 (B)	

OK or NG

- OK >> INSPECTION END
- NG >> Check ground circuit harness.



## CONSULT-II Function (BCM)

AKS007MJ

CONSULT-II performs the following functions communicating with BCM.

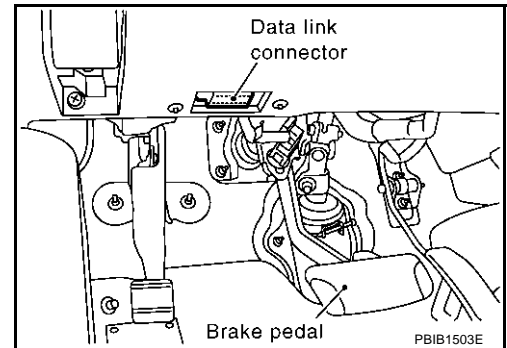
BCM diagnosis part	Check item, diagnosis mode	Description
HEAD LAMP	WORK SUPPORT	Changes the setting for each function.
	DATA MONITOR	Displays BCM input data in real time.
	ACTIVE TEST	Operation of electrical loads can be checked by sending drive signal to them.
BCM	CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.

## CONSULT-II BASIC OPERATION

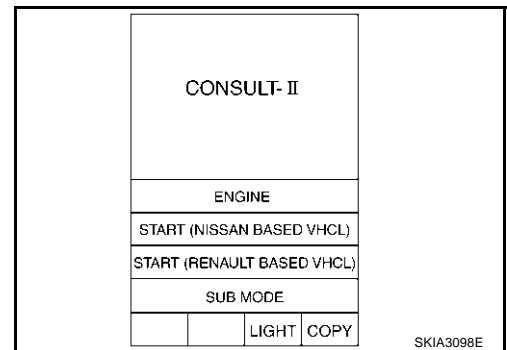
### CAUTION:

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, then turn ignition switch ON.



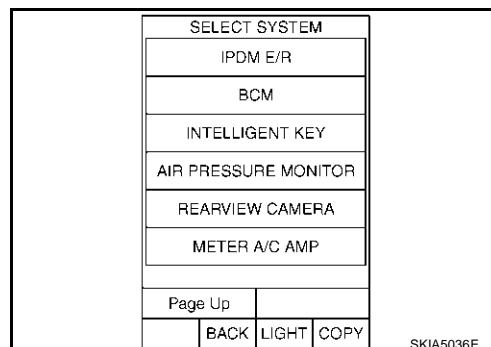
2. Touch "START (NISSAN BASED VHCL)".



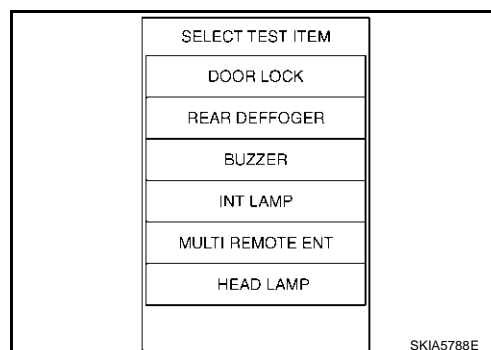


## HEADLAMP - XENON TYPE -

3. Touch "BCM" on "SELECT SYSTEM" screen.  
If "BCM" is not indicated, refer to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



4. Touch "HEAD LAMP" on "SELECT TEST ITEM" screen.



### WORK SUPPORT

#### Operation Procedure

1. Touch "HEAD LAMP" on "SELECT TEST ITEM" screen.
2. Touch "WORK SUPPORT" on "SELECT DIAG MODE" screen.
3. Touch item on "SELECT WORK ITEM" screen.
4. Touch "START".
5. Touch "CHANGE SET".
6. The setting will be changed and "CUSTOMIZING COMPLETED" will be displayed.
7. Touch "END".

#### Display Item List

Item	Description	CONSULT-II	Factory setting
BATTERY SAVER SET	Exterior lamp battery saver control mode can be changed in this mode. Selects exterior lamp battery saver control mode between two ON/OFF.	ON	×
		OFF	—

### DATA MONITOR

#### Operation Procedure

1. Touch "HEAD LAMP" on "SELECT TEST ITEM" screen.
2. Touch "DATA MONITOR" on "SELECT DIAG MODE" screen.
3. Touch either "ALL SIGNALS" or "SELECTION FROM MENU" on the "DATA MONITOR" screen.

All signals	Monitors all the signals.
Selection from menu	Selects and monitors individual signal.

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

## HEADLAMP - XENON TYPE -

### Display Item List

Monitor item	Contents
IGN ON SW "ON/OFF"	Displays "IGN position (ON)/OFF, ACC position (OFF)" judged from the ignition switch signal.
ACC ON SW "ON/OFF"	Displays "ACC (ON)/OFF, Ignition OFF (OFF)" status judged from ignition switch signal.
HI BEAM SW "ON/OFF"	Displays status (high beam switch: ON/Others: OFF) of high beam switch judged from lighting switch signal.
HEAD LAMP SW 1 "ON/OFF"	Displays status (headlamp switch 1: ON/Others: OFF) of headlamp switch 2 judged from lighting switch signal.
HEAD LAMP SW 2 "ON/OFF"	Displays status (headlamp switch 2: ON/Others: OFF) of headlamp switch 2 judged from lighting switch signal.
LIGHT SW 1 ST "ON/OFF"	Displays status (lighting switch 1st position: ON/Others: OFF) of lighting switch judged from lighting switch signal.
AUTO LIGHT SW <sup>NOTE 1</sup> "ON/OFF"	Displays status of the lighting switch as judged from the lighting switch signal. (AUTO position: ON/Other than AUTO position: OFF)
PASSING SW "ON/OFF"	Displays status (flash-to-pass switch: ON/Others: OFF) of flash-to-pass switch judged from lighting switch signal.
FR FOG SW "ON/OFF"	Displays status (front fog lamp switch: ON/Others: OFF) of front fog lamp switch judged from lighting switch signal.
DOOR SW - DR "ON/OFF"	Displays status of the driver door as judged from the driver door switch signal. (Door is open: ON/Door is closed: OFF)
DOOR SW - AS "ON/OFF"	Displays status of the passenger door as judged from the passenger door switch signal. (Door is open: ON/Door is closed: OFF)
DOOR SW - RR "ON/OFF"	Displays status of the rear door as judged from the rear door switch (RH) signal. (Door is open: ON/Door is closed: OFF)
DOOR SW - RL "ON/OFF"	Displays status of the rear door as judged from the rear door switch (LH) signal. (Door is open: ON/Door is closed: OFF)
BACK DOOR SW "ON/OFF"	Displays status of the back door as judged from the back door switch signal. (Door is open: ON/Door is closed: OFF)
TURN SIGNAL R "ON/OFF"	Displays status (Turn right: ON/Others: OFF) as judged from lighting switch signal.
TURN SIGNAL L "ON/OFF"	Displays status (Turn left: ON/Others: OFF) as judged from lighting switch signal.
ENGINE RUN <sup>NOTE 2</sup> "ON/OFF"	Displays status (Engine running: ON/Others: OFF) as judged from engine status signal.
PKB SW <sup>NOTE 2</sup> "ON/OFF"	Displays status (Parking brake switch: ON/Others: OFF) as judged from parking brake switch signal.
OPTICAL SENSOR <sup>NOTE 1</sup> [0 - 5V]	Displays "ambient light (close to 5V when light/close to 0V when dark)" judged from optical sensor signal.

**NOTE:**

1. Vehicles without auto light system display this item, but cannot monitor it.
2. Vehicles without daytime light system display this item, but cannot monitor it.

### ACTIVE TEST

#### Operation Procedure

1. Touch "HEAD LAMP" on "SELECT TEST ITEM" screen.
2. Touch "ACTIVE TEST" on "SELECT DIAG MODE" screen.
3. Touch item to be tested and check operation of the selected item.
4. During the operation check, touching "BACK" deactivates the operation.

### Display Item List

Test item	Description
TAIL LAMP	Allows tail lamp relay to operate by switching ON-OFF.
HEAD LAMP (LOW)	Allows headlamp relay to operate by switching ON-OFF.
HEAD LAMP (HI)	Allows headlamp relay to operate by switching ON-OFF.

# HEADLAMP - XENON TYPE -

Test item	Description
FR FOG LAMP	Allows fog lamp relay to operate by switching ON-OFF.
DTRL <sup>NOTE 1</sup>	Allow day time light lamp operate by switching ON-OFF.
CORNERING LAMP <sup>NOTE 2</sup>	—

**NOTE:**

1. Vehicles without daytime light lamp system display this item, but cannot monitor it.
2. This item is displayed, but cannot monitor it.

## CONSULT-II Functions (IPDM E/R)

AKS007MK

CONSULT-II performs the following functions communicating with IPDM E/R.

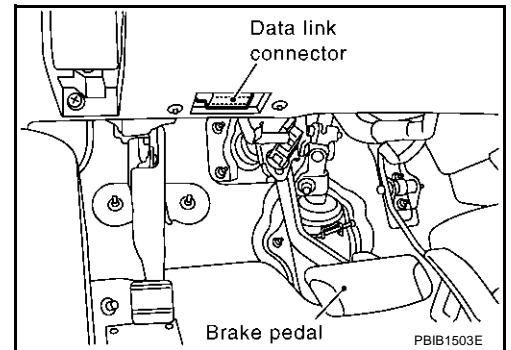
Check Item, Diagnosis Mode	Description
SELF-DIAGNOSTIC RESULTS	IPDM E/R performs self-diagnosis of CAN communication.
DATA MONITOR	The input/output data of the IPDM E/R is displayed in real time.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
ACTIVE TEST	The IPDM E/R sends a drive signal to electronic components to check their operation.

## CONSULT-II OPERATION

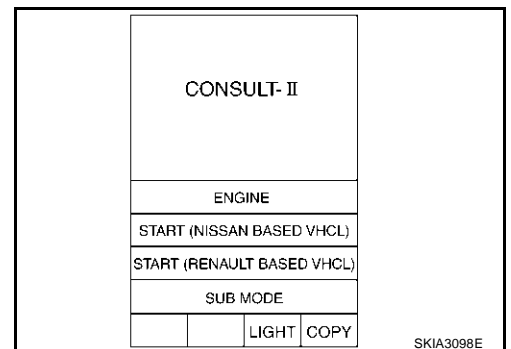
**CAUTION:**

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.

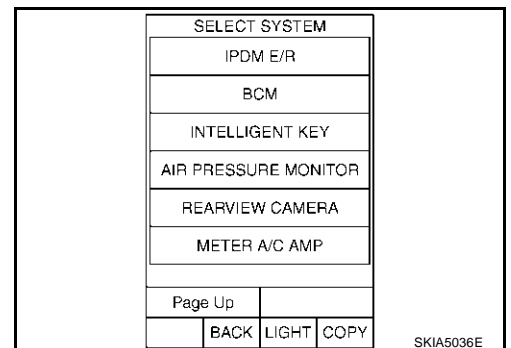
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn the ignition switch ON.



2. Touch "START (NISSAN BASED VHCL)".

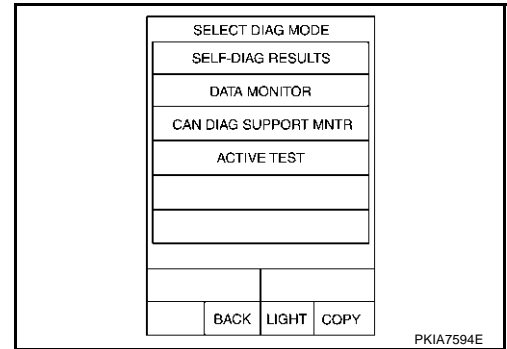


3. Touch "IPDM E/R" on "SELECT SYSTEM" screen. If "IPDM E/R" is not displayed, print "SELECT SYSTEM" screen, then refer to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



## HEADLAMP - XENON TYPE -

4. Select the desired part to be diagnosed on the “SELECT SYSTEM” screen.



### DATA MONITOR

#### Operation Procedure

1. Touch “DATA MONITOR” on “SELECT DIAG MODE ” screen.
2. Touch “ALL SIGNALS”, “MAIN SIGNALS” or “SELECT FROM MENU” on the “DATA MONITOR” screen.

ALL SIGNALS	All items will be monitored.
MAIN SIGNALS	Monitor the predetermined item.
SELECT FROM MENU	Select any item for monitoring.

3. Touch “START”.
4. Touch the required monitoring item on “SELECT ITEM MENU”. In “ALL SIGNALS”, all items are monitored. In “MAIN SIGNALS”, predetermined items are monitored.
5. Touch “RECORD” while monitoring to record the status of the item being monitored. To stop recording, touch “STOP”.

#### All Items, Main Items, Select Item Menu

Item name	CONSULT-II screen display	Display or unit	Monitor item selection			Description
			ALL SIGNALS	MAIN SIGNALS	SELECT FROM MENU	
Position lights request	TAIL&CLR REQ	ON/OFF	×	×	×	Signal status input from BCM
Headlamp low beam request	HL LO REQ	ON/OFF	×	×	×	Signal status input from BCM
Headlamp high beam request	HL HI REQ	ON/OFF	×	×	×	Signal status input from BCM
Font fog lights request	FR FOG REQ	ON/OFF	×	×	×	Signal status input from BCM

#### NOTE:

Perform monitoring of IPDM E/R data with the ignition switch ON. When the ignition switch is at ACC, the display may not be correct.

# HEADLAMP - XENON TYPE -

## ACTIVE TEST

### Operation Procedure

1. Touch "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Touch item to be tested, and check operation.
3. Touch "START".
4. Touch "STOP" while testing to stop the operation.

Test item	CONSULT-II screen display	Description
Headlamp relay (HI, LO) output	LAMPS	Allows headlamp relay (HI, LO) to operate by switching operation (OFF, HI ON, LO ON) at your option (Head lamp high beam repeats ON-OFF every 1 second).
Front fog lamp relay output		Allows fog lamp relay to operate by switching operation ON-OFF at your option.
Tail lamp relay output	TAIL LAMP	Allows tail lamp relay to operate by switching operation ON-OFF at your option.

## Headlamp Does Not Change To High Beam (Both Sides)

AKS007ML

### 1. CHECK COMBINATION SWITCH INPUT SIGNAL

Ⓜ With CONSULT-II

Select "BCM" on CONSULT-II. With "HEAD LAMP" data monitor, make sure "HI BEAM SW" turns ON-OFF linked with operation of lighting switch.

**When lighting switch is HIGH position : HI BEAM SW ON**

DATA MONITOR	
MONITOR	
HI BEAM SW	ON

SKIA4193E

ⓧ Without CONSULT-II

Refer to [LT-182, "Combination Switch Inspection"](#).

OK or NG

OK >> GO TO 2.

NG >> Check lighting switch. Refer to [LT-182, "Combination Switch Inspection"](#).

### 2. HEADLAMP ACTIVE TEST

Ⓜ With CONSULT-II

1. Select "IPDM E/R" on CONSULT-II. and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Select "LAMPS" on "SELECT TEST ITEM" screen.
3. Touch "HI" screen.
4. Make sure headlamp high beam operates.

**Headlamp high beam should operate (Headlamp high beam repeats ON-OFF every 1 second).**

ACTIVE TEST			
LAMPS	OFF		
		HI	
LO	FOG		
MODE	BACK	LIGHT	COPY

SKIA5774E

ⓧ Without CONSULT-II

1. Start auto active test. Refer to [PG-39, "Auto Active Test"](#).
2. Make sure headlamp high beam operates.

**Headlamp high beam should operate.**

OK or NG

OK >> GO TO 3.

NG >> GO TO 4.

# HEADLAMP - XENON TYPE -

## 3. CHECK IPDM E/R

1. Select "IPDM E/R" on CONSULT-II and select "DATA MONITOR" on "SELECT DIAG MODE" screen.
2. Make sure "HL LO REQ" and "HL HI REQ" turns ON when lighting switch is in HI position.

**When lighting switch is HIGH position : HL LO REQ ON**  
**: HL HI REQ ON**

DATA MONITOR			
MONITOR			
HL LO REQ		ON	
HL HI REQ		ON	
			Page Down
			RECORD
MODE	BACK	LIGHT	COPY

SKIA5775E

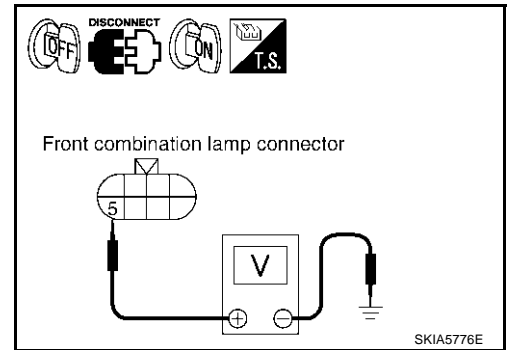
### OK or NG

- OK >> Replace IPDM E/R.  
 NG >> Replace BCM. Refer to [BCS-28, "Removal and Installation of BCM"](#).

## 4. CHECK HEADLAMP INPUT SIGNAL

### Ⓜ With CONSULT-II

1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH and LH connector.
3. Select "IPDM E/R" on CONSULT-II. and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
4. Select "LAMPS" on "SELECT TEST ITEM" screen.
5. Touch "HI" screen.
6. When headlamp high beam is operating, check voltage between front combination lamp RH and LH harness connector and ground (Headlamp high beam repeats ON-OFF every 1 second).



### ⓧ Without CONSULT-II

1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH and LH connector.
3. Start auto active test. Refer to [PG-39, "Auto Active Test"](#).
4. When headlamp high beam is operating, check voltage between front combination lamp RH and LH harness connector and ground.

Terminals			(-)	Voltage
(+) Connector		Terminal (Wire color)		
RH	E24	5 (BR)	Ground	Battery voltage
LH	E44	5 (SB)		

### OK or NG

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

# HEADLAMP - XENON TYPE -

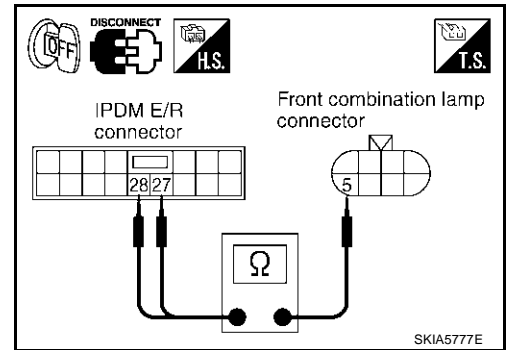
## 5. CHECK HEADLAMP CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Check continuity between IPDM E/R harness connector E7 terminal 27 (BR) and front combination lamp RH harness connector E24 terminal 5 (BR).

**27 (BR) – 5 (BR) : Continuity should exist.**

4. Check continuity between IPDM E/R harness connector E7 terminal 28 (SB) and front combination lamp LH harness connector E44 terminal 5 (SB).

**28 (SB) – 5 (SB) : Continuity should exist.**



OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness or connector.

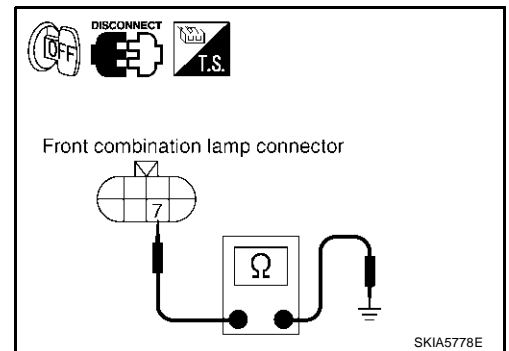
## 6. CHECK HEADLAMP GROUND

1. Check continuity between front combination lamp RH harness connector E24 terminal 7 (B) and ground.

**7 (B) – Ground : Continuity should exist.**

2. Check continuity between front combination lamp LH harness connector E44 terminal 7 (B) and ground.

**7 (B) – Ground : Continuity should exist.**



OK or NG

- OK >> Replace headlamp assembly.
- NG >> Repair harness or connector.

## Headlamp Does Not Change To High Beam (One Side)

AKS007MM

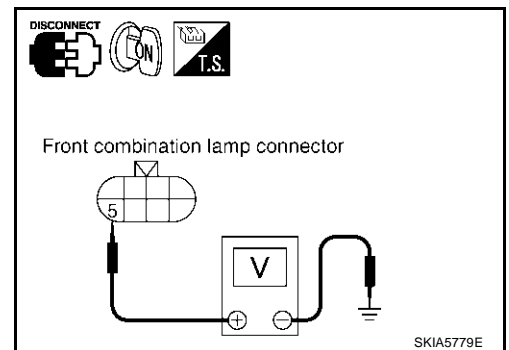
### 1. CHECK HEADLAMP INPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH or LH connector.
3. Turn ignition switch ON.
4. Lighting switch is turned HIGH position.
5. Check voltage between front combination lamp RH or LH harness connector and ground.

Terminals			(-)	Voltage
(+)				
Connector	Terminal (Wire color)		Ground	Battery voltage
RH	E24	5 (BR)		
LH	E44	5 (SB)		

OK or NG

- OK >> GO TO 3.
- NG >> GO TO 2.



# HEADLAMP - XENON TYPE -

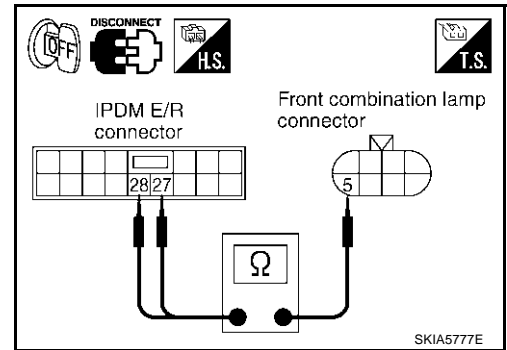
## 2. CHECK HEADLAMP CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Check continuity between IPDM E/R harness connector E7 terminal 27 (BR) and front combination lamp RH harness connector E24 terminal 5 (BR).

**27 (BR) – 5 (BR) : Continuity should exist.**

4. Check continuity between IPDM E/R harness connector E7 terminal 28 (SB) and front combination lamp LH harness connector E44 terminal 5 (SB).

**28 (SB) – 5 (SB) : Continuity should exist.**



OK or NG

- OK >> Replace IPDM E/R.  
 NG >> Repair harness or connector.

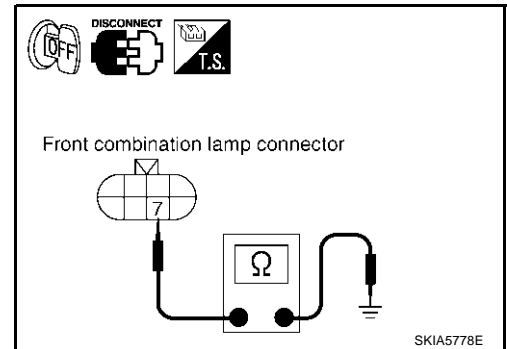
## 3. CHECK HEADLAMP GROUND

1. Check continuity between front combination lamp RH harness connector E24 terminal 7 (B) and ground.

**7 (B) – Ground : Continuity should exist.**

2. Check continuity between front combination lamp LH harness connector E44 terminal 7 (B) and ground.

**7 (B) – Ground : Continuity should exist.**



OK or NG

- OK >> Replace headlamp assembly.  
 NG >> Repair harness or connector.

## High Beam Indicator Lamp Does Not Illuminate

### 1. CHECK BULB

Check bulb of high beam indicator lamp.

OK or NG

- OK >> Replace combination meter.  
 NG >> Replace indicator bulb.

## Headlamp Low Beam Does Not Illuminate (Both Sides)

### 1. CHECK COMBINATION SWITCH INPUT SIGNAL

Ⓜ With CONSULT-II

Select "BCM" on CONSULT-II. With "HEAD LAMP" data monitor, make sure "HEAD LAMP SW 1" and "HEAD LAMP SW 2" turns ON-OFF linked with operation of lighting switch.

**When lighting switch is 2ND position : HEAD LAMP SW 1 ON  
 : HEAD LAMP SW 2 ON**

DATA MONITOR	
MONITOR	
HEAD LAMP SW1	ON
HEAD LAMP SW2	ON

ⓧ Without CONSULT-II

Refer to [LT-182, "Combination Switch Inspection"](#).

OK or NG

- OK >> GO TO 2.  
 NG >> Check lighting switch. Refer to [LT-182, "Combination Switch Inspection"](#).



# HEADLAMP - XENON TYPE -

## 2. HEADLAMP ACTIVE TEST

☑ With CONSULT-II

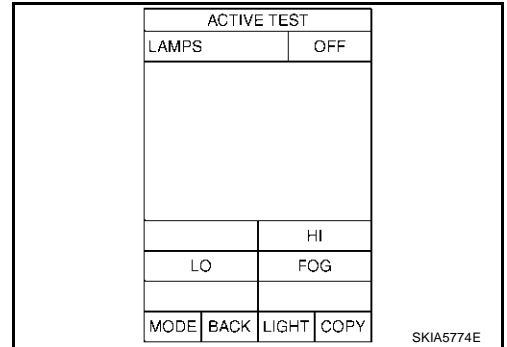
1. Select "IPDM E/R" on CONSULT-II. and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Select "LAMPS" on "SELECT TEST" ITEM screen.
3. Touch "LO" screen.
4. Make sure headlamp low beam operates.

**Headlamp low beam should operate.**

☒ Without CONSULT-II

1. Start auto active test. Refer to [PG-39, "Auto Active Test"](#) .
2. Make sure headlamp high beam operates.

**Headlamp low beam should operate.**



OK or NG

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

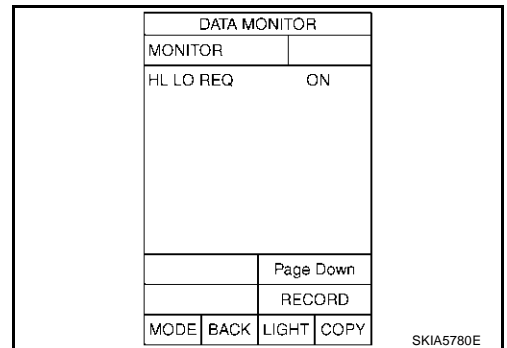
## 3. CHECK IPDM E/R

1. Select "IPDM E/R" on CONSULT-II. and select "DATA MONITOR" on "SELECT DIAG MODE" screen.
2. Make sure "HL LO REQ" turns ON when lighting switch is in 2ND position.

**When lighting switch is 2ND : HL LO REQ ON position**

OK or NG

- OK >> Replace IPDM E/R.
- NG >> Replace BCM.



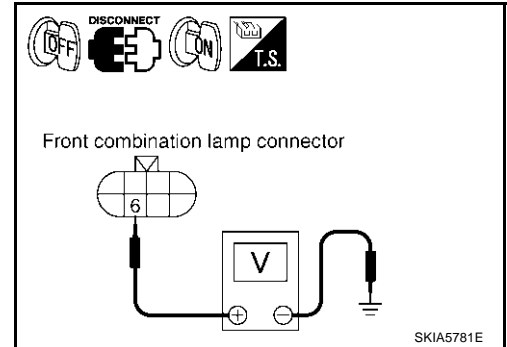
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# HEADLAMP - XENON TYPE -

## 4. CHECK HEADLAMP INPUT SIGNAL

Ⓜ With CONSULT-II

1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH and LH connector.
3. Select "IPDM E/R" on CONSULT-II. and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
4. Select "LAMPS" on "SELECT TEST ITEM" screen.
5. Touch "LO" screen.
6. When headlamp low beam is operating, check voltage between front combination lamp RH and LH harness connector and ground.



ⓧ Without CONSULT-II

1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH and LH connector.
3. Start auto active test. Refer to [PG-39, "Auto Active Test"](#).
4. When headlamp low beam is operating, check voltage between front combination lamp RH and LH harness connector and ground.

Terminals			(-)	Voltage
(+) Connector		Terminal (Wire color)		
RH	E24	6 (LG)	Ground	Battery voltage
LH	E44	6 (GY)		

OK or NG

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

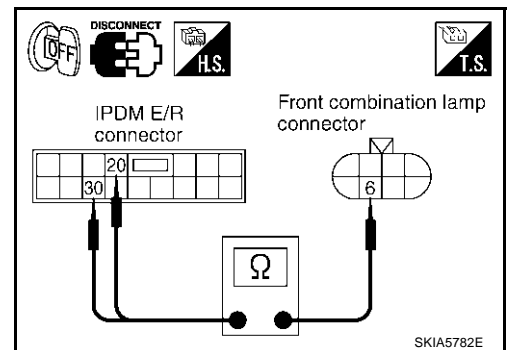
## 5. CHECK HEADLAMP CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Check continuity between IPDM E/R harness connector E7 terminal 20 (LG) and front combination lamp RH harness connector E24 terminal 6 (LG).

**20 (LG) – 6 (LG) : Continuity should exist.**

4. Check continuity between IPDM E/R harness connector E7 terminal 30 (GY) and front combination lamp LH harness connector E44 terminal 6 (GY).

**30 (GY) – 6 (GY) : Continuity should exist.**



OK or NG

- OK >> Replace IPDM E/R.  
 NG >> Repair harness or connector.

# HEADLAMP - XENON TYPE -

## 6. CHECK HEADLAMP GROUND

1. Turn ignition switch OFF.
2. Check continuity between front combination lamp RH harness connector E24 terminal 7 (B) and ground.

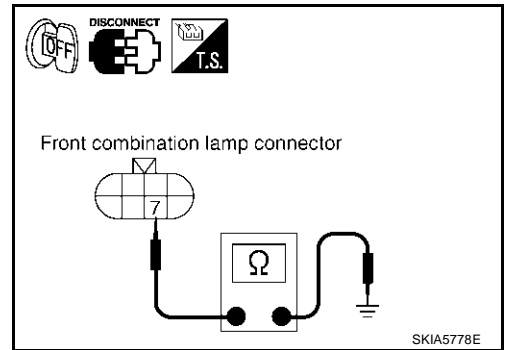
**7 (B) – Ground : Continuity should exist.**

3. Check continuity between front combination lamp LH harness connector E44 terminal 7 (B) and ground.

**7 (B) – Ground : Continuity should exist.**

### OK or NG

- OK >> Check headlamp harness and connectors, ballasts (HID control unit), and xenon bulbs. Refer to [LT-46, "Xenon Headlamp Trouble Diagnosis"](#).
- NG >> Repair harness or connector.



## Headlamp Low Beam Does Not Illuminate (One Side)

AKS007MP

### 1. CHECK BULB

Check ballasts (HID control unit) and xenon bulb of lamp which does not illuminate. Refer to [LT-46, "Xenon Headlamp Trouble Diagnosis"](#).

### OK or NG

- OK >> GO TO 2.
- NG >> Repair malfunctioning part.

## 2. CHECK HEADLAMP CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector and front combination lamp RH or LH connector.
3. Check continuity between IPDM E/R harness connector E7 terminal 20 (LG) and front combination lamp RH harness connector E24 terminal 6 (LG).

**20 (LG) – 6 (LG) : Continuity should exist.**

4. Check continuity between IPDM E/R harness connector E7 terminal 30 (GY) and front combination lamp LH harness connector E44 terminal 6 (GY).

**30 (GY) – 6 (GY) : Continuity should exist.**

### OK or NG

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

## 3. CHECK HEADLAMP GROUND

1. Check continuity between front combination lamp RH harness connector E24 terminal 7 (B) and ground.

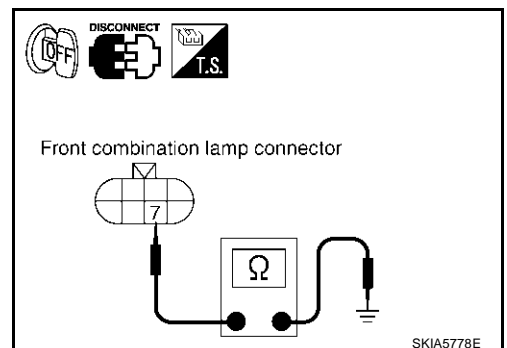
**7 (B) – Ground : Continuity should exist.**

2. Check continuity between front combination lamp LH harness connector E44 terminal 7 (B) and ground.

**7 (B) – Ground : Continuity should exist.**

### OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness or connector.



# HEADLAMP - XENON TYPE -

AKS007MQ

## Headlamp RH Low Beam and High Beam Do Not Illuminate

### 1. CHECK BULB

Inspect ballasts (HID control unit) and xenon bulb of lamp which does not illuminate. Refer to [LT-46, "Xenon Headlamp Trouble Diagnosis"](#).

OK or NG

- OK >> GO TO 2.
- NG >> Repair malfunctioning part.

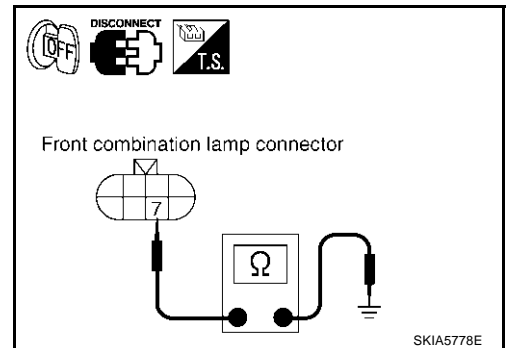
### 2. CHECK HEADLAMP GROUND

1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH connector.
3. Check continuity between front combination lamp RH harness connector E24 terminal 7 (B) and ground.

**7 (B) – Ground** : Continuity should exist.

OK or NG

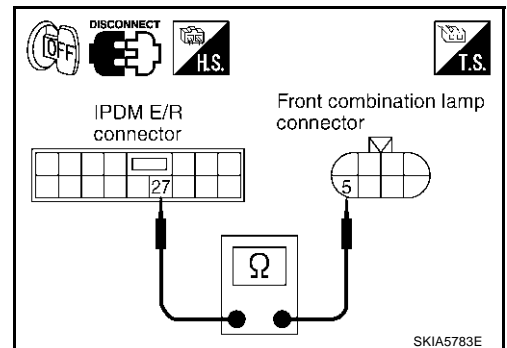
- OK >> GO TO 3.
- NG >> Repair harness or connector.



### 3. CHECK HEADLAMP CIRCUIT

1. Disconnect IPDM E/R connector.
2. Check continuity between IPDM E/R harness connector E7 terminal 27 (BR) and front combination lamp RH harness connector E24 terminal 5 (BR).

**27 (BR) – 5 (BR)** : Continuity should exist.

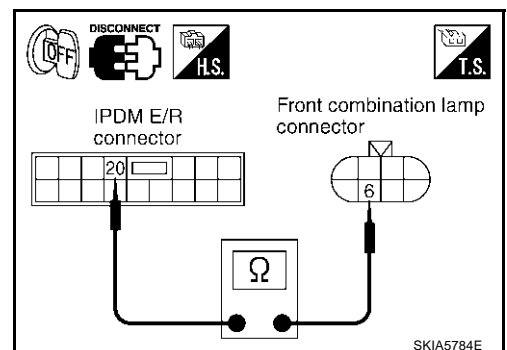


3. Check continuity between IPDM E/R harness connector E7 terminal 20 (LG) and front combination lamp RH harness connector E24 terminal 6 (LG).

**20 (LG) – 6 (LG)** : Continuity should exist.

OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness or connector.



## Headlamp LH Low Beam and High Beam Do Not Illuminate

AKS007MR

### 1. CHECK BULB

Inspect ballasts (HID control unit) and xenon bulb of lamp which does not illuminate. Refer to [LT-46, "Xenon Headlamp Trouble Diagnosis"](#).

OK or NG

- OK >> GO TO 2.
- NG >> Repair malfunctioning part.

# HEADLAMP - XENON TYPE -

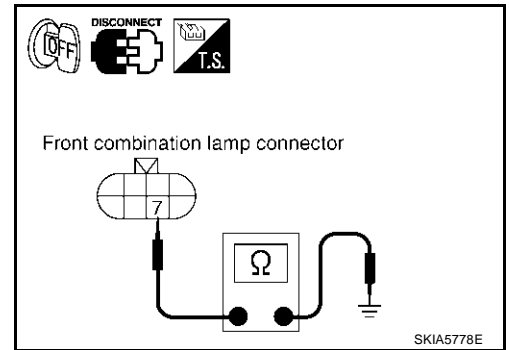
## 2. CHECK HEADLAMP GROUND

1. Turn ignition switch OFF.
2. Disconnect front combination lamp LH connector.
3. Check continuity between front combination lamp LH harness connector E44 terminal 7 (B) and ground.

**7 (B) – Ground : Continuity should exist.**

OK or NG

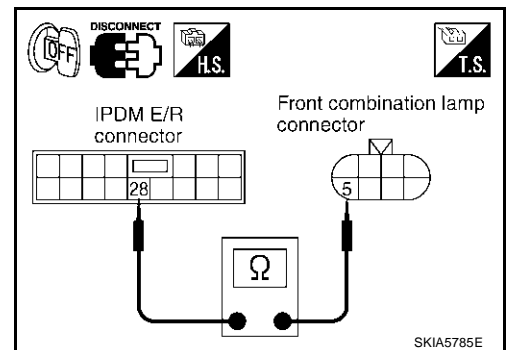
- OK >> GO TO 3.  
NG >> Repair harness or connector.



## 3. CHECK HEADLAMP CIRCUIT

1. Disconnect IPDM E/R connector.
2. Check continuity between IPDM E/R harness connector E7 terminal 28 (SB) and front combination lamp LH harness connector E44 terminal 5 (SB).

**28 (SB) – 5 (SB) : Continuity should exist.**

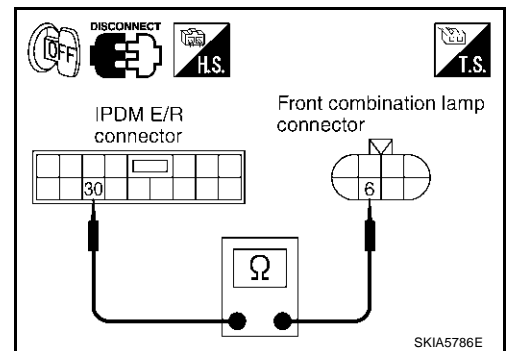


3. Check continuity between IPDM E/R harness connector E7 terminal 30 (GY) and front combination lamp LH harness connector E44 terminal 6 (GY).

**30 (GY) – 6 (GY) : Continuity should exist.**

OK or NG

- OK >> Replace IPDM E/R.  
NG >> Repair harness or connector.



## Headlamps Do Not Turn OFF

### 1. CHECK HEADLAMP TURN OFF

Make sure that lighting switch is OFF. And make sure headlamp turns off when ignition switch is turned OFF.

OK or NG

- OK >> GO TO 3.  
NG >> GO TO 2.

# HEADLAMP - XENON TYPE -

## 2. CHECK COMBINATION SWITCH INPUT SIGNAL

Select "BCM" on CONSULT-II. With "HEAD LAMP" data monitor, make sure "HEAD LAMP SW 1" and "HEAD LAMP SW 2" turns ON-OFF linked with operation of lighting switch.

**When lighting switch is OFF : HEAD LAMP SW 1 OFF position : HEAD LAMP SW 2 OFF**

OK or NG

OK >> Replace IPDM E/R.

NG >> Check lighting switch. Refer to [LT-182, "Combination Switch Inspection"](#).

DATA MONITOR	
MONITOR	
HEAD LAMP SW 1	OFF
HEAD LAMP SW 2	OFF

SKIA5200E

## 3. CHECKING CAN COMMUNICATIONS BETWEEN BCM AND IPDM E/R

Select "BCM" by CONSULT-II, and perform self-diagnosis for "BCM".

Display of self-diagnosis results

NO DTC>> Replace IPDM E/R.

CAN COMM CIRCUIT>> Refer to [BCS-27, "CAN Communication Inspection Using CONSULT-II \(Self-Diagnosis\)"](#).

SELF-DIAG RESULTS			
DTC RESULTS		TIME	
CAN COMM CIRCUIT [U1000]		PAST	
ERASE		PRINT	
MODE	BACK	LIGHT	COPY

SKIA1039E

### CAUTION:

- Installation or removal of the connector must be done with the lighting switch OFF.
- When the lamp is illuminated (when the lighting switch is ON), do not touch the harness, HID control unit, inside of the lamp, or the lamp metal parts.
- To check illumination, temporarily install lamp in the vehicle. Be sure to connect power at the vehicle-side connector.
- If the error can be traced directly to the electrical system, first check for items such as burned-out fuses and fusible links, broken wires or loose connectors, pulled-out terminals, and improper connections.
- Do not work with wet hands.
- Using a tester for HID control unit circuit trouble diagnosis is prohibited.
- Disassembling the HID control unit or harnesses (bulb socket harness, ECM harness) is prohibited.
- Immediately after illumination, the light intensity and color will fluctuate, but there is nothing wrong.
- When the bulb has reached the end of its lifetime, the brightness may drop significantly, it may flash repeatedly, or the light may turn a reddish color.

## Xenon Headlamp Trouble Diagnosis

### 1. CHECK 1: XENON HEADLAMP LIGHTING

Install normal xenon bulb to corresponding xenon bulb headlamp, and check if lamp lights up.

OK or NG

OK >> Replace xenon bulb.

NG >> GO TO 2.

### 2. CHECK 2: XENON HEADLAMP LIGHTING

Install normal HID control unit to corresponding xenon headlamp, and check if lamp lights up.

OK or NG

OK >> Replace HID control unit.

NG >> GO TO 3.

# HEADLAMP - XENON TYPE -

## 3. CHECK 3: XENON HEADLAMP LIGHTING

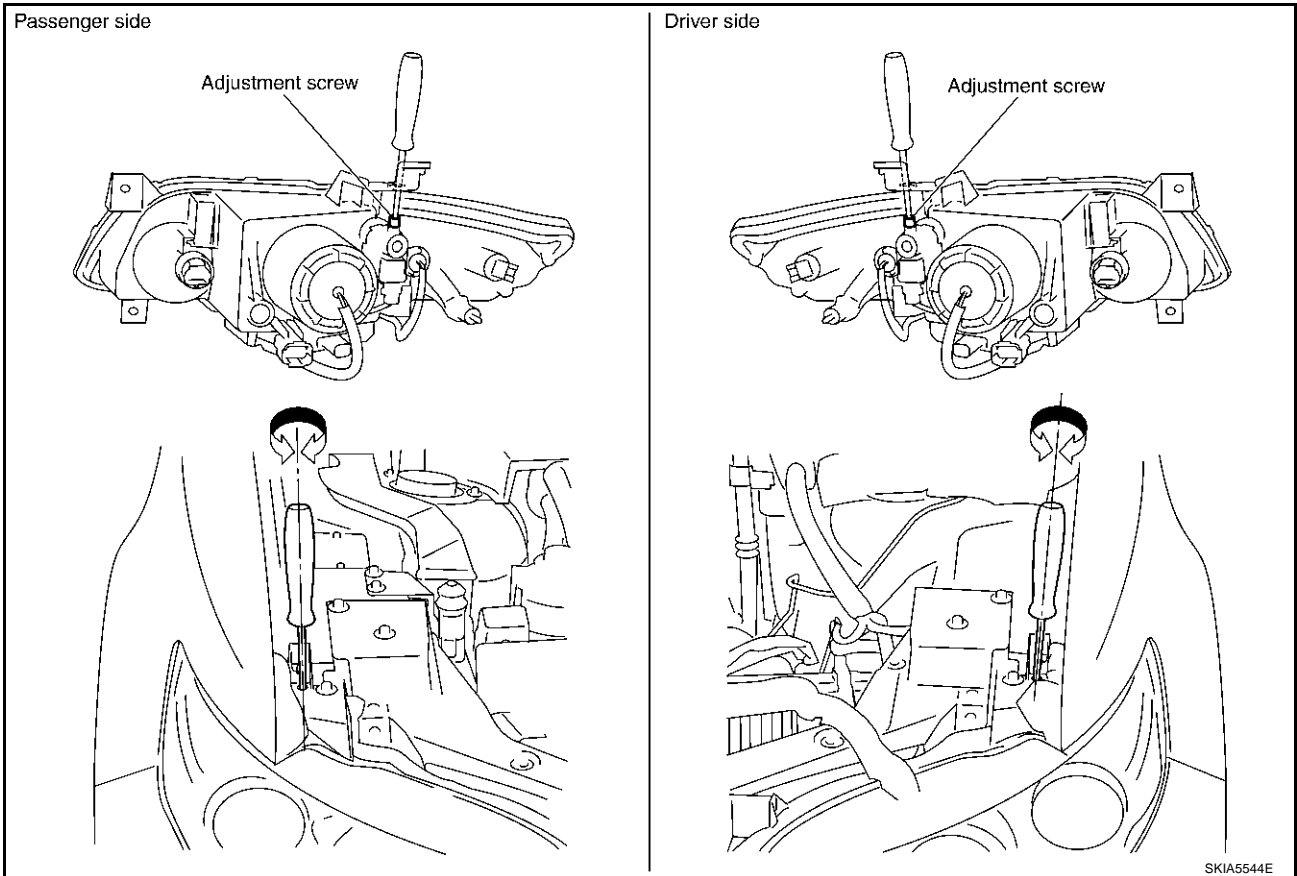
Install normal xenon lamp housing assembly to corresponding xenon headlamp, and check if lamp lights up.

OK or NG

- OK >> Malfunction in starter (boosting circuit) in xenon headlamp housing. (Replace xenon headlamp housing assembly.)  
NG >> INSPECTION END

### Aiming Adjustment

AKS007MV



### 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.

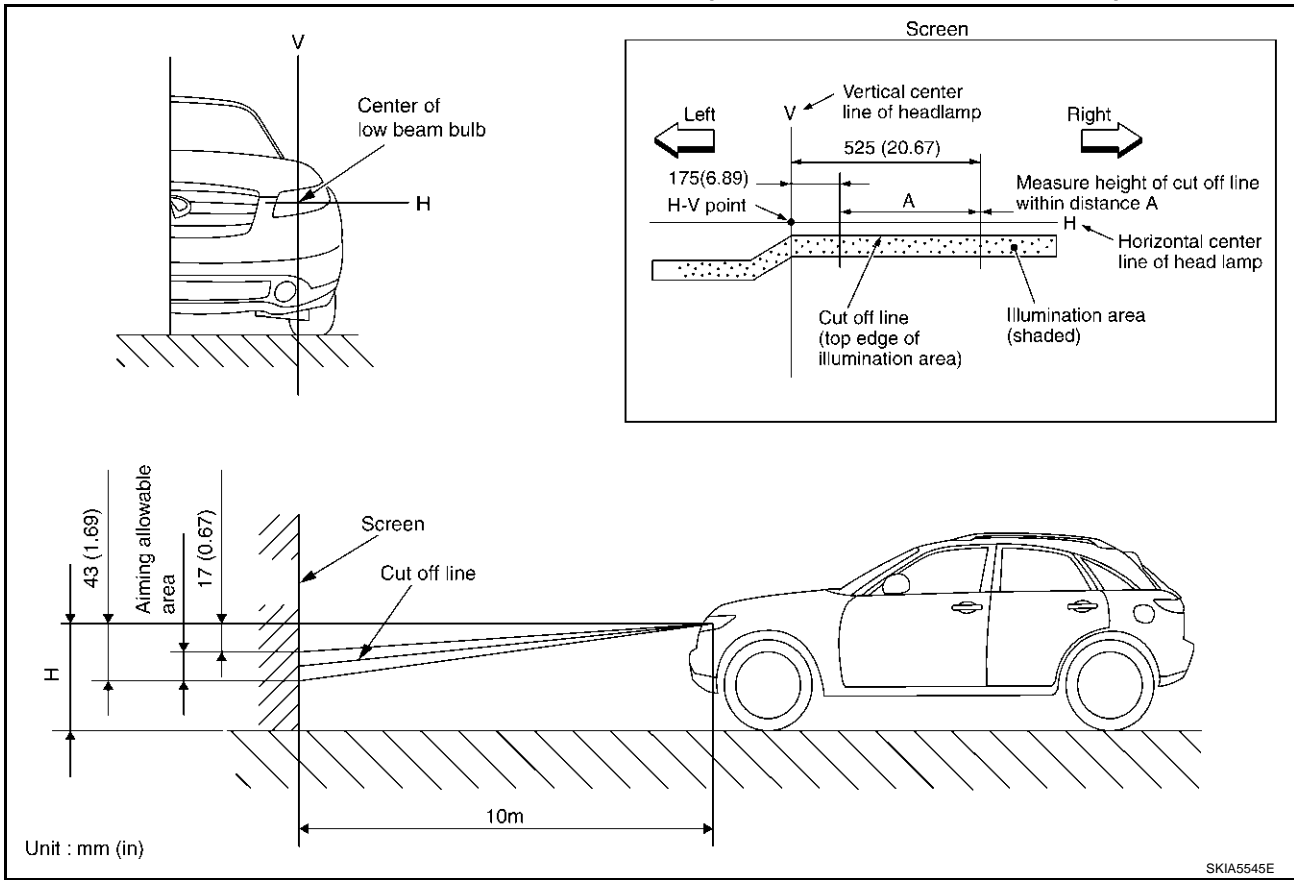
### LOW BEAM AND HIGH BEAM

1. Turn headlamp low beam on.
2. Use adjusting screws to perform aiming adjustment.

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# HEADLAMP - XENON TYPE -

## ADJUSTMENT USING AN ADJUSTMENT SCREEN (LIGHT/DARK BORDERLINE)

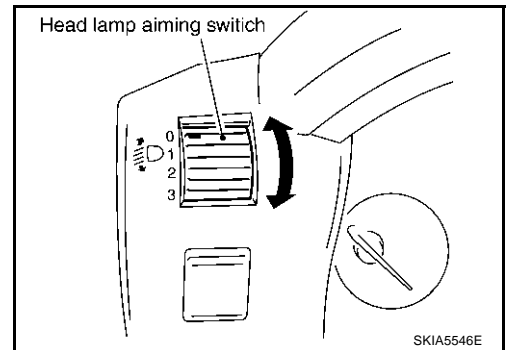


If the vehicle front body has been repaired and/or the headlamp assembly has been replaced, check aiming. Use the aiming chart shown in the figure.

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

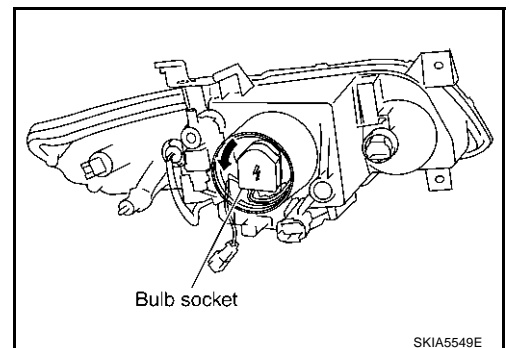
### CAUTION:

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



## Bulb Replacement HEADLAMP HIGH/LOW BEAM

1. Turn lighting switch OFF.
2. Disconnect negative battery cable or remove power fuse.
3. Remove air cleaner case (LH) or radiator reservoir tank (RH). Refer to [EM-17, "Removal and Installation"](#), [EM-170, "Removal and Installation"](#), [CO-14, "Removal and Installation"](#), [CO-38, "Removal and Installation"](#).
4. Turn plastic cap counterclockwise and unlock it.
5. Turn bulb socket counterclockwise and unlock it.
6. Unlock retaining spring and remove bulb from headlamp.
7. Install in the reverse order of removal.





# HEADLAMP - XENON TYPE -

## NOTE:

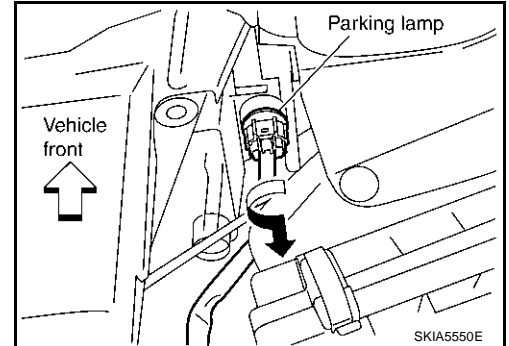
After installation, perform aiming adjustment. Refer to [LT-47, "Aiming Adjustment"](#).

**Headlamp high/low beam (Xenon) : 12V - 35W (D2S)**

## PARKING LAMP (CLEARANCE LAMP)

1. Turn lighting switch OFF.
2. Turn bulb socket counterclockwise and unlock it.
3. Remove bulb from its socket.
4. Install in the reverse order of removal.

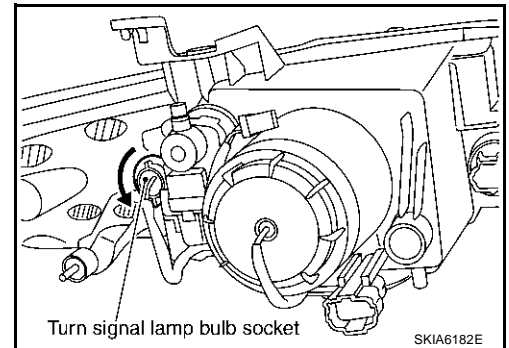
**Parking lamp (Clearance lamp) : 12V - 5W**



## FRONT TURN SIGNAL LAMP

1. Turn lighting switch OFF.
2. Turn bulb socket counterclockwise with suitable tool and unlock it.
3. Remove bulb from its socket.
4. Install in the reverse order of removal.

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



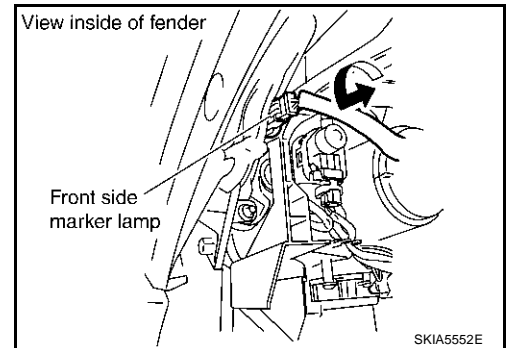
## FRONT SIDE MARKER LAMP

1. Turn lighting switch OFF.
2. Turn bulb socket counterclockwise and unlock it.
3. Remove bulb from its socket.
4. Install in the reverse order of removal.

**Front side marker lamp : 12V - 3.8W**

## CAUTION:

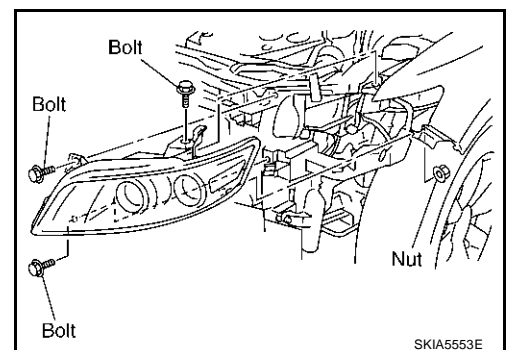
After installing bulb, be sure to install plastic cap and bulb socket securely to insure watertightness.



## Removal and Installation

### REMOVAL

1. Disconnect the battery negative cable.
2. Remove front bumper. Refer to [EI-14, "Removal and Installation"](#) in "EI" section.
3. Remove headlamp mounting bolts.
4. Remove plastics bumper bracket, then pull headlamp toward vehicle front, disconnect connector, and remove headlamp.



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# HEADLAMP - XENON TYPE -

## INSTALLATION

Note the following, and install in the reverse order of removal.

**Headlamp mounting bolt**

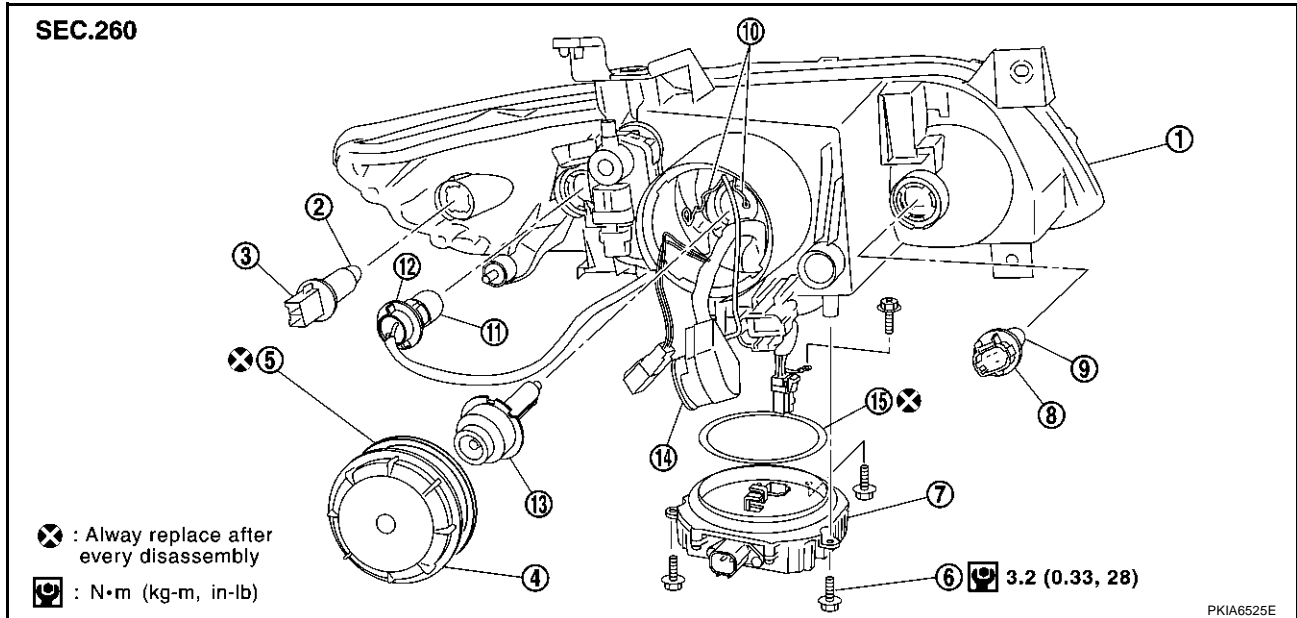
: 6.1 N·m (0.62 kg-m, 54 in-lb)

### NOTE:

After installation, perform aiming adjustment. Refer to [LT-47, "Aiming Adjustment"](#).

## Disassembly and Assembly

AKS007MY



- |                              |  |  |
|------------------------------|--|--|
| 1. Headlamp housing assembly | 2. Side marker lamp bulb                     | 3. Side marker lamp bulb socket        |
| 4. Plastic cap               | 5. Seal packing                              | 6. Screw                               |
| 7. HID C/U                   | 8. Parking lamp (Clearance lamp) bulb socket | 9. Parking lamp (Clearance lamp) bulb  |
| 10. Retaining spring         | 11. Front turn signal lamp bulb              | 12. Front turn signal lamp bulb socket |
| 13. Xenon bulb               | 14. Xenon bulb socket                        | 15. Seal packing                       |

## DISASSEMBLY

1. Turn plastic cap counterclockwise and unlock it.
2. Turn xenon bulb socket counterclockwise, and unlock it.
3. Unlock retaining spring, and remove xenon bulb.
4. Disconnect HID control unit connector, and remove HID control unit screws.
5. Turn parking lamp bulb socket counterclockwise and unlock it.
6. Remove parking lamp bulb from its socket.
7. Turn front turn signal lamp bulb socket counterclockwise and unlock it.
8. Remove front turn signal lamp bulb from its socket.
9. Turn front side marker lamp bulb socket counterclockwise and unlock it.
10. Remove front side marker lamp bulb from its socket.

## ASSEMBLY

Note the following, and assemble in the reverse order of disassembly.

**HID control unit mounting screw**

: 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 insure watertightness.

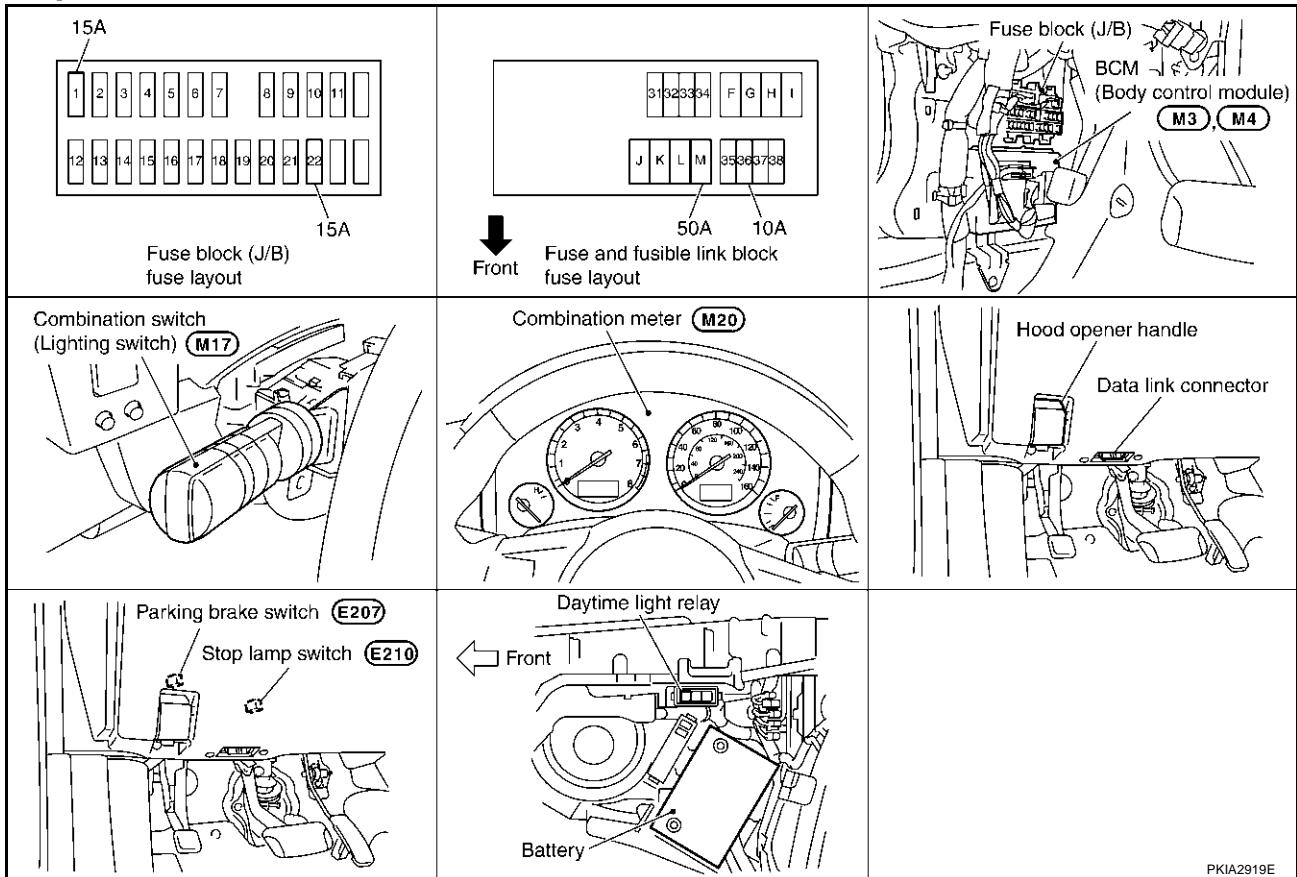
# DAYTIME LIGHT SYSTEM

## DAYTIME LIGHT SYSTEM

PFP:284B2

### Component Parts and Harness Connector Location

AKS007MZ



### System Description

AKS007N0

DAYTIME LIGHT SYSTEM turns on Daytime Light Lamps while driving. Day Light Lamps are not turned on if engine is activated with Parking Brake on. Take off Parking Brake to turn on Daytime Light Lamps. The lamps turn off when Lighting Switch is in the 2ND position or AUTO position (Head Lamp is "ON") and when Lighting Switch is in the PASSING position. (Daytime Light Lamps are not turned off only by Parking Brake itself.) An parking brake signal and engine run or stop signal are sent to BCM (body control module) by CAN communication line, and control daytime light system.

### OUTLINE

Power is supplied at all times

- to headlamp high relay [located in IPDM E/R (intelligent power distribution module engine room)]
- to headlamp low relay [located in IPDM E/R (intelligent power distribution module engine room)]
- to ignition relay [located in IPDM E/R (intelligent power distribution module engine room)]
- through 10A fuse [No.71, located in IPDM E/R (intelligent power distribution module engine room)]
- to CPU (central processing unit) [located in IPDM E/R (intelligent power distribution module engine room)]
- through 10A fuse [No. 19, located in fuse block (J/B)]
- to combination meter terminal 8
- through 15A fuse [No. 22, located in fuse block (J/B)]
- to BCM (body control module) terminal 42
- through 50A fusible link (letter M, located in fuse and fusible link block)
- to BCM (body control module) terminal 55
- through 10A fuse [No. 36, located in fuse and fusible link block]
- to daytime relay terminals 2 and 5.

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

- to ignition relay [located in IPDM E/R (intelligent power distribution module engine room)]

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# DAYTIME LIGHT SYSTEM

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- through 10A fuse [No. 14, located in fuse block (J/B)]
- to combination meter terminal 7
- through 15A fuse [No. 1, located in fuse block (J/B)]
- to BCM (body control module) terminal 38.

Ground is supplied

- to combination meter terminals 5, 6 and 15
- through grounds M35, M45 and M85
- to BCM (body control module) terminals 49 and 52
- through grounds M35, M45 and M85
- to IPDM E/R (intelligent power distribution module engine room) terminals 38 and 60
- through grounds E21, E50 and E51.

## DAYTIME LIGHT OPERATION

With the engine running, the lighting switch in the OFF or 1ST position and parking brake released, power is supplied

- through daytime light relay terminal 1
- to combination meter terminal 10
- through daytime light relay terminal 3
- to clearance lamp RH and LH terminal 1.

Ground is supplied

- to combination meter terminals 5, 6 and 15
- through grounds M35, M45 and M85
- to clearance lamp RH and LH terminal 3
- through grounds E21, E50 and E51.

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

## COMBINATION SWITCH READING FUNCTION

Refer to [BCS-3, "COMBINATION SWITCH READING FUNCTION"](#) .

## AUTO LIGHT OPERATION

For auto light operation, refer to [LT-81, "System Description"](#) in "AUTO LIGHT SYSTEM".

## CAN Communication System Description

AKS007N1

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

# DAYTIME LIGHT SYSTEM

## CAN Communication Unit

AKS0080T

Body type	Wagon					
Axle	2WD			AWD		
Engine	VQ35DE			VQ35DE/VK45DE		
Transmission	A/T					
Brake control	VDC					
Navigation system			×			×
Low tire pressure warning system			×			×
ICC system			×			×
Intelligent Key system			×			×
Automatic drive positioner		×	×		×	×
CAN communication unit						
ECM	×	×	×	×	×	×
TCM	×	×	×	×	×	×
Display unit	×	×		×	×	
Display control unit			×			×
Low tire pressure warning control unit			×			×
AWD control unit				×	×	×
ICC unit			×			×
Intelligent Key unit			×			×
Data link connector	×	×	×	×	×	×
BCM	×	×	×	×	×	×
Steering angle sensor	×	×	×	×	×	×
Unified meter and A/C amp.	×	×	×	×	×	×
ICC sensor			×			×
ABS actuator and electric unit (control unit)	×	×	×	×	×	×
Driver seat control unit		×	×		×	×
IPDM E/R	×	×	×	×	×	×
CAN communication type	<u>LT-54. "TYPE 1/TYPE2"</u>		<u>LT-57. "TYPE 3"</u>	<u>LT-60. "TYPE 4/TYPE5"</u>		<u>LT-63. "TYPE 6"</u>

×: Applicable

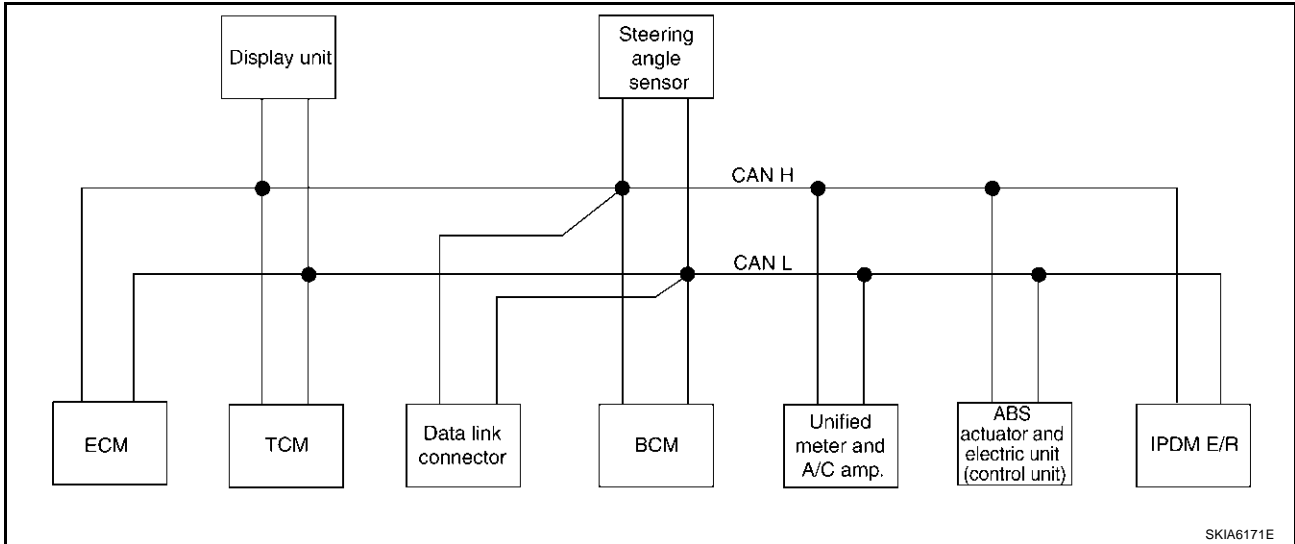
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# DAYTIME LIGHT SYSTEM

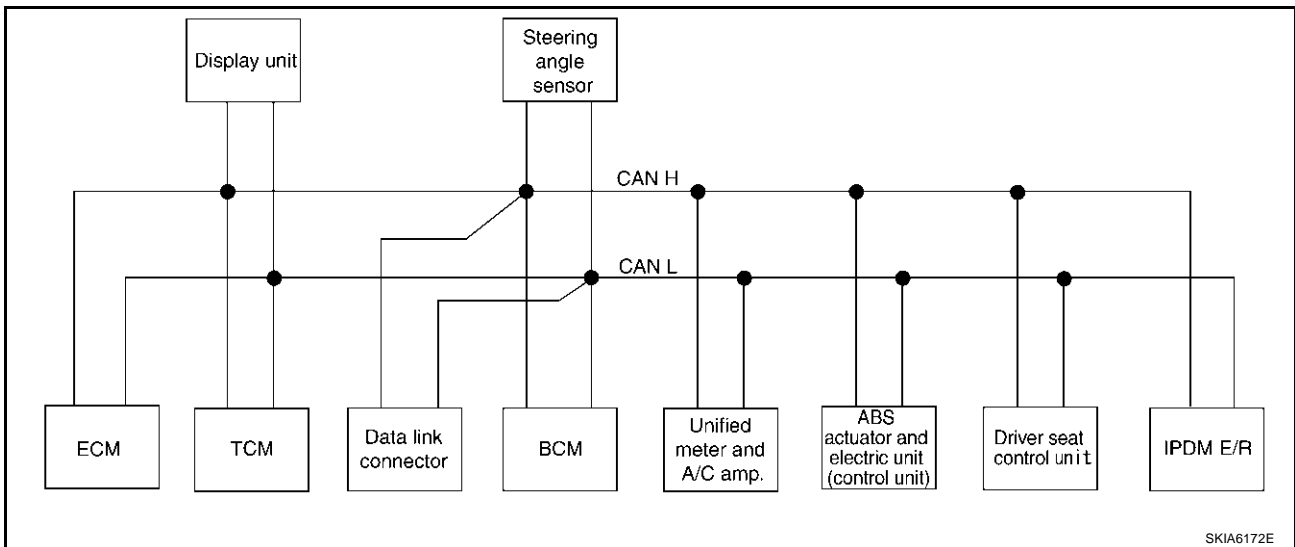
## TYPE 1/TYPE2

### System Diagram

- Type1



- Type2



### Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Engine speed signal	T	R	R			R	R		
Engine status signal	T			R					
Engine coolant temperature signal	T	R				R			
A/T self-diagnosis signal	R	T							
Accelerator pedal position signal	T	R					R		
Closed throttle position signal	T	R							
Wide open throttle position signal	T	R							

# DAYTIME LIGHT SYSTEM

Signals	ECM	TCM	Display unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Battery voltage signal	T	R							
Key switch signal				T				R	
Ignition switch signal				T				R	R
P range signal		T					R	R	
Stop lamp switch signal		R				T			
ABS operation signal	R						T		
TCS operation signal	R						T		
VDC operation signal	R						T		
Fuel consumption monitor signal	T		R			R			
Input shaft revolution signal	R	T							
Output shaft revolution signal	R	T							
A/C switch signal	R			T					
A/C compressor request signal	T								R
A/C relay status signal	R								T
A/C compressor feedback signal	T					R			
Blower fan motor switch signal	R			T					
A/C control signal			T			R			
			R			T			
Cooling fan speed request signal	T								R
Cooling fan speed signal	R								T
Position light request signal			R	T		R			R
Low beam request signal				T					R
Low beam status signal	R								T
High beam request signal				T		R			R
High beam status signal	R								T
Front fog light request signal				T					R
Day time running light request signal				T		R			
Turn LED burnout status signal				R		T			
Vehicle speed signal						R	T		
	R	R	R	R		T		R	
Sleep wake up signal				T		R		R	R
Door switch signal			R	T		R		R	R
Turn indicator signal				T		R			
Key fob ID signal				T				R	
Key fob door unlock signal				T				R	
Oil pressure switch signal				R					T
				T		R			
Buzzer output signal				T		R			
Fuel level sensor signal	R					T			
Fuel level low warning signal			R			T			

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## DAYTIME LIGHT SYSTEM

Signals	ECM	TCM	Dis- play unit	BCM	Steer- ing angle sensor	Unified meter and A/ C amp.	ABS actua- tor and electric unit (con- trol unit)	Driver seat control unit	IPDM E/R
ASCD operation signal	T	R							
ASCD OD cancel request	T	R							
Front wiper request signal				T					R
Front wiper stop position signal				R					T
Rear window defogger switch signal				T					R
Rear window defogger control signal	R		R	R					T
Hood switch signal				R					T
Theft warning horn request signal				T					R
Horn chirp signal				T					R
Steering angle sensor signal					T		R		
ABS warning lamp signal						R	T		
VDC OFF indicator lamp signal						R	T		
SLIP indicator lamp signal						R	T		
Brake warning lamp signal						R	T		
System setting signal			T	R				R	
A/T CHECK indicator lamp signal		T				R			
A/T position indicator lamp signal		T				R			
A/T shift schedule change demand signal		R					T		
Manual mode signal		R				T			
Not manual mode signal		R				T			
Manual mode shift up signal		R				T			
Manual mode shift down signal		R				T			
Manual mode indicator signal		T				R			
Distance to empty signal			R			T			
Hand brake switch				R		T			

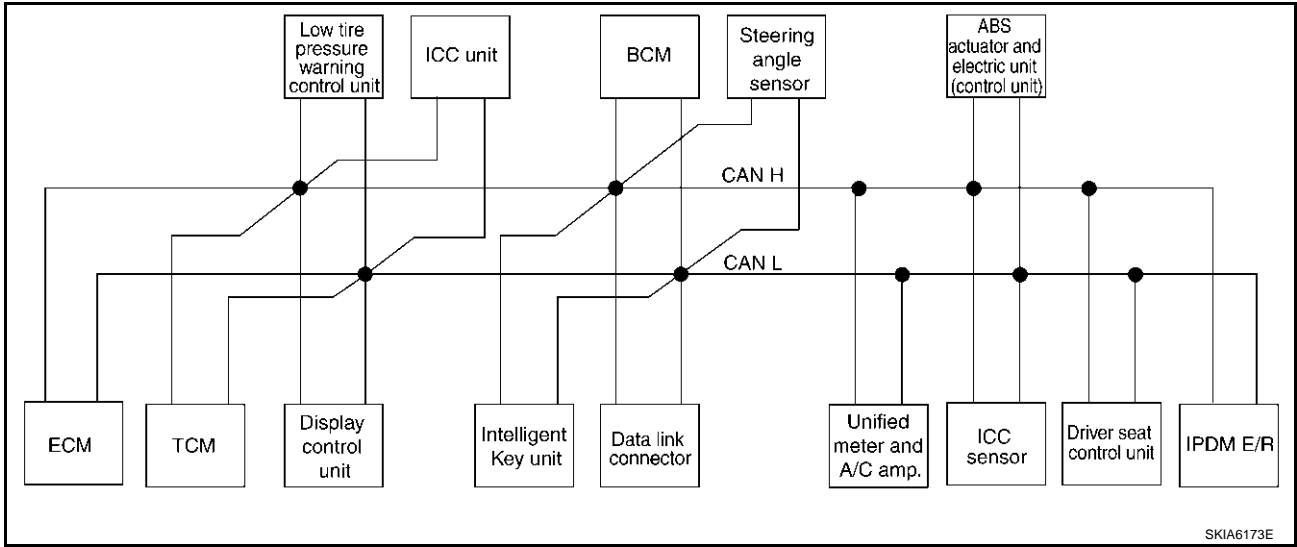


# DAYTIME LIGHT SYSTEM

## TYPE 3

### System Diagram

- Type3



### Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Engine speed signal	T	R	R		R				R		R		
Engine status signal	T						R						
Engine coolant temperature signal	T	R			R				R				
A/T self-diagnosis signal	R	T											
Accelerator pedal position signal	T	R			R						R		
Closed throttle position signal	T	R			R								
Wide open throttle position signal	T	R											
Battery voltage signal	T	R											
Key switch signal							T					R	
Ignition switch signal							T					R	R
P range signal		T			R						R	R	
Stop lamp switch signal		R							T				
ABS operation signal	R				R						T		
TCS operation signal	R				R						T		
VDC operation signal	R				R						T		
Fuel consumption monitor signal	T		R						R				

# DAYTIME LIGHT SYSTEM

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Input shaft revolution signal	R	T			R								
Output shaft revolution signal	R	T			R								
A/C switch signal	R						T						
A/C compressor request signal	T												R
A/C relay status signal	R												T
A/C compressor feedback signal	T								R				
Blower fan motor switch signal	R						T						
A/C control signal			T						R				
			R						T				
Cooling fan speed signal	R												T
Position light request signal	R						T		R				R
Low beam request signal							T						R
Low beam status signal	R												T
High beam request signal							T		R				R
High beam status signal	R												T
Front fog light request signal							T						R
Day time running light request signal							T		R				
Turn LED burnout status signal							R		T				
Vehicle speed signal					R				R		T		
	R	R	R	R		R	R		T	R		R	
Sleep wake up signal							T		R			R	R
						T	R						
Door switch signal			R			R	T		R			R	R
Turn indicator signal							T		R				
Key fob ID signal							T					R	
Key fob door unlock signal							T					R	
Oil pressure switch signal							R						T
							T		R				
Buzzer output signal							T		R				
						T			R				
					T				R				

# DAYTIME LIGHT SYSTEM

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Fuel level sensor signal	R								T				
Fuel level low warning signal			R						T				
ICC operation signal	R				T								
Front wiper request signal					R		T						R
Front wiper stop position signal							R						T
Rear window defogger switch signal							T						R
Rear window defogger control signal	R		R				R						T
Hood switch signal							R						T
Theft warning horn request signal							T						R
Horn chirp signal							T						R
Steering angle sensor signal								T			R		
Tire pressure signal				T					R				
Tire pressure data signal			R	T									
ABS warning lamp signal					R				R		T		
VDC OFF indicator lamp signal					R				R		T		
SLIP indicator lamp signal									R		T		
Brake warning lamp signal									R		T		
System setting signal			T			R						R	
Distance to empty signal			R						T				
Hand brake switch signal							R		T				
Door lock/unlock request signal						T	R						
Door lock/unlock status signal						R	T						
Starter permission signal						T	R						
Back door open request signal						T	R						
Power window open request signal						T	R						
Alarm request signal						T	R						
Key warning signal						T			R				
ICC sensor signal					R					T			
ICC warning lamp signal					T				R				

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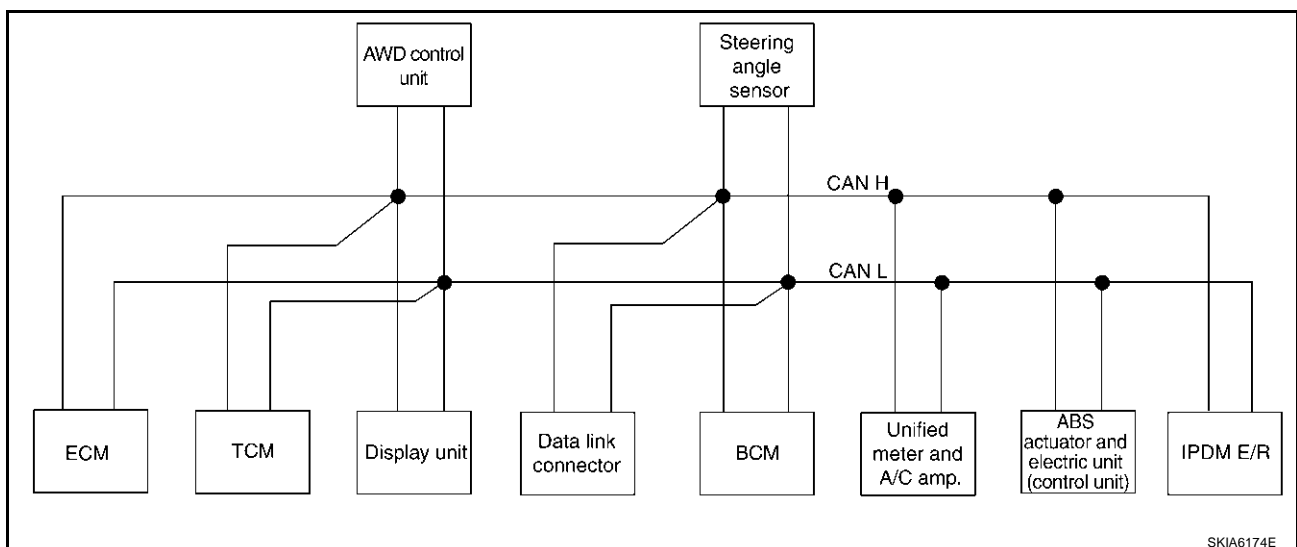
# DAYTIME LIGHT SYSTEM

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
ICC system display signal					T				R				
Current gear position signal		T			R						R		
Steering switch signal	T				R								
ASCD operation signal	T	R											
ASCD OD cancel request	T	R											
ICC OD cancel request	R	R			T								
A/T CHECK indicator lamp signal		T							R				
A/T position indicator lamp signal		T							R				
A/T shift schedule change demand signal		R									T		
Manual mode signal		R							T				
Not manual mode signal		R							T				
Manual mode shift up signal		R							T				
Manual mode shift down signal		R							T				
Manual mode indicator signal		T			R				R				
Ignition knob switch signal						T	R						

## TYPE 4/TYPE5

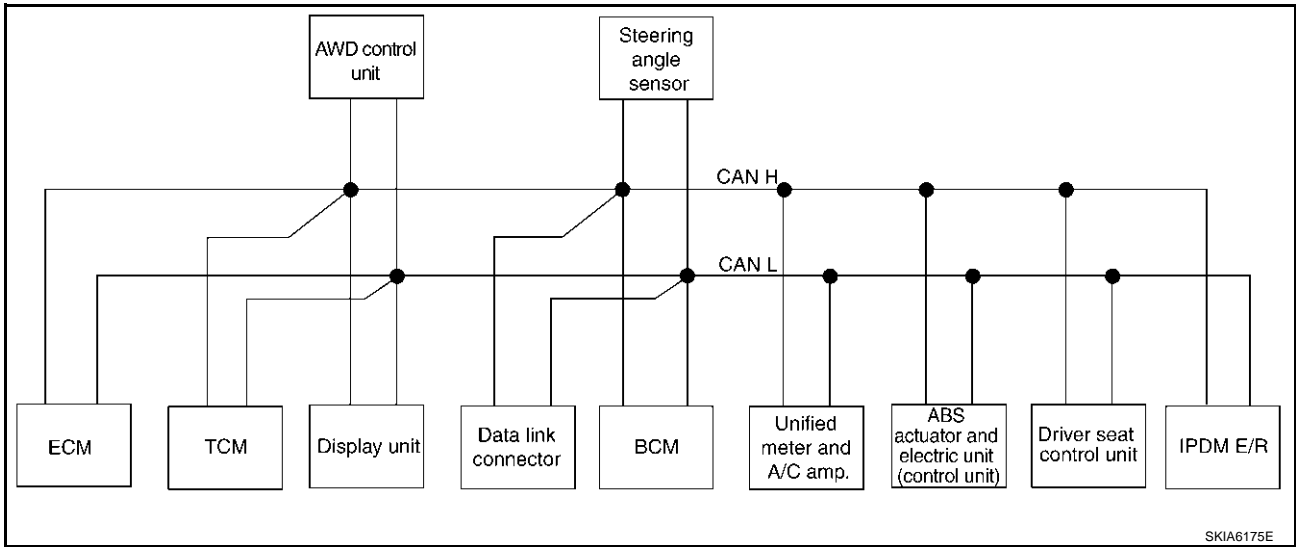
### System Diagram

- Type4



# DAYTIME LIGHT SYSTEM

● Type5



**Input/output Signal Chart**

T: Transmit R: Receive

Signals	ECM	TCM	Display unit	AWD control unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
A/T self-diagnosis signal	R	T								
ABS operation signal	R			R				T		
TCS operation signal	R							T		
VDC operation signal	R			R				T		
Stop lamp switch signal		R		R			T			
Battery voltage signal	T	R								
Key switch signal					T				R	
Ignition switch signal					T				R	R
P range signal		T						R	R	
Closed throttle position signal	T	R								
Wide open throttle position signal	T	R								
Engine speed signal	T	R	R	R			R	R		
Engine status signal	T				R					
Engine coolant temperature signal	T	R					R			
Accelerator pedal position signal	T	R		R				R		
Fuel consumption monitor signal	T		R				R			
Input shaft revolution signal	R	T								
Output shaft revolution signal	R	T								
A/C switch signal	R				T					
A/C compressor request signal	T									R
A/C relay status signal	R									T
A/C compressor feedback signal	T						R			

## DAYTIME LIGHT SYSTEM

Signals	ECM	TCM	Display unit	AWD control unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Blower fan motor switch signal	R				T					
A/C control signal			T				R			
			R				T			
Cooling fan speed signal	R									T
Position light request signal			R		T		R			R
Low beam request signal					T					R
Low beam status signal	R									T
High beam request signal					T		R			R
High beam status signal	R									T
Front fog light request signal					T					R
Day time running light request signal					T		R			
Turn LED burnout status signal					R		T			
Vehicle speed signal							R	T		
	R	R	R		R		T		R	
Sleep wake up signal					T		R		R	R
Door switch signal			R		T		R		R	R
Turn indicator signal					T		R			
Key fob ID signal					T				R	
Key fob door unlock signal					T				R	
Oil pressure switch signal					R					T
					T		R			
Buzzer output signal					T		R			
Fuel level sensor signal	R						T			
Fuel level low warning signal			R				T			
Front wiper request signal					T					R
Front wiper stop position signal					R					T
Rear window defogger switch signal					T					R
Rear window defogger control signal	R		R		R					T
Hood switch signal					R					T
Theft warning horn request signal					T					R
Horn chirp signal					T					R
Steering angle sensor signal						T		R		
ABS warning lamp signal							R	T		
VDC OFF indicator lamp signal							R	T		
SLIP indicator lamp signal							R	T		
Brake warning lamp signal							R	T		
System setting signal			T		R				R	
AWD warning lamp signal				T			R			

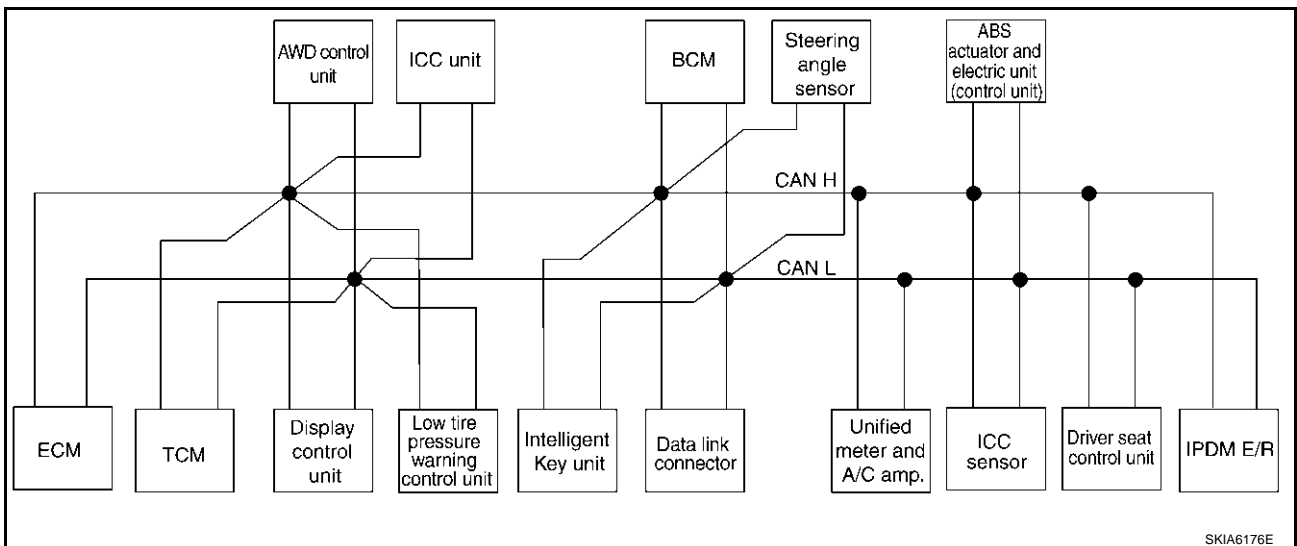
# DAYTIME LIGHT SYSTEM

Signals	ECM	TCM	Display unit	AWD control unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
AWD lock indicator lamp signal				T			R			
Distance to empty signal			R				T			
Hand brake switch signal				R	R		T			
ASCD operation signal	T	R								
ASCD OD cancel request	T	R								
A/T CHECK indicator lamp signal		T					R			
A/T position indicator lamp signal		T					R			
A/T shift schedule change demand signal		R						T		
Manual mode signal		R					T			
Not manual mode signal		R					T			
Manual mode shift up signal		R					T			
Manual mode shift down signal		R					T			
Manual mode indicator signal		T					R			

## TYPE 6

### System Diagram

- Type6



# DAYTIME LIGHT SYSTEM

## Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	AWD control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPD M E/R
A/T self-diagnosis signal	R	T												
ABS operation signal	R				R	R						T		
TCS operation signal	R					R						T		
VDC operation signal	R				R	R					R	T		
Stop lamp switch signal		R			R					T				
Battery voltage signal	T	R												
Key switch signal								T					R	
Ignition switch signal								T					R	R
P range signal		T				R						R	R	
Closed throttle position signal	T	R				R								
Wide open throttle position signal	T	R												
Engine speed signal	T	R	R		R	R				R		R		
Engine status signal	T							R						
Engine coolant temperature signal	T	R				R				R				
Accelerator pedal position signal	T	R			R	R						R		
Fuel consumption monitor signal	T		R							R				
A/T self-diagnosis signal	R	T												
Input shaft revolution signal	R	T				R								
Output shaft revolution signal	R	T				R								
A/C switch signal	R							T						
A/C compressor request signal	T													R
A/C relay status signal	R													T
A/C compressor feedback signal	T									R				
Blower fan motor switch signal	R							T						
A/C control signal			T							R				
			R							T				
Cooling fan speed signal	R													T
Position light request signal			R					T		R				R
Low beam request signal								T						R
Low beam status signal	R													T
High beam request signal								T		R				R



# DAYTIME LIGHT SYSTEM

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	AWD control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPD M E/ R
High beam status signal	R													T
Front fog light request signal								T						R
Day time running light request signal								T		R				
Turn LED burnout status signal								R		T				
Vehicle speed signal						R				R		T		
	R	R	R	R			R	R		T	R		R	
Sleep wake up signal								T		R			R	R
							T	R						
Door switch signal			R				R	T		R			R	R
Key fob ID signal								T					R	
Key fob door unlock signal								T					R	
Oil pressure switch signal								R						T
								T		R				
Buzzer output signal								T		R				
						T				R				
Fuel level sensor signal	R									T				
Fuel level low warning signal			R							T				
ICC operation signal	R					T								
Front wiper request signal						R		T						R
Front wiper stop position signal								R						T
Rear window defogger switch signal								T						R
Rear window defogger control signal	R		R					R						T
Hood switch signal								R						T
Theft warning horn request signal								T						R
Horn chirp signal								T						R
Steering angle sensor signal									T			R		
Tire pressure signal				T						R				
Tire pressure data signal			R	T										
ABS warning lamp signal						R				R		T		
VDC OFF indicator lamp signal						R				R		T		
SLIP indicator lamp signal										R		T		

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## DAYTIME LIGHT SYSTEM

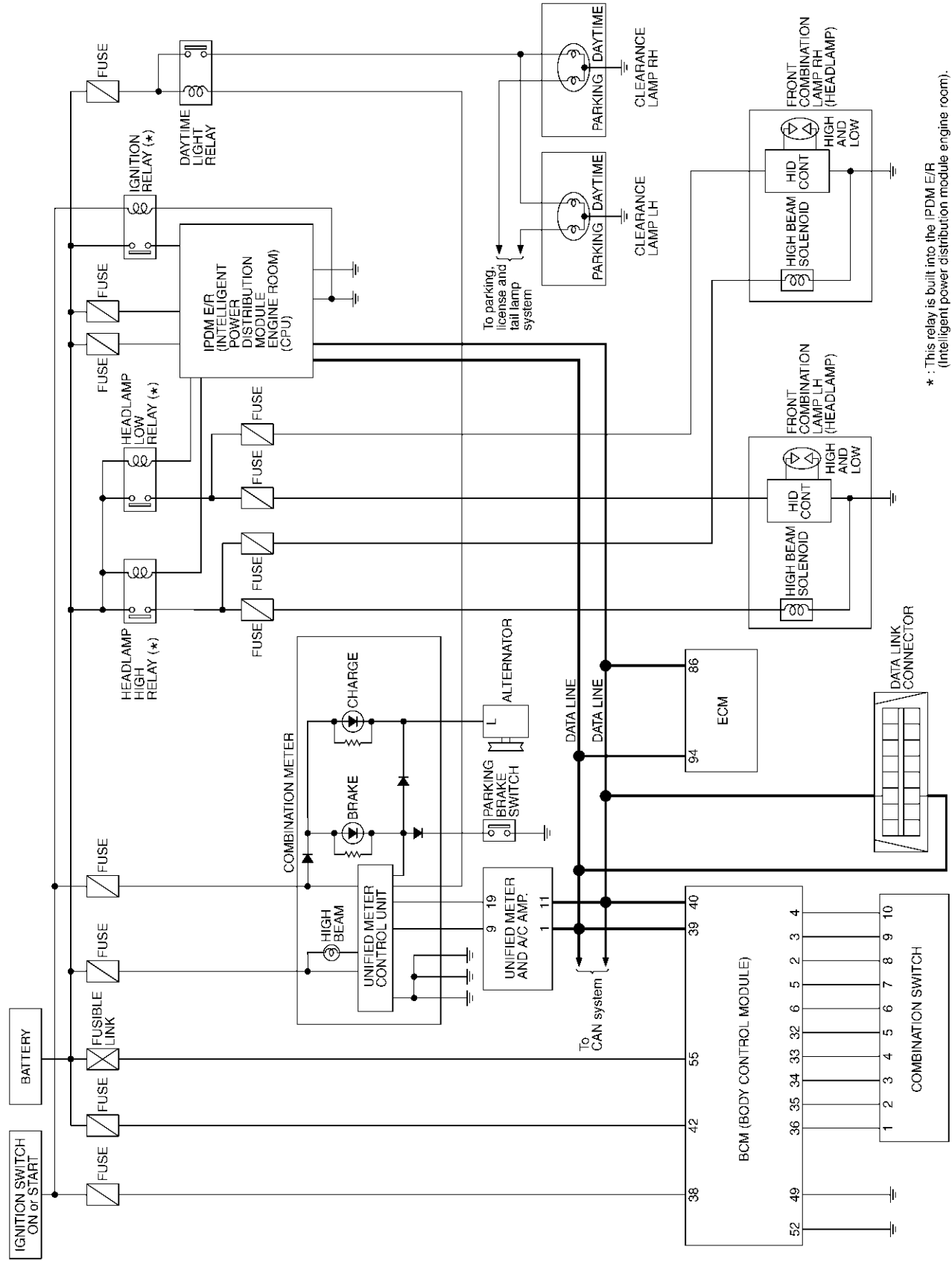
Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	AWD control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPD M E/ R
Brake warning lamp signal										R		T		
System setting signal			T				R						R	
AWD warning lamp signal					T					R				
AWD lock indicator lamp signal					T					R				
Distance to empty signal			R							T				
Hand brake switch signal					R			R		T				
Door lock/unlock request signal							T	R						
Door lock/unlock status signal							R	T						
Starter permission signal							T	R						
Back door open request signal							T	R						
Power window open request signal							T	R						
Alarm request signal							T	R						
Key warning signal							T			R				
ICC sensor signal						R					T			
ICC warning lamp signal						T				R				
ICC system display signal						T				R				
Current gear position signal		T				R						R		
Steering switch signal	T					R								
ASCD operation signal	T	R												
ASCD OD cancel request	T	R												
ICC OD cancel request	R	R				T								
A/T CHECK indicator lamp signal		T								R				
A/T position indicator lamp signal		T								R				
A/T shift schedule change demand signal		R										T		
Manual mode signal		R								T				
Not manual mode signal		R								T				
Manual mode shift up signal		R								T				
Manual mode shift down signal		R								T				
Manual mode indicator signal		T								R				
Ignition knob switch signal							T	R						

# DAYTIME LIGHT SYSTEM

## Schematic

AKS007N3

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\* : This relay is built into the IPDM E/R (Intelligent power distribution module engine room).

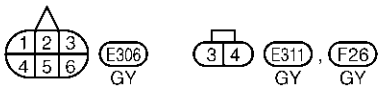
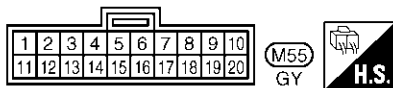
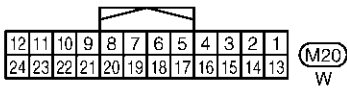
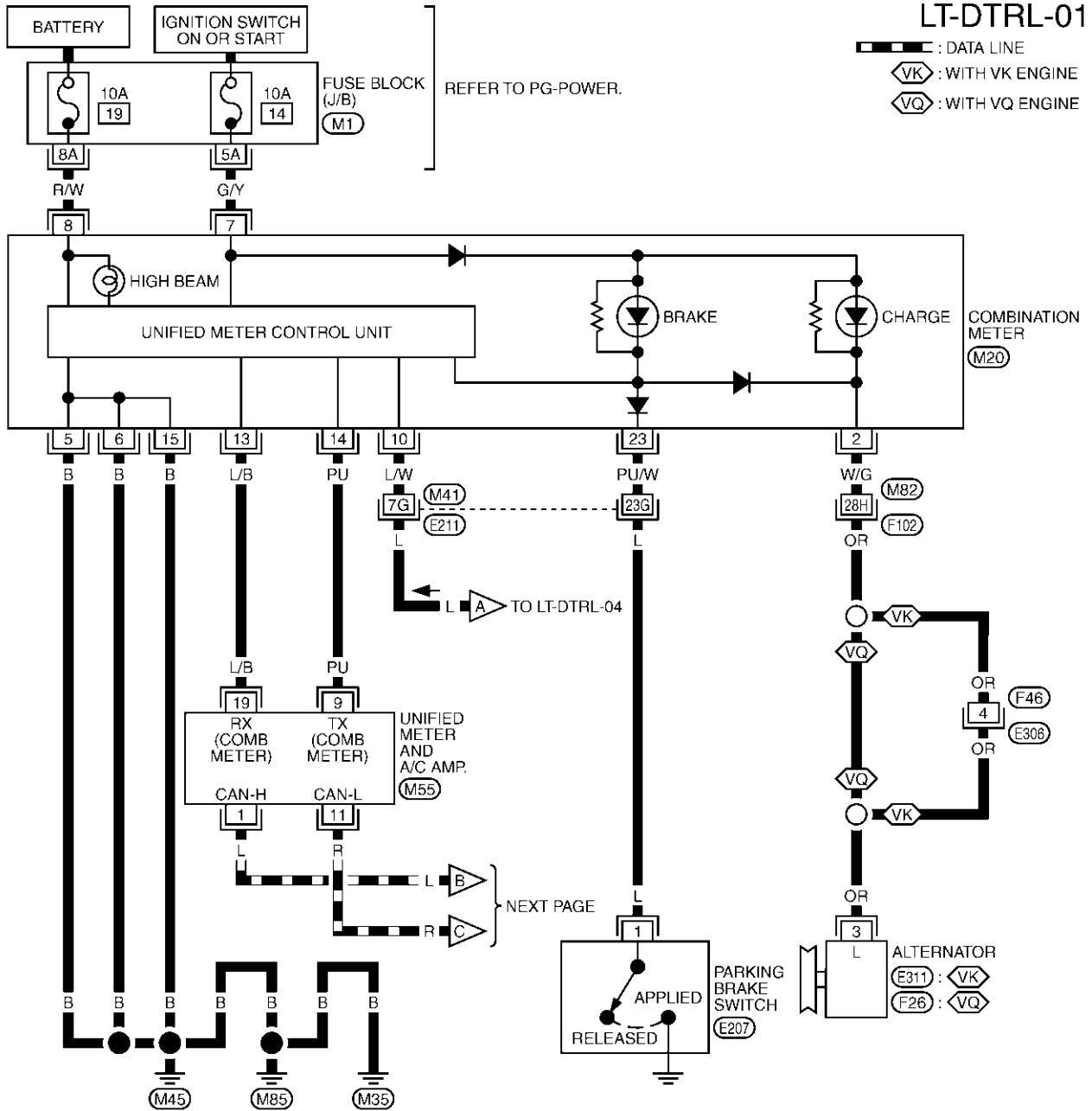
TKWM0606E

# DAYTIME LIGHT SYSTEM

## Wiring Diagram — DTRL —

AKS007N4

### LT-DTRL-01

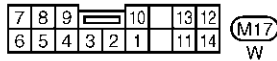
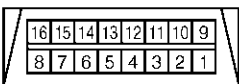
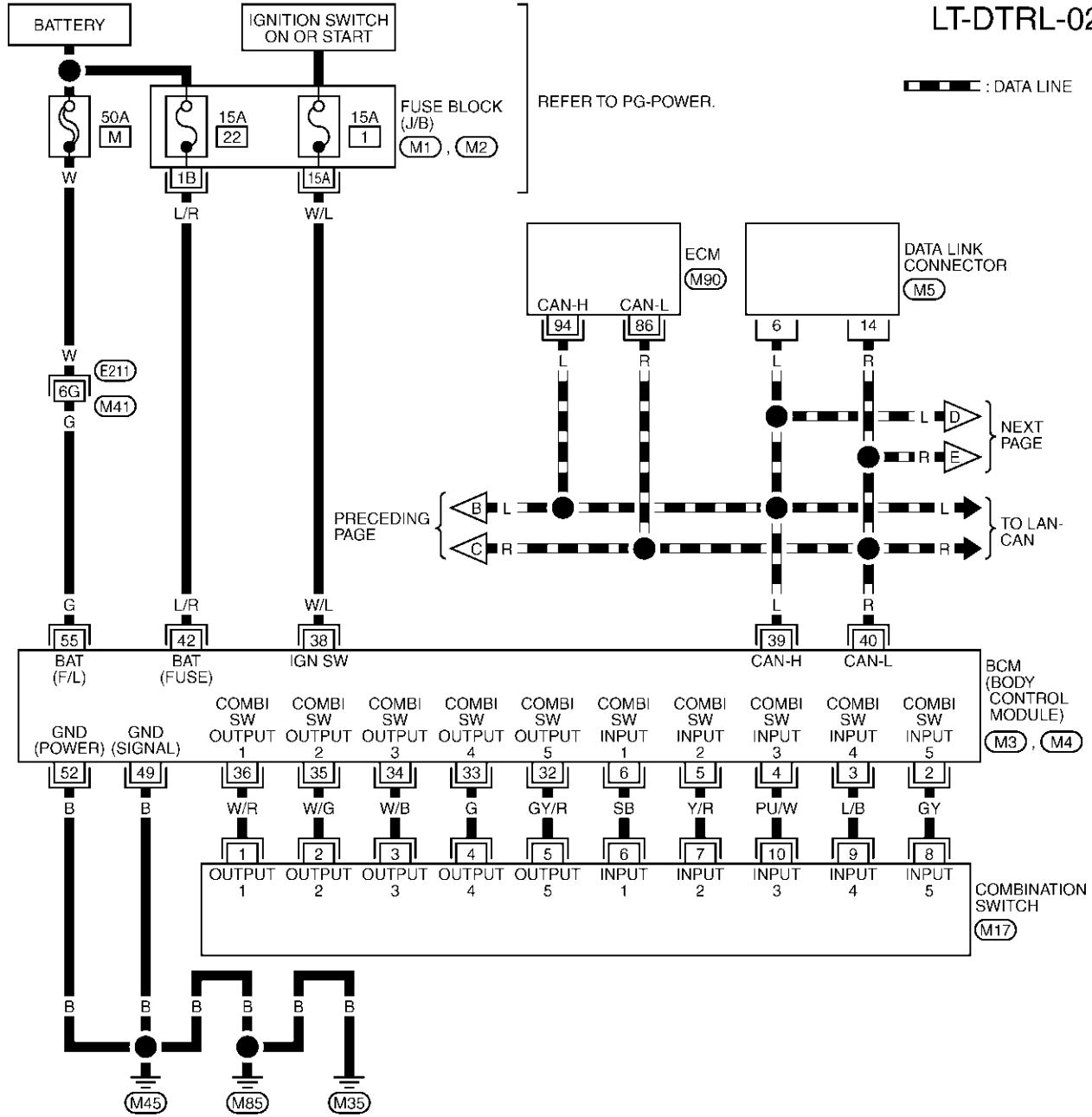


REFER TO THE FOLLOWING.  
 (E211), (F102) -SUPER MULTIPLE JUNCTION (SMJ)  
 (M1) -FUSE BLOCK-JUNCTION BOX (J/B)

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# DAYTIME LIGHT SYSTEM

LT-DTRL-02



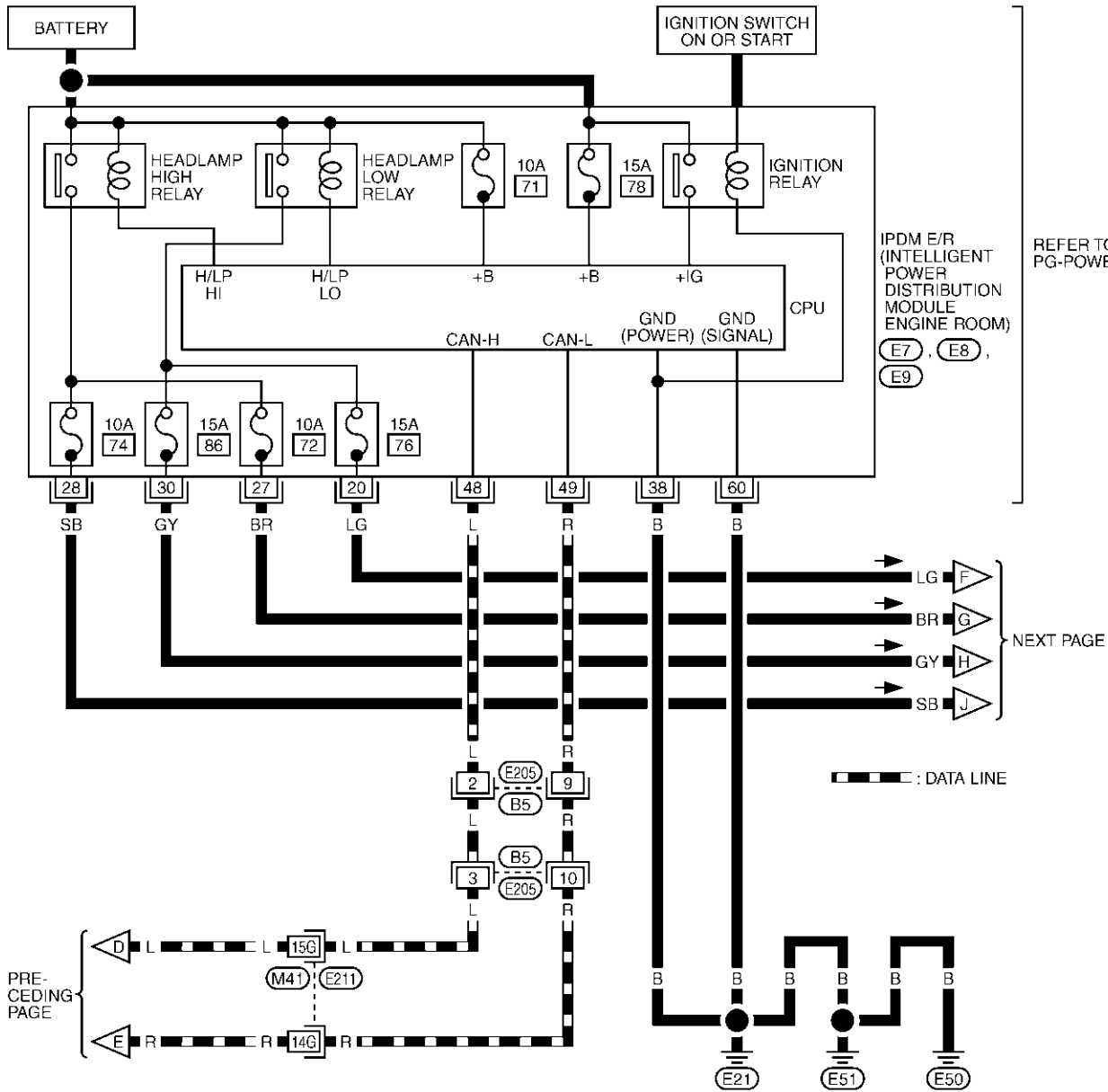
REFER TO THE FOLLOWING.

- (E21) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1), (M2) -FUSE BLOCK-JUNCTION BOX (J/B)
- (M3), (M4), (M90) -ELECTRICAL UNITS

TKWM0816E

# DAYTIME LIGHT SYSTEM

LT-DTRL-03

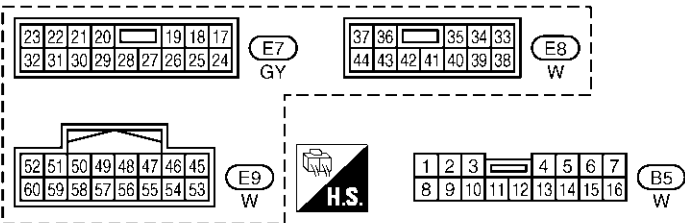


REFER TO PG-POWER.

IPDM E/R  
(INTELLIGENT  
POWER  
DISTRIBUTION  
MODULE  
ENGINE ROOM)  
E7, E8,  
E9

NEXT PAGE

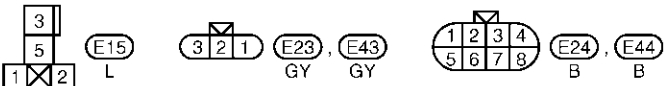
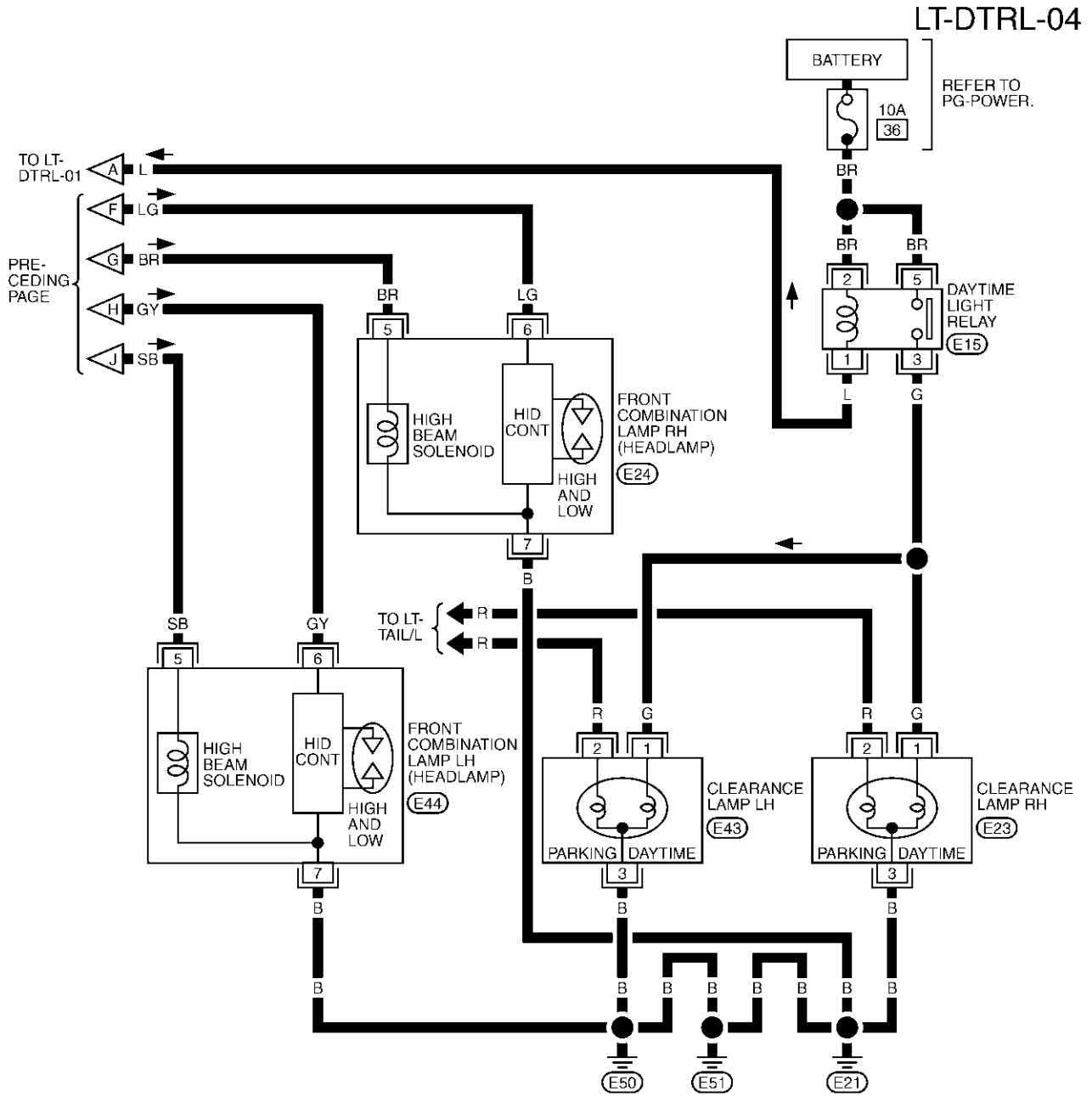
PRE-  
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REFER TO THE FOLLOWING.  
E21 -SUPER MULTIPLE  
JUNCTION (SMJ)

TKWM0609E

# DAYTIME LIGHT SYSTEM

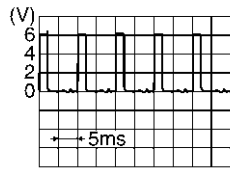
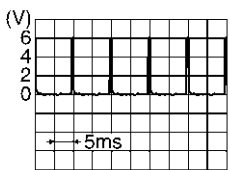
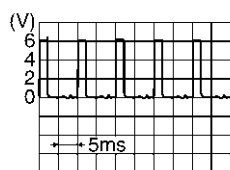
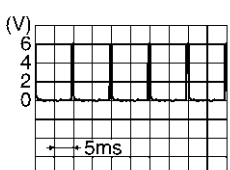
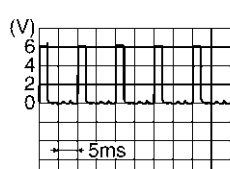

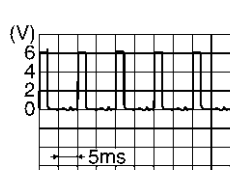


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# DAYTIME LIGHT SYSTEM

## Terminals and Reference Value for BCM

AKS007XM

Terminal No.	Wire color	Signal name	Measuring condition		Reference value
			Ignition switch	Operation or condition	
2	GY	Combination switch input 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5291E</p>
3	L/B	Combination switch input 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5292E</p>
4	PU/W	Combination switch input 3	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5291E</p>
5	Y/R	Combination switch input 2	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5292E</p>
6	SB	Combination switch input 1			
32	GY/R	Combination switch output 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5291E</p>
33	G	Combination switch output 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5292E</p>
34	W/B	Combination switch output 3	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5291E</p>



# DAYTIME LIGHT SYSTEM

Terminal No.	Wire color	Signal name	Measuring condition		Reference value
			Ignition switch	Operation or condition	
35	W/G	Combination switch output 2	ON	Lighting, turn, wiper OFF Wiper dial position 4	
36	W/R	Combination switch output 1			
38	W/L	Ignition switch (ON)	ON	—	Battery voltage
39	L	CAN- H	—	—	—
40	R	CAN- L	—	—	—
42	L/R	Battery power supply	OFF	—	Battery voltage
49	B	Ground	ON	—	Approx. 0V
52	B	Ground	ON	—	Approx. 0V
55	G	Battery power supply	OFF	—	Battery voltage

## How to Proceed With Trouble Diagnosis

AKS007N6

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to [LT-51, "System Description"](#) .
3. Perform the Preliminary Check. Refer to [LT-73, "Preliminary Check"](#) .
4. Check symptom and repair or replace the cause of malfunction.
5. Does the headlamp operate normally? If YES: GO TO 6. If NO: GO TO 4.
6. INSPECTION END

## Preliminary Check

AKS007N7

### INSPECTION FOR POWER SUPPLY AND GROUND CIRCUIT

#### 1. CHECK FUSES

- Check fuses for blown-out.

Unit	Power source	Fuse and fusible link No.
BCM	Battery	M
	Ignition switch ON or START position	22
Daytime light relay	Battery	1
		36

Refer to [LT-68, "Wiring Diagram — DTRL —"](#) .

#### OK or NG

- OK >> GO TO 2.  
 NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to [PG-3, "POWER SUPPLY ROUTING CIRCUIT"](#) .

# DAYTIME LIGHT SYSTEM

## 2. CHECK POWER SUPPLY CIRCUIT

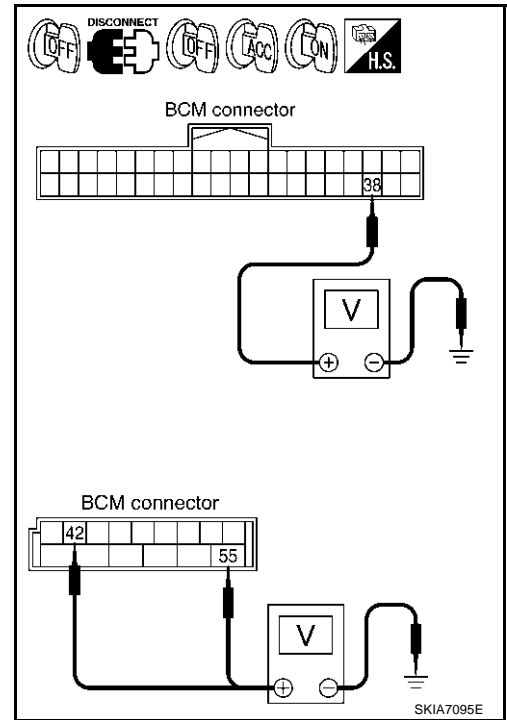
1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check voltage between BCM harness connector and ground.

Terminals		Ignition switch position		
Connector	Terminal (Wire color)	(-)	OFF	ON
			M3	38 (W/L)
M4	42 (L/R)	Battery voltage	Battery voltage	
	55 (G)	Battery voltage	Battery voltage	

OK or NG

OK >> GO TO 3.

NG >> Check harness for open or short between BCM and fuse.



## 3. CHECK GROUND CIRCUIT

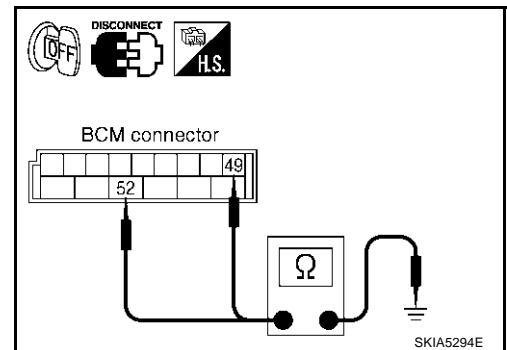
Check continuity between BCM harness connector and ground.

Terminals			Continuity
Connector	Terminal (Wire color)		
M4	49 (B)	Ground	Yes
	52 (B)		

OK or NG

OK >> INSPECTION END

NG >> Check ground circuit harness.



## INSPECTION PARKING BRAKE SWITCH CIRCUIT

### 1. CHECK BRAKE INDICATOR

1. Turn ignition switch ON.
2. When parking brake is made ON/OFF, it checks whether the brake indicator lamp of combination meter lights up/puts out the light.

OK or NG

OK >> INSPECTION END

NG >> GO TO 2.

# DAYTIME LIGHT SYSTEM

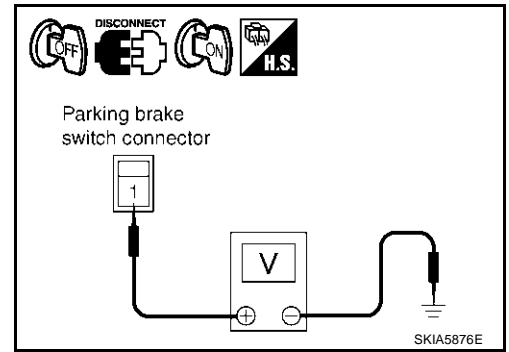
## 2. CHECK PARKING BRAKE SWITCH SIGNAL

1. Turn ignition switch OFF.
2. Disconnect parking brake switch connector.
3. Turn ignition switch ON.
4. Check voltage between parking brake switch harness connector E207 terminal 1 (L) and ground.

**1(L) – Ground : Battery voltage should exist.**

OK or NG

- OK >> Replace parking brake switch.  
 NG >> GO TO 3.



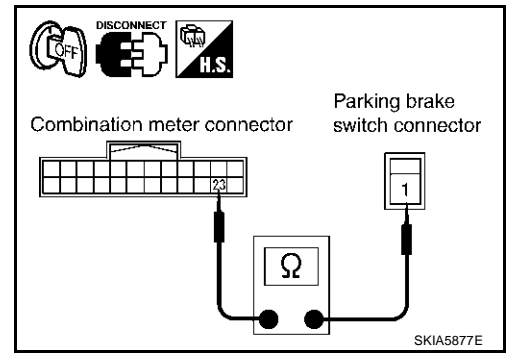
## 3. CHECK PARKING BRAKE SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect combination meter connector.
3. Check continuity between combination meter harness connector M20 terminal 23 (PU/W) and parking brake switch harness connector E207 terminal 1 (L).

**1 (L) – 23(PU/W) : Continuity should exist.**

OK or NG

- OK >> Replace combination meter.  
 NG >> Repair harness or connector.



## CONSULT-II Function

CONSULT-II performs the following functions communicating with BCM.

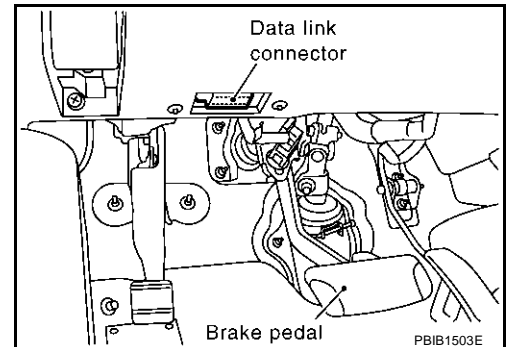
BCM diagnosis part	Check item, diagnosis mode	Description
HEAD LAMP	DATA MONITOR	Displays BCM input data in real time.
	ACTIVE TEST	Operation of electrical loads can be checked by sending drive signal to them.
BCM	CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.

## CONSULT-II BASIC OPERATION

### CAUTION:

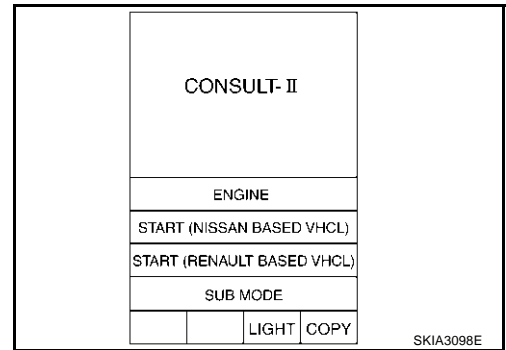
If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN communication.

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

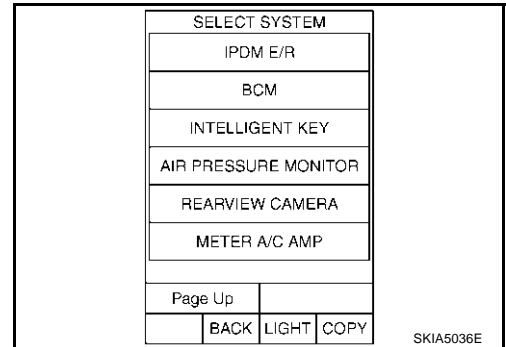


# DAYTIME LIGHT SYSTEM

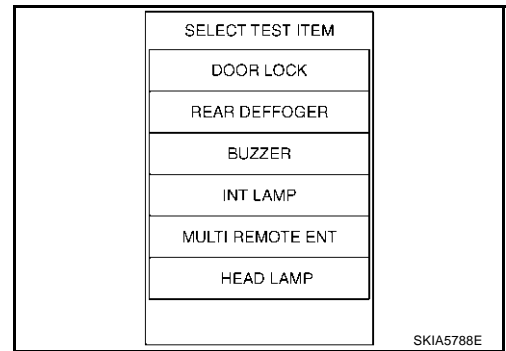
2. Touch "START (NISSAN BASED VHCL)".



3. Touch "BCM" on "SELECT SYSTEM" screen.  
If "BCM" is not indicated, refer to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



4. Touch "HEAD LAMP" on "SELECT TEST ITEM" screen.



## DATA MONITOR

### Operation Procedure

1. Touch "HEAD LAMP" on "SELECT TEST ITEM" screen.
2. Touch "DATA MONITOR" on "SELECT DIAG MODE" screen.
3. Touch either "ALL SIGNALS" or "SELECTION FROM MENU" on the "DATA MONITOR" screen.

All signals	Monitors all the signals.
Selection from menu	Selects and monitors individual signal.

4. Touch "START".
5. When "SELECTION FROM MENU" is selected, touch individual items to be monitored. When "ALL SIGNALS" is selected, all the items will be monitored.
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
IGN ON SW "ON/OFF"	Displays "IGN position (ON)/OFF, ACC position (OFF)" judged from the ignition switch signal.
ACC ON SW "ON/OFF"	Displays "ACC (ON)/OFF, Ignition OFF (OFF)" status judged from ignition switch signal.
HI BEAM SW "ON/OFF"	Displays status (high beam switch: ON/Others: OFF) of high beam switch judged from lighting switch signal.

# DAYTIME LIGHT SYSTEM

Monitor item	Contents
HEAD LAMP SW 1	"ON/OFF" Displays status (headlamp switch 1: ON/Others: OFF) of headlamp switch 2 judged from lighting switch signal.
HEAD LAMP SW 2	"ON/OFF" Displays status (headlamp switch 2: ON/Others: OFF) of headlamp switch 2 judged from lighting switch signal.
LIGHT SW 1 ST	"ON/OFF" Displays status (lighting switch 1st position: ON/Others: OFF) of lighting switch judged from lighting switch signal.
AUTO LIGHT SW <sup>NOTE 1</sup>	"ON/OFF" Displays status of the lighting switch as judged from the lighting switch signal. (AUTO position: ON/Other than AUTO position: OFF)
PASSING SW	"ON/OFF" Displays status (flash-to-pass switch: ON/Others: OFF) of flash-to-pass switch judged from lighting switch signal.
FR FOG SW	"ON/OFF" Displays status (front fog lamp switch: ON/Others: OFF) of front fog lamp switch judged from lighting switch signal.
DOOR SW - DR	"ON/OFF" Displays status of the driver door as judged from the driver door switch signal. (Door is open: ON/Door is closed: OFF)
DOOR SW - AS	"ON/OFF" Displays status of the passenger door as judged from the passenger door switch signal. (Door is open: ON/Door is closed: OFF)
DOOR SW - RR	"ON/OFF" Displays status of the rear door as judged from the rear door switch (RH) signal. (Door is open: ON/Door is closed: OFF)
DOOR SW - RL	"ON/OFF" Displays status of the rear door as judged from the rear door switch (LH) signal. (Door is open: ON/Door is closed: OFF)
BACK DOOR SW	"ON/OFF" Displays status of the back door as judged from the back door switch signal. (Door is open: ON/Door is closed: OFF)
TURN SIGNAL R	"ON/OFF" Displays status (Turn right: ON/Others: OFF) as judged from lighting switch signal.
TURN SIGNAL L	"ON/OFF" Displays status (Turn left: ON/Others: OFF) as judged from lighting switch signal.
ENGINE RUN <sup>NOTE 2</sup>	"ON/OFF" Displays status (Engine running: ON/Others: OFF) as judged from engine status signal.
PKB SW <sup>NOTE 2</sup>	"ON/OFF" Displays status (Parking brake switch: ON/Others: OFF) as judged from parking brake switch signal.
OPTICAL SENSOR <sup>NOTE 1</sup>	[0 - 5V] Displays "ambient light (close to 5V when light/close to 0V when dark)" judged from optical sensor signal.

**NOTE:**

1. Vehicles without auto light system display this item, but cannot monitor it.
2. Vehicles without daytime light system display this item, but cannot monitor it.

## ACTIVE TEST

### Operation Procedure

1. Touch "HEAD LAMP" on "SELECT TEST ITEM" screen.
2. Touch "ACTIVE TEST" on "SELECT DIAG MODE" screen.
3. Touch item to be tested and check operation of the selected item.
4. During the operation check, touching "BACK" deactivates the operation.

### Display Item List

Test item	Description
TAIL LAMP	Allows tail lamp relay to operate by switching ON-OFF.
HEAD LAMP (LOW)	Allows headlamp relay to operate by switching ON-OFF.
HEAD LAMP (HI)	Allows headlamp relay to operate by switching ON-OFF.
FR FOG LAMP	Allows fog lamp relay to operate by switching ON-OFF.
DTRL <sup>NOTE 1</sup>	Allow day time light lamp operate by switching ON-OFF.
CORNERING LAMP <sup>NOTE 2</sup>	—

**NOTE:**

1. Vehicles without daytime light lamp system display this item, but cannot monitor it.
2. This item is displayed, but cannot monitor it.

# DAYTIME LIGHT SYSTEM

AKS007N9

## Daytime Light Control Does Not Operate Properly

### 1. CHECK DAYTIME LIGHT RELAY POWER SUPPLY CIRCUIT

1. Remove daytime light relay.
2. Check voltage between daytime light relay harness connector E15 terminal 2 (BR) and ground.

**2 (BR) – Ground : Battery voltage should exist.**

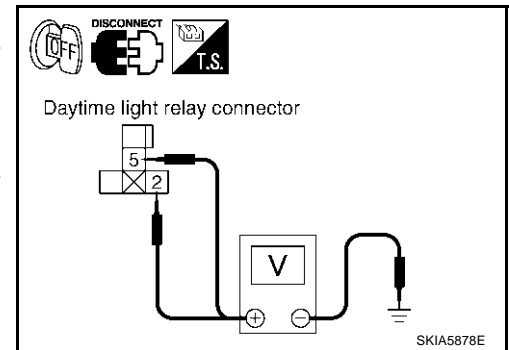
3. Check voltage between daytime light relay harness connector E15 terminal 5 (BR) and ground.

**5 (BR) – Ground : Battery voltage should exist.**

OK or NG

OK >> GO TO 2.

NG >> Repair harness or connector.



### 2. CHECK DAYTIME LIGHT RELAY

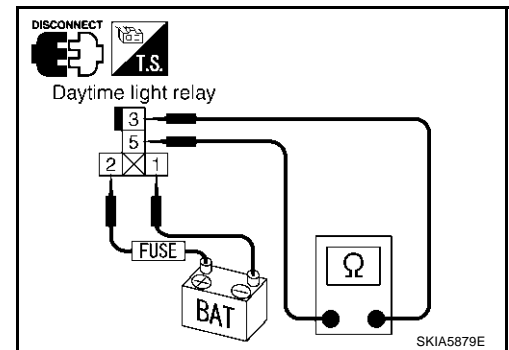
Apply battery voltage between daytime light relay terminal 1 and 2, and check continuity between terminal 3 and 5.

**3 – 5 : Continuity should exist.**

OK or NG

OK >> GO TO 3.

NG >> Replace daytime light relay.



### 3. CHECK DAYTIME LIGHT RELAY CIRCUIT

1. Disconnect clearance lamp RH and LH connector.
2. Check continuity between daytime light relay connector E15 terminal 3 (G) and clearance lamp RH harness connector E23 terminal 1 (G).

**3 (G) – 1 (G) : Continuity should exist.**

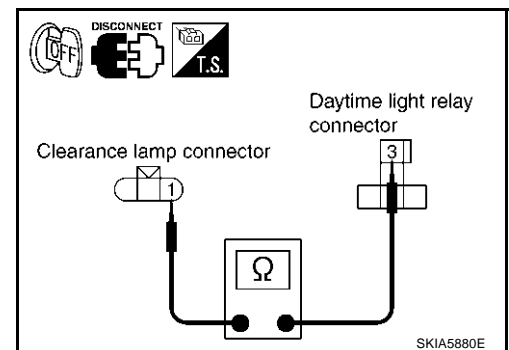
3. Check continuity between daytime light relay connector E15 terminal 3 (G) and clearance lamp LH harness connector E43 terminal 1 (G).

**3 (G) – 1 (G) : Continuity should exist.**

OK or NG

OK >> GO TO 4.

NG >> Repair harness or connector.



# DAYTIME LIGHT SYSTEM

## 4. CHECK GROUND

1. Check continuity between clearance lamp RH harness connector E23 terminal 3 (B) and ground.

**3 (B) – Ground : Continuity should exist.**

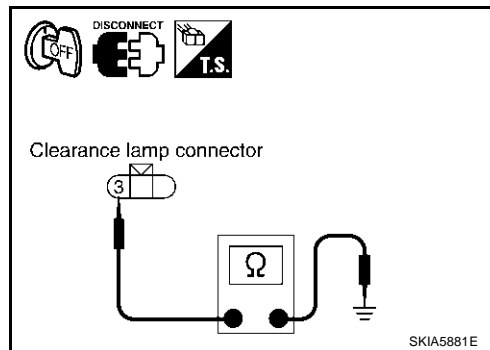
2. Check continuity between clearance lamp LH harness connector E43 terminal 3 (B) and ground.

**3 (B) – Ground : Continuity should exist.**

OK or NG

OK >> GO TO 5.

NG >> Repair harness or connector.



## 5. CHECK BULB

Inspect bulbs of lamp which does not illuminate.

OK or NG

OK >> GO TO 6.

NG >> Replace bulb.

## 6. CHECK DAYTIME RELAY CIRCUIT

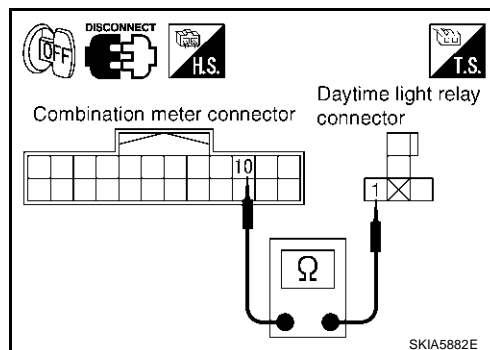
1. Disconnect combination meter connector.
2. Check continuity between daytime lamp relay harness connector E15 terminal 1 (L) and combination meter harness connector M20 terminal 10 (L/W)

**1 (L) – 10 (L/W) : Continuity should exist.**

OK or NG

OK >> GO TO 7.

NG >> Repair harness or connector.



## 7. CHECK INPUT SIGNAL

1. Connect combination meter connector.
2. Start engine running.
3. Select "BCM" on CONSULT-II. With "HEAD LAMP" data monitor, make sure "ENGINE RUN" turns ON-OFF linked with operation of engine running or stop.

**Engine running : ENGINE RUN ON**

**Engine stop : ENGINE RUN OFF**

4. Select "BCM" on CONSULT-II. With "HEAD LAMP" data monitor, make sure "PKB SW" turns ON-OFF linked with operation of parking brake switch.

**Parking brake ON : PKR SW ON**

**Parking brake OFF : PKR SW OFF**

OK or NG

OK >> Replace BCM.

NG >> GO TO 8.

DATA MONITOR	
MONITOR	
ENGINE RUN	ON
PKB SW	ON

SKIA5883E

# DAYTIME LIGHT SYSTEM

## 8. CHECKING CAN COMMUNICATIONS

Select "BCM" on CONSULT-II, and perform self-diagnosis for "BCM".

### Displayed self-diagnosis results

NO DTC>> Replace BCM.

CAN COMM CIRCUIT>> Check BCM CAN communication system.

Refer to [BCS-27, "CAN Communication Inspection Using CONSULT-II \(Self-Diagnosis\)"](#) .

SELF-DIAG RESULTS			
DTC RESULTS		TIME	
CAN COMM CIRCUIT [U1000]		PAST	
ERASE		PRINT	
MODE	BACK	LIGHT	COPY

SKIA1039E

### **Aiming Adjustment**

AKS007NA

Refer to [LT-47, "Aiming Adjustment"](#) in "HEAD LAMP -XENON TYPE-".

### **Bulb Replacement**

AKS007NB

Refer to [LT-48, "Bulb Replacement"](#) in "HEAD LAMP -XENON TYPE-".

### **Removal and Installation**

AKS007NC

Refer to [LT-49, "Removal and Installation"](#) in "HEAD LAMP -XENON TYPE-".

### **Disassembly and Assembly**

AKS007ND

Refer to [LT-50, "Disassembly and Assembly"](#) in "HEAD LAMP -XENON TYPE-".



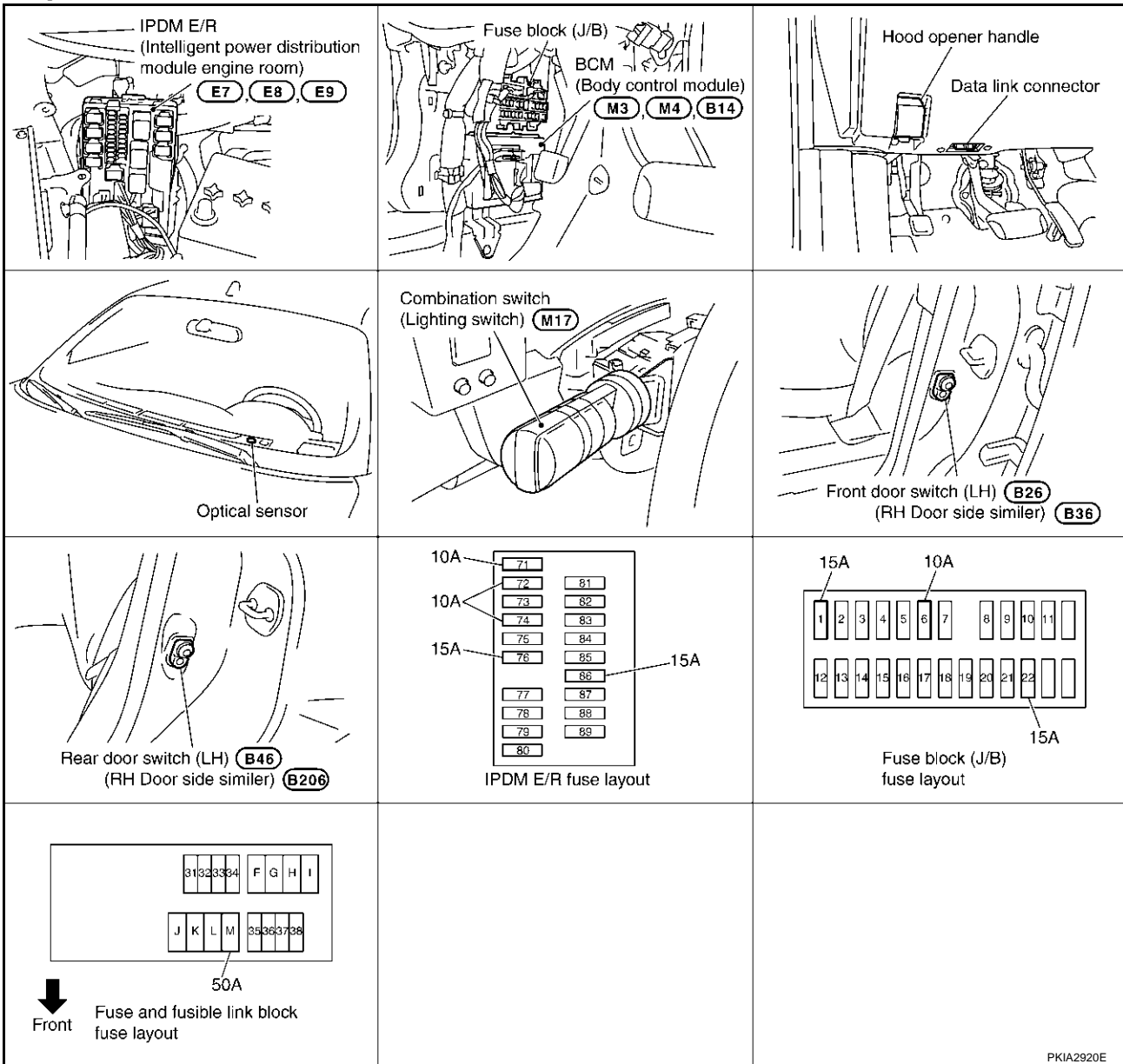
# AUTO LIGHT SYSTEM

## AUTO LIGHT SYSTEM

PF28491

### Component Parts and Harness Connector Location

AKS007ER



PKIA2920E

## System Description

AKS007ES

Automatically turns on/off the parking lamps and the headlamps in accordance with ambient light. Timing for when the lamps turn on/off can be selected using four modes.

### OUTLINE

The auto light control system has an optical sensor inside it that detects outside brightness. When the lighting switch is in "AUTO" position, it automatically turns on/off the parking lamps and the headlamps in accordance with the ambient light. Sensitivity can be adjusted in four steps. For the details of the setting, refer to [LT-104, "SETTING CHANGE FUNCTIONS"](#).

Optical sensor, power is supplied

- from BCM (body control module) terminal 17
- to optical sensor terminal 1.

Optical sensor, ground is supplied

- from BCM (body control module) terminal 18
- to optical sensor terminal 3.

When ignition switch is turn to "ON" position, and

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# AUTO LIGHT SYSTEM

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When outside brightness is darker than prescribed level, input is supplied

- to BCM (body control module) terminal 14
- from optical sensor terminal 2.

The headlamps will then illuminate. For a description of headlamp operation, refer to [LT-81, "System Description"](#).

## COMBINATION SWITCH READING FUNCTION

Refer to [BCS-3, "COMBINATION SWITCH READING FUNCTION"](#).

## EXTERIOR LAMP BATTERY SAVER CONTROL

When the combination switch (lighting switch) is in the AUTO position, and the ignition switch is turned from ON or ACC to OFF, and one of the front door is opened, the battery saver control feature is activated. Under this condition, the headlamp remain illuminated for 5 minutes, then the headlamp are turned off. Exterior lamp battery saver control mode can be changed by the function setting of CONSULT-II.

## DELAY TIMER FUNCTION

When ignition switch ON and ACC are OFF while auto light switch is ON, BCM turn on/off headlamp. In delay timer function, auto timer sensor power source is OFF and BCM is not turned on/off by auto sensor signal. On condition that:

- when the states ignition switch ON or ACC is ON and output judgment by auto light function is headlamp ON turn to ignition switch ON or ACC are OFF and front door switch (driver side), front door switch (passenger side) is ON, output judgment by auto light function should be headlamp ON for 5 minutes by timer. After time out, output judgment by auto light function should be headlamp OFF.
- when the state is front door switch (driver side), front door switch (passenger side), rear door switch LH, rear door switch RH or back door switch is turned to ON from OFF 45 seconds or 5 minutes while timer is counting, timer stops, and re-start counting for 5 minutes, then auto light function judges output as headlamp ON. After time out, auto light function judges output as headlamp OFF.
- when the states front door switch (driver side), front door switch (passenger side), rear door switch LH, rear door switch RH or back door switch is ON turns to front door switch (driver side), front door switch (passenger side), rear door switch LH, rear door switch RH or back door switch are OFF 45 seconds or 5 minutes while is counting, Timer stops, and re-start counting for 45 seconds, then auto light function judges output as head lamp ON. After timer out, auto light function judges output as head lamp OFF.
- when the state is ignition switch ON or ACC is ON or auto light switch OFF while timer is counting, timer stops counting and BCM turns on/off lamps according to headlamp function, front fog lamp function, auto light function and headlamp battery save function.

Delay timer control mode can be changed by the function setting of CONSULT-II.

## CAN Communication System Description

AKS007ET

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

# AUTO LIGHT SYSTEM

## CAN Communication Unit

AKS0080U

Body type	Wagon					
	2WD			AWD		
Axle	VQ35DE			VQ35DE/VK45DE		
Engine	VQ35DE			VQ35DE/VK45DE		
Transmission	A/T					
Brake control	VDC					
Navigation system			×			×
Low tire pressure warning system			×			×
ICC system			×			×
Intelligent Key system			×			×
Automatic drive positioner		×	×		×	×
CAN communication unit						
ECM	×	×	×	×	×	×
TCM	×	×	×	×	×	×
Display unit	×	×		×	×	
Display control unit			×			×
Low tire pressure warning control unit			×			×
AWD control unit				×	×	×
ICC unit			×			×
Intelligent Key unit			×			×
Data link connector	×	×	×	×	×	×
BCM	×	×	×	×	×	×
Steering angle sensor	×	×	×	×	×	×
Unified meter and A/C amp.	×	×	×	×	×	×
ICC sensor			×			×
ABS actuator and electric unit (control unit)	×	×	×	×	×	×
Driver seat control unit		×	×		×	×
IPDM E/R	×	×	×	×	×	×
CAN communication type	<u>LT-84. "TYPE 1/TYPE2"</u>		<u>LT-87. "TYPE 3"</u>	<u>LT-90. "TYPE 4/TYPE5"</u>		<u>LT-93. "TYPE 6"</u>

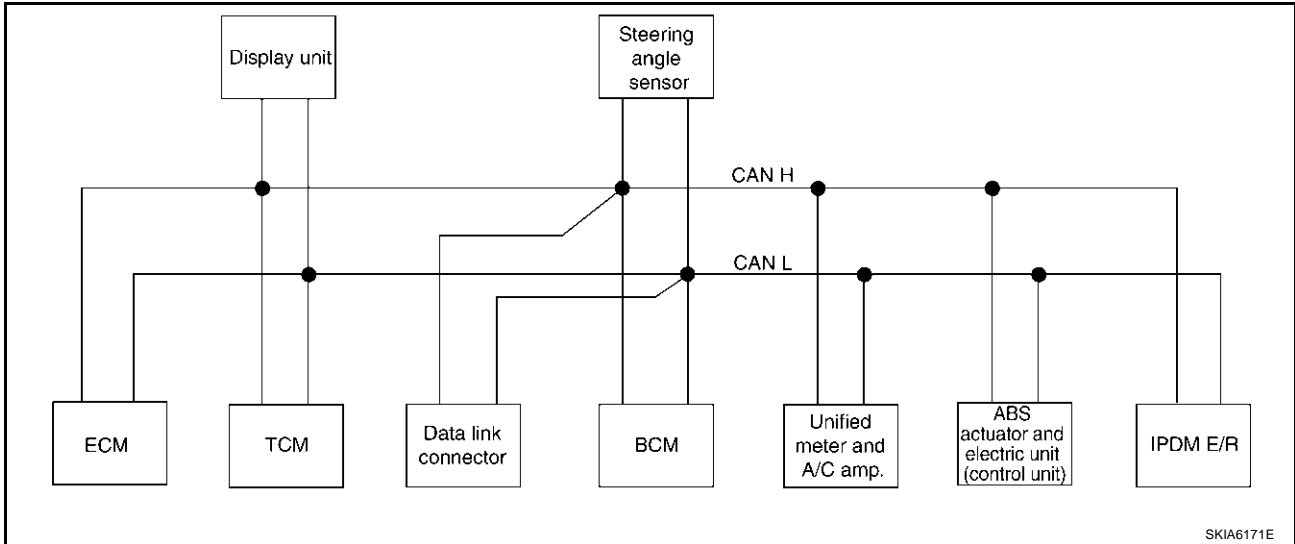
×: Applicable

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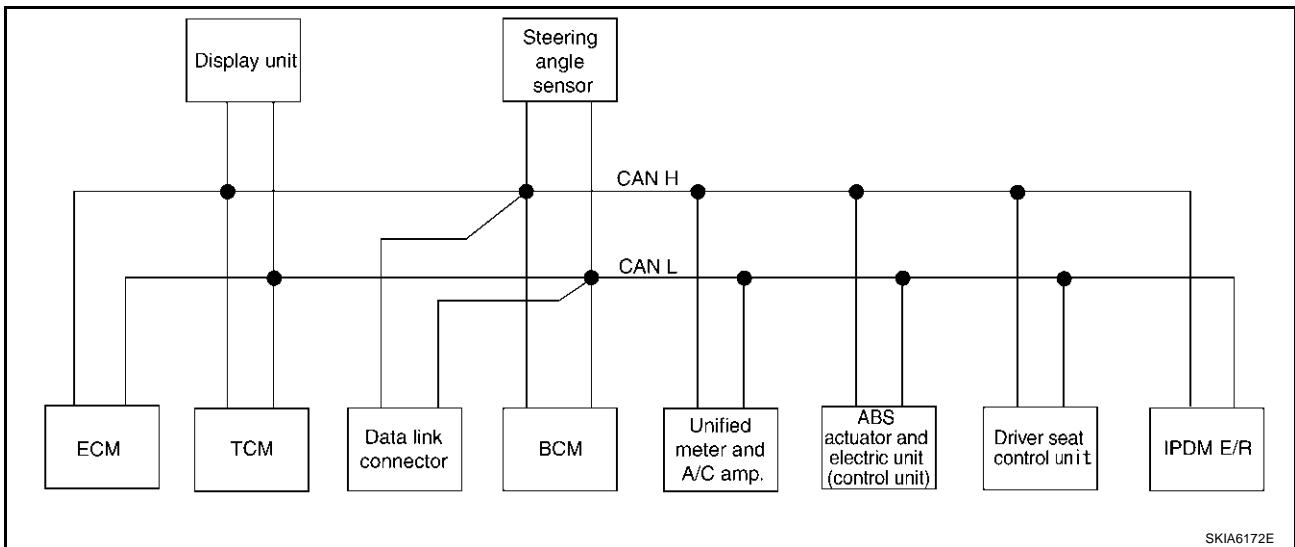
# AUTO LIGHT SYSTEM

## TYPE 1/TYPE2 System Diagram

- Type1



- Type2



### Input/output Signal chart

T: Transmit R: Receive

Signals	ECM	TCM	Display unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Engine speed signal	T	R	R			R	R		
Engine status signal	T			R					
Engine coolant temperature signal	T	R				R			
A/T self-diagnosis signal	R	T							
Accelerator pedal position signal	T	R					R		
Closed throttle position signal	T	R							
Wide open throttle position signal	T	R							

# AUTO LIGHT SYSTEM

Signals	ECM	TCM	Display unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Battery voltage signal	T	R							
Key switch signal				T				R	
Ignition switch signal				T				R	R
P range signal		T					R	R	
Stop lamp switch signal		R				T			
ABS operation signal	R						T		
TCS operation signal	R						T		
VDC operation signal	R						T		
Fuel consumption monitor signal	T		R			R			
Input shaft revolution signal	R	T							
Output shaft revolution signal	R	T							
A/C switch signal	R			T					
A/C compressor request signal	T								R
A/C relay status signal	R								T
A/C compressor feedback signal	T					R			
Blower fan motor switch signal	R			T					
A/C control signal			T			R			
			R			T			
Cooling fan speed request signal	T								R
Cooling fan speed signal	R								T
Position light request signal			R	T		R			R
Low beam request signal				T					R
Low beam status signal	R								T
High beam request signal				T		R			R
High beam status signal	R								T
Front fog light request signal				T					R
Day time running light request signal				T		R			
Turn LED burnout status signal				R		T			
Vehicle speed signal						R	T		
	R	R	R	R		T		R	
Sleep wake up signal				T		R		R	R
Door switch signal			R	T		R		R	R
Turn indicator signal				T		R			
Key fob ID signal				T				R	
Key fob door unlock signal				T				R	
Oil pressure switch signal				R					T
				T		R			
Buzzer output signal				T		R			
Fuel level sensor signal	R					T			
Fuel level low warning signal			R			T			

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# AUTO LIGHT SYSTEM

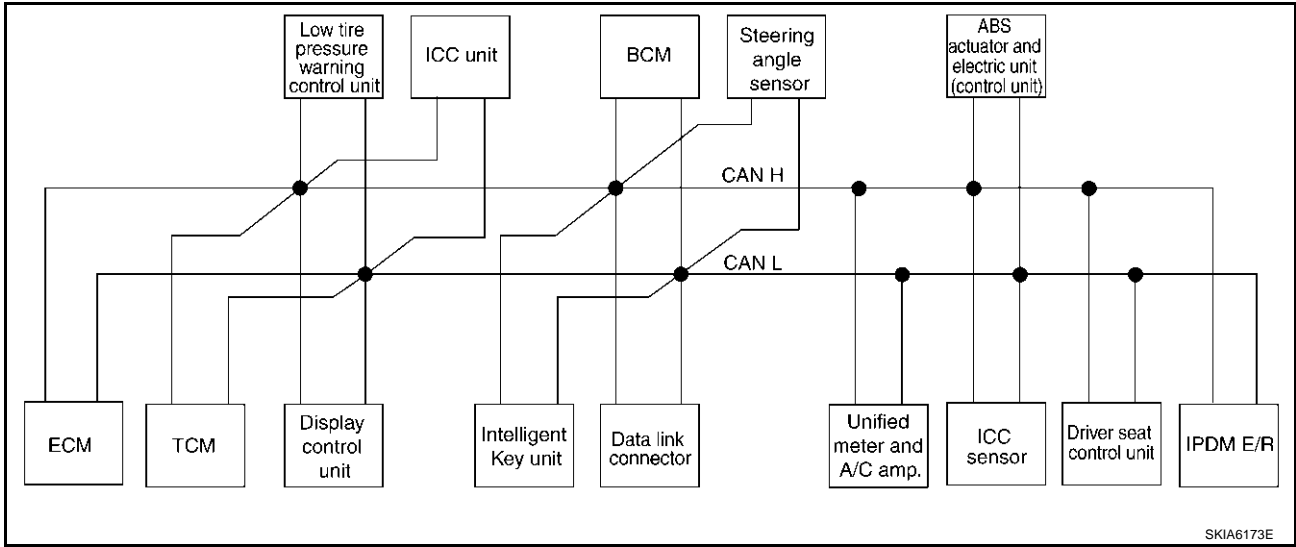
Signals	ECM	TCM	Display unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
ASCD operation signal	T	R							
ASCD OD cancel request	T	R							
Front wiper request signal				T					R
Front wiper stop position signal				R					T
Rear window defogger switch signal				T					R
Rear window defogger control signal	R		R	R					T
Hood switch signal				R					T
Theft warning horn request signal				T					R
Horn chirp signal				T					R
Steering angle sensor signal					T		R		
ABS warning lamp signal						R	T		
VDC OFF indicator lamp signal						R	T		
SLIP indicator lamp signal						R	T		
Brake warning lamp signal						R	T		
System setting signal			T	R				R	
A/T CHECK indicator lamp signal		T				R			
A/T position indicator lamp signal		T				R			
A/T shift schedule change demand signal		R					T		
Manual mode signal		R				T			
Not manual mode signal		R				T			
Manual mode shift up signal		R				T			
Manual mode shift down signal		R				T			
Manual mode indicator signal		T				R			
Distance to empty signal			R			T			
Hand brake switch				R		T			

# AUTO LIGHT SYSTEM

## TYPE 3

### System Diagram

- Type3



### Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Engine speed signal	T	R	R		R				R		R		
Engine status signal	T						R						
Engine coolant temperature signal	T	R			R				R				
A/T self-diagnosis signal	R	T											
Accelerator pedal position signal	T	R			R						R		
Closed throttle position signal	T	R			R								
Wide open throttle position signal	T	R											
Battery voltage signal	T	R											
Key switch signal							T					R	
Ignition switch signal							T					R	R
P range signal		T			R						R	R	
Stop lamp switch signal		R							T				
ABS operation signal	R				R						T		
TCS operation signal	R				R						T		
VDC operation signal	R				R						T		
Fuel consumption monitor signal	T		R						R				

# AUTO LIGHT SYSTEM

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Input shaft revolution signal	R	T			R								
Output shaft revolution signal	R	T			R								
A/C switch signal	R						T						
A/C compressor request signal	T												R
A/C relay status signal	R												T
A/C compressor feedback signal	T								R				
Blower fan motor switch signal	R						T						
A/C control signal			T						R				
			R						T				
Cooling fan speed signal	R												T
Position light request signal	R						T		R				R
Low beam request signal							T						R
Low beam status signal	R												T
High beam request signal							T		R				R
High beam status signal	R												T
Front fog light request signal							T						R
Day time running light request signal							T		R				
Turn LED burnout status signal							R		T				
Vehicle speed signal					R				R		T		
	R	R	R	R		R	R		T	R		R	
Sleep wake up signal							T		R			R	R
						T	R						
Door switch signal			R			R	T		R			R	R
Turn indicator signal							T		R				
Key fob ID signal							T					R	
Key fob door unlock signal							T					R	
Oil pressure switch signal							R						T
							T		R				
Buzzer output signal							T		R				
						T			R				
					T				R				



# AUTO LIGHT SYSTEM

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Fuel level sensor signal	R								T				
Fuel level low warning signal			R						T				
ICC operation signal	R				T								
Front wiper request signal					R		T						R
Front wiper stop position signal							R						T
Rear window defogger switch signal							T						R
Rear window defogger control signal	R		R				R						T
Hood switch signal							R						T
Theft warning horn request signal							T						R
Horn chirp signal							T						R
Steering angle sensor signal								T			R		
Tire pressure signal				T					R				
Tire pressure data signal			R	T									
ABS warning lamp signal					R				R		T		
VDC OFF indicator lamp signal					R				R		T		
SLIP indicator lamp signal									R		T		
Brake warning lamp signal									R		T		
System setting signal			T			R						R	
Distance to empty signal			R						T				
Hand brake switch signal							R		T				
Door lock/unlock request signal						T	R						
Door lock/unlock status signal						R	T						
Starter permission signal						T	R						
Back door open request signal						T	R						
Power window open request signal						T	R						
Alarm request signal						T	R						
Key warning signal						T			R				
ICC sensor signal					R					T			
ICC warning lamp signal					T				R				

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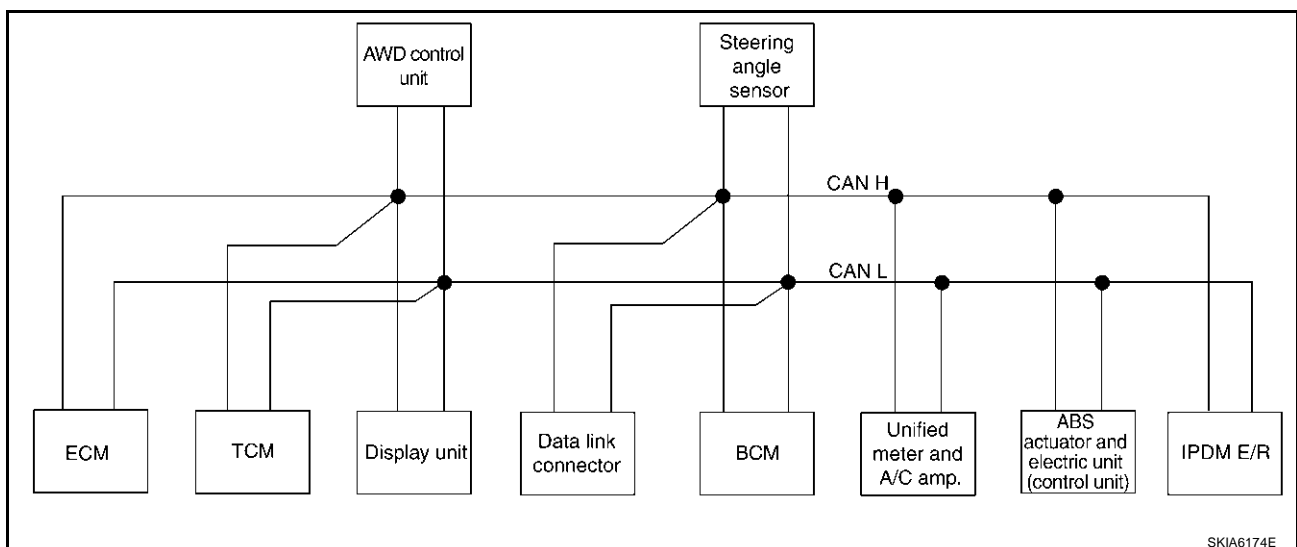
# AUTO LIGHT SYSTEM

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
ICC system display signal					T				R				
Current gear position signal		T			R						R		
Steering switch signal	T				R								
ASCD operation signal	T	R											
ASCD OD cancel request	T	R											
ICC OD cancel request	R	R			T								
A/T CHECK indicator lamp signal		T							R				
A/T position indicator lamp signal		T							R				
A/T shift schedule change demand signal		R									T		
Manual mode signal		R							T				
Not manual mode signal		R							T				
Manual mode shift up signal		R							T				
Manual mode shift down signal		R							T				
Manual mode indicator signal		T			R				R				
Ignition knob switch signal						T	R						

## TYPE 4/TYPE5

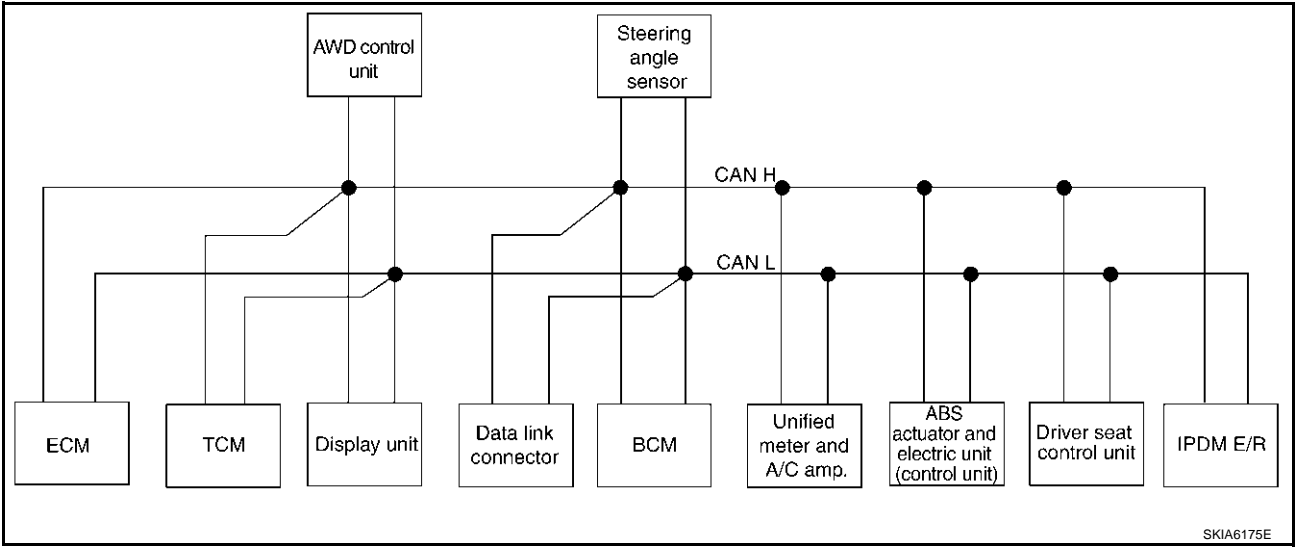
### System Diagram

- Type4



# AUTO LIGHT SYSTEM

● Type5



**Input/output Signal Chart**

T: Transmit R: Receive

Signals	ECM	TCM	Display unit	AWD control unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
A/T self-diagnosis signal	R	T								
ABS operation signal	R			R				T		
TCS operation signal	R							T		
VDC operation signal	R			R				T		
Stop lamp switch signal		R		R			T			
Battery voltage signal	T	R								
Key switch signal					T				R	
Ignition switch signal					T				R	R
P range signal		T						R	R	
Closed throttle position signal	T	R								
Wide open throttle position signal	T	R								
Engine speed signal	T	R	R	R			R	R		
Engine status signal	T				R					
Engine coolant temperature signal	T	R					R			
Accelerator pedal position signal	T	R		R				R		
Fuel consumption monitor signal	T		R				R			
Input shaft revolution signal	R	T								
Output shaft revolution signal	R	T								
A/C switch signal	R				T					
A/C compressor request signal	T									R
A/C relay status signal	R									T
A/C compressor feedback signal	T						R			

# AUTO LIGHT SYSTEM

Signals	ECM	TCM	Display unit	AWD control unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Blower fan motor switch signal	R				T					
A/C control signal			T				R			
			R				T			
Cooling fan speed signal	R									T
Position light request signal			R		T		R			R
Low beam request signal					T					R
Low beam status signal	R									T
High beam request signal					T		R			R
High beam status signal	R									T
Front fog light request signal					T					R
Day time running light request signal					T		R			
Turn LED burnout status signal					R		T			
Vehicle speed signal							R	T		
	R	R	R		R		T		R	
Sleep wake up signal					T		R		R	R
Door switch signal			R		T		R		R	R
Turn indicator signal					T		R			
Key fob ID signal					T				R	
Key fob door unlock signal					T				R	
Oil pressure switch signal					R					T
					T		R			
Buzzer output signal					T		R			
Fuel level sensor signal	R						T			
Fuel level low warning signal			R				T			
Front wiper request signal					T					R
Front wiper stop position signal					R					T
Rear window defogger switch signal					T					R
Rear window defogger control signal	R		R		R					T
Hood switch signal					R					T
Theft warning horn request signal					T					R
Horn chirp signal					T					R
Steering angle sensor signal						T		R		
ABS warning lamp signal							R	T		
VDC OFF indicator lamp signal							R	T		
SLIP indicator lamp signal							R	T		
Brake warning lamp signal							R	T		
System setting signal			T		R				R	
AWD warning lamp signal				T			R			

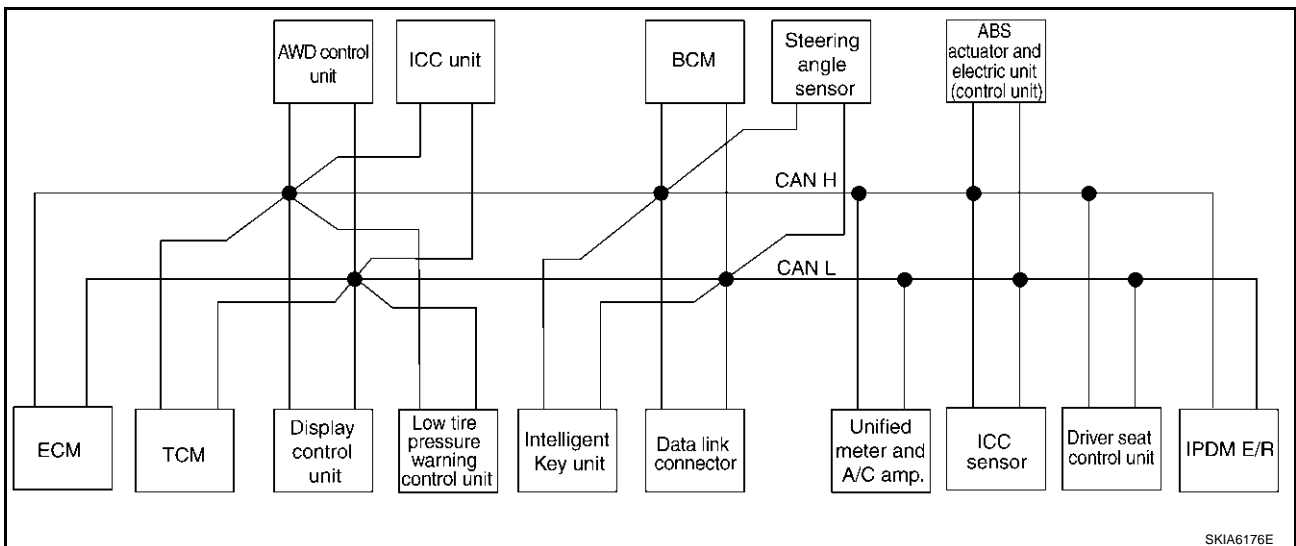
# AUTO LIGHT SYSTEM

Signals	ECM	TCM	Display unit	AWD control unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
AWD lock indicator lamp signal				T			R			
Distance to empty signal			R				T			
Hand brake switch signal				R	R		T			
ASCD operation signal	T	R								
ASCD OD cancel request	T	R								
A/T CHECK indicator lamp signal		T					R			
A/T position indicator lamp signal		T					R			
A/T shift schedule change demand signal		R						T		
Manual mode signal		R					T			
Not manual mode signal		R					T			
Manual mode shift up signal		R					T			
Manual mode shift down signal		R					T			
Manual mode indicator signal		T					R			

## TYPE 6

### System Diagram

- Type6



# AUTO LIGHT SYSTEM

## Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	AWD control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPD M E/R
A/T self-diagnosis signal	R	T												
ABS operation signal	R				R	R						T		
TCS operation signal	R					R						T		
VDC operation signal	R				R	R					R	T		
Stop lamp switch signal		R			R					T				
Battery voltage signal	T	R												
Key switch signal								T					R	
Ignition switch signal								T					R	R
P range signal		T				R						R	R	
Closed throttle position signal	T	R				R								
Wide open throttle position signal	T	R												
Engine speed signal	T	R	R		R	R				R		R		
Engine status signal	T							R						
Engine coolant temperature signal	T	R				R				R				
Accelerator pedal position signal	T	R			R	R						R		
Fuel consumption monitor signal	T		R							R				
A/T self-diagnosis signal	R	T												
Input shaft revolution signal	R	T				R								
Output shaft revolution signal	R	T				R								
A/C switch signal	R							T						
A/C compressor request signal	T													R
A/C relay status signal	R													T
A/C compressor feedback signal	T									R				
Blower fan motor switch signal	R							T						
A/C control signal			T							R				
			R							T				
Cooling fan speed signal	R													T
Position light request signal			R					T		R				R
Low beam request signal								T						R
Low beam status signal	R													T
High beam request signal								T		R				R

# AUTO LIGHT SYSTEM

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	AWD control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPD M E/ R
High beam status signal	R													T
Front fog light request signal								T						R
Day time running light request signal								T		R				
Turn LED burnout status signal								R		T				
Vehicle speed signal						R				R		T		
	R	R	R	R			R	R		T	R		R	
Sleep wake up signal								T		R			R	R
							T	R						
Door switch signal			R				R	T		R			R	R
Key fob ID signal								T					R	
Key fob door unlock signal								T					R	
Oil pressure switch signal								R						T
								T		R				
Buzzer output signal							T			R				
						T				R				
Fuel level sensor signal	R									T				
Fuel level low warning signal			R							T				
ICC operation signal	R					T								
Front wiper request signal						R		T						R
Front wiper stop position signal								R						T
Rear window defogger switch signal								T						R
Rear window defogger control signal	R		R					R						T
Hood switch signal								R						T
Theft warning horn request signal								T						R
Horn chirp signal								T						R
Steering angle sensor signal									T			R		
Tire pressure signal				T						R				
Tire pressure data signal			R	T										
ABS warning lamp signal						R				R		T		
VDC OFF indicator lamp signal						R				R		T		
SLIP indicator lamp signal										R		T		

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# AUTO LIGHT SYSTEM

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	AWD control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPD M E/R
Brake warning lamp signal										R		T		
System setting signal			T				R						R	
AWD warning lamp signal					T					R				
AWD lock indicator lamp signal					T					R				
Distance to empty signal			R							T				
Hand brake switch signal					R			R		T				
Door lock/unlock request signal							T	R						
Door lock/unlock status signal							R	T						
Starter permission signal							T	R						
Back door open request signal							T	R						
Power window open request signal							T	R						
Alarm request signal							T	R						
Key warning signal							T			R				
ICC sensor signal						R					T			
ICC warning lamp signal						T				R				
ICC system display signal						T				R				
Current gear position signal		T				R						R		
Steering switch signal	T					R								
ASCD operation signal	T	R												
ASCD OD cancel request	T	R												
ICC OD cancel request	R	R				T								
A/T CHECK indicator lamp signal		T								R				
A/T position indicator lamp signal		T								R				
A/T shift schedule change demand signal		R										T		
Manual mode signal		R								T				
Not manual mode signal		R								T				
Manual mode shift up signal		R								T				
Manual mode shift down signal		R								T				
Manual mode indicator signal		T								R				
Ignition knob switch signal							T	R						



# AUTO LIGHT SYSTEM

## Major Components and Functions

AKS007EV

Components	Functions
BCM	<ul style="list-style-type: none"><li>● Turns on/off circuits of tail light and headlamp according to signals from light sensor, lighting switch (AUTO), driver door switch, passenger door switch, rear door switch, and ignition switch (ON, OFF).</li></ul>
Optical sensor	<ul style="list-style-type: none"><li>● Converts ambient light (lux) to voltage, and sends it to BCM. (Detects lightness of 50 to 1,300 lux)</li></ul>

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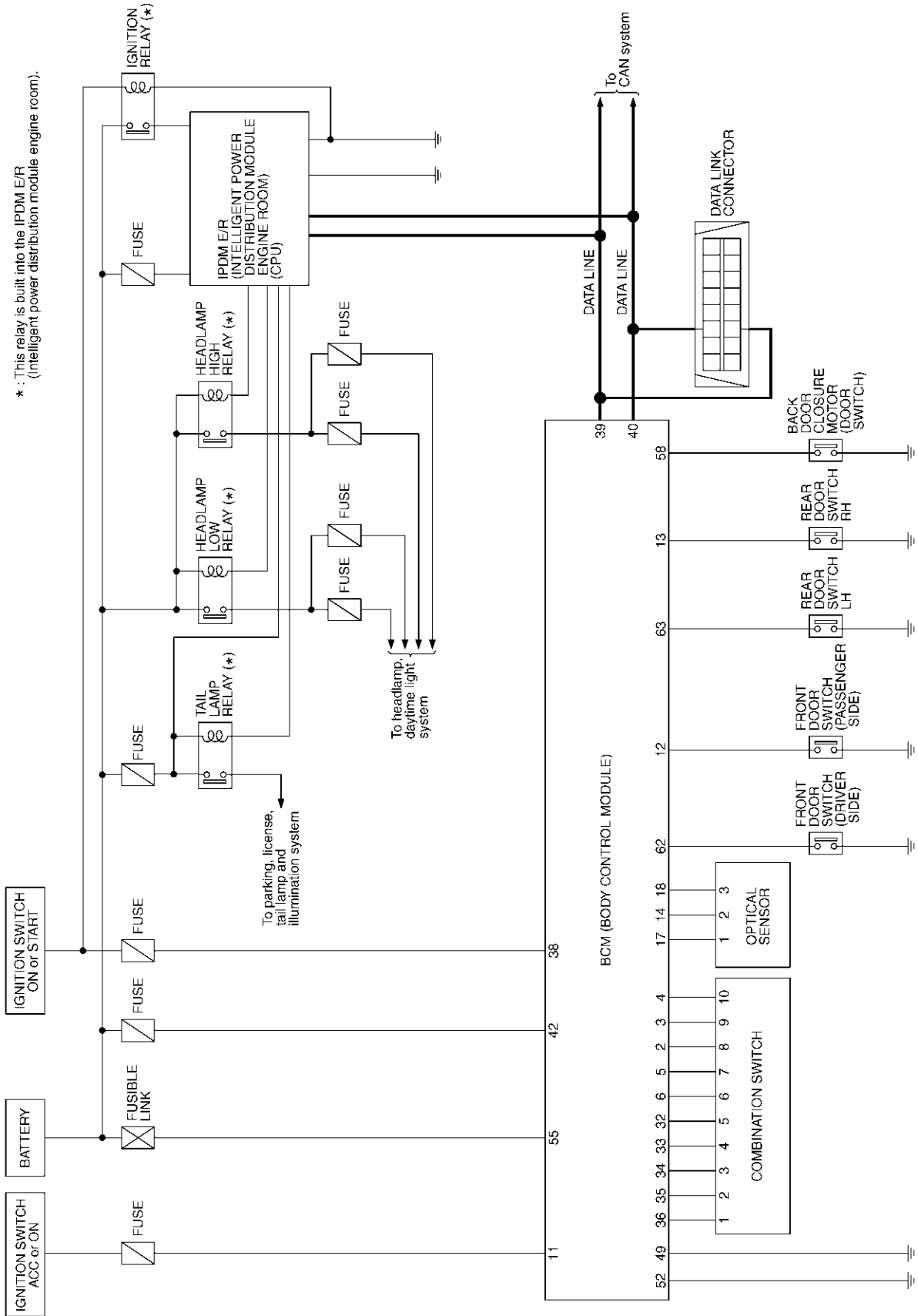
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# AUTO LIGHT SYSTEM

## Schematic

AKS007EW



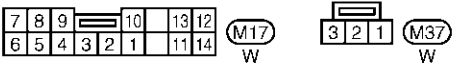
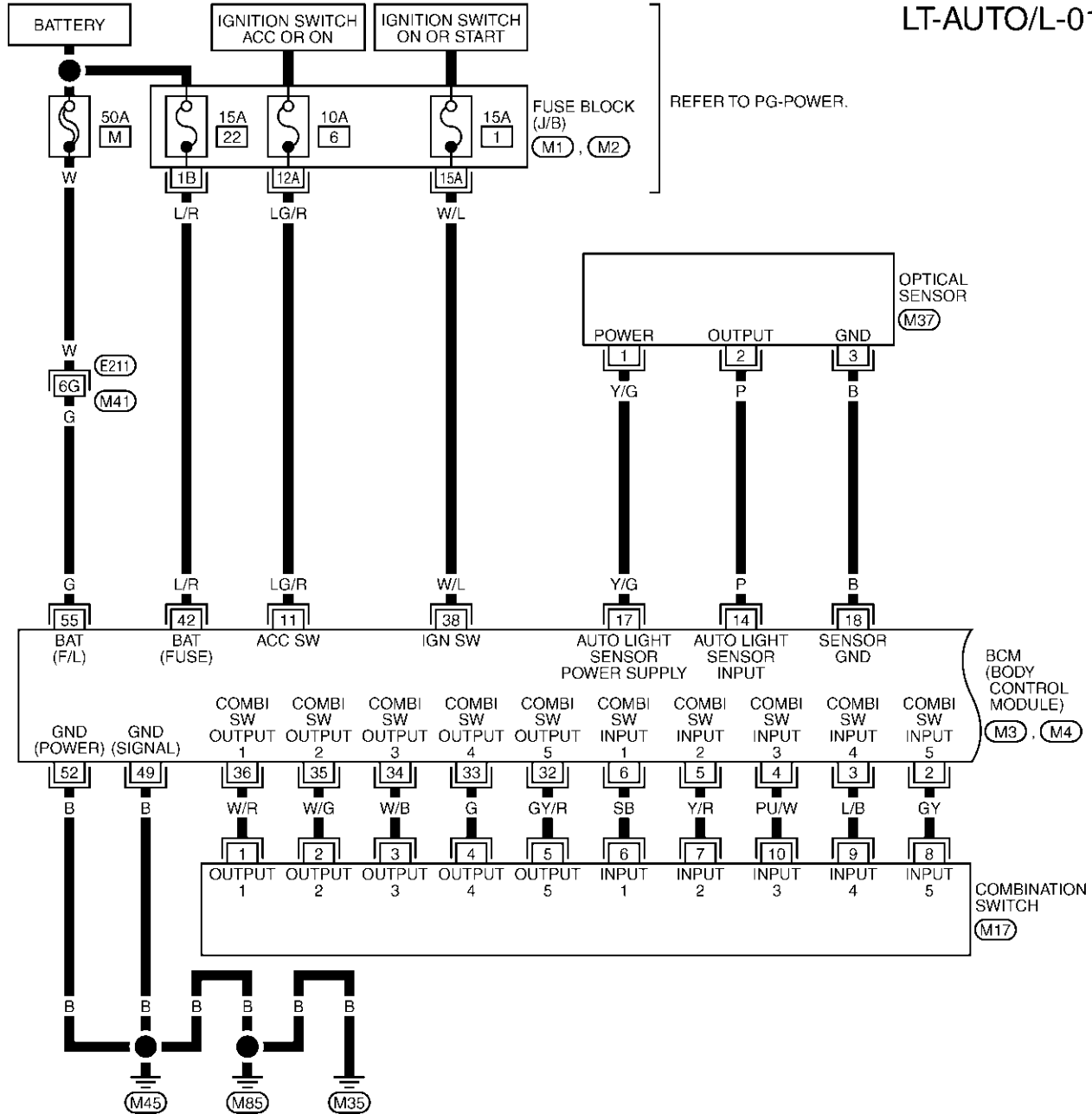
TKWM0611E

# AUTO LIGHT SYSTEM

## Wiring Diagram — AUTO/L —

AKS007EX

LT-AUTO/L-01



REFER TO THE FOLLOWING.

- (E21) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1) , (M2) -FUSE BLOCK-JUNCTION BOX (J/B)
- (M3) , (M4) -ELECTRICAL UNITS

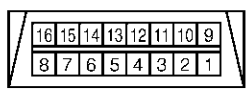
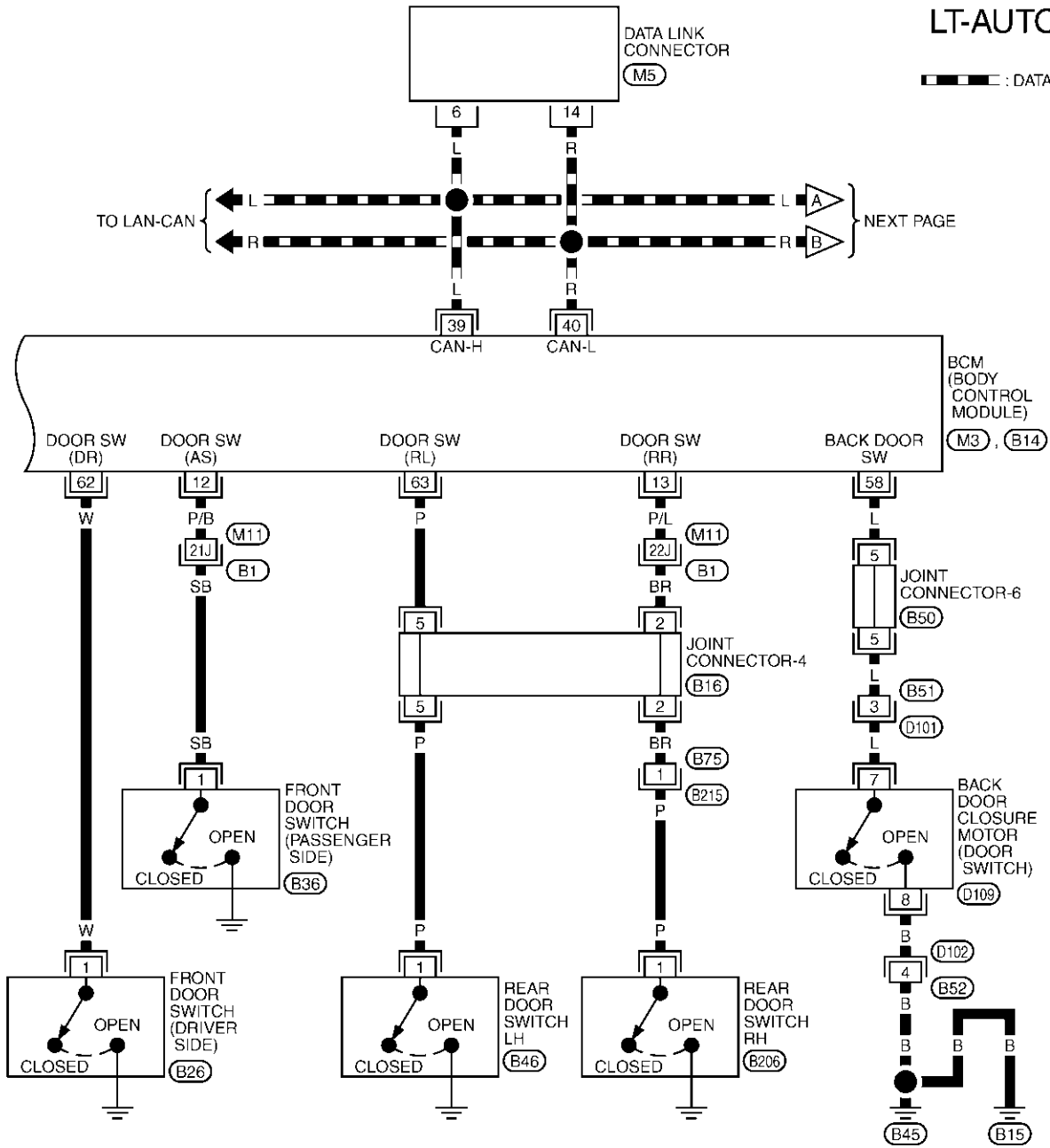
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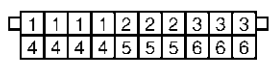
# AUTO LIGHT SYSTEM

LT-AUTO/L-02

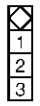
▬ : DATA LINE



(M5)  
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(B16)  
OR

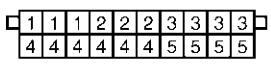


(B26)  
W

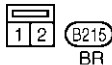
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W

(B46)  
W

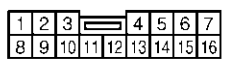
(B206)  
W



(B50)  
B



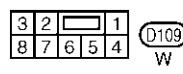
(B215)  
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(D101)  
W



(D102)  
W



(D109)  
W

REFER TO THE FOLLOWING.

(B1) -SUPER MULTIPLE JUNCTION (SMJ)

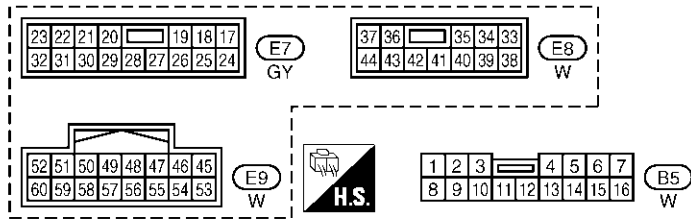
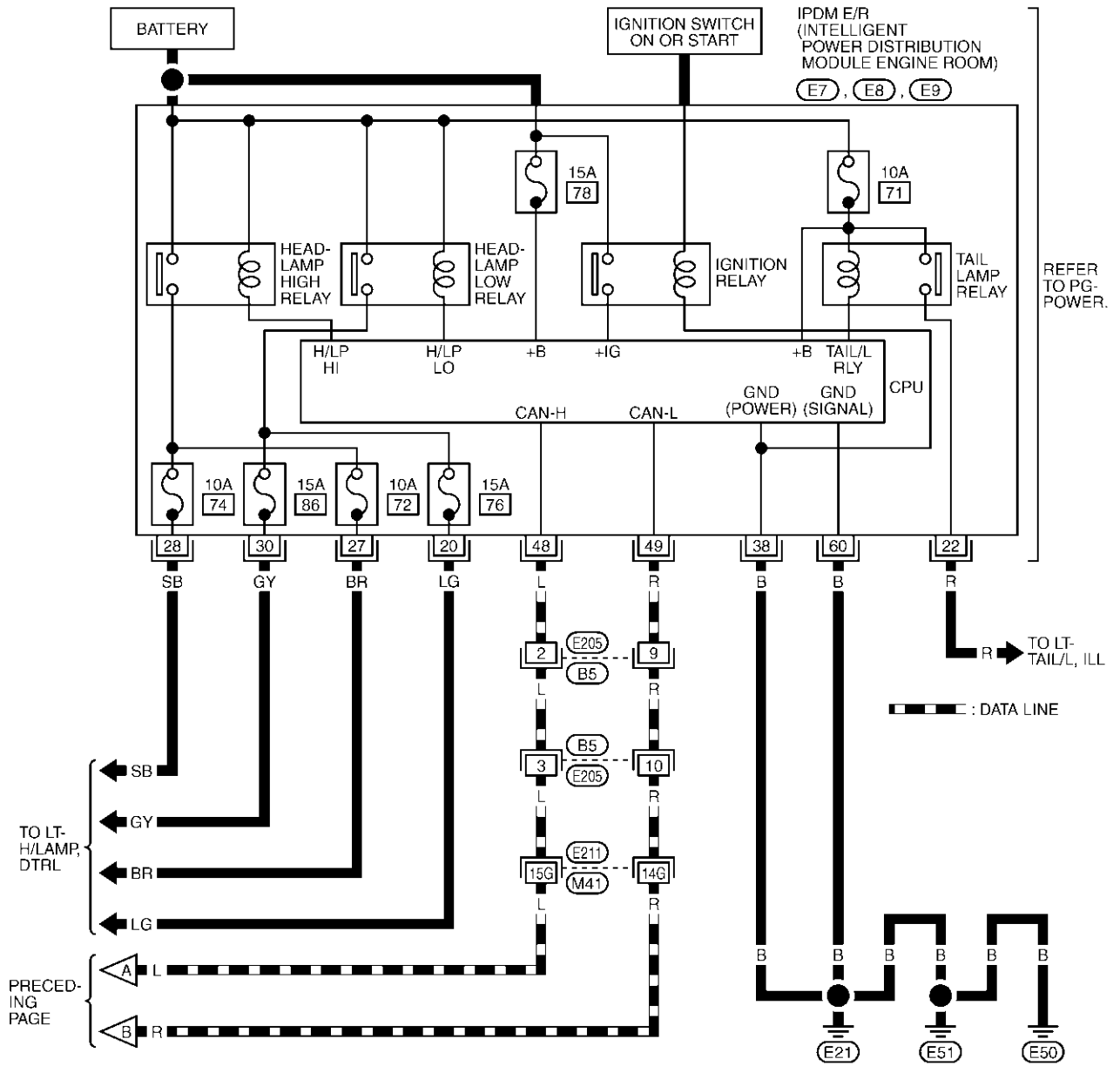
(M3), (B14) -ELECTRICAL UNITS

TKWM1257E

# AUTO LIGHT SYSTEM

LT-AUTO/L-03

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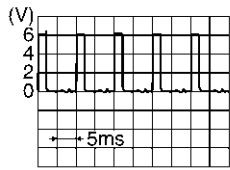
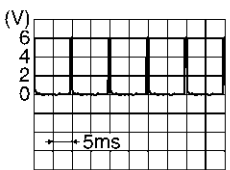
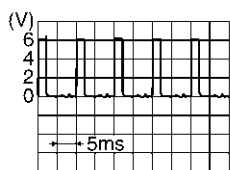
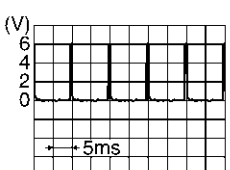
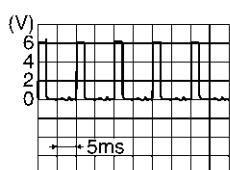
REFER TO THE FOLLOWING.  
 (E21) -SUPER MULTIPLE JUNCTION (SMJ)

TKWM0614E

# AUTO LIGHT SYSTEM

## Terminals and Reference Value for BCM

AKS007XO

Terminal No.	Wire color	Signal name	Measuring condition		Reference value	
			Ignition switch	Operation or condition		
2	GY	Combination switch input 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5291E</p>	
3	L/B	Combination switch input 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5292E</p>	
4	PU/W	Combination switch input 3	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5291E</p>	
5	Y/R	Combination switch input 2	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5292E</p>	
6	SB	Combination switch input 1				
11	LG/R	Ignition switch (ACC)	ACC	—	Battery voltage	
12	P/B	Front door switch (Passenger side) signal	OFF	Front door switch (Passenger side)	ON (open)	Approx. 0V
					OFF (closed)	Battery voltage
13	P/L	Rear door switch RH signal	OFF	Rear door switch RH	ON (open)	Approx. 0V
					OFF (closed)	Battery voltage
14	P	Optical sensor signal	ON	When optical sensor is illuminated	3.1 V or more <sup>NOTE</sup>	
				When optical sensor is not illuminated	0.6 V or less	
17	Y/G	Optical sensor power supply	ON	—	Approx. 5V	
18	B	Sensor ground	ON	—	Approx. 0V	
32	GY/R	Combination switch output 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5291E</p>	

# AUTO LIGHT SYSTEM

Terminal No.	Wire color	Signal name	Measuring condition			Reference value
			Ignition switch	Operation or condition		
33	G	Combination switch output 4	ON	Lighting, turn, wiper OFF Wiper dial position 4		 SKIA5292E
34	W/B	Combination switch output 3	ON	Lighting, turn, wiper OFF Wiper dial position 4		 SKIA5291E
35	W/G	Combination switch output 2	ON	Lighting, turn, wiper OFF Wiper dial position 4		 SKIA5292E
36	W/R	Combination switch output 1				
38	W/L	Ignition switch (ON)	ON	—		Battery voltage
39	L	CAN- H	—	—		—
40	R	CAN- L	—	—		—
42	L/R	Battery power supply	OFF	—		Battery voltage
49	B	Ground	ON	—		Approx. 0V
52	B	Ground	ON	—		Approx. 0V
55	G	Battery power supply	OFF	—		Battery voltage
62	W	Front door switch (Driver side) signal	OFF	Front door switch (Driver side)	ON (open)	Approx. 0V
					OFF (closed)	Battery voltage
63	P	Rear door switch LH signal	OFF	Rear door switch LH	ON (open)	Approx. 0V
					OFF (closed)	Battery voltage

**NOTE:**

Optical sensor must be securely subjected to work lamp light. If the optical sensor is insufficiently illuminated, the measured value may not satisfy standard.

## Terminals and Reference Values for IPDM E/R

AKS00714

Terminal No.	Wire color	Signal name	Measuring condition			Reference value
			Ignition switch	Operation or condition		
20	LG	Headlamp low (RH)	ON	Lighting switch 2ND position	OFF	Approx. 0V
					ON	Battery voltage
22	R	Parking, license, and tail lamp	ON	Lighting switch 1ST position	OFF	Approx. 0V
					ON	Battery voltage
27	BR	Headlamp high (RH)	ON	Lighting switch HIGH or PASS position	OFF	Approx. 0V
					ON	Battery voltage
28	SB	Headlamp high (LH)	ON	Lighting switch HIGH or PASS position	OFF	Approx. 0V
					ON	Battery voltage

# AUTO LIGHT SYSTEM

Terminal No.	Wire color	Signal name	Measuring condition		Reference value
			Ignition switch	Operation or condition	
30	GY	Headlamp low (LH)	ON	Lighting switch 2ND position	OFF
					ON
38	B	Ground	ON	—	Approx. 0V
48	L	CAN- H	—	—	—
49	R	CAN- L	—	—	—
60	B	Ground	ON	—	Approx. 0V

## How to Proceed With Trouble Diagnosis

AKS007F0

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to [LT-81, "System Description"](#).
3. Carry out the Preliminary Check. Refer to [LT-104, "Preliminary Check"](#).
4. Check symptom and repair or replace the cause of malfunction. Refer to [LT-110, "Trouble Diagnosis Chart by Symptom"](#).
5. Does the auto light system operate normally? If YES: GO TO 6. If NO: GO TO 4.
6. INSPECTION END

## Preliminary Check

AKS007F1

### SETTING CHANGE FUNCTIONS

- Sensitivity of auto light system can be adjusted using CONSULT-II. Refer to [LT-106, "WORK SUPPORT"](#).

### CHECK POWER SUPPLY AND GROUND CIRCUIT

#### 1. CHECK FUSES

- Check fuses for blown-out.

Unit	Power source	Fuse and fusible link No.
BCM	Battery	M
		22
	Ignition switch ON or START position	1
	Ignition switch ACC or ON position	6
IPDM E/R	Battery	71
		72
		74
		76
		86

Refer to [LT-99, "Wiring Diagram — AUTO/L —"](#).

#### OK or NG

OK >> GO TO 2.

NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to [PG-3, "POWER SUPPLY ROUTING CIRCUIT"](#).



# AUTO LIGHT SYSTEM

## 2. CHECK POWER SUPPLY CIRCUIT

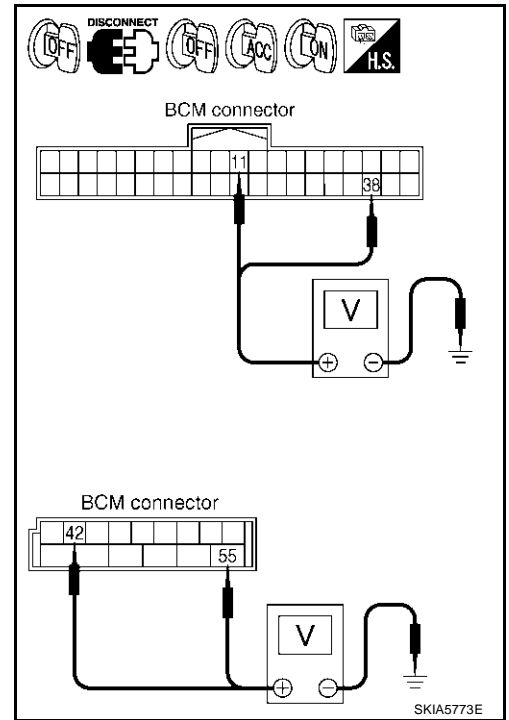
1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check voltage between BCM harness connector and ground.

Terminals		(-)	Ignition switch position		
Connector	Terminal (Wire color)		OFF	ACC	ON
M3	11 (LG/R)	Ground	0V	Battery voltage	Battery voltage
	38 (W/L)		0V	0V	Battery voltage
M4	42 (L/R)		Battery voltage	Battery voltage	Battery voltage
	55 (G)		Battery voltage	Battery voltage	Battery voltage

**OK or NG**

OK >> GO TO 3.

NG >> Check harness for open or short between BCM and fuse.



## 3. CHECK GROUND CIRCUIT

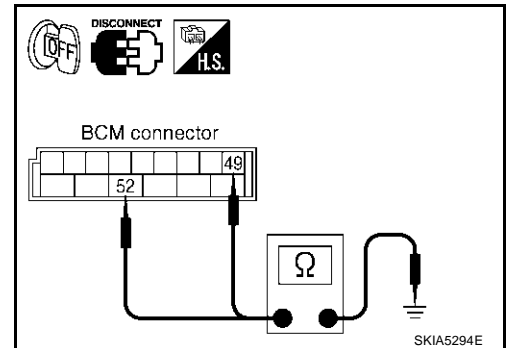
Check continuity between BCM harness connector and ground.

Terminals		Ground	Continuity
Connector	Terminal (Wire color)		
M4	49 (B)	Ground	Yes
	52 (B)		

**OK or NG**

OK >> INSPECTION END

NG >> Check ground circuit harness.



## CONSULT-II Function (BCM)

CONSULT-II performs the following functions communicating with BCM.

BCM diagnosis part	Check item, diagnosis mode	Description
HEAD LAMP	WORK SUPPORT	Changes the setting for each function.
	DATA MONITOR	Displays BCM input data in real time.
	ACTIVE TEST	Operation of electrical loads can be checked by sending drive signal to them.
BCM	CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.

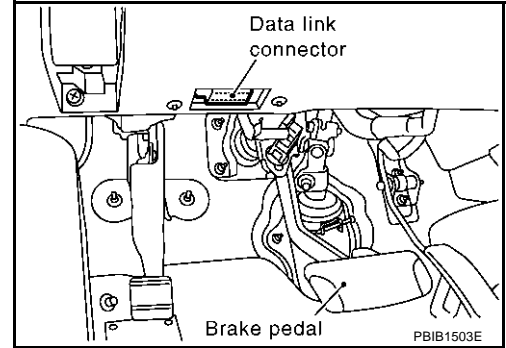
# AUTO LIGHT SYSTEM

## CONSULT-II BASIC OPERATION

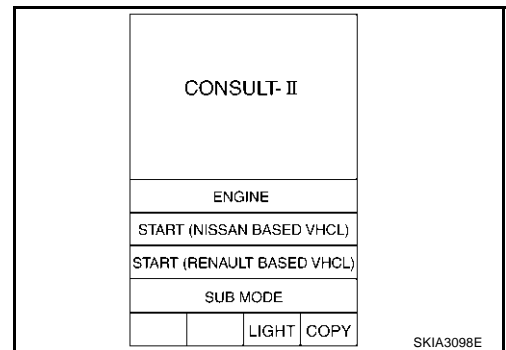
### CAUTION:

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.

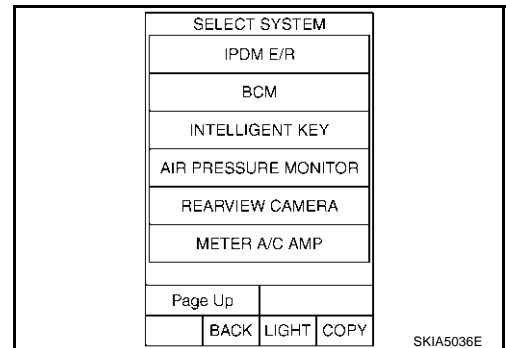
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn ignition switch ON.



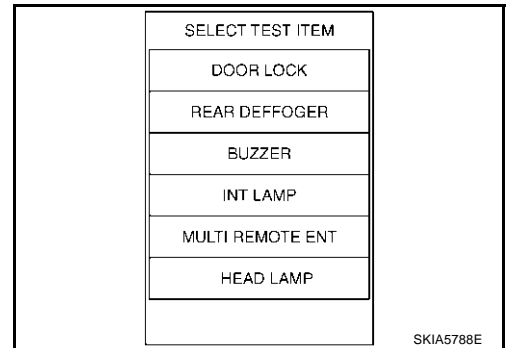
2. Touch "START (NISSAN BASED VHCL)".



3. Touch "BCM" on "SELECT SYSTEM" screen.  
If "BCM" is not indicated, refer to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



4. Touch "HEAD LAMP" on "SELECT TEST ITEM" screen.



## WORK SUPPORT

### Operation Procedure

1. Touch "HEAD LAMP" on "SELECT TEST ITEM" screen.
2. Touch "WORK SUPPORT" on "SELECT DIAG MODE" screen.
3. Touch "CUSTOM A/LIGHT SETTING" or "ILL DELAY SET" on "SELECT WORK ITEM" screen.
4. Touch "START".

# AUTO LIGHT SYSTEM

5. Touch "NORMAL" or "MODE 2 - 4" of setting to be changed (CUSTOM A/LIGHT SETTING), Touch "MODE1-8" of setting to be changed. (ILL DELAY SET)
6. Touch "SETTING CHANGE".
7. The setting will be changed and "CUSTOMIZING COMPLETED" will be displayed.
8. Touch "END".

## Work Support Setting Item

- Sensitivity of auto light can be selected and set from four modes.

Work item	Description
CUSTOM A/LIGHT SETTING	Auto light sensitivity can be changed in this mode. Sensitivity can be adjusted in four modes. ● MODE 1 (Normal)/ MODE 2 (sensitive)/MODE 3 (Desensitized)/MODE4 (Insensitive)
ILL DELAY SET	Auto light delay off timer period can be changed in this mode. Selects auto light delay off timer period among eight modes. ● MODE 1 (45 sec.)/MODE 2 (OFF)/MODE 3 (30 sec.)/MODE 4 (60 sec.)/MODE 5 (90 sec.)/MODE 6 (120 sec.)/MODE 7 (150 sec.)/MODE 8 (180 sec.)

## DATA MONITOR

### Operation Procedure

1. Touch "HEAD LAMP" on "SELECT TEST ITEM" screen.
2. Touch "DATA MONITOR" on "SELECT DIAG MODE" screen.
3. Touch either "ALL SIGNALS" or "SELECTION FROM MENU" on the "DATA MONITOR" screen.

All signals	Monitors all the signals.
Selection from menu	Selects and monitors individual signal.

4. Touch "START".
5. When "SELECTION FROM MENU" is selected, touch individual items to be monitored. When "ALL SIGNALS" is selected, all the items will be monitored.
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
IGN ON SW "ON/OFF"	Displays "IGN position (ON)/OFF, ACC position (OFF)" judged from the ignition switch signal.
ACC ON SW "ON/OFF"	Displays "ACC (ON)/OFF, Ignition OFF (OFF)" status judged from ignition switch signal.
HI BEAM SW "ON/OFF"	Displays status (high beam switch: ON/Others: OFF) of high beam switch judged from lighting switch signal.
HEAD LAMP SW 1 "ON/OFF"	Displays status (headlamp switch 1: ON/Others: OFF) of headlamp switch 2 judged from lighting switch signal.
HEAD LAMP SW 2 "ON/OFF"	Displays status (headlamp switch 2: ON/Others: OFF) of headlamp switch 2 judged from lighting switch signal.
LIGHT SW 1 ST "ON/OFF"	Displays status (lighting switch 1st position: ON/Others: OFF) of lighting switch judged from lighting switch signal.
AUTO LIGHT SW <sup>NOTE 1</sup> "ON/OFF"	Displays status of the lighting switch as judged from the lighting switch signal. (AUTO position: ON/Other than AUTO position: OFF)
PASSING SW "ON/OFF"	Displays status (flash-to-pass switch: ON/Others: OFF) of flash-to-pass switch judged from lighting switch signal.
FR FOG SW "ON/OFF"	Displays status (front fog lamp switch: ON/Others: OFF) of front fog lamp switch judged from lighting switch signal.
DOOR SW - DR "ON/OFF"	Displays status of the driver door as judged from the driver door switch signal. (Door is open: ON/Door is closed: OFF)
DOOR SW - AS "ON/OFF"	Displays status of the passenger door as judged from the passenger door switch signal. (Door is open: ON/Door is closed: OFF)

# AUTO LIGHT SYSTEM

Monitor item	Contents
DOOR SW - RR "ON/OFF"	Displays status of the rear door as judged from the rear door switch (RH) signal. (Door is open: ON/Door is closed: OFF)
DOOR SW - RL "ON/OFF"	Displays status of the rear door as judged from the rear door switch (LH) signal. (Door is open: ON/Door is closed: OFF)
BACK DOOR SW "ON/OFF"	Displays status of the back door as judged from the back door switch signal. (Door is open: ON/Door is closed: OFF)
TURN SIGNAL R "ON/OFF"	Displays status (Turn right: ON/Others: OFF) as judged from lighting switch signal.
TURN SIGNAL L "ON/OFF"	Displays status (Turn left: ON/Others: OFF) as judged from lighting switch signal.
ENGINE RUN <sup>NOTE 2</sup> "ON/OFF"	Displays status (Engine running: ON/Others: OFF) as judged from engine status signal.
PKB SW <sup>NOTE 2</sup> "ON/OFF"	Displays status (Parking brake switch: ON/Others: OFF) as judged from parking brake switch signal.
OPTICAL SENSOR <sup>NOTE 1</sup> [0 - 5V]	Displays "ambient light (close to 5V when light/close to 0V when dark)" judged from optical sensor signal.

**NOTE:**

1. Vehicles without auto light system display this item, but cannot monitor it.
2. Vehicles without daytime light system display this item, but cannot monitor it.

## ACTIVE TEST

### Operation Procedure

1. Touch "HEAD LAMP" on "SELECT TEST ITEM" screen.
2. Touch "ACTIVE TEST" on "SELECT DIAG MODE" screen.
3. Touch item to be tested and check operation of the selected item.
4. During the operation check, touching "BACK" deactivates the operation.

### Display Item List

Test item	Description
TAIL LAMP	Allows tail lamp relay to operate by switching ON-OFF.
HEAD LAMP (LOW)	Allows headlamp relay to operate by switching ON-OFF.
HEAD LAMP (HI)	Allows headlamp relay to operate by switching ON-OFF.
FR FOG LAMP	Allows fog lamp relay to operate by switching ON-OFF.
DTRL <sup>NOTE 1</sup>	Allows day time light lamp operate by switching ON-OFF.
CORNERING LAMP <sup>NOTE 2</sup>	—

**NOTE:**

1. Vehicles without daytime light lamp system display this item, but cannot monitor it.
2. This item is displayed, but cannot monitor it.

## CONSULT-II Functions (IPDM E/R)

AKS00716

CONSULT-II performs the following functions communicating with IPDM E/R.

Check Item, Diagnosis Mode	Description
SELF-DIAGNOSTIC RESULT	IPDM E/R performs self-diagnosis of CAN communication.
DATA MONITOR	The input/output data of the IPDM E/R is displayed in real time.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
ACTIVE TEST	The IPDM E/R sends a drive signal to electronic components to check their operation.

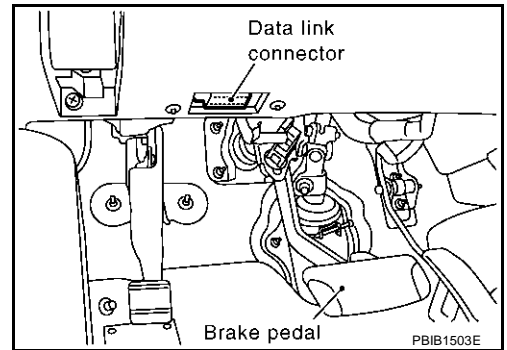
## CONSULT-II OPERATION

**CAUTION:**

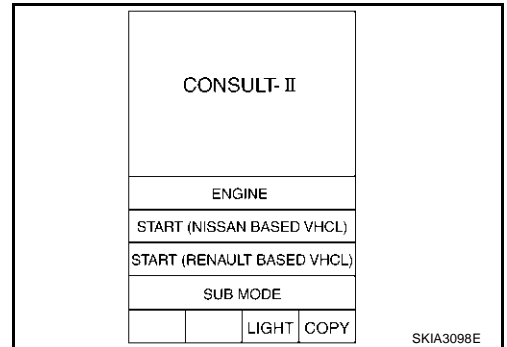
If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN communication.

# AUTO LIGHT SYSTEM

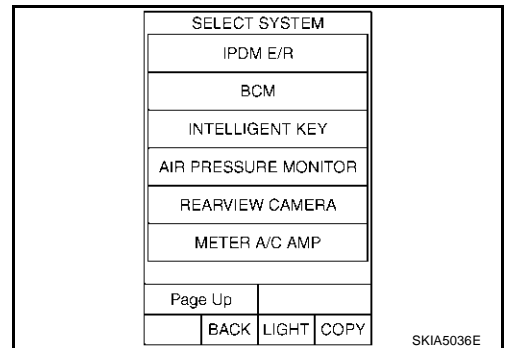
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn the ignition switch ON.



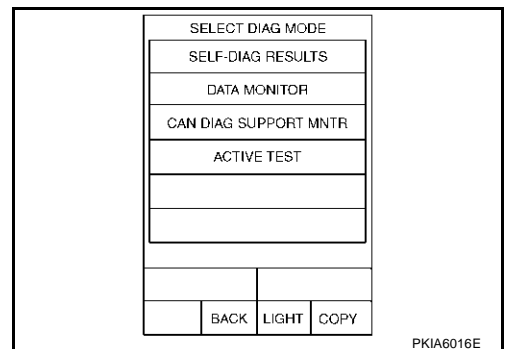
2. Touch "START (NISSAN BASED VHCL)".



3. Touch "IPDM E/R" on "SELECT SYSTEM" screen. If "IPDM E/R" is not displayed, print "SELECT SYSTEM" screen, then refer to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



4. Select the desired part to be diagnosed on the "SELECT SYSTEM" screen.



## DATA MONITOR

### Operation Procedure

1. Touch "DATA MONITOR" on "SELECT DIAG MODE" screen.
2. Touch "ALL SIGNALS", "MAIN SIGNALS" or "SELECT FROM MENU" on the "DATA MONITOR" screen.

ALL SIGNALS	All items will be monitored.
MAIN SIGNALS	Monitor the predetermined item.
SELECT FROM MENU	Select any item for monitoring.

3. Touch "START".

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
LT  
L  
M

# AUTO LIGHT SYSTEM

4. Touch the required monitoring item on "SELECT ITEM MENU". In "ALL SIGNALS", all items are monitored. In "MAIN SIGNALS", predetermined items are monitored.
5. Touch "RECORD" while monitoring to record the status of the item being monitored. To stop recording, touch "STOP".

## All Items, Main Items, Select Item Menu

Item name	CONSULT-II screen display	Display or unit	Monitor item selection			Description
			ALL SIGNALS	MAIN SIGNALS	SELECT FROM MENU	
Position lights request	TAIL&CLR REQ	ON/OFF	×	×	×	Signal status input from BCM
Headlamp low beam request	HL LO REQ	ON/OFF	×	×	×	Signal status input from BCM
Headlamp high beam request	HL HI REQ	ON/OFF	×	×	×	Signal status input from BCM
Font fog lights request	FR FOG REQ	ON/OFF	×	×	×	Signal status input from BCM

### NOTE:

Perform monitoring of IPDM E/R data with the ignition switch ON. When the ignition switch is at ACC, the display may not be correct.

## ACTIVE TEST

### Operation Procedure

1. Touch "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Touch item to be tested, and check operation.
3. Touch "START".
4. Touch "STOP" while testing to stop the operation.

Test item	CONSULT-II screen display	Description
Headlamp relay (HI, LO) output	LAMPS	Allows headlamp relay (HI, LO) to operate by switching operation (OFF, HI ON, LO ON) at your option (Head lamp high beam repeats ON-OFF every 1 second).
Front fog lamp relay output		Allows fog lamp relay to operate by switching operation ON-OFF at your option.
Tail lamp relay output	TAIL LAMP	Allows tail lamp relay to operate by switching operation ON-OFF at your option.

## Trouble Diagnosis Chart by Symptom

AKS007F3

Trouble phenomenon	Malfunction system and reference
<ul style="list-style-type: none"> <li>● Parking lamps and headlamps will not illuminate when outside of the vehicle becomes dark. (Lighting switch 1st position and 2nd position operate normally.)</li> <li>● Parking lamps and headlamp will not go out when outside of the vehicle becomes light. (Lighting switch 1st position and 2nd position operate normally.)</li> <li>● Headlamps go out when outside of the vehicle becomes light, but parking lamps stay on.</li> </ul>	<ul style="list-style-type: none"> <li>● Refer to <a href="#">LT-106, "WORK SUPPORT"</a> .</li> <li>● Refer to <a href="#">LT-182, "Combination Switch Inspection"</a> .</li> <li>● Refer to <a href="#">LT-111, "Optical sensor System Inspection"</a> .</li> </ul> <p>If above systems are normal, replace BCM.</p>
<p>Parking lamps illuminate when outside of the vehicle becomes dark, but headlamps stay off. (Lighting switch 1st position and 2nd position operate normally.)</p>	<ul style="list-style-type: none"> <li>● Refer to <a href="#">LT-106, "WORK SUPPORT"</a> .</li> <li>● Refer to <a href="#">LT-111, "Optical sensor System Inspection"</a> .</li> </ul> <p>If above systems are normal, replace BCM.</p>
<p>Auto light adjustment system will not operate. (Lighting switch AUTO, 1st position and 2nd position operate normally.)</p>	<ul style="list-style-type: none"> <li>● Refer to <a href="#">LT-111, "Optical sensor System Inspection"</a> .</li> </ul> <p>If above system is normal, replace BCM.</p>

# AUTO LIGHT SYSTEM

Trouble phenomenon	Malfunction system and reference
Auto light adjustment system of combination meter will not operate.	<ul style="list-style-type: none"> <li>● CAN communication line inspection between BCM and combination meter. Refer to <a href="#">BCS-27, "CAN Communication Inspection Using CONSULT-II (Self-Diagnosis)"</a>.</li> </ul>
Shut off delay feature will not operate.	<ul style="list-style-type: none"> <li>● CAN communication line inspection between BCM and combination meter. Refer to <a href="#">BCS-27, "CAN Communication Inspection Using CONSULT-II (Self-Diagnosis)"</a>.</li> <li>● Refer to <a href="#">BL-98, "Check Door Switch"</a>.</li> </ul> <p>If above system is normal, replace BCM.</p>

## Lighting Switch Inspection

AKS007F4

### 1. CHECK LIGHTING SWITCH INPUT SIGNAL

☑ With CONSULT-II  
 Select "BCM" on CONSULT-II. With "HEAD LAMP" data monitor, make sure "AUTO LIGHT SW" turns ON-OFF linked with operation of lighting switch.

**When lighting switch is AUTO : AUTO LIGHT SW ON position**

DATA MONITOR	
MONITOR	
AUTO LIGHT SW	ON

SKIA4196E

☒ Without CONSULT-II  
 Refer to [LT-182, "Combination Switch Inspection"](#).

OK or NG

- OK >> INSPECTION END
- NG >> Check lighting switch. Refer to [LT-182, "Combination Switch Inspection"](#).

## Optical sensor System Inspection

AKS007F5

### 1. CHECK OPTICAL SENSOR INPUT SIGNAL

☑ With CONSULT-II  
 Select "BCM" on CONSULT-II. With "HEAD LAMP" data monitor, make sure "AUTO LIGH SENS", check difference in the voltage when the auto light sensor is illuminated and not illuminated.

**Illuminated**  
**AUTO LIGH SENS : 3.1V or more**  
**Not illuminated**  
**AUTO LIGH SENS : 0.6V or less**

DATA MONITOR	
MONITOR	
AUTO LIGH SENS	0.75V

SKIA5890E

**CAUTION:**  
**Optical sensor must be securely subjected to work lamp light. If the optical sensor is insufficiently illuminated, the measured value may not satisfy the standard.**

☒ Without CONSULT-II  
 GO TO 2.

OK or NG

- OK >> INSPECTION END
- NG >> GO TO 2.

# AUTO LIGHT SYSTEM

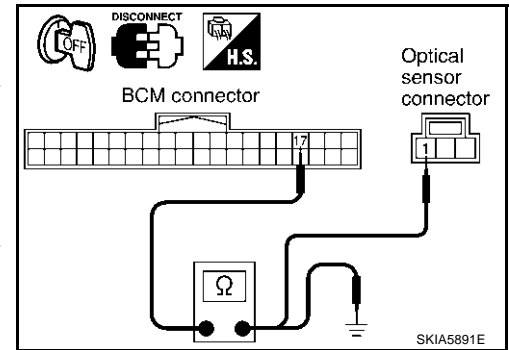
## 2. CHECK OPTICAL SENSOR POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and optical sensor connector.
3. Check continuity (open circuit) between BCM harness connector M3 terminal 17 (Y/G) and optical sensor harness connector M37 terminal 1 (Y/G).

**17 (Y/G) – 1 (Y/G) : Continuity should exist.**

4. Check continuity (short circuit) between BCM harness connector M3 terminal 17 (Y/G) and ground.

**17 (Y/G) – Ground : Continuity should not exist.**



OK or NG

OK >> GO TO 3.

NG >> Repair harness or connector.

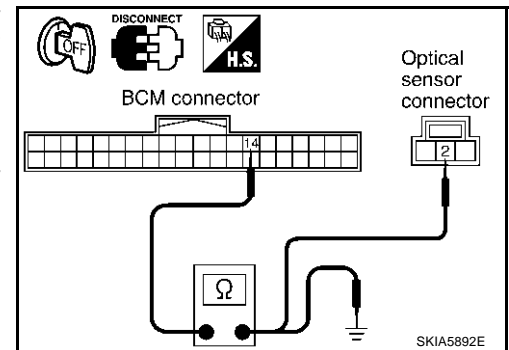
## 3. CHECK OPTICAL SENSOR POWER SUPPLY CIRCUIT

1. Check continuity (open circuit) between BCM harness connector M3 terminal 14 (P) and optical sensor harness connector M37 terminal 2 (P).

**14 (P) – 2 (P) : Continuity should exist.**

2. Check continuity (short circuit) between BCM harness connector M36 terminal 14 (P) and ground.

**14 (P) – Ground : Continuity should not exist.**



OK or NG

OK >> GO TO 4.

NG >> Repair harness or connector.

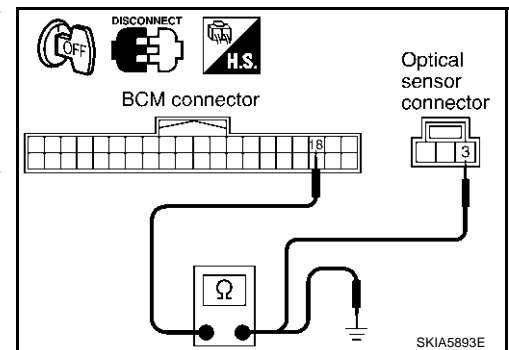
## 4. CHECK OPTICAL SENSOR POWER SUPPLY CIRCUIT

1. Check continuity (open circuit) between BCM harness connector M3 terminal 18 (B) and optical sensor harness connector M37 terminal 3 (B).

**18 (B) – 3 (B) : Continuity should exist.**

2. Check continuity (short circuit) between BCM harness connector M37 terminal 18 (B) and ground.

**18 (B) – Ground : Continuity should not exist.**



OK or NG

OK >> GO TO 5.

NG >> Repair harness or connector.



# AUTO LIGHT SYSTEM

## 5. CHECK OPTICAL SENSOR VOLTAGE

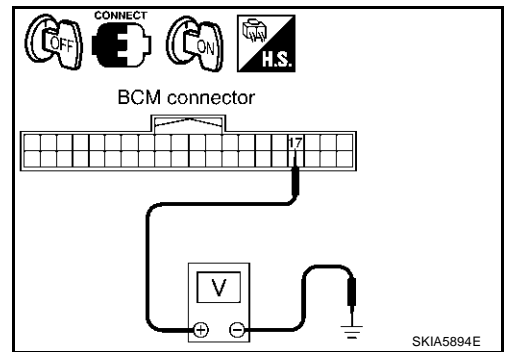
1. Connect BCM connector.
2. Turn ignition switch ON.
3. Check voltage between BCM harness connector M3 terminal 17 (Y/G) and ground.

**17 (Y/G) – Ground : Approx. 5V should exist.**

### OK or NG

OK >> Replace the optical sensor.

NG >> Replace BCM. Refer to [BCS-28, "Removal and Installation of BCM"](#).

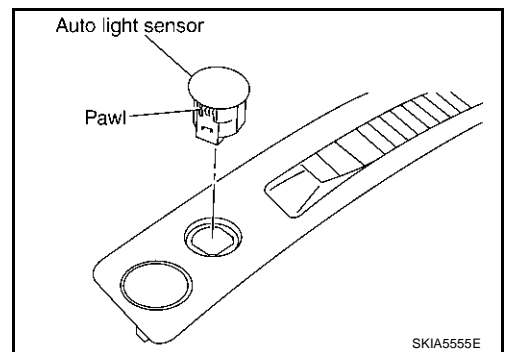


AKS007F6

## Removal and Installation for Auto Light Sensor

### REMOVAL

1. Insert a screwdriver or similar tool and remove front defroster grill (LH). Refer to [IP-15, "\(V\) Front Defroster Grille \(LH/RH\)"](#) in "IP" section.
2. Disconnect auto light sensor connector.
3. Remove auto light sensor.



### INSTALLATION

Install in the reverse order of removal.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
LT  
L  
M

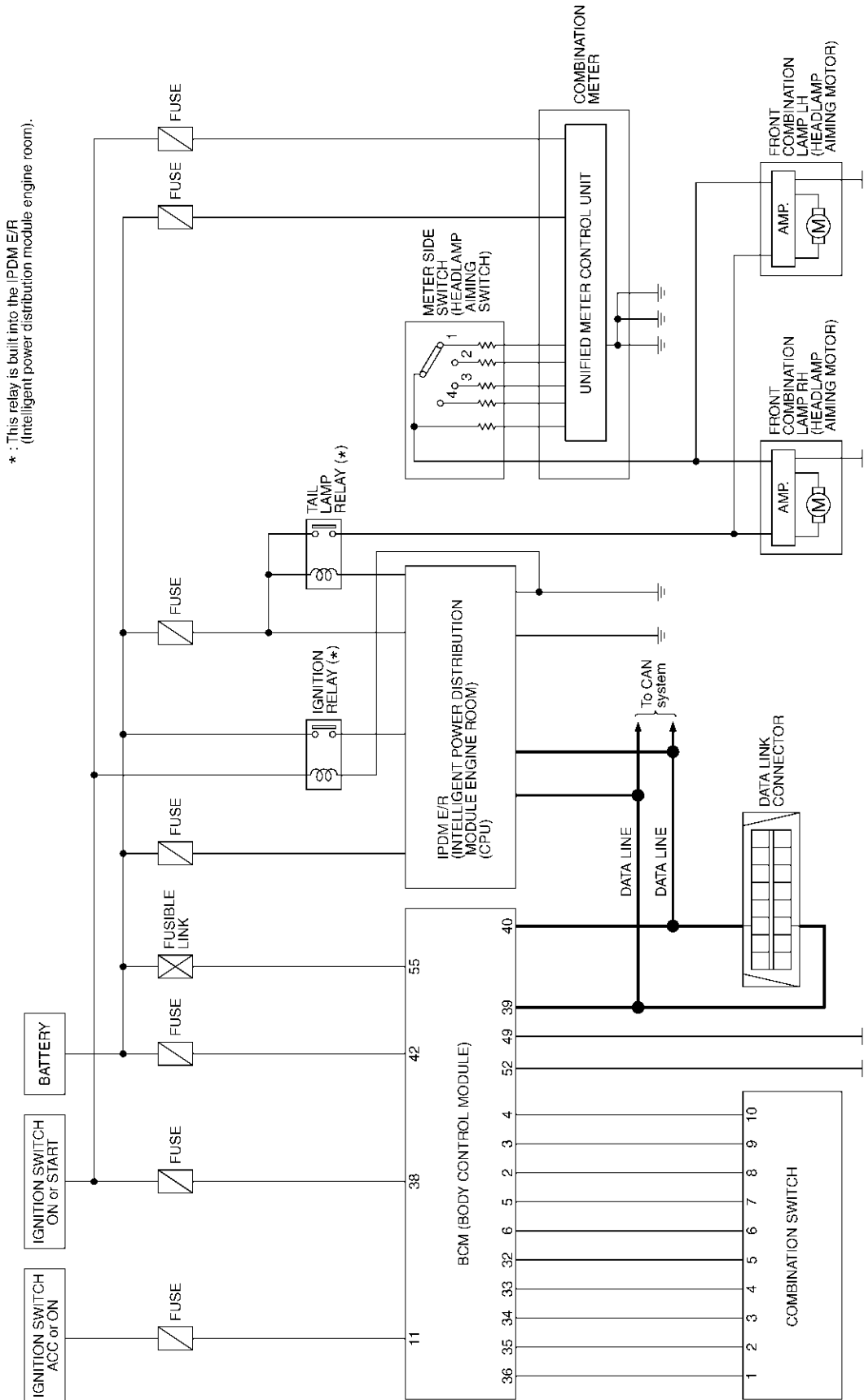
# HEADLAMP AIMING CONTROL

## HEADLAMP AIMING CONTROL

PFP:26010

### Schematic

AKS00717



TKWH0337E

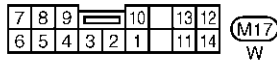
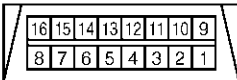
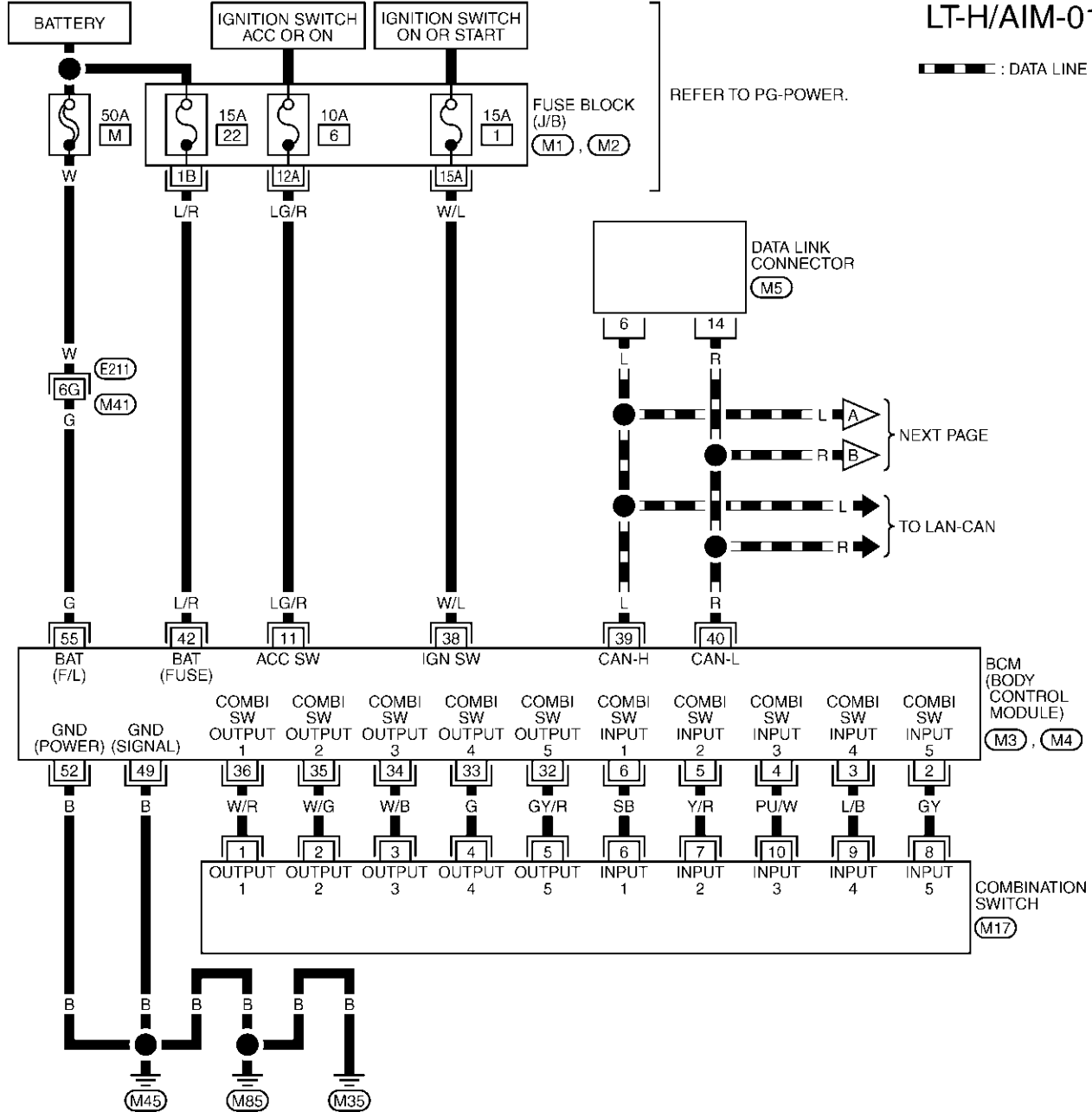
# HEADLAMP AIMING CONTROL

## Wiring Diagram — H/AIM —

AKS007CF

LT-H/AIM-01

▬ : DATA LINE



REFER TO THE FOLLOWING.

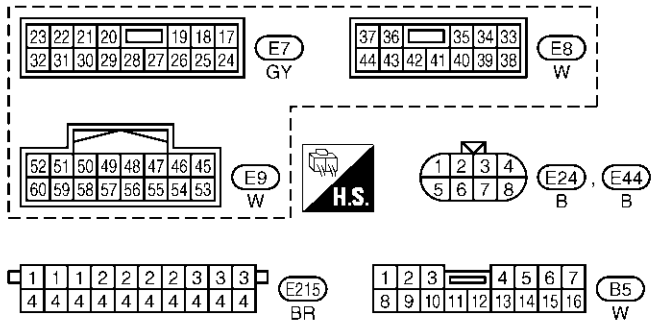
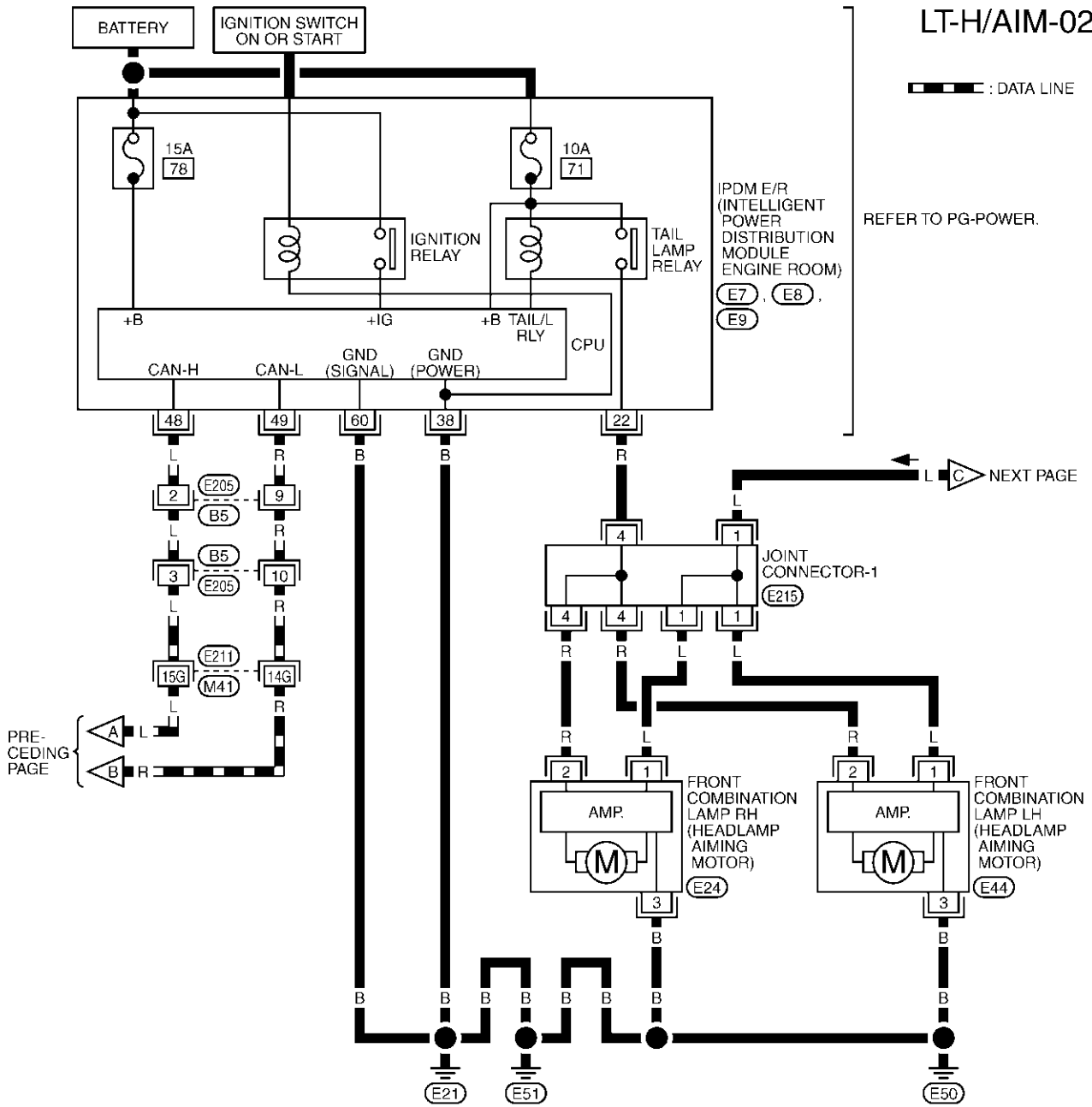
- (E21) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1), (M2) -FUSE BLOCK-JUNCTION BOX (J/B)
- (M3), (M4) -ELECTRICAL UNITS

TKWM0818E

# HEADLAMP AIMING CONTROL

LT-H/AIM-02

— : DATA LINE



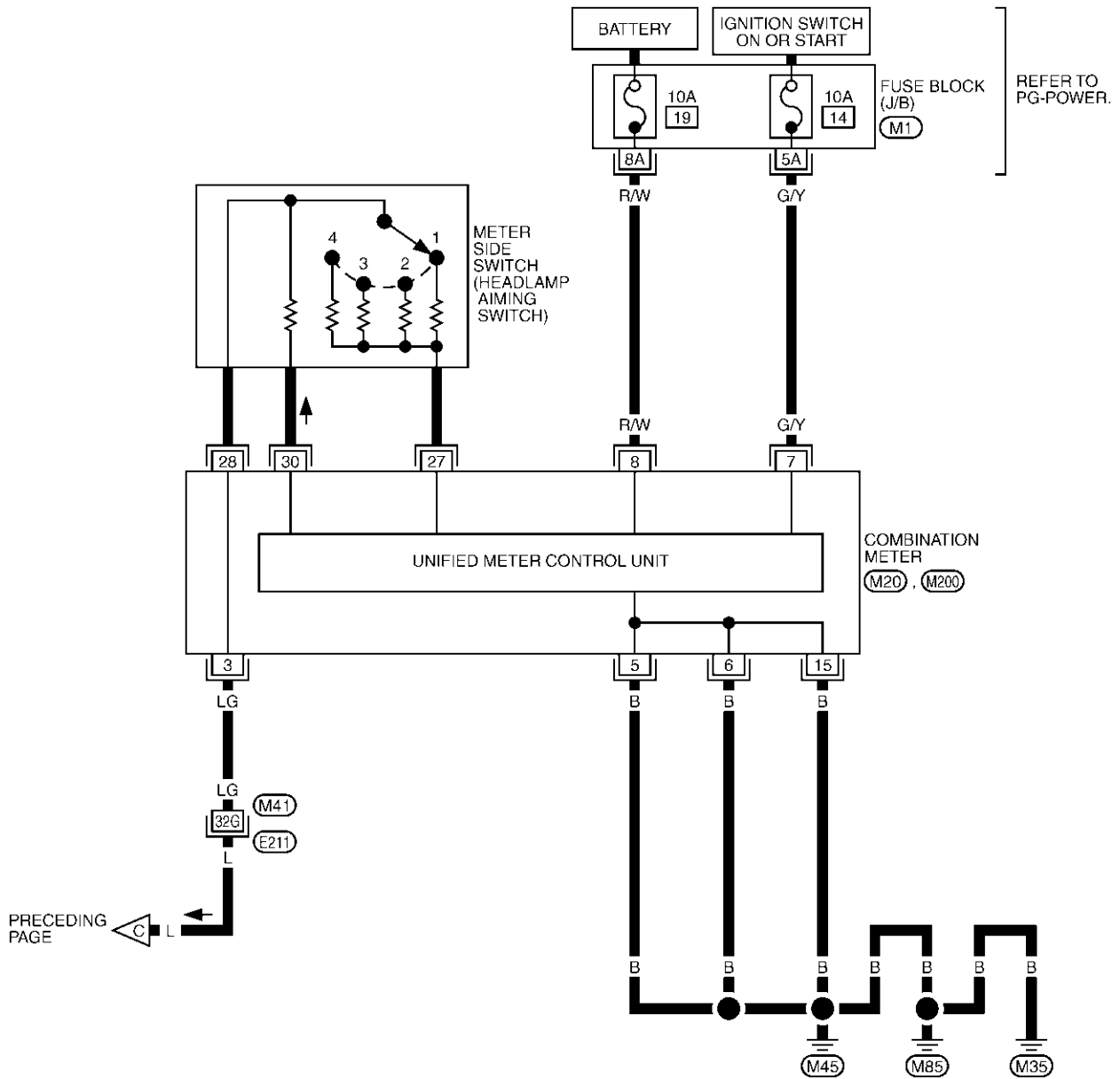
REFER TO THE FOLLOWING.

(E21) -SUPER MULTIPLE JUNCTION (SMJ)

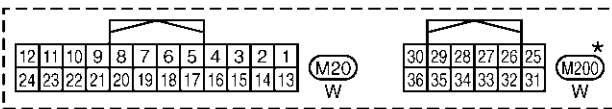
TKWM0617E

# HEADLAMP AIMING CONTROL

LT-H/AIM-03



PRECEDING PAGE



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

REFER TO THE FOLLOWING.  
 (E211) -SUPER MULTIPLE JUNCTION (SMJ)  
 (M1) -FUSE BLOCK-JUNCTION BOX (J/B)

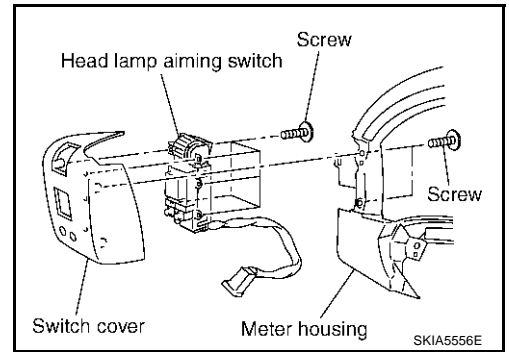
TKWM0618E

# HEADLAMP AIMING CONTROL

## Removal and Installation

### REMOVAL

1. Remove combination meter. Refer to [DI-28, "Removal and Installation"](#) in "DI" section.
2. Remove screws for removing headlamp aiming switch from meter housing.
3. Remove screws and then remove headlamp aiming switch.

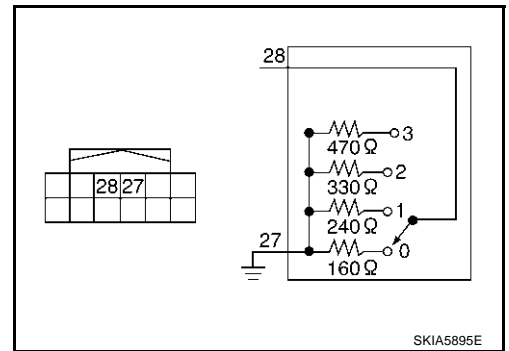


### INSTALLATION

Install in the reverse order of removal.

### Switch Circuit Inspection

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



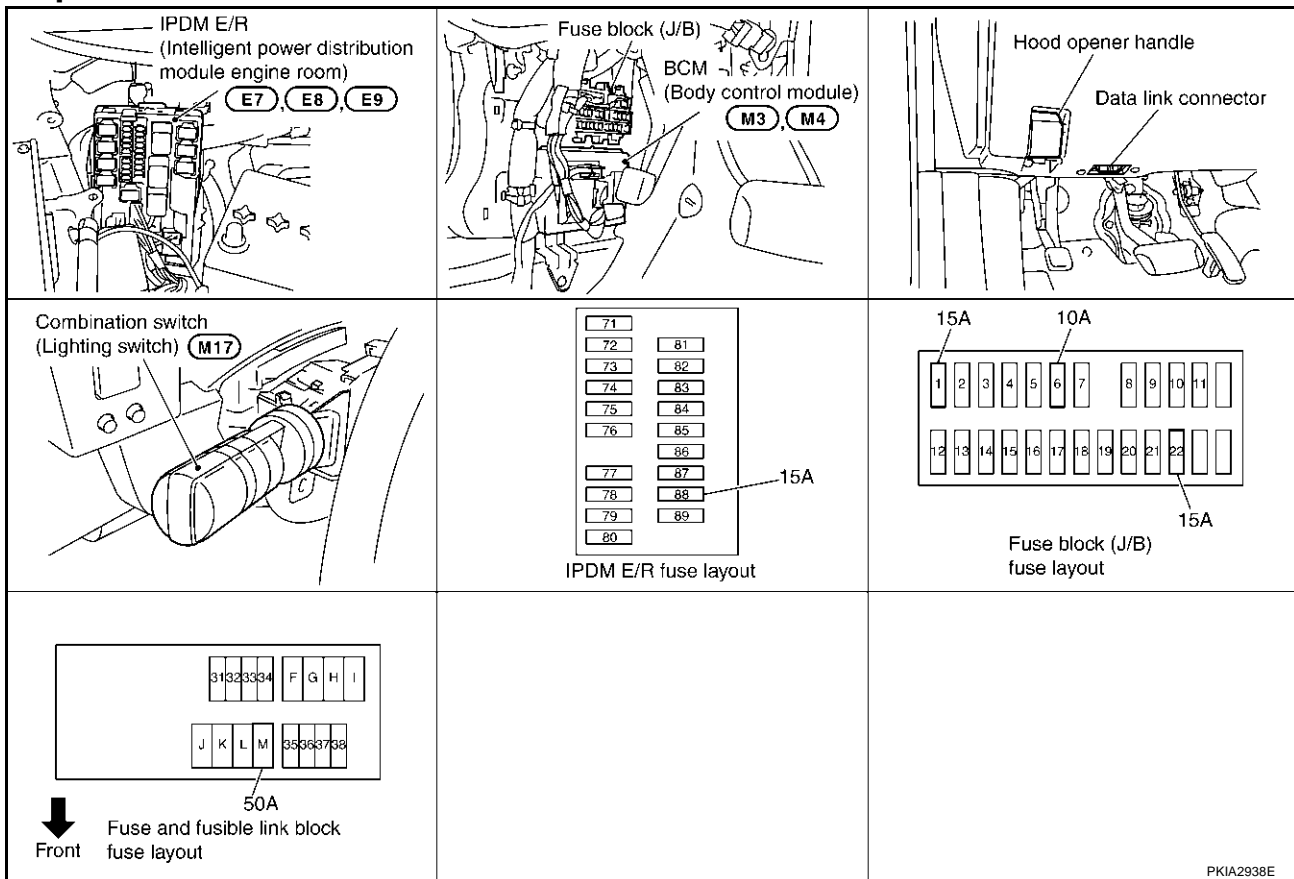
# FRONT FOG LAMP

## FRONT FOG LAMP

PPF:26150

### Component Parts and Harness Connector Location

AKS00705



## System Description

AKS007C1

Control of the fog lamps is dependent upon the position of the combination switch (lighting switch). The lighting switch must be in the 2ND position or AUTO position (LOW beam is ON) for front fog lamp operation. When the lighting switch is placed in the fog lamp position the BCM (body control module) receives input signal requesting the fog lamps to illuminate. When the headlamps are illuminated, this input signal is communicated to the IPDM E/R (intelligent power distribution module engine room) across the CAN communication lines. The central processing unit of the IPDM E/R controls the front fog lamp relay coil. When activated, this relay directs power to the front fog lamps.

## OUTLINE

Power is supplied at all times

- through 15A fuse [No. 88, located in IPDM E/R (intelligent power distribution module engine room)]
- to front fog lamp relay [located in IPDM E/R (intelligent power distribution module engine room)]
- through 15A fuse [No. 78, located in IPDM E/R (intelligent power distribution module engine room)]
- to CPU (central processing unit) [located in IPDM E/R (intelligent power distribution module engine room)]
- through 10A fuse [No. 71, located in IPDM E/R (intelligent power distribution module engine room)]
- to CPU (central processing unit) [located in IPDM E/R (intelligent power distribution module engine room)].

Power is also supplied at all times

- to ignition relay [located in IPDM E/R (intelligent power distribution module engine room)]
- through 50A fusible link (letter M, located in fuse and fusible link block)
- to BCM (body control module) terminal 55
- through 15A fuse [No. 22, located in fuse block (J/B)]
- to BCM (body control module) terminal 42.

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

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
LT  
L  
M

# FRONT FOG LAMP

- to ignition relay [located in IPDM E/R (intelligent power distribution module engine room)]
- through 15A fuse [No. 1 located in fuse block (J/B)]
- to BCM (body control module) terminal 38.

When the ignition switch is in ACC or ON position, power is supplied

- through 10A fuse [No. 6, located in fuse block (J/B)]
- to BCM (body control module) terminal 11.

Ground is supplied

- to BCM (body control module) terminals 49 and 52
- through grounds M35, M45 and M85
- to IPDM E/R (intelligent power distribution module engine room) terminals 38 and 60
- through grounds E21, E50 and E51.

## Fog Lamp Operation

The fog lamp switch is built into the combination switch. The lighting switch must be in the 2ND position or AUTO position (LOW beam is ON) and the fog lamp switch must be ON for fog lamp operation.

With the fog lamp switch in the ON position, the CPU (central processing unit) of the IPDM E/R (intelligent power distribution module engine room) grounds the coil side of the fog lamp relay. The fog lamp relay then directs power

- through IPDM E/R terminal 37
- to front fog lamp LH terminal 1
- through IPDM E/R terminal 36
- to front fog lamp RH terminal 1.

Ground is supplied

- to front fog lamp LH terminal 2
- through grounds E21, E50 and E51, and
- to front fog lamp RH terminal 2
- through grounds E21, E50 and E51.

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

## COMBINATION SWITCH READING FUNCTION

Refer to [BCS-3, "COMBINATION SWITCH READING FUNCTION"](#) .

## EXTERIOR LAMP BATTERY SAVER CONTROL

When the combination switch (lighting switch) is in the 2ND position (ON), the fog lamp switch is ON, and the ignition switch is turned from ON or ACC to OFF, the battery saver control feature is activated.

Under this condition, the fog lamps (and headlamps) remain illuminated for 5 minutes, then the fog lamps (and headlamps) are turned off.

Exterior lamp battery saver control mode can be changed by the function setting of CONSULT-II.

## CAN Communication System Description

AKS007CJ

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.



# FRONT FOG LAMP

## CAN Communication Unit

AKS0080V

Body type	Wagon					
Axle	2WD			AWD		
Engine	VQ35DE			VQ35DE/VK45DE		
Transmission	A/T					
Brake control	VDC					
Navigation system			×			×
Low tire pressure warning system			×			×
ICC system			×			×
Intelligent Key system			×			×
Automatic drive positioner		×	×		×	×
CAN communication unit						
ECM	×	×	×	×	×	×
TCM	×	×	×	×	×	×
Display unit	×	×		×	×	
Display control unit			×			×
Low tire pressure warning control unit			×			×
AWD control unit				×	×	×
ICC unit			×			×
Intelligent Key unit			×			×
Data link connector	×	×	×	×	×	×
BCM	×	×	×	×	×	×
Steering angle sensor	×	×	×	×	×	×
Unified meter and A/C amp.	×	×	×	×	×	×
ICC sensor			×			×
ABS actuator and electric unit (control unit)	×	×	×	×	×	×
Driver seat control unit		×	×		×	×
IPDM E/R	×	×	×	×	×	×
CAN communication type	<u>LT-122. "TYPE 1/TYPE2"</u>		<u>LT-125. "TYPE 3"</u>	<u>LT-128. "TYPE 4/TYPE5"</u>		<u>LT-131. "TYPE 6"</u>

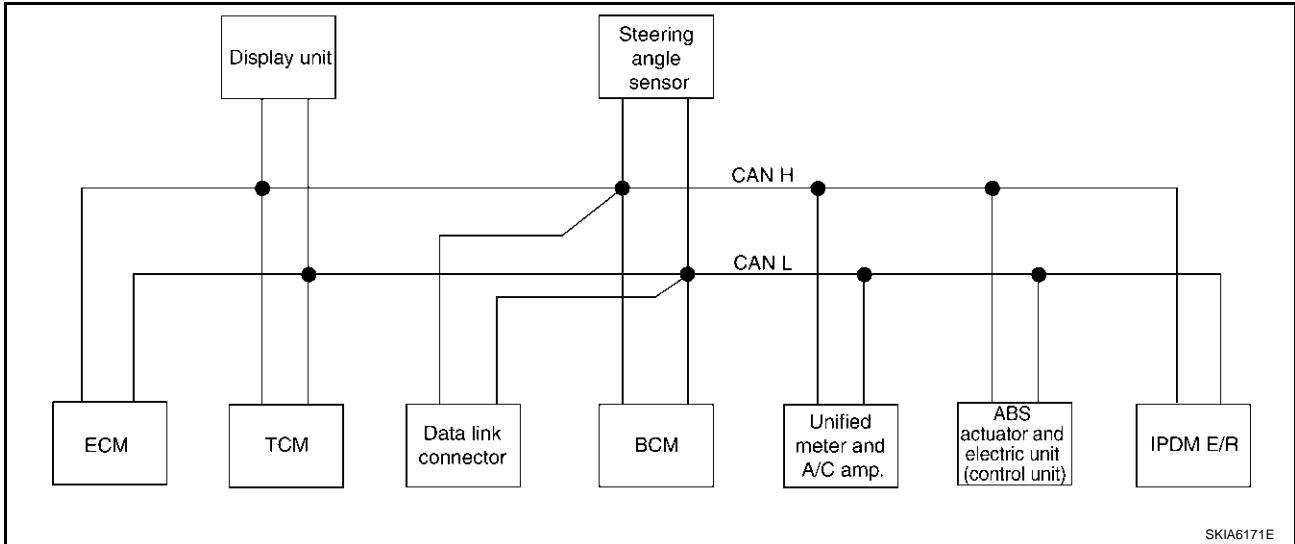
×: Applicable

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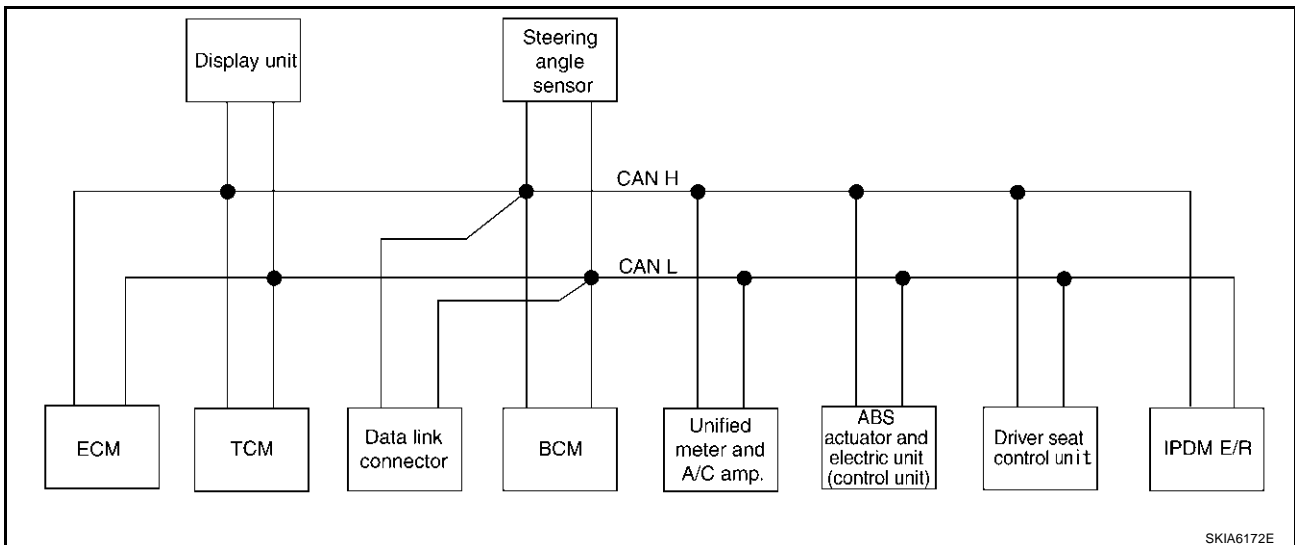
# FRONT FOG LAMP

## TYPE 1/TYPER2 System Diagram

- Type1



- Type2



### Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Engine speed signal	T	R	R			R	R		
Engine status signal	T			R					
Engine coolant temperature signal	T	R				R			
A/T self-diagnosis signal	R	T							
Accelerator pedal position signal	T	R					R		
Closed throttle position signal	T	R							
Wide open throttle position signal	T	R							

# FRONT FOG LAMP

Signals	ECM	TCM	Display unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Battery voltage signal	T	R							
Key switch signal				T				R	
Ignition switch signal				T				R	R
P range signal		T					R	R	
Stop lamp switch signal		R				T			
ABS operation signal	R						T		
TCS operation signal	R						T		
VDC operation signal	R						T		
Fuel consumption monitor signal	T		R			R			
Input shaft revolution signal	R	T							
Output shaft revolution signal	R	T							
A/C switch signal	R			T					
A/C compressor request signal	T								R
A/C relay status signal	R								T
A/C compressor feedback signal	T					R			
Blower fan motor switch signal	R			T					
A/C control signal			T			R			
			R			T			
Cooling fan speed request signal	T								R
Cooling fan speed signal	R								T
Position light request signal			R	T		R			R
Low beam request signal				T					R
Low beam status signal	R								T
High beam request signal				T		R			R
High beam status signal	R								T
Front fog light request signal				T					R
Day time running light request signal				T		R			
Turn LED burnout status signal				R		T			
Vehicle speed signal						R	T		
	R	R	R	R		T		R	
Sleep wake up signal				T		R		R	R
Door switch signal			R	T		R		R	R
Turn indicator signal				T		R			
Key fob ID signal				T				R	
Key fob door unlock signal				T				R	
Oil pressure switch signal				R					T
				T		R			
Buzzer output signal				T		R			
Fuel level sensor signal	R					T			
Fuel level low warning signal			R			T			

A  
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LT  
L  
M

# FRONT FOG LAMP

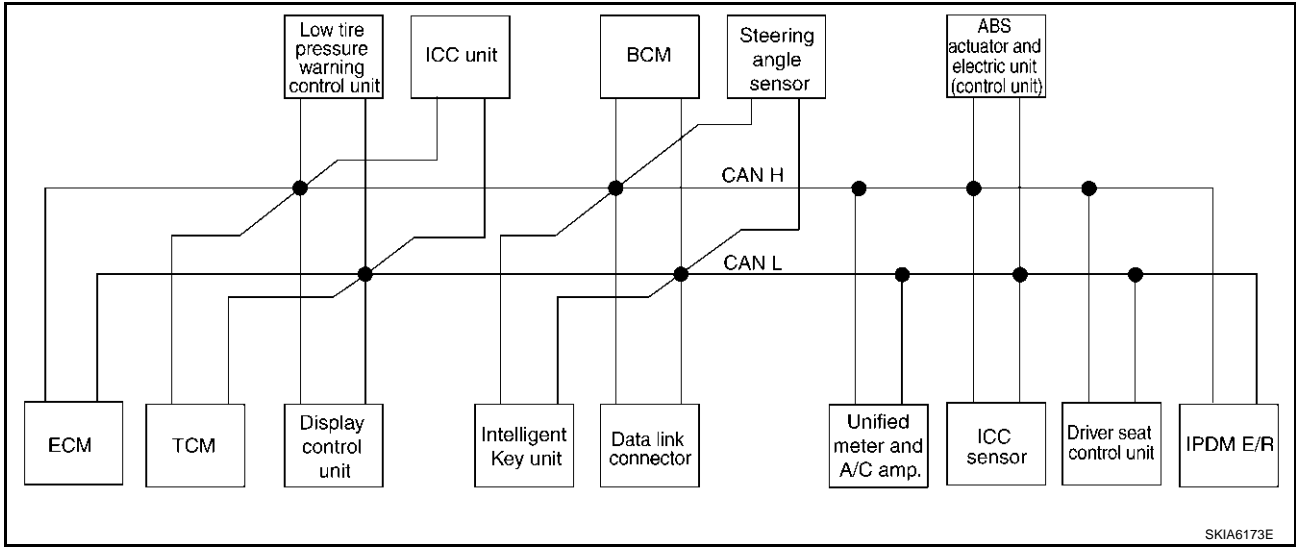
Signals	ECM	TCM	Display unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
ASCD operation signal	T	R							
ASCD OD cancel request	T	R							
Front wiper request signal				T					R
Front wiper stop position signal				R					T
Rear window defogger switch signal				T					R
Rear window defogger control signal	R		R	R					T
Hood switch signal				R					T
Theft warning horn request signal				T					R
Horn chirp signal				T					R
Steering angle sensor signal					T		R		
ABS warning lamp signal						R	T		
VDC OFF indicator lamp signal						R	T		
SLIP indicator lamp signal						R	T		
Brake warning lamp signal						R	T		
System setting signal			T	R				R	
A/T CHECK indicator lamp signal		T				R			
A/T position indicator lamp signal		T				R			
A/T shift schedule change demand signal		R					T		
Manual mode signal		R				T			
Not manual mode signal		R				T			
Manual mode shift up signal		R				T			
Manual mode shift down signal		R				T			
Manual mode indicator signal		T				R			
Distance to empty signal			R			T			
Hand brake switch				R		T			

# FRONT FOG LAMP

## TYPE 3

### System Diagram

- Type3



### Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Engine speed signal	T	R	R		R				R		R		
Engine status signal	T						R						
Engine coolant temperature signal	T	R			R				R				
A/T self-diagnosis signal	R	T											
Accelerator pedal position signal	T	R			R						R		
Closed throttle position signal	T	R			R								
Wide open throttle position signal	T	R											
Battery voltage signal	T	R											
Key switch signal							T					R	
Ignition switch signal							T					R	R
P range signal		T			R						R	R	
Stop lamp switch signal		R							T				
ABS operation signal	R				R						T		
TCS operation signal	R				R						T		
VDC operation signal	R				R						T		
Fuel consumption monitor signal	T		R						R				

# FRONT FOG LAMP

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Input shaft revolution signal	R	T			R								
Output shaft revolution signal	R	T			R								
A/C switch signal	R						T						
A/C compressor request signal	T												R
A/C relay status signal	R												T
A/C compressor feedback signal	T								R				
Blower fan motor switch signal	R						T						
A/C control signal			T						R				
			R						T				
Cooling fan speed signal	R												T
Position light request signal	R						T		R				R
Low beam request signal							T						R
Low beam status signal	R												T
High beam request signal							T		R				R
High beam status signal	R												T
Front fog light request signal							T						R
Day time running light request signal							T		R				
Turn LED burnout status signal							R		T				
Vehicle speed signal					R				R		T		
	R	R	R	R		R	R		T	R		R	
Sleep wake up signal							T		R			R	R
						T	R						
Door switch signal			R			R	T		R			R	R
Turn indicator signal							T		R				
Key fob ID signal							T					R	
Key fob door unlock signal							T					R	
Oil pressure switch signal							R						T
							T		R				
Buzzer output signal							T		R				
						T			R				
					T				R				

# FRONT FOG LAMP

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Fuel level sensor signal	R								T				
Fuel level low warning signal			R						T				
ICC operation signal	R				T								
Front wiper request signal					R		T						R
Front wiper stop position signal							R						T
Rear window defogger switch signal							T						R
Rear window defogger control signal	R		R				R						T
Hood switch signal							R						T
Theft warning horn request signal							T						R
Horn chirp signal							T						R
Steering angle sensor signal								T			R		
Tire pressure signal				T					R				
Tire pressure data signal			R	T									
ABS warning lamp signal					R				R		T		
VDC OFF indicator lamp signal					R				R		T		
SLIP indicator lamp signal									R		T		
Brake warning lamp signal									R		T		
System setting signal			T			R						R	
Distance to empty signal			R						T				
Hand brake switch signal							R		T				
Door lock/unlock request signal						T	R						
Door lock/unlock status signal						R	T						
Starter permission signal						T	R						
Back door open request signal						T	R						
Power window open request signal						T	R						
Alarm request signal						T	R						
Key warning signal						T			R				
ICC sensor signal					R					T			
ICC warning lamp signal					T				R				

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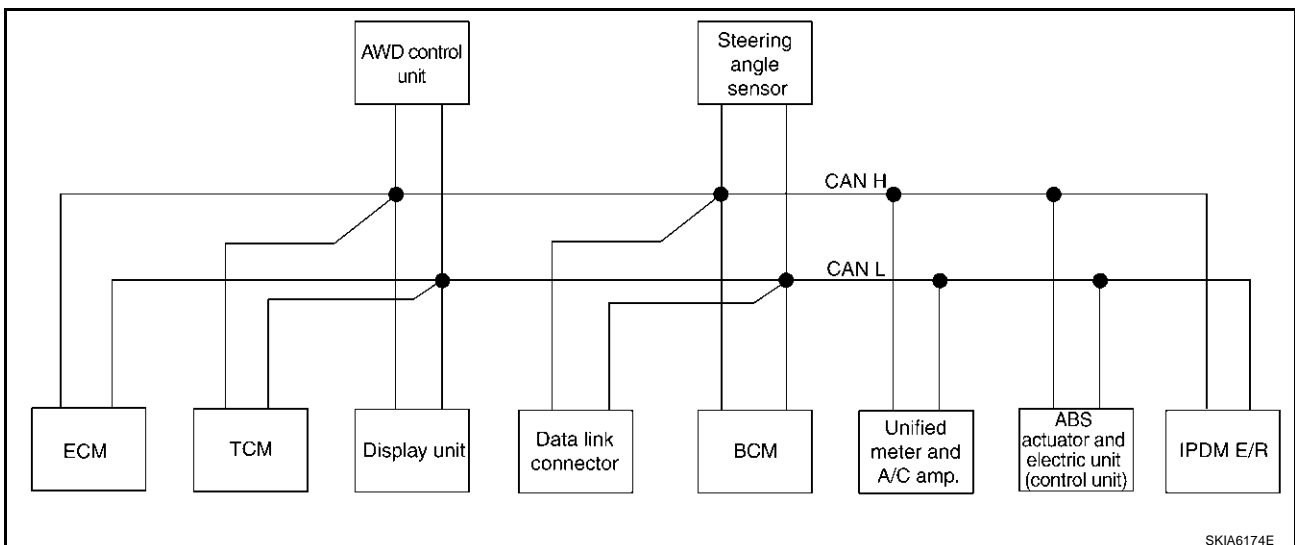
# FRONT FOG LAMP

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
ICC system display signal					T				R				
Current gear position signal		T			R						R		
Steering switch signal	T				R								
ASCD operation signal	T	R											
ASCD OD cancel request	T	R											
ICC OD cancel request	R	R			T								
A/T CHECK indicator lamp signal		T							R				
A/T position indicator lamp signal		T							R				
A/T shift schedule change demand signal		R									T		
Manual mode signal		R							T				
Not manual mode signal		R							T				
Manual mode shift up signal		R							T				
Manual mode shift down signal		R							T				
Manual mode indicator signal		T			R				R				
Ignition knob switch signal						T	R						

## TYPE 4/TYPE5

### System Diagram

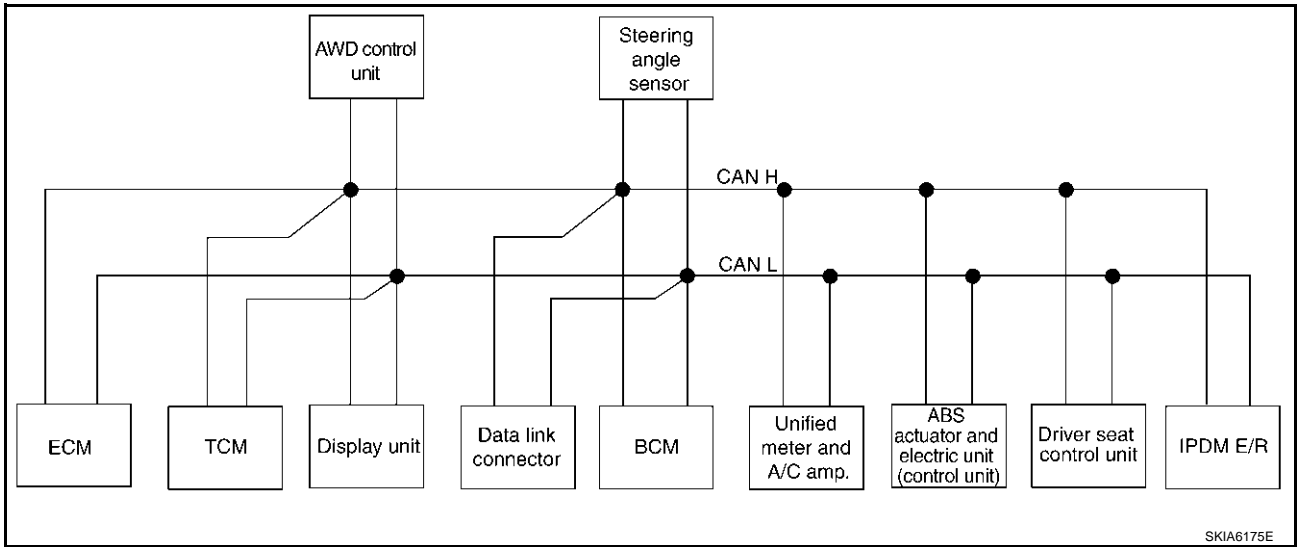
- Type4





# FRONT FOG LAMP

● Type5



Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display unit	AWD control unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
A/T self-diagnosis signal	R	T								
ABS operation signal	R			R				T		
TCS operation signal	R							T		
VDC operation signal	R			R				T		
Stop lamp switch signal		R		R			T			
Battery voltage signal	T	R								
Key switch signal					T				R	
Ignition switch signal					T				R	R
P range signal		T						R	R	
Closed throttle position signal	T	R								
Wide open throttle position signal	T	R								
Engine speed signal	T	R	R	R			R	R		
Engine status signal	T				R					
Engine coolant temperature signal	T	R					R			
Accelerator pedal position signal	T	R		R				R		
Fuel consumption monitor signal	T		R				R			
Input shaft revolution signal	R	T								
Output shaft revolution signal	R	T								
A/C switch signal	R				T					
A/C compressor request signal	T									R
A/C relay status signal	R									T
A/C compressor feedback signal	T						R			

# FRONT FOG LAMP

Signals	ECM	TCM	Display unit	AWD control unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Blower fan motor switch signal	R				T					
A/C control signal			T				R			
			R				T			
Cooling fan speed signal	R									T
Position light request signal			R		T		R			R
Low beam request signal					T					R
Low beam status signal	R									T
High beam request signal					T		R			R
High beam status signal	R									T
Front fog light request signal					T					R
Day time running light request signal					T		R			
Turn LED burnout status signal					R		T			
Vehicle speed signal							R	T		
	R	R	R		R		T		R	
Sleep wake up signal					T		R		R	R
Door switch signal			R		T		R		R	R
Turn indicator signal					T		R			
Key fob ID signal					T				R	
Key fob door unlock signal					T				R	
Oil pressure switch signal					R					T
					T		R			
Buzzer output signal					T		R			
Fuel level sensor signal	R						T			
Fuel level low warning signal			R				T			
Front wiper request signal					T					R
Front wiper stop position signal					R					T
Rear window defogger switch signal					T					R
Rear window defogger control signal	R		R		R					T
Hood switch signal					R					T
Theft warning horn request signal					T					R
Horn chirp signal					T					R
Steering angle sensor signal						T		R		
ABS warning lamp signal							R	T		
VDC OFF indicator lamp signal							R	T		
SLIP indicator lamp signal							R	T		
Brake warning lamp signal							R	T		
System setting signal			T		R				R	
AWD warning lamp signal				T			R			

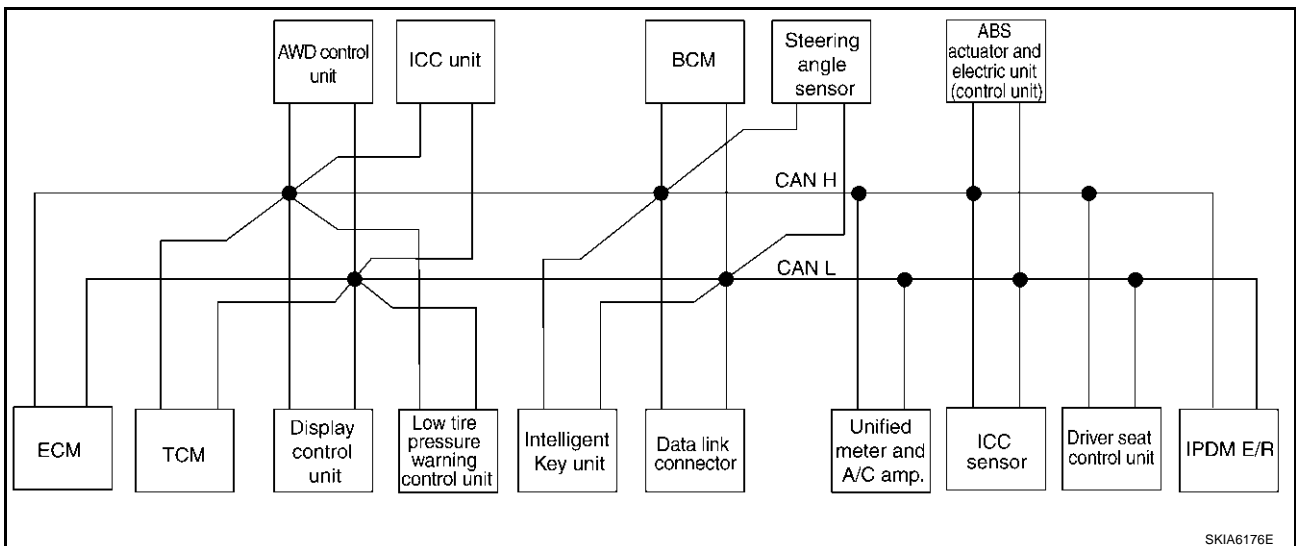
# FRONT FOG LAMP

Signals	ECM	TCM	Display unit	AWD control unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
AWD lock indicator lamp signal				T			R			
Distance to empty signal			R				T			
Hand brake switch signal				R	R		T			
ASCOD operation signal	T	R								
ASCOD OD cancel request	T	R								
A/T CHECK indicator lamp signal		T					R			
A/T position indicator lamp signal		T					R			
A/T shift schedule change demand signal		R						T		
Manual mode signal		R					T			
Not manual mode signal		R					T			
Manual mode shift up signal		R					T			
Manual mode shift down signal		R					T			
Manual mode indicator signal		T					R			

## TYPE 6

### System Diagram

- Type6



# FRONT FOG LAMP

## Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	AWD control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPD M E/R
A/T self-diagnosis signal	R	T												
ABS operation signal	R				R	R						T		
TCS operation signal	R					R						T		
VDC operation signal	R				R	R					R	T		
Stop lamp switch signal		R			R					T				
Battery voltage signal	T	R												
Key switch signal								T					R	
Ignition switch signal								T					R	R
P range signal		T				R						R	R	
Closed throttle position signal	T	R				R								
Wide open throttle position signal	T	R												
Engine speed signal	T	R	R		R	R				R		R		
Engine status signal	T							R						
Engine coolant temperature signal	T	R				R				R				
Accelerator pedal position signal	T	R			R	R						R		
Fuel consumption monitor signal	T		R							R				
A/T self-diagnosis signal	R	T												
Input shaft revolution signal	R	T				R								
Output shaft revolution signal	R	T				R								
A/C switch signal	R							T						
A/C compressor request signal	T													R
A/C relay status signal	R													T
A/C compressor feedback signal	T									R				
Blower fan motor switch signal	R							T						
A/C control signal			T							R				
			R							T				
Cooling fan speed signal	R													T
Position light request signal			R					T		R				R
Low beam request signal								T						R
Low beam status signal	R													T
High beam request signal								T		R				R

# FRONT FOG LAMP

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	AWD control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPD M E/ R
High beam status signal	R													T
Front fog light request signal								T						R
Day time running light request signal								T		R				
Turn LED burnout status signal								R		T				
Vehicle speed signal						R				R		T		
	R	R	R	R			R	R		T	R		R	
Sleep wake up signal								T		R			R	R
							T	R						
Door switch signal			R				R	T		R			R	R
Key fob ID signal								T					R	
Key fob door unlock signal								T					R	
Oil pressure switch signal								R						T
								T		R				
Buzzer output signal								T		R				
						T				R				
Fuel level sensor signal	R									T				
Fuel level low warning signal			R							T				
ICC operation signal	R					T								
Front wiper request signal						R		T						R
Front wiper stop position signal								R						T
Rear window defogger switch signal								T						R
Rear window defogger control signal	R		R					R						T
Hood switch signal								R						T
Theft warning horn request signal								T						R
Horn chirp signal								T						R
Steering angle sensor signal									T			R		
Tire pressure signal				T						R				
Tire pressure data signal			R	T										
ABS warning lamp signal						R				R		T		
VDC OFF indicator lamp signal						R				R		T		
SLIP indicator lamp signal										R		T		

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# FRONT FOG LAMP

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	AWD control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPD M E/R
Brake warning lamp signal										R		T		
System setting signal			T				R						R	
AWD warning lamp signal					T					R				
AWD lock indicator lamp signal					T					R				
Distance to empty signal			R							T				
Hand brake switch signal					R			R		T				
Door lock/unlock request signal							T	R						
Door lock/unlock status signal							R	T						
Starter permission signal							T	R						
Back door open request signal							T	R						
Power window open request signal							T	R						
Alarm request signal							T	R						
Key warning signal							T			R				
ICC sensor signal						R					T			
ICC warning lamp signal						T				R				
ICC system display signal						T				R				
Current gear position signal		T				R						R		
Steering switch signal	T					R								
ASCD operation signal	T	R												
ASCD OD cancel request	T	R												
ICC OD cancel request	R	R				T								
A/T CHECK indicator lamp signal		T								R				
A/T position indicator lamp signal		T								R				
A/T shift schedule change demand signal		R										T		
Manual mode signal		R								T				
Not manual mode signal		R								T				
Manual mode shift up signal		R								T				
Manual mode shift down signal		R								T				
Manual mode indicator signal		T								R				
Ignition knob switch signal							T	R						

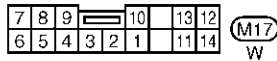
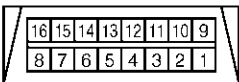
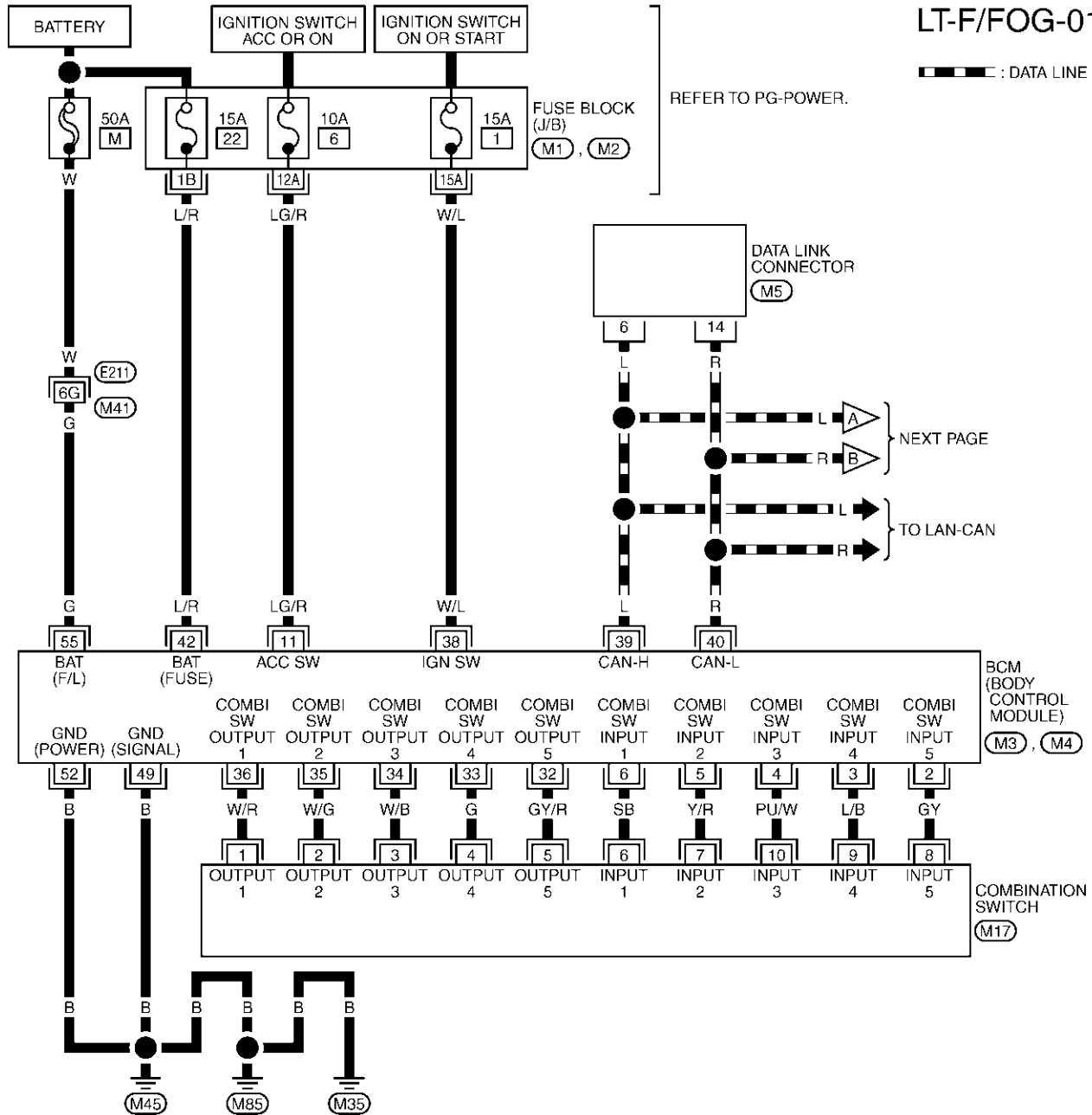
# FRONT FOG LAMP

## Wiring Diagram — F/FOG —

AKS007CL

LT-F/FOG-01

▬ : DATA LINE

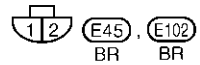
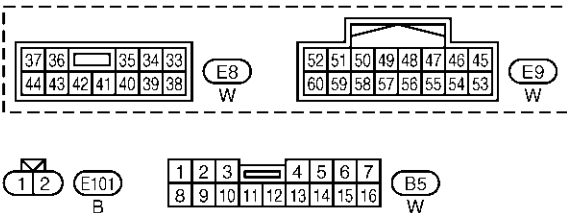
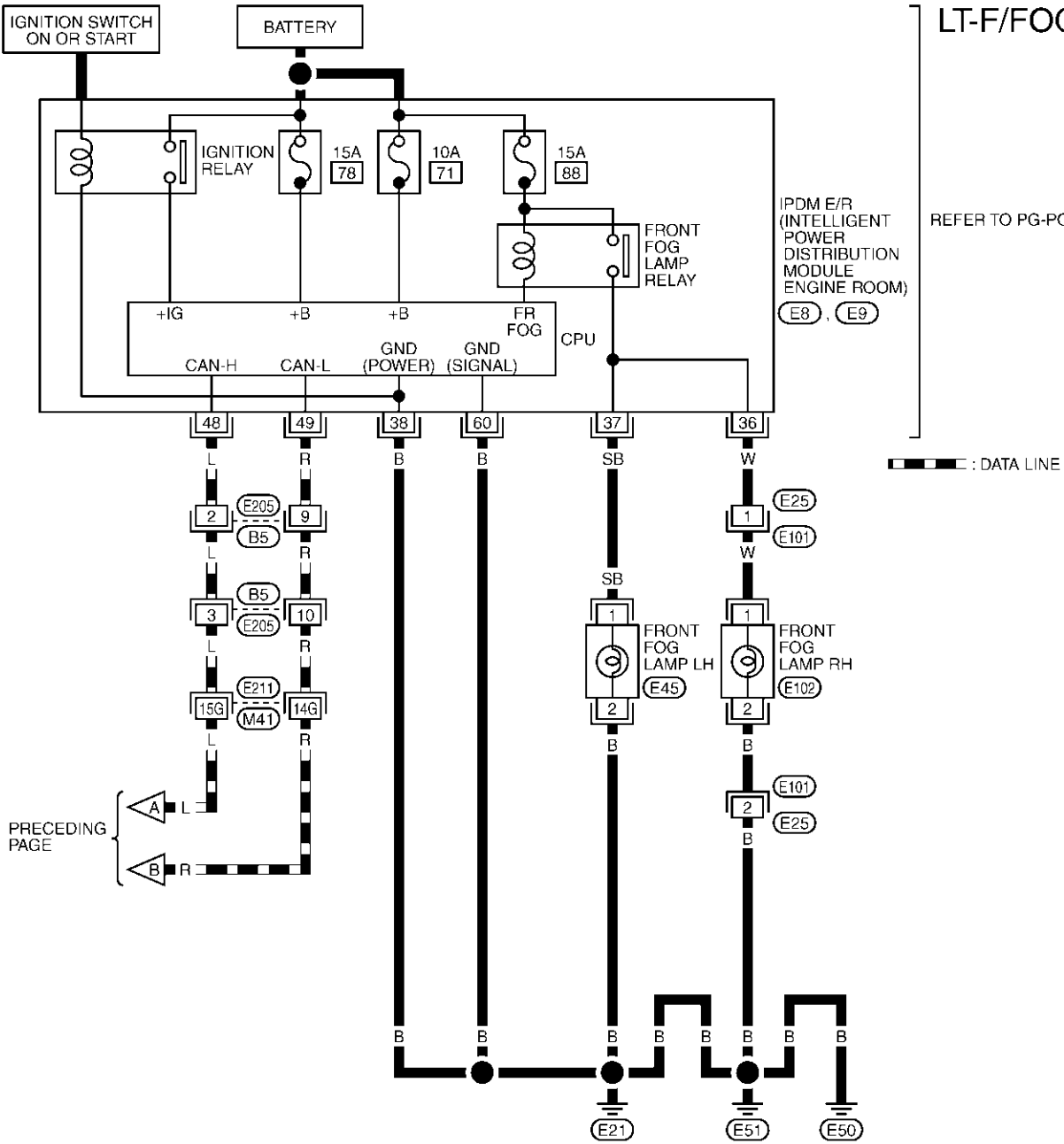


REFER TO THE FOLLOWING.

- (E21) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1), (M2) -FUSE BLOCK-JUNCTION BOX (J/B)
- (M3), (M4) -ELECTRICAL UNITS

TKWM0819E

# FRONT FOG LAMP



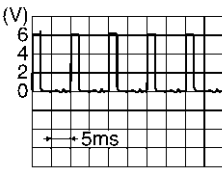
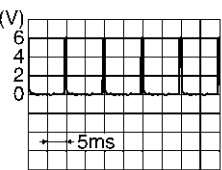
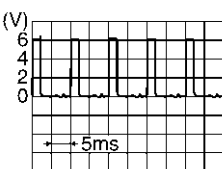
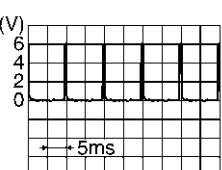

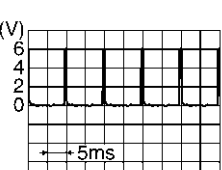

REFER TO THE FOLLOWING.  
E21 - SUPER MULTIPLE JUNCTION (SMJ)



# FRONT FOG LAMP

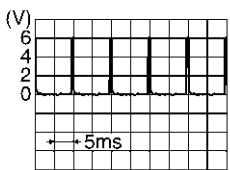
## Terminals and Reference Value for BCM

AKS007XP

Terminal No.	Wire color	Signal name	Measuring condition		Reference value
			Ignition switch	Operation or condition	
2	GY	Combination switch input 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5291E</p>
3	L/B	Combination switch input 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5292E</p>
4	PU/W	Combination switch input 3	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5291E</p>
5	Y/R	Combination switch input 2	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5292E</p>
6	SB	Combination switch input 1			
11	LG/R	Ignition switch (ACC)	ACC	—	Battery voltage
32	GY/R	Combination switch output 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5291E</p>
33	G	Combination switch output 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5292E</p>
34	W/B	Combination switch output 3	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5291E</p>

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# FRONT FOG LAMP

Terminal No.	Wire color	Signal name	Measuring condition		Reference value
			Ignition switch	Operation or condition	
35	W/G	Combination switch output 2	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
36	W/R	Combination switch output 1			
38	W/L	Ignition switch (ON)	ON	—	Battery voltage
39	L	CAN- H	—	—	—
40	R	CAN- L	—	—	—
42	L/R	Battery power supply	OFF	—	Battery voltage
49	B	Ground	ON	—	Approx. 0V
52	B	Ground	ON	—	Approx. 0V
55	G	Battery power supply	OFF	—	Battery voltage

## Terminals and Reference Values for IPDM E/R

AKS007CN

Terminal No.	Wire color	Signal name	Measuring condition			Reference value
			Ignition switch	Operation or condition		
36	W	Front fog lamp (RH)	ON	Lighting switch must be in the 2ND position or AUTO position (LOW beam is ON) and the front fog lamp switch must be ON.	OFF	Approx. 0V
					ON	Battery voltage
37	SB	Front fog lamp (LH)	ON	Lighting switch must be in the 2ND position or AUTO position (LOW beam is ON) and the front fog lamp switch must be ON.	OFF	Approx. 0V
					ON	Battery voltage
38	B	Ground	ON	—	Approx. 0V	
48	L	CAN- H	—	—	—	
49	R	CAN- L	—	—	—	
60	B	Ground	ON	—	Approx. 0V	

## How to Proceed With Trouble Diagnosis

AKS007CO

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to [LT-119, "System Description"](#) .
3. Perform the Preliminary Check. Refer to [LT-138, "Preliminary Check"](#) .
4. Check symptom and repair or replace the cause of malfunction.
5. Does the front fog lamp operate normally? If YES: GO TO 6. If NO: GO TO 4.
6. INSPECTION END

## Preliminary Check

AKS007CP

### CHECK POWER SUPPLY AND GROUND CIRCUIT

#### 1. CHECK FUSES

- Check fuses for blown-out.

Unit	Power source	Fuse and fusible link No.
BCM	Battery	M
		22
	Ignition switch ON or START position	1
	Ignition switch ACC or ON position	6
IPDM E/R	Battery	88

# FRONT FOG LAMP

Refer to [LT-135, "Wiring Diagram — F/FOG —"](#).

## OK or NG

OK >> GO TO 2.

NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to [PG-3, "POWER SUPPLY ROUTING CIRCUIT"](#).

## 2. CHECK POWER SUPPLY CIRCUIT

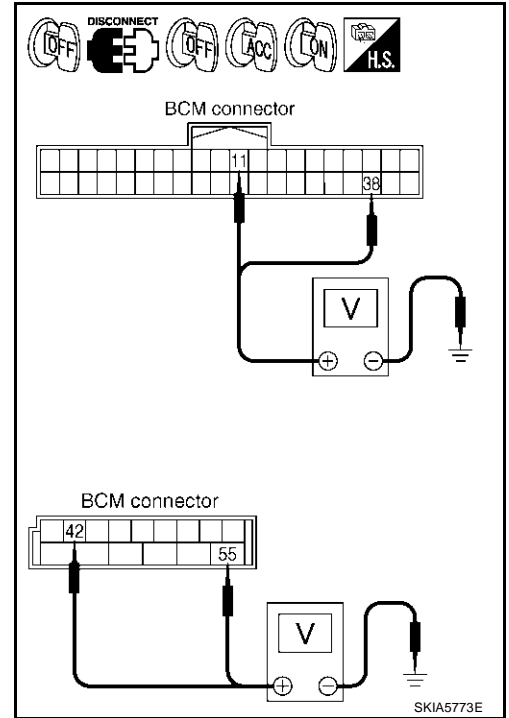
1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check voltage between BCM harness connector and ground.

Terminals		(-)	Ignition switch position		
Connector	Terminal (Wire color)		OFF	ACC	ON
M3	11 (LG/R)	Ground	0V	Battery voltage	Battery voltage
	38 (W/L)		0V	0V	Battery voltage
M4	42 (L/R)		Battery voltage	Battery voltage	Battery voltage
	55 (G)		Battery voltage	Battery voltage	Battery voltage

## OK or NG

OK >> GO TO 3.

NG >> Check harness for open or short between BCM and fuse.



## 3. CHECK GROUND CIRCUIT

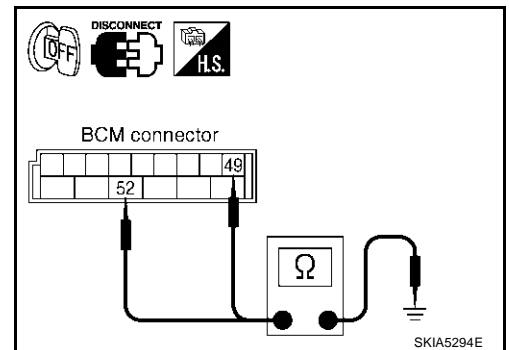
Check continuity between BCM harness connector and ground.

Terminals		Continuity
Connector	Terminal (Wire color)	
M4	49 (B)	Ground
	52 (B)	
		Yes

## OK or NG

OK >> INSPECTION END

NG >> Check ground circuit harness.



## CONSULT-II Function

Refer to [LT-32, "CONSULT-II Function \(BCM\)"](#) in HEAD LAMP.

Refer to [LT-35, "CONSULT-II Functions \(IPDM E/R\)"](#) in HEAD LAMP.

# FRONT FOG LAMP

AKS00719

## Front Fog lamps Do Not Illuminate (Both Sides)

### 1. CHECK COMBINATION SWITCH INPUT SIGNAL

Ⓜ With CONSULT-II

Select "BCM" on CONSULT-II. With "HEAD LAMP" data monitor, make sure "FR FOG SW" turns ON-OFF linked with operation of lighting switch.

**When lighting switch is FOG : FR FOG SW ON position**

ⓧ Without CONSULT-II

Refer to [LT-182, "Combination Switch Inspection"](#) .

OK or NG

OK >> GO TO 2.

NG >> Check lighting switch. Refer to [LT-182, "Combination Switch Inspection"](#) .

DATA MONITOR	
MONITOR	
FR FOG SW	ON

SKIA5897E

### 2. FOG LAMP ACTIVE TEST

Ⓜ With CONSULT-II

1. Select "IPDM E/R" on CONSULT-II. and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Select "LAMPS" on "SELECT TEST ITEM" screen.
3. Touch "FOG" screen.
4. Make sure fog lamp operates.

**Fog lamp should operate.**

ⓧ Without CONSULT-II

1. Start auto active test. Refer to [PG-39, "Auto Active Test"](#) .
2. Make sure fog lamp operates.

**Fog lamp should operate.**

OK or NG

OK >> GO TO 3.

NG >> GO TO 4.

### 3. CHECK IPDM E/R

1. Select "IPDM E/R" on CONSULT-II. and select "DATA MONITOR" on "SELECT DIAG MODE" screen.
2. Make sure "FR FOG REQ" turns ON when lighting switch is in FOG position.

**When lighting switch is FOG : FR FOG REQ ON position**

OK or NG

OK >> Replace IPDM E/R.

NG >> Replace BCM. Refer to [BCS-28, "Removal and Installation of BCM"](#) .

ACTIVE TEST	
LAMPS	OFF
	HI
LO	FOG
MODE	BACK
LIGHT	COPY

SKIA5774E

DATA MONITOR	
MONITOR	
FR FOG REQ	ON
	Page Down
	RECORD
MODE	BACK
LIGHT	COPY

SKIA5898E

# FRONT FOG LAMP

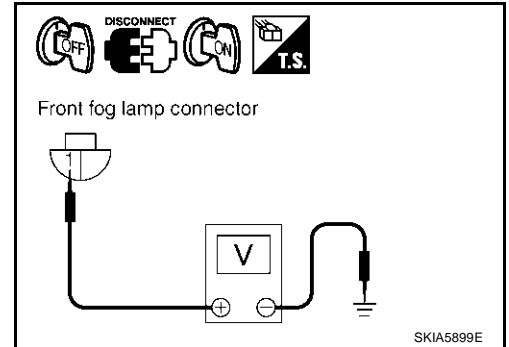
## 4. CHECK FOG LAMP INPUT SIGNAL

☑ With CONSULT-II

1. Turn ignition switch OFF.
2. Disconnect front fog lamp RH and LH connector.
3. Select "IPDM E/R" on CONSULT-II. and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
4. Select "TAIL LAMP" on "SELECT TEST ITEM" screen.
5. Touch "FOG" screen.
6. When fog lamp is operating, check voltage between front fog lamp RH and LH harness connector and ground.

☒ Without CONSULT-II

1. Turn ignition switch OFF.
2. Disconnect front fog lamp RH and LH connector.
3. Start auto active test. Refer to [PG-39, "Auto Active Test"](#).
4. When fog lamp is operating, check voltage between front fog lamp RH and LH harness connector and ground.



Terminals			(-)	Voltage
(+)		Terminal (Wire color)		
Connector				Ground
RH	E102	1 (W)		
LH	E45	1 (SB)		

OK or NG

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

## 5. CHECK FOG LAMP CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Check continuity between IPDM E/R harness connector E8 terminal 36 (W) and front fog lamp RH harness connector E102 terminal 1 (W).

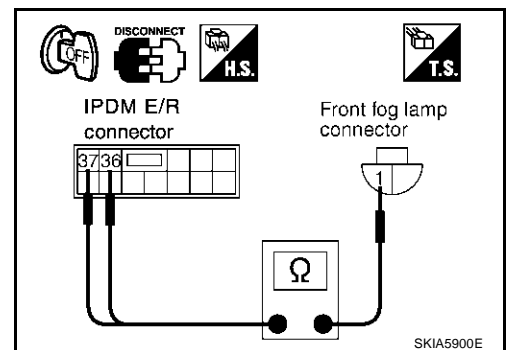
**36 (W) – 1 (W) : Continuity should exist.**

4. Check continuity between IPDM E/R harness connector E8 terminal 37 (SB) and front fog lamp LH harness connector E45 terminal 1 (SB).

**37 (SB) – 1 (SB) : Continuity should exist.**

OK or NG

- OK >> Replace IPDM E/R.  
 NG >> Repair harness or connector.



# FRONT FOG LAMP

## 6. CHECK FOG LAMP GROUND

1. Check continuity between front fog lamp RH harness connector E102 terminal 2 (B) and ground.

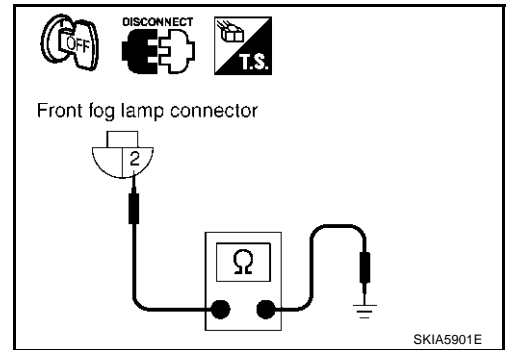
**2 (B) – Ground : Continuity should exist.**

2. Check continuity between front fog lamp LH harness connector E45 terminal 2 (B) and ground.

**2 (B) – Ground : Continuity should exist.**

OK or NG

- OK >> Check front fog lamp bulbs.  
NG >> Repair harness or connector.



## Front Fog Lamp Does Not Illuminate (One Side)

AKS0071A

### 1. CHECK BULB

Check bulb of lamp which does not illuminate.

OK or NG

- OK >> GO TO 2.  
NG >> Replace front fog lamp bulb.

### 2. CHECK FOG LAMP CIRCUIT

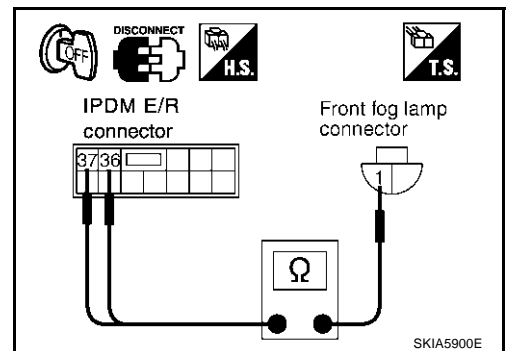
1. Disconnect IPDM E/R connector and front fog lamp RH or LH connector.

2. Check continuity between IPDM E/R harness connector E8 terminal 36 (W) and front fog lamp RH harness connector E102 terminal 1 (W).

**36 (W) – 1 (W) : Continuity should exist.**

3. Check continuity between IPDM E/R harness connector E8 terminal 37 (SB) and front fog lamp LH harness connector E45 terminal 1 (SB).

**37 (SB) – 1 (SB) : Continuity should exist.**



OK or NG

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

### 3. CHECK FOG LAMP GROUND

1. Check continuity between front fog lamp RH harness connector E102 terminal 2 (B) and ground.

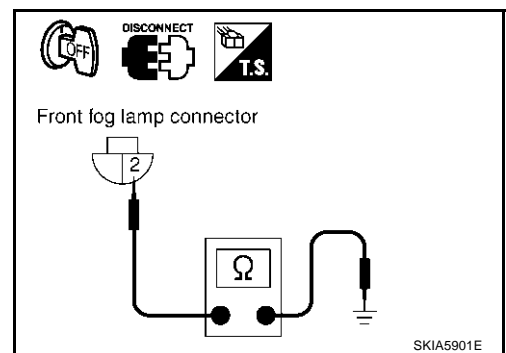
**2 (B) – Ground : Continuity should exist.**

2. Check continuity between front fog lamp LH harness connector E45 terminal 2 (B) and ground.

**2 (B) – Ground : Continuity should exist.**

OK or NG

- OK >> Replace IPDM E/R.  
NG >> Repair harness or connector.



# FRONT FOG LAMP

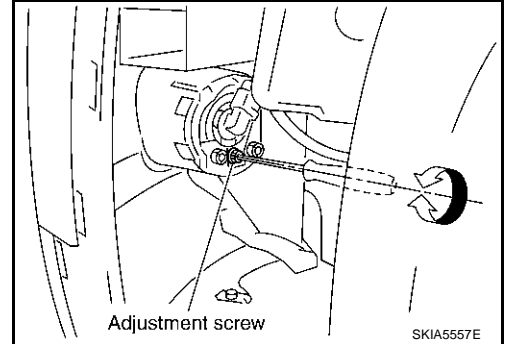
## Aiming Adjustment

AKS007CT

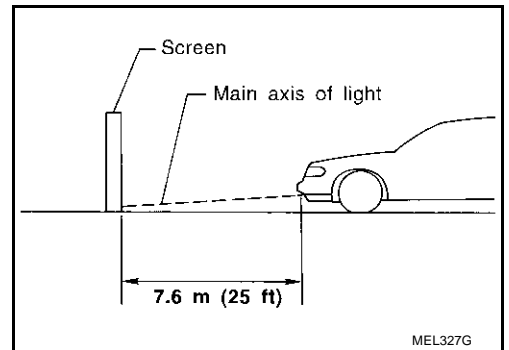
The fog lamp is a semi-sealed beam type which uses a replaceable halogen bulb. Before performing aiming adjustment, make sure of the following.

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

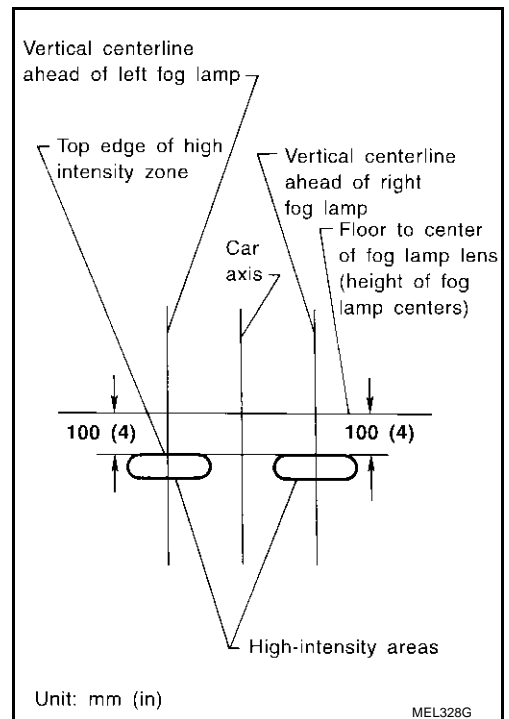
Adjust aiming in the vertical direction by turning the adjusting screw.



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



3. Adjust front fog lamps using adjusting screw so that the top edge of the high intensity zone is 100 mm (4 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.



# FRONT FOG LAMP

## Bulb Replacement

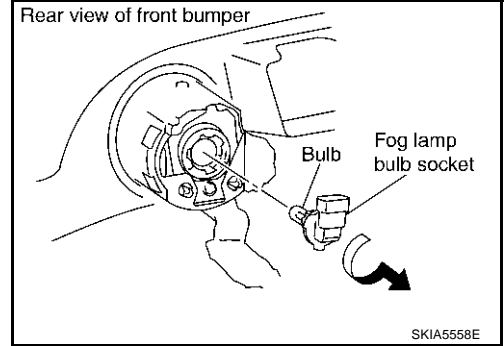
AKS007CU

1. Remove left side fender protector (front). Refer to [EI-25, "Removal and Installation"](#), [EI-14, "Removal and Installation"](#) in "EI" section.
2. Disconnect fog lamp connector.
3. Turn bulb socket counterclockwise and unlock it.

**Fog lamp : 12 V - 51 W (HB4 halogen)**

### CAUTION:

- Do not touch the glass of bulb directly by hand. Keep grease and other oily matters away from it. Do not touch bulb by hand while it is lit or right after being turned off. Burning may result.
- Do not leave bulb out of fog lamp reflector 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.

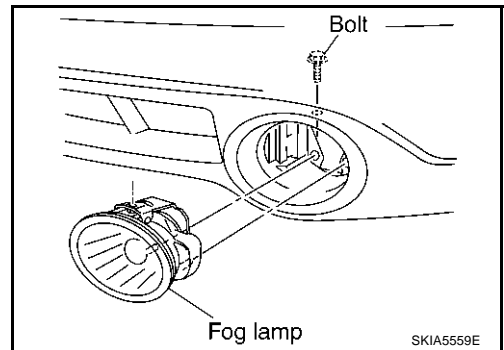


## Removal and Installation

### REMOVAL

AKS007CV

1. Remove front bumper fascia. Refer to [EI-14, "Removal and Installation"](#) in "EI" section.
2. Remove fog lamp mounting bolt.
3. Pull out fog lamp from vehicle and disconnect fog lamp connector.



### INSTALLATION

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

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



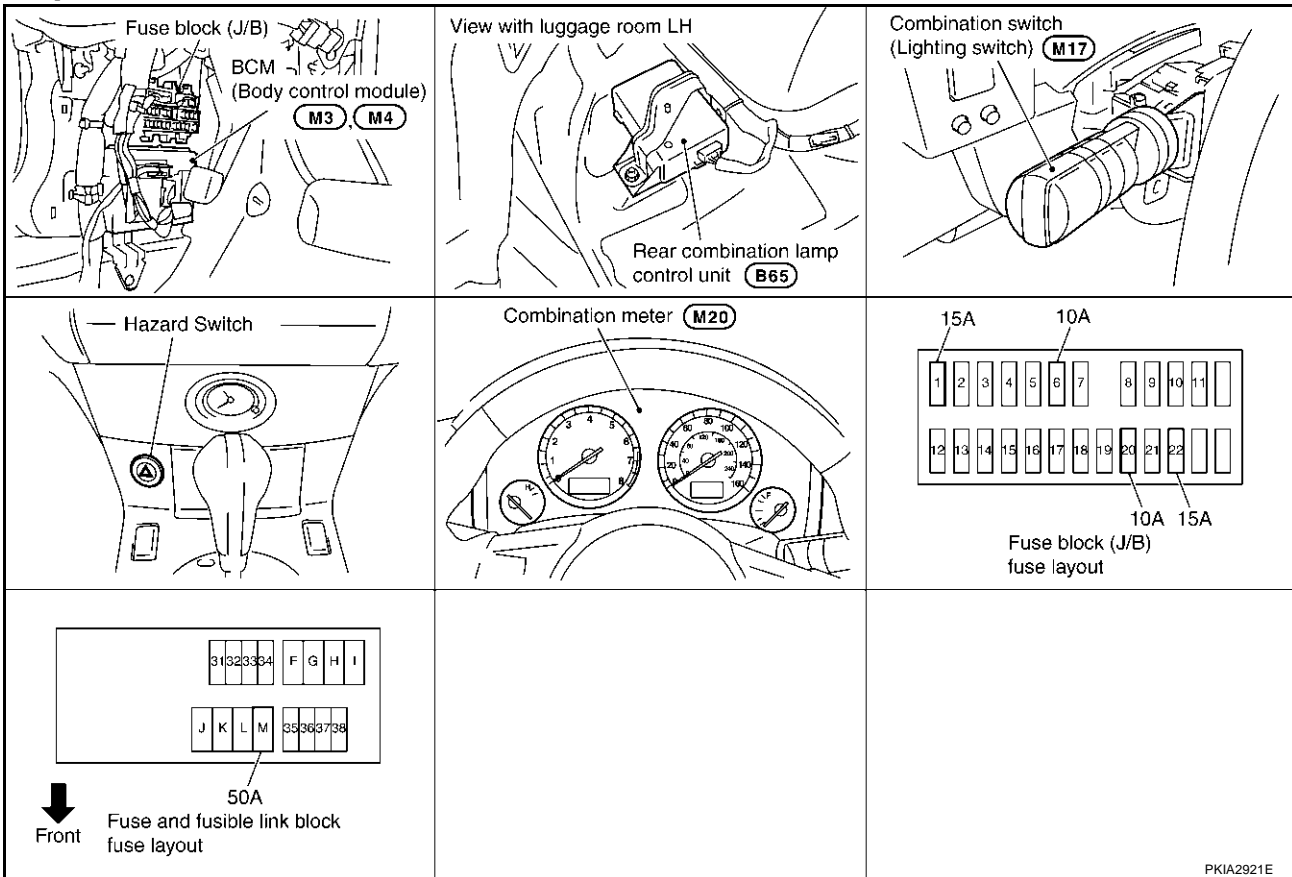
# TURN SIGNAL AND HAZARD WARNING LAMPS

## TURN SIGNAL AND HAZARD WARNING LAMPS

PPF:26120

### Component Parts and Harness Connector Location

AKS00706



PKIA2921E

### System Description OUTLINE

AKS007CW

Power is supplied at all times

- through 50A fusible link (letter M, located in fuse and fusible link block)
- to BCM (body control module) terminal 55
- through 15A fuse [No. 22, located in fuse block (J/B)]
- to BCM (body control module) terminal 42
- through 10A fuse [No. 20, located in fuse block (J/B)]
- to rear combination lamp control unit terminal 1
- through 10A fuse [No. 19, located in fuse block (J/B)]
- to combination meter terminal 8.

### TURN SIGNAL OPERATION

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

- through 15A fuse [No. 1, located in fuse block (J/B)]
- to BCM (body control module) terminal 38
- through 10A fuse [No. 14, located in fuse block (J/B)]
- to combination meter terminal 7.

Ground is supplied

- to BCM (body control module) terminals 49 and 52
- through grounds M35, M45 and M85
- to rear combination lamp control unit terminal 7
- through grounds E21, E50 and E51
- to combination meter terminals 5, 6 and 15

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# TURN SIGNAL AND HAZARD WARNING LAMPS

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- through grounds M35, M45 and M85.

## LH Turn

When the turn signal switch is moved to the left position, BCM output turn signal from BCM terminal 45, interpreting it as turn signal is ON.

Connected from BCM (body control module) terminal 45 to front combination lamp LH terminal 4.

Turn signal lamp turns on

- through front combination lamp LH terminal 8
- to ground E21, E50 and E51.

Connected from BCM terminal 45 to rear combination lamp control unit terminal 4.

Rear turn signal (LED) turns on

- through rear combination lamp control unit terminal 11
- to rear combination lamp LH terminal 3
- through rear combination lamp LH terminal 4
- to rear combination lamp control unit terminal 10.

BCM sends signal to unified meter and A/C amp. through CAN communication lines, and turns on turn signal indicator lamp with combination meter.

When rear turn signal lamp (LED) does not turn on, rear combination lamp control unit sends signal to unified meter and A/C amp. Unified meter and A/C amp. sends LED burnout status signal to BCM through CAN communication lines for speeding up turn signal blinking.

## RH Turn

When the turn signal switch is moved to the right position, BCM output turn signal from BCM terminal 46, interpreting it as turn signal is ON.

Connected from BCM terminal 46 to front combination lamp RH terminal 4.

Turn signal lamp turns on

- through front combination lamp RH terminal 8
- to ground E21, E50 and E51.

Connected from BCM terminal 46 to rear combination lamp control unit terminal 5.

Rear turn signal (LED) turns on

- through rear combination lamp control unit terminal 9
- to rear combination lamp RH terminal 3
- through rear combination lamp RH terminal 4
- to rear combination lamp control unit terminal 8.

BCM sends signal to unified meter and A/C amp. through CAN communication lines, and turns on turn signal indicator lamp with combination meter.

When rear turn signal lamp (LED) does not turn on, rear combination lamp control unit sends signal to unified meter and A/C amp. Unified meter and A/C amp. sends LED burnout status signal to BCM through CAN communication lines for speeding up turn signal blinking.

## HAZARD LAMP OPERATION

Power is supplied at all times

- through 50A fusible link [letter M, located in fuse and fusible link block]
- to BCM (body control module) terminal 55
- through 10A fuse [No. 19, located in fuse block (J/B)]
- to combination meter terminal 8
- through 10A fuse [No. 20, located in fuse block (J/B)]
- to rear combination lamp control unit terminal 1.

Ground is supplied

- through BCM terminals 49 and 52
- to grounds M35, M45 and M85
- through rear combination lamp control unit terminal 7
- to grounds E21, E50 and E51
- through combination meter terminals 5, 6 and 15

# TURN SIGNAL AND HAZARD WARNING LAMPS

- to grounds M35, M45 and M85.

When the hazard switch is depressed, ground is supplied

- through BCM terminal 29
- to hazard switch terminal 2
- through hazard switch terminal 1
- to grounds M35, M45 and M85.

When the hazard switch is depressed, BCM output turn signal from BCM terminals 45 and 46, interpreting it as turn signal is ON.

Connected from BCM terminals 45 and 46 to front combination lamp terminal 4.

Turn signal lamp turns on

- through front combination lamp terminal 8
- to ground E21, E50 and E51.

Connected from BCM terminals 45 and 46 to rear combination lamp control unit terminals 4 and 5.

Rear turn signal (LED) turns on

- through rear combination lamp control unit terminal 11
- to rear combination lamp LH terminal 3
- through rear combination lamp LH terminal 4
- to rear combination lamp control unit terminal 10
- through rear combination lamp control unit terminal 9
- to rear combination lamp RH terminal 3
- through rear combination lamp RH terminal 4
- to rear combination lamp control unit terminal 8.

BCM sends signal to unified meter and A/C amp. through CAN communication lines, and turns on turn signal indicator lamp with combination meter.

When rear turn signal lamp (LED) does not turn on, rear combination lamp control unit sends signal to unified meter and A/C amp. Unified meter and A/C amp. sends LED burnout status signal to BCM through CAN communication lines for speeding up turn signal blinking.

## REMOTE CONTROL ENTRY SYSTEM OPERATION

Power is supplied at all times

- through 50A fusible link [letter M, located in the fuse and fusible link block]
- to BCM terminal 55
- through 10A fuse [No. 19, located in fuse block (J/B)]
- to combination meter terminal 8
- through 10A fuse [No. 20, located in fuse block (J/B)]
- to rear combination lamp control unit terminal 1.

Ground is supplied

- to BCM terminals 49 and 52
- through grounds M35, M45 and M85
- to rear combination lamp control unit terminal 7
- through grounds E21, E50 and E51
- to combination meter terminals 5, 6 and 15
- through grounds M35, M45 and M85.

When the remote control entry system is triggered by input from the key fob, BCM output turn signal from BCM terminals 45 and 46, interpreting it as turn signal is ON.

Connected from BCM terminals 45 and 46 to front combination lamp terminal 4.

Turn signal lamp turns on

- through front combination lamp terminal 8
- to grounds E21, E50 and E51.

Connected from BCM terminal 45 and 46 to rear combination lamp control unit terminals 4 and 5.

Rear turn signal (LED) turns on

- through rear combination lamp control unit terminal 11

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# TURN SIGNAL AND HAZARD WARNING LAMPS

- to rear combination lamp LH terminal 3
- through rear combination lamp LH terminal 4
- to rear combination lamp control unit terminal 10
- through rear combination lamp control unit terminal 9
- to rear combination lamp RH terminal 3
- through rear combination lamp RH terminal 4
- to rear combination lamp control unit terminal 8.

BCM sends signal to unified meter and A/C amp. through CAN communication lines, and turns on turn signal indicator lamp with combination meter.

With power and input supplied, the BCM controls the flashing of the hazard warning lamps when keyfob is used to activate the remote control entry system.

## COMBINATION SWITCH READING FUNCTION

Refer to [BCS-3, "COMBINATION SWITCH READING FUNCTION"](#) .

## CAN Communication System Description

AKS007CX

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

## CAN Communication Unit

AKS0080W

Body type	Wagon					
Axle	2WD			AWD		
Engine	VQ35DE			VQ35DE/VK45DE		
Transmission	A/T					
Brake control	VDC					
Navigation system			×			×
Low tire pressure warning system			×			×
ICC system			×			×
Intelligent Key system			×			×
Automatic drive positioner		×	×		×	×
CAN communication unit						
ECM	×	×	×	×	×	×
TCM	×	×	×	×	×	×
Display unit	×	×		×	×	
Display control unit			×			×
Low tire pressure warning control unit			×			×
AWD control unit				×	×	×
ICC unit			×			×
Intelligent Key unit			×			×
Data link connector	×	×	×	×	×	×
BCM	×	×	×	×	×	×
Steering angle sensor	×	×	×	×	×	×
Unified meter and A/C amp.	×	×	×	×	×	×
ICC sensor			×			×
ABS actuator and electric unit (control unit)	×	×	×	×	×	×
Driver seat control unit		×	×		×	×

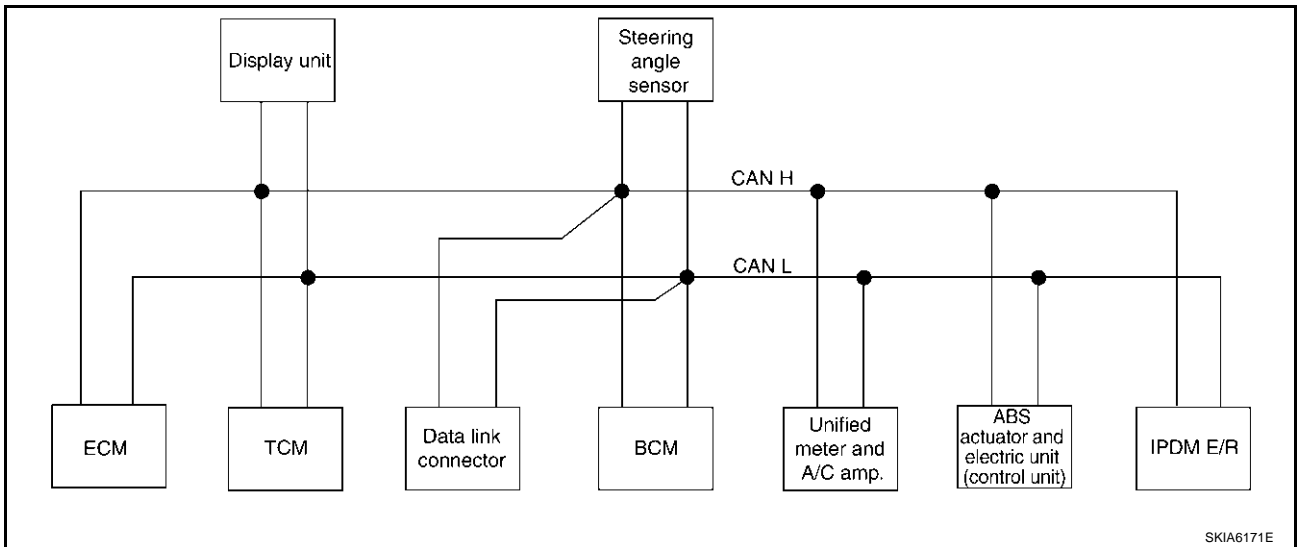
# TURN SIGNAL AND HAZARD WARNING LAMPS

Body type	Wagon					
Axle	2WD			AWD		
Engine	VQ35DE			VQ35DE/VK45DE		
Transmission	A/T					
Brake control	VDC					
Navigation system			×			×
Low tire pressure warning system			×			×
ICC system			×			×
Intelligent Key system			×			×
Automatic drive positioner		×	×		×	×
CAN communication unit						
IPDM E/R	×	×	×	×	×	×
CAN communication type	<a href="#">LT-149, "TYPE 1/TYPE2"</a>		<a href="#">LT-152, "TYPE 3"</a>	<a href="#">LT-155, "TYPE 4/TYPE5"</a>		<a href="#">LT-158, "TYPE 6"</a>

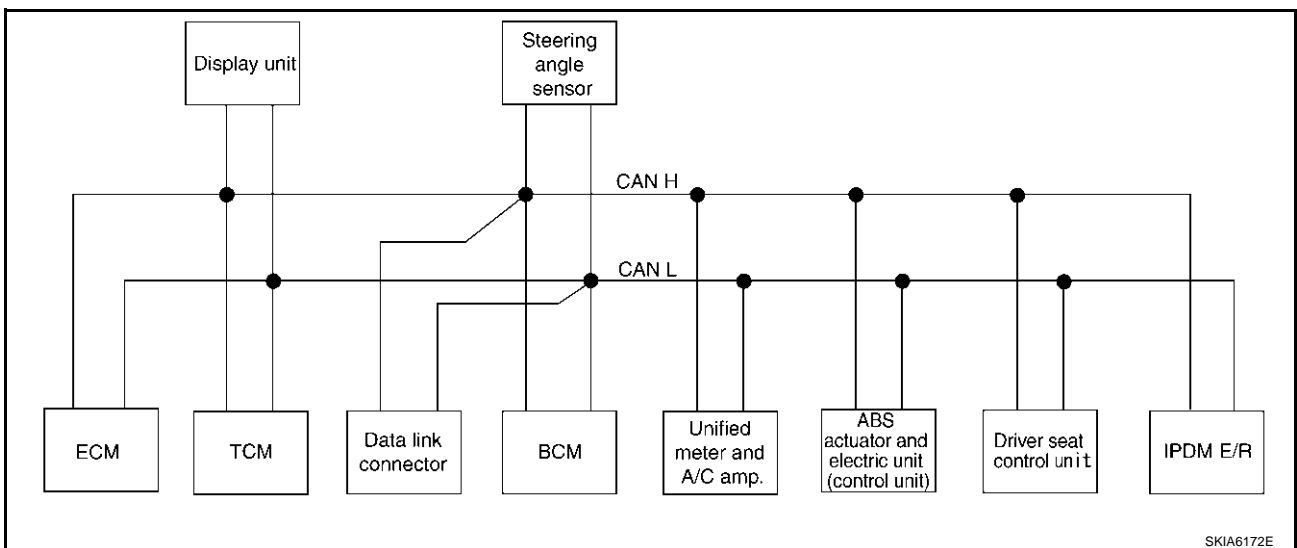
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## TYPE 1/TYPE2 System Diagram

- Type1



- Type2



# TURN SIGNAL AND HAZARD WARNING LAMPS

## Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Engine speed signal	T	R	R			R	R		
Engine status signal	T			R					
Engine coolant temperature signal	T	R				R			
A/T self-diagnosis signal	R	T							
Accelerator pedal position signal	T	R					R		
Closed throttle position signal	T	R							
Wide open throttle position signal	T	R							
Battery voltage signal	T	R							
Key switch signal				T				R	
Ignition switch signal				T				R	R
P range signal		T					R	R	
Stop lamp switch signal		R				T			
ABS operation signal	R						T		
TCS operation signal	R						T		
VDC operation signal	R						T		
Fuel consumption monitor signal	T		R			R			
Input shaft revolution signal	R	T							
Output shaft revolution signal	R	T							
A/C switch signal	R			T					
A/C compressor request signal	T								R
A/C relay status signal	R								T
A/C compressor feedback signal	T					R			
Blower fan motor switch signal	R			T					
A/C control signal			T			R			
			R			T			
Cooling fan speed request signal	T								R
Cooling fan speed signal	R								T
Position light request signal			R	T		R			R
Low beam request signal				T					R
Low beam status signal	R								T
High beam request signal				T		R			R
High beam status signal	R								T
Front fog light request signal				T					R
Day time running light request signal				T		R			
Turn LED burnout status signal				R		T			
Vehicle speed signal						R	T		
	R	R	R	R		T		R	
Sleep wake up signal				T		R		R	R

# TURN SIGNAL AND HAZARD WARNING LAMPS

Signals	ECM	TCM	Display unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Door switch signal			R	T		R		R	R
Turn indicator signal				T		R			
Key fob ID signal				T				R	
Key fob door unlock signal				T				R	
Oil pressure switch signal				R					T
				T		R			
Buzzer output signal				T		R			
Fuel level sensor signal	R					T			
Fuel level low warning signal			R			T			
ASCD operation signal	T	R							
ASCD OD cancel request	T	R							
Front wiper request signal				T					R
Front wiper stop position signal				R					T
Rear window defogger switch signal				T					R
Rear window defogger control signal	R		R	R					T
Hood switch signal				R					T
Theft warning horn request signal				T					R
Horn chirp signal				T					R
Steering angle sensor signal					T		R		
ABS warning lamp signal						R	T		
VDC OFF indicator lamp signal						R	T		
SLIP indicator lamp signal						R	T		
Brake warning lamp signal						R	T		
System setting signal			T	R				R	
A/T CHECK indicator lamp signal		T				R			
A/T position indicator lamp signal		T				R			
A/T shift schedule change demand signal		R					T		
Manual mode signal		R				T			
Not manual mode signal		R				T			
Manual mode shift up signal		R				T			
Manual mode shift down signal		R				T			
Manual mode indicator signal		T				R			
Distance to empty signal			R			T			
Hand brake switch				R		T			

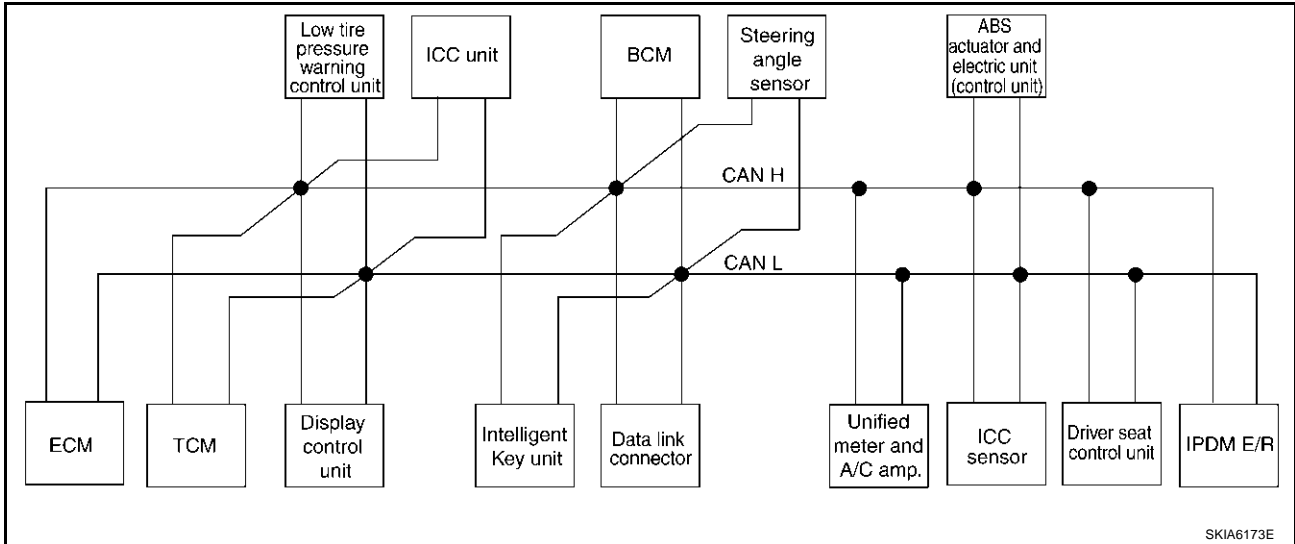
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# TURN SIGNAL AND HAZARD WARNING LAMPS

## TYPE 3

### System Diagram

- Type3



### Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Engine speed signal	T	R	R		R				R		R		
Engine status signal	T						R						
Engine coolant temperature signal	T	R			R				R				
A/T self-diagnosis signal	R	T											
Accelerator pedal position signal	T	R			R						R		
Closed throttle position signal	T	R			R								
Wide open throttle position signal	T	R											
Battery voltage signal	T	R											
Key switch signal							T					R	
Ignition switch signal							T					R	R
P range signal		T			R						R	R	
Stop lamp switch signal		R							T				
ABS operation signal	R				R						T		
TCS operation signal	R				R						T		
VDC operation signal	R				R						T		
Fuel consumption monitor signal	T		R						R				



# TURN SIGNAL AND HAZARD WARNING LAMPS

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R	
Input shaft revolution signal	R	T			R									A
Output shaft revolution signal	R	T			R									B
A/C switch signal	R						T							C
A/C compressor request signal	T												R	D
A/C relay status signal	R												T	E
A/C compressor feedback signal	T								R					F
Blower fan motor switch signal	R						T							G
A/C control signal			T						R					H
			R						T					
Cooling fan speed signal	R												T	I
Position light request signal	R						T		R				R	J
Low beam request signal							T						R	K
Low beam status signal	R												T	L
High beam request signal							T		R				R	M
High beam status signal	R												T	
Front fog light request signal							T						R	LT
Day time running light request signal							T		R					
Turn LED burnout status signal							R		T					
Vehicle speed signal					R				R		T			
	R	R	R	R		R	R		T	R		R		
Sleep wake up signal							T		R			R	R	
						T	R							
Door switch signal			R			R	T		R			R	R	
Turn indicator signal							T		R					
Key fob ID signal							T					R		
Key fob door unlock signal							T					R		
Oil pressure switch signal							R						T	
							T		R					
Buzzer output signal							T		R					
						T			R					
					T				R					

## TURN SIGNAL AND HAZARD WARNING LAMPS

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Fuel level sensor signal	R								T				
Fuel level low warning signal			R						T				
ICC operation signal	R				T								
Front wiper request signal					R		T						R
Front wiper stop position signal							R						T
Rear window defogger switch signal							T						R
Rear window defogger control signal	R		R				R						T
Hood switch signal							R						T
Theft warning horn request signal							T						R
Horn chirp signal							T						R
Steering angle sensor signal								T			R		
Tire pressure signal				T					R				
Tire pressure data signal			R	T									
ABS warning lamp signal					R				R		T		
VDC OFF indicator lamp signal					R				R		T		
SLIP indicator lamp signal									R		T		
Brake warning lamp signal									R		T		
System setting signal			T			R						R	
Distance to empty signal			R						T				
Hand brake switch signal							R		T				
Door lock/unlock request signal						T	R						
Door lock/unlock status signal						R	T						
Starter permission signal						T	R						
Back door open request signal						T	R						
Power window open request signal						T	R						
Alarm request signal						T	R						
Key warning signal						T			R				
ICC sensor signal					R					T			
ICC warning lamp signal					T				R				

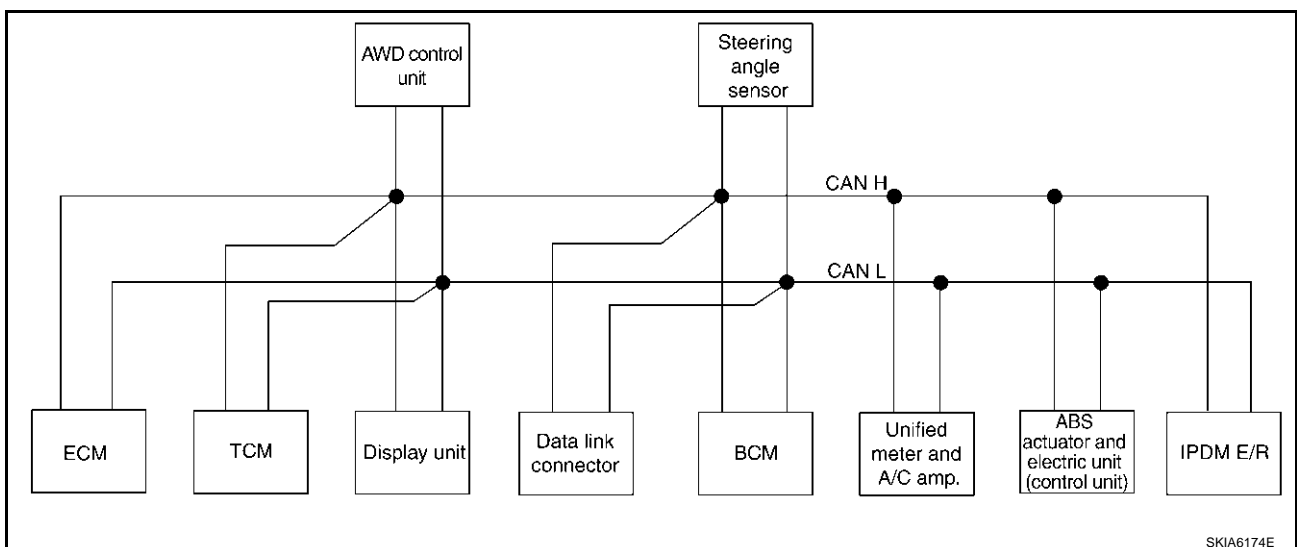
# TURN SIGNAL AND HAZARD WARNING LAMPS

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
ICC system display signal					T				R				
Current gear position signal		T			R						R		
Steering switch signal	T				R								
ASCD operation signal	T	R											
ASCD OD cancel request	T	R											
ICC OD cancel request	R	R			T								
A/T CHECK indicator lamp signal		T							R				
A/T position indicator lamp signal		T							R				
A/T shift schedule change demand signal		R									T		
Manual mode signal		R							T				
Not manual mode signal		R							T				
Manual mode shift up signal		R							T				
Manual mode shift down signal		R							T				
Manual mode indicator signal		T			R				R				
Ignition knob switch signal						T	R						

## TYPE 4/TYPES

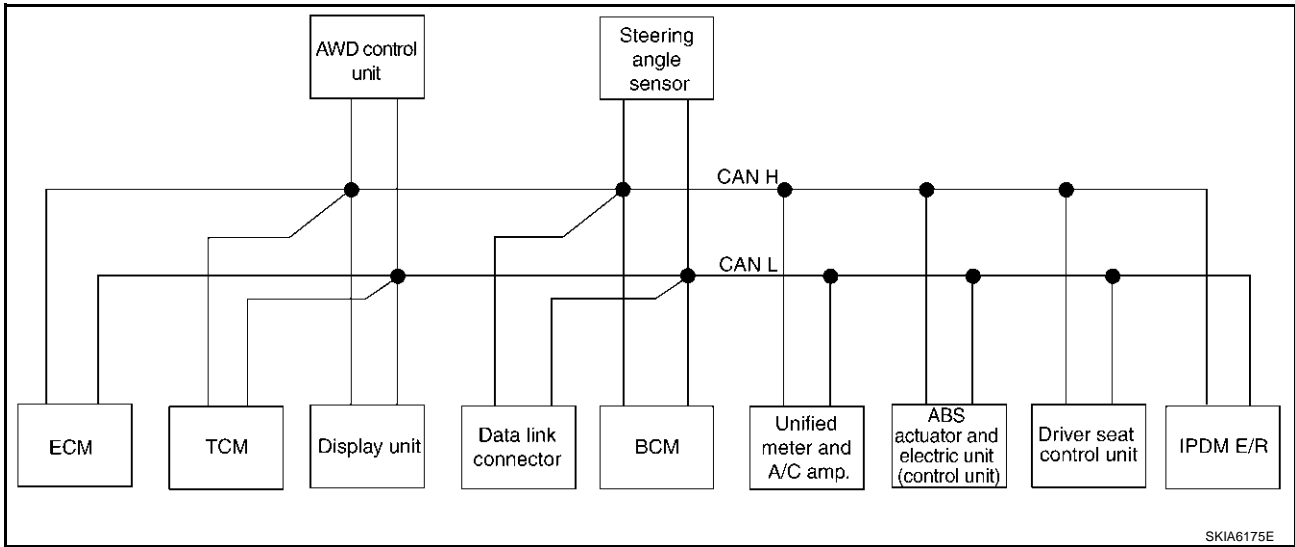
### System Diagram

- Type4



# TURN SIGNAL AND HAZARD WARNING LAMPS

## ● Type5



### Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display unit	AWD control unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
A/T self-diagnosis signal	R	T								
ABS operation signal	R			R				T		
TCS operation signal	R							T		
VDC operation signal	R			R				T		
Stop lamp switch signal		R		R			T			
Battery voltage signal	T	R								
Key switch signal					T				R	
Ignition switch signal					T				R	R
P range signal		T						R	R	
Closed throttle position signal	T	R								
Wide open throttle position signal	T	R								
Engine speed signal	T	R	R	R			R	R		
Engine status signal	T				R					
Engine coolant temperature signal	T	R					R			
Accelerator pedal position signal	T	R		R				R		
Fuel consumption monitor signal	T		R				R			
Input shaft revolution signal	R	T								
Output shaft revolution signal	R	T								
A/C switch signal	R				T					
A/C compressor request signal	T									R
A/C relay status signal	R									T
A/C compressor feedback signal	T						R			

# TURN SIGNAL AND HAZARD WARNING LAMPS

Signals	ECM	TCM	Display unit	AWD control unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Blower fan motor switch signal	R				T					
A/C control signal			T				R			
			R				T			
Cooling fan speed signal	R									T
Position light request signal			R		T		R			R
Low beam request signal					T					R
Low beam status signal	R									T
High beam request signal					T		R			R
High beam status signal	R									T
Front fog light request signal					T					R
Day time running light request signal					T		R			
Turn LED burnout status signal					R		T			
Vehicle speed signal							R	T		
	R	R	R		R		T		R	
Sleep wake up signal					T		R		R	R
Door switch signal			R		T		R		R	R
Turn indicator signal					T		R			
Key fob ID signal					T				R	
Key fob door unlock signal					T				R	
Oil pressure switch signal					R					T
					T		R			
Buzzer output signal					T		R			
Fuel level sensor signal	R						T			
Fuel level low warning signal			R				T			
Front wiper request signal					T					R
Front wiper stop position signal					R					T
Rear window defogger switch signal					T					R
Rear window defogger control signal	R		R		R					T
Hood switch signal					R					T
Theft warning horn request signal					T					R
Horn chirp signal					T					R
Steering angle sensor signal						T		R		
ABS warning lamp signal							R	T		
VDC OFF indicator lamp signal							R	T		
SLIP indicator lamp signal							R	T		
Brake warning lamp signal							R	T		
System setting signal			T		R				R	
AWD warning lamp signal				T			R			

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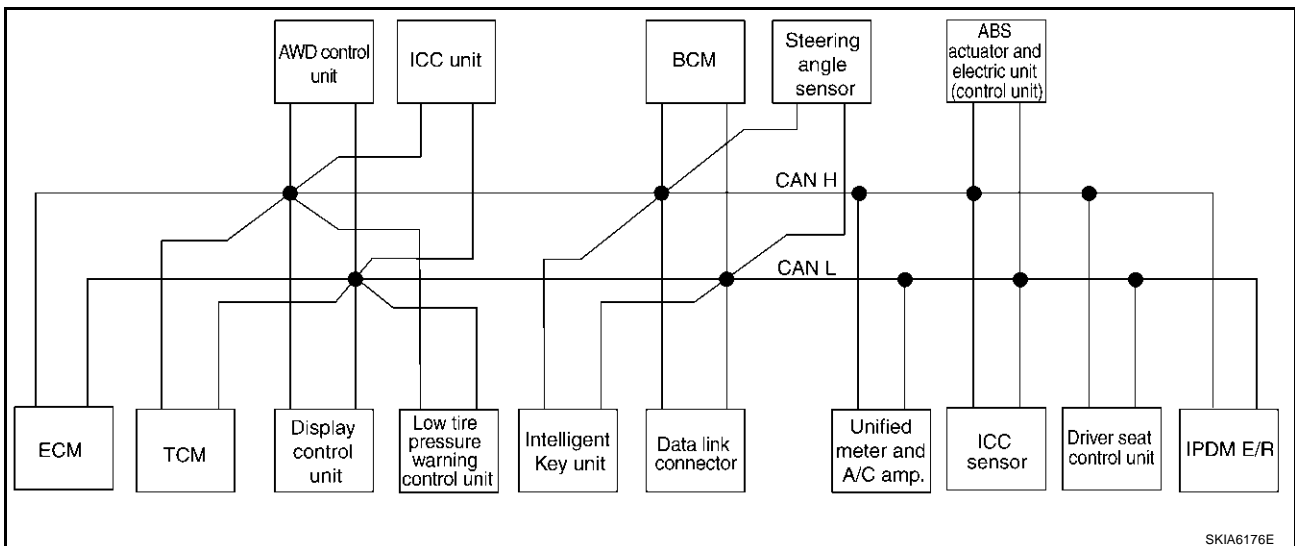
# TURN SIGNAL AND HAZARD WARNING LAMPS

Signals	ECM	TCM	Display unit	AWD control unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
AWD lock indicator lamp signal				T			R			
Distance to empty signal			R				T			
Hand brake switch signal				R	R		T			
ASCD operation signal	T	R								
ASCD OD cancel request	T	R								
A/T CHECK indicator lamp signal		T					R			
A/T position indicator lamp signal		T					R			
A/T shift schedule change demand signal		R						T		
Manual mode signal		R					T			
Not manual mode signal		R					T			
Manual mode shift up signal		R					T			
Manual mode shift down signal		R					T			
Manual mode indicator signal		T					R			

## TYPE 6

### System Diagram

- Type6



# TURN SIGNAL AND HAZARD WARNING LAMPS

## Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	AWD control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPD M E/R
A/T self-diagnosis signal	R	T												
ABS operation signal	R				R	R						T		
TCS operation signal	R					R						T		
VDC operation signal	R				R	R					R	T		
Stop lamp switch signal		R			R					T				
Battery voltage signal	T	R												
Key switch signal								T					R	
Ignition switch signal								T					R	R
P range signal		T				R						R	R	
Closed throttle position signal	T	R				R								
Wide open throttle position signal	T	R												
Engine speed signal	T	R	R		R	R				R		R		
Engine status signal	T							R						
Engine coolant temperature signal	T	R				R				R				
Accelerator pedal position signal	T	R			R	R						R		
Fuel consumption monitor signal	T		R							R				
A/T self-diagnosis signal	R	T												
Input shaft revolution signal	R	T				R								
Output shaft revolution signal	R	T				R								
A/C switch signal	R							T						
A/C compressor request signal	T													R
A/C relay status signal	R													T
A/C compressor feedback signal	T									R				
Blower fan motor switch signal	R							T						
A/C control signal			T							R				
			R							T				
Cooling fan speed signal	R													T
Position light request signal			R					T		R				R
Low beam request signal								T						R
Low beam status signal	R													T
High beam request signal								T		R				R

## TURN SIGNAL AND HAZARD WARNING LAMPS

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	AWD control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPD M E/R
High beam status signal	R													T
Front fog light request signal								T						R
Day time running light request signal								T		R				
Turn LED burnout status signal								R		T				
Vehicle speed signal						R				R		T		
	R	R	R	R			R	R		T	R		R	
Sleep wake up signal								T		R			R	R
							T	R						
Door switch signal			R				R	T		R			R	R
Key fob ID signal								T					R	
Key fob door unlock signal								T					R	
Oil pressure switch signal								R						T
								T		R				
Buzzer output signal							T			R				
						T				R				
Fuel level sensor signal	R									T				
Fuel level low warning signal			R							T				
ICC operation signal	R					T								
Front wiper request signal						R		T						R
Front wiper stop position signal								R						T
Rear window defogger switch signal								T						R
Rear window defogger control signal	R		R					R						T
Hood switch signal								R						T
Theft warning horn request signal								T						R
Horn chirp signal								T						R
Steering angle sensor signal									T			R		
Tire pressure signal				T						R				
Tire pressure data signal			R	T										
ABS warning lamp signal						R				R		T		
VDC OFF indicator lamp signal						R				R		T		
SLIP indicator lamp signal										R		T		



# TURN SIGNAL AND HAZARD WARNING LAMPS

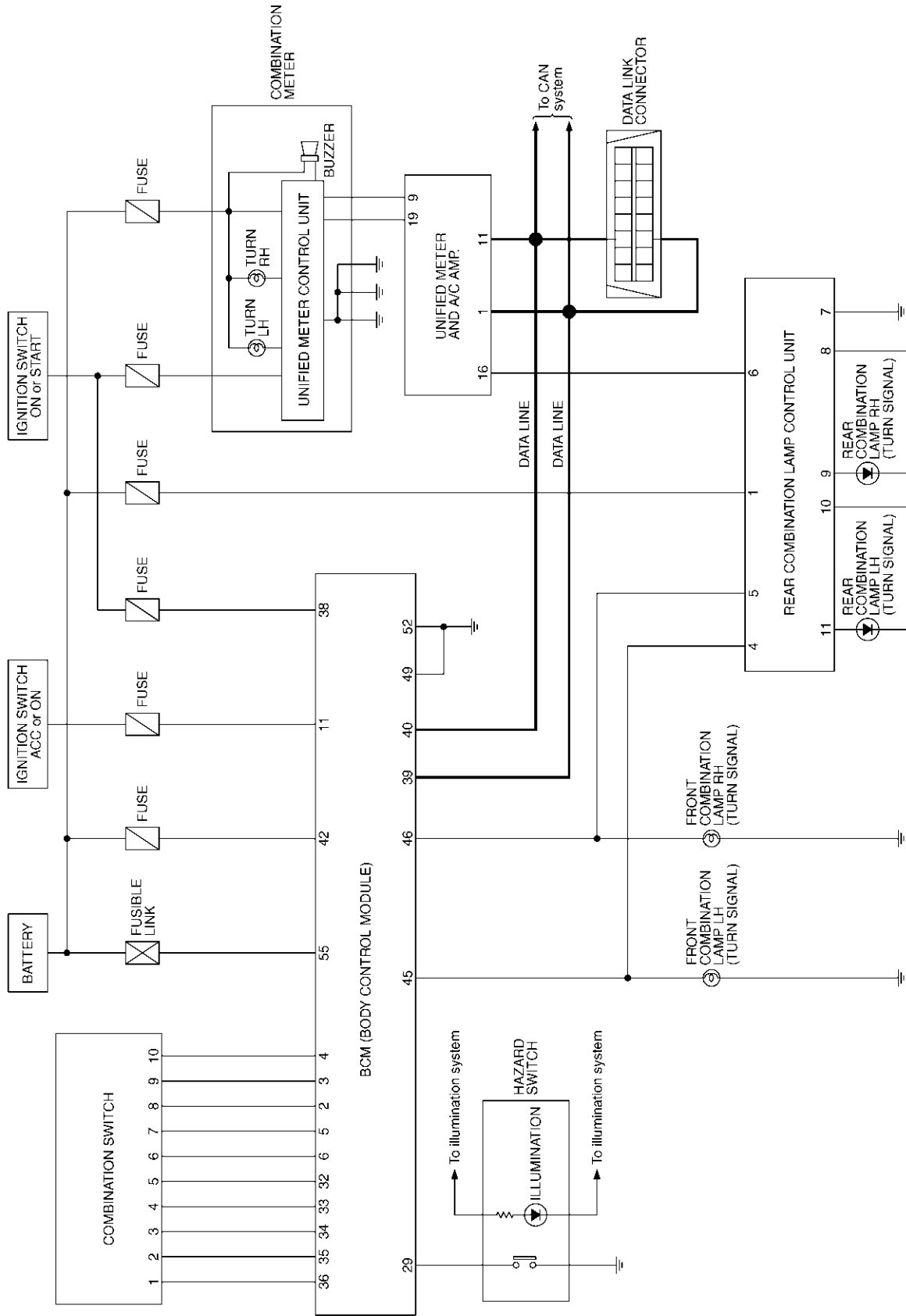
Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	AWD control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPD M E/ R
Brake warning lamp signal										R		T		
System setting signal			T				R						R	
AWD warning lamp signal					T					R				
AWD lock indicator lamp signal					T					R				
Distance to empty signal			R							T				
Hand brake switch signal					R			R		T				
Door lock/unlock request signal							T	R						
Door lock/unlock status signal							R	T						
Starter permission signal							T	R						
Back door open request signal							T	R						
Power window open request signal							T	R						
Alarm request signal							T	R						
Key warning signal							T			R				
ICC sensor signal						R					T			
ICC warning lamp signal						T				R				
ICC system display signal						T				R				
Current gear position signal		T				R						R		
Steering switch signal	T					R								
ASCD operation signal	T	R												
ASCD OD cancel request	T	R												
ICC OD cancel request	R	R				T								
A/T CHECK indicator lamp signal		T								R				
A/T position indicator lamp signal		T								R				
A/T shift schedule change demand signal		R										T		
Manual mode signal		R								T				
Not manual mode signal		R								T				
Manual mode shift up signal		R								T				
Manual mode shift down signal		R								T				
Manual mode indicator signal		T								R				
Ignition knob switch signal							T	R						

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
LT  
L  
M

# TURN SIGNAL AND HAZARD WARNING LAMPS

## Schematic

AKS007CZ



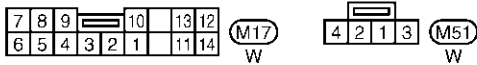
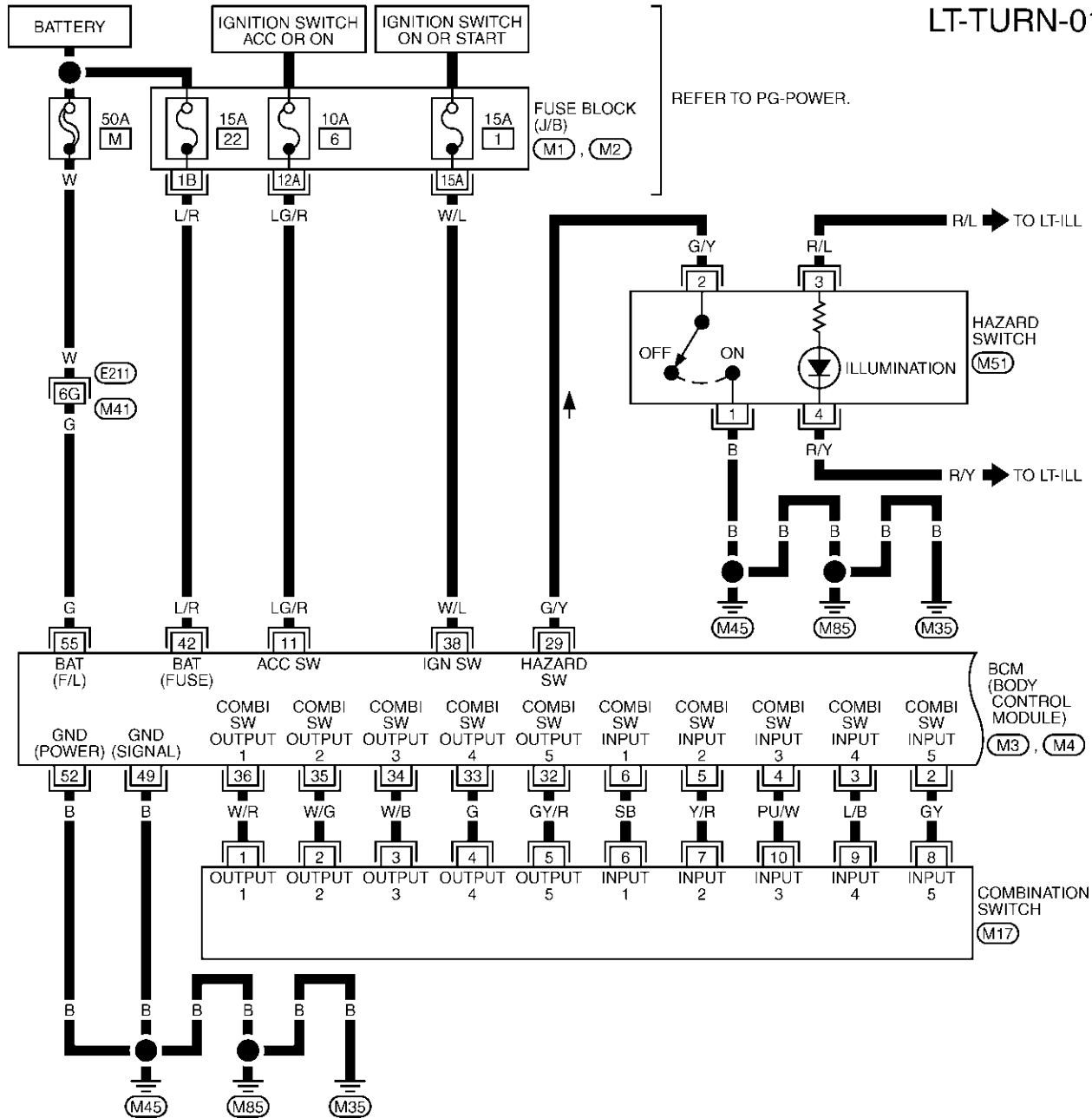
TKWM0621E

# TURN SIGNAL AND HAZARD WARNING LAMPS

## Wiring Diagram — TURN —

AKS007D0

LT-TURN-01



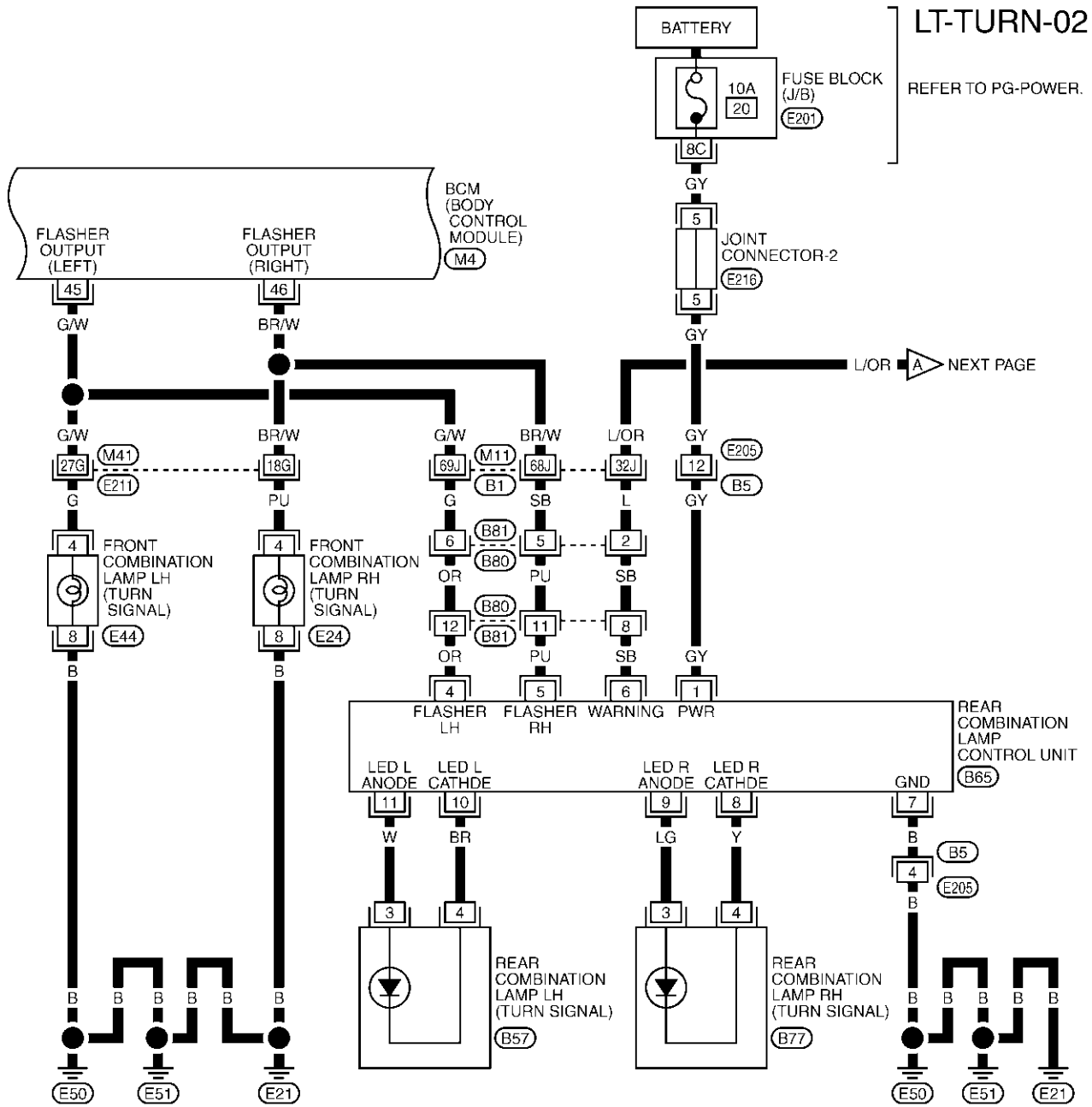
REFER TO THE FOLLOWING.

- (E21) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1) , (M2) -FUSE BLOCK-JUNCTION BOX (J/B)
- (M3) , (M4) -ELECTRICAL UNITS

A  
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G  
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J  
K  
L  
M

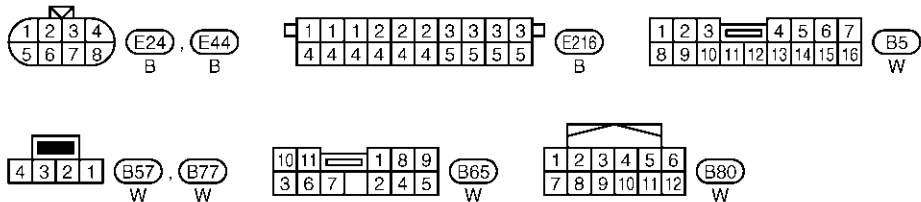
LT

# TURN SIGNAL AND HAZARD WARNING LAMPS



**LT-TURN-02**  
REFER TO PG-POWER.

L/OR **A** NEXT PAGE

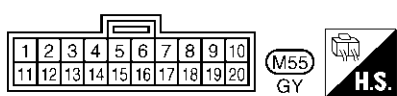
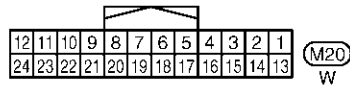
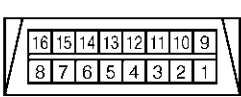
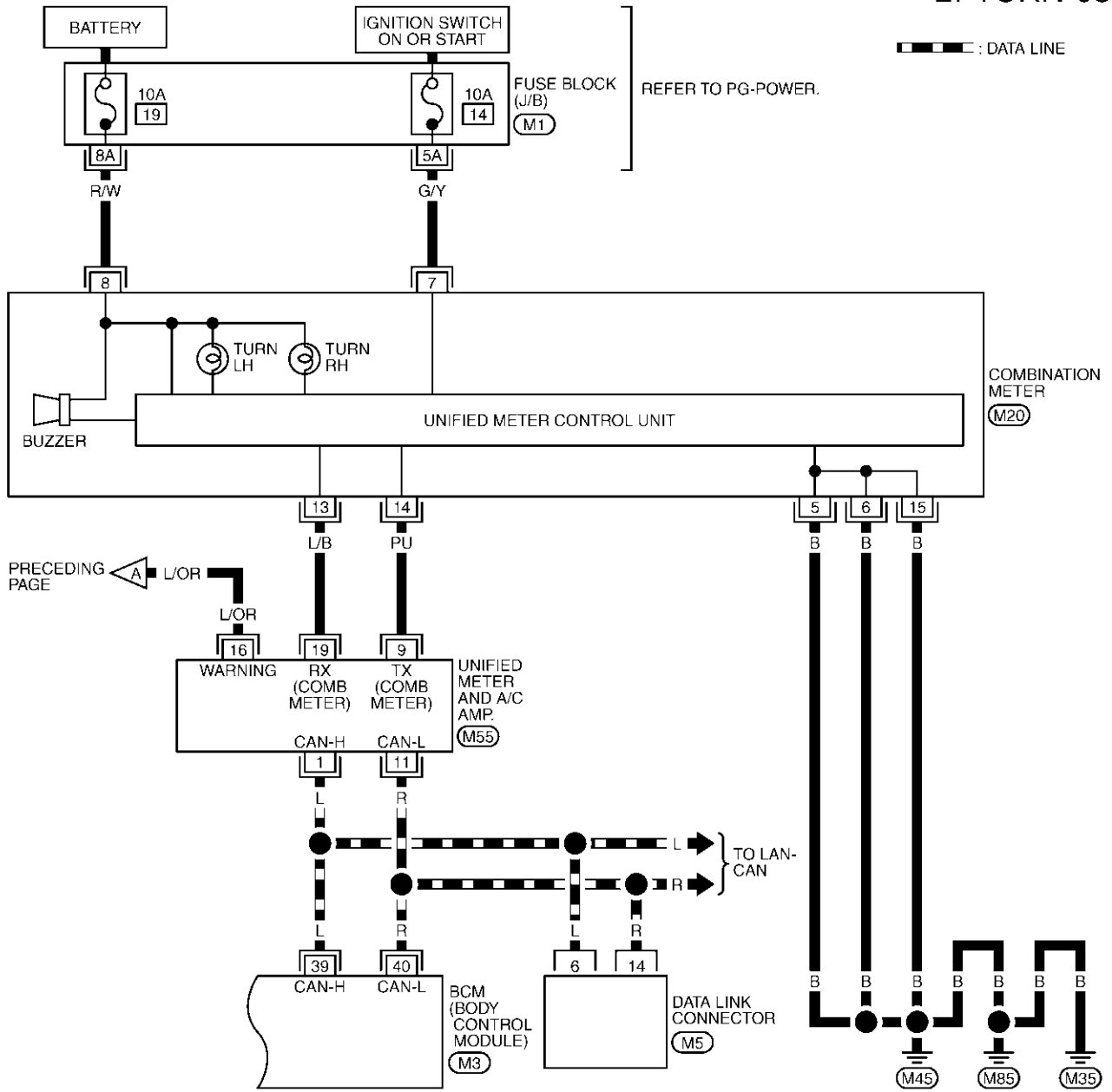


REFER TO THE FOLLOWING.  
 (E21), (B1) -SUPER MULTIPLE JUNCTION (SMJ)  
 (E201) -FUSE BLOCK-JUNCTION BOX (J/B)  
 (M4) -ELECTRICAL UNITS

# TURN SIGNAL AND HAZARD WARNING LAMPS

LT-TURN-03

A  
B  
C  
D  
E  
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G  
H  
I  
J  
LT  
L  
M



REFER TO THE FOLLOWING.

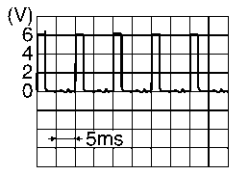
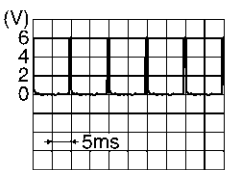
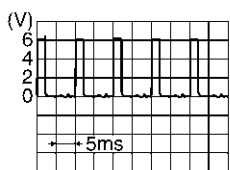
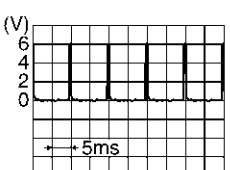
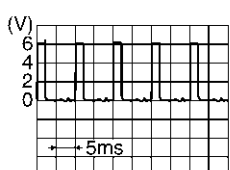

(M1) - FUSE BLOCK-JUNCTION BOX (J/B)

(M3) - ELECTRICAL UNITS

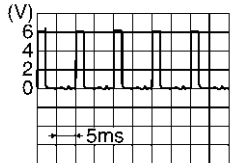

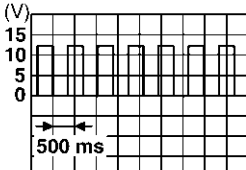
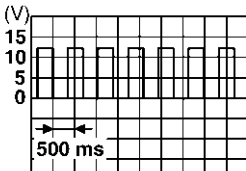
# TURN SIGNAL AND HAZARD WARNING LAMPS

## Terminals and Reference Value for BCM

AKS0071B

Terminal No.	Wire color	Signal name	Measuring condition		Reference value	
			Ignition switch	Operation or condition		
2	GY	Combination switch input 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5291E</p>	
3	L/B	Combination switch input 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5292E</p>	
4	PU/W	Combination switch input 3	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5291E</p>	
5	Y/R	Combination switch input 2	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5292E</p>	
6	SB	Combination switch input 1				
11	LG/R	Ignition switch (ACC)	ACC	—	Battery voltage	
29	G/Y	Hazard switch signal	OFF	Hazard switch	ON	Approx. 0V
					OFF	Approx. 5V
32	GY/R	Combination switch output 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5291E</p>	
33	G	Combination switch output 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5292E</p>	

# TURN SIGNAL AND HAZARD WARNING LAMPS

Terminal No.	Wire color	Signal name	Measuring condition		Reference value	
			Ignition switch	Operation or condition		
34	W/B	Combination switch output 3	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E	
35	W/G	Combination switch output 2	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E	
36	W/R	Combination switch output 1				
38	W/L	Ignition switch (ON)	ON	—	Battery voltage	
39	L	CAN-H	—	—	—	
40	R	CAN-L	—	—	—	
42	L/R	Battery power supply	OFF	—	Battery voltage	
45	G/W	Turn signal (left)	ON	Combination switch	Turn left ON	 SKIA3009J
46	BR/W	Turn signal (right)	ON	Combination switch	Turn right ON	 SKIA3009J
49	B	Ground	ON	—	Approx. 0V	
52	B	Ground	ON	—	Approx. 0V	
55	G	Battery power supply	OFF	—	Battery voltage	

## How to Proceed With Trouble Diagnosis

AKS007D2

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to [LT-145, "System Description"](#) .
3. Perform preliminary check. Refer to [LT-168, "Preliminary Check"](#) .
4. Check symptom and repair or replace the cause of malfunction.
5. Do turn signal and hazard warning lamps operate normally? If YES: GO TO 6. If NO: GO TO 4.
6. INSPECTION END

# TURN SIGNAL AND HAZARD WARNING LAMPS

AKS007D3

## Preliminary Check CHECK POWER SUPPLY AND GROUND CIRCUIT

### 1. CHECK FUSES

- Check fuses for blown-out.

Unit	Power source	Fuse and fusible link No.
BCM	Battery	M
		22
	Ignition switch ON or START position	1
	Ignition switch ACC or ON position	6
Rear combination lamp control unit	Battery	20

Refer to [LT-163. "Wiring Diagram — TURN —"](#) .

OK or NG

OK >> GO TO 2.

NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to [PG-3. "POWER SUPPLY ROUTING CIRCUIT"](#) .

### 2. CHECK POWER SUPPLY CIRCUIT

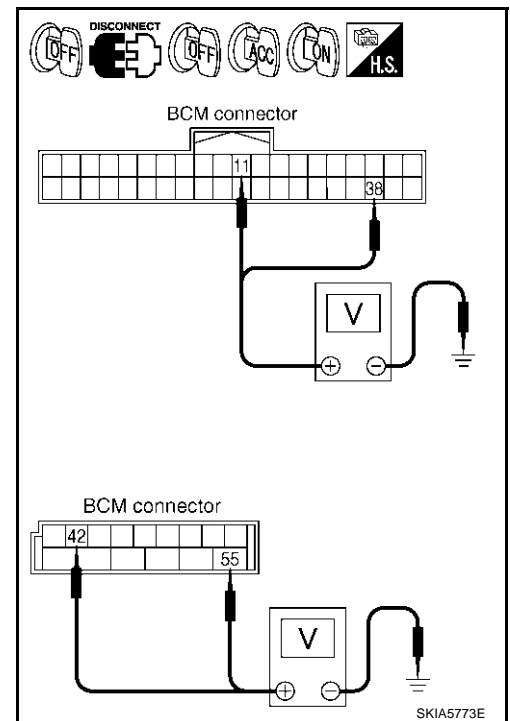
1. Disconnect BCM connector.
2. Check voltage between BCM harness connector and ground.

Terminals		(-)	Ignition switch position		
(+)			OFF	ACC	ON
Connector	Terminal (Wire color)	Ground	OFF	ACC	ON
	M3		11 (LG/R)	0V	Battery voltage
	38 (W/L)		0V	0V	Battery voltage
M4	42 (L/R)		Battery voltage	Battery voltage	Battery voltage
	55 (G)		Battery voltage	Battery voltage	Battery voltage

OK or NG

OK >> GO TO 3.

NG >> Check harness for open or short between BCM and fuse.



### 3. CHECK GROUND CIRCUIT

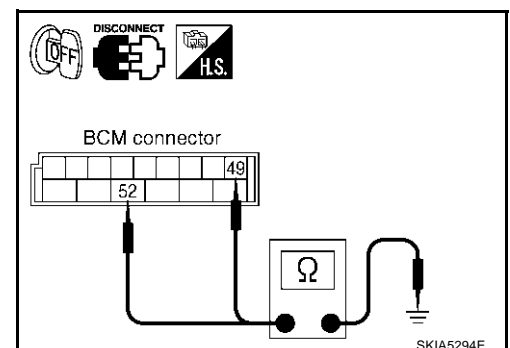
Check continuity between BCM harness connector and ground.

Terminals		Continuity
Connector	Terminal (Wire color)	
M4	49 (B)	Ground Yes
	52 (B)	

OK or NG

OK >> INSPECTION END

NG >> Check ground circuit harness.





# TURN SIGNAL AND HAZARD WARNING LAMPS

## CONSULT-II Function

AKS007D4

CONSULT-II performs the following functions communicating with BCM.

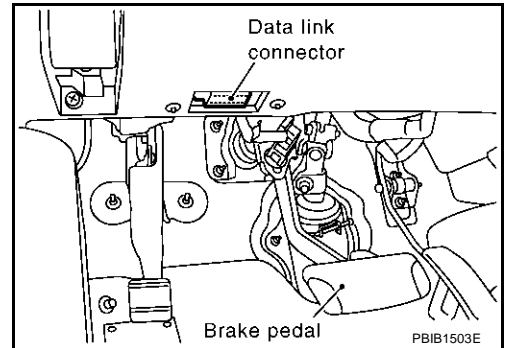
BCM diagnosis part	Check item, diagnosis mode	Description
FLASHER	DATA MONITOR	Displays BCM input data in real time.
	ACTIVE TEST	Operation of electrical loads can be checked by sending driving signal to them.

## CONSULT-II BASIC OPERATION

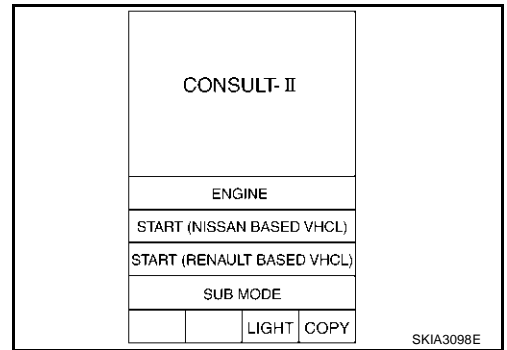
### CAUTION:

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.

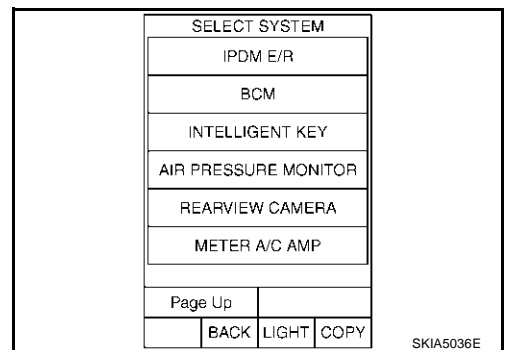
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn ignition switch ON.



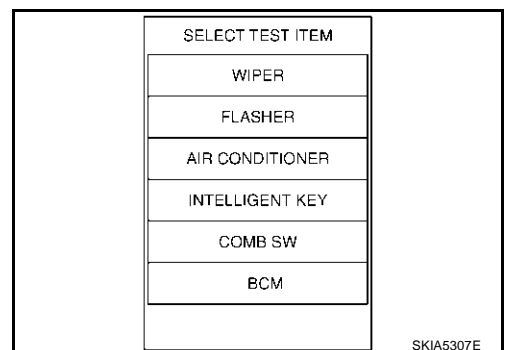
2. Touch "START (NISSAN BASED VHCL)".



3. Touch "BCM" on "SELECT SYSTEM" screen.  
If "BCM" is not indicated, go to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



4. Touch "HEAD LAMP" on "SELECT TEST ITEM" screen.



# TURN SIGNAL AND HAZARD WARNING LAMPS

## DATA MONITOR

### Operation Procedure

1. Touch "FLASHER" on "SELECT TEST ITEM" screen.
2. Touch "DATA MONITOR" on "SELECT DIAG MODE" screen.
3. Touch either "ALL SIGNALS" or "SELECTION FROM MENU" on the "DATA MONITOR" screen.

All signals	Monitors all the signals.
Selection from menu	Selects and monitors the individual signal.

4. Touch "START".
5. When "SELECTION FROM MENU" is selected, touch items to be monitored. When "ALL SIGNALS" is selected, all the items will be monitored.
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
IGN ON SW "ON/OFF"	Displays "IGN position (ON)/OFF, ACC position (OFF)" judged from the ignition switch signal.
HAZARD SW "ON/OFF"	Displays "Hazard ON (ON)/Hazard OFF (OFF)" status, determined from hazard switch signal.
TURN SIGNAL R "ON/OFF"	Displays "Turn right (ON)/Other (OFF)" status, determined from lighting switch signal.
TURN SIGNAL L "ON/OFF"	Displays "Turn left (ON)/Other (OFF)" status, determined from lighting switch signal.
BRAKE SW <sup>NOTE</sup> "OFF"	—

#### NOTE:

This item is displayed, but cannot monitor it.

## ACTIVE TEST

### Operation Procedure

1. Touch "FLASHER" on "SELECT TEST ITEM" screen.
2. Touch "ACTIVE TEST" on "SELECT DIAG MODE" screen.
3. Touch item to be tested and check operation of the selected item.
4. During the operation check, touching "BACK" deactivates the operation.

### Display Item List

Test item	Description
FLASHER (RIGHT)	Turn signal lamp (right) can be operated by any ON-OFF operations.
FLASHER (LEFT)	Turn signal lamp (left) can be operated by any ON-OFF operations.

## Turn Signal Lamp Does Not Operate

AKS007D5

### 1. CHECK COMBINATION SWITCH INPUT SIGNAL

☑ With CONSULT-II

Select "BCM" on CONSULT-II. With "FLASHER" data monitor, make sure "TURN SIGNAL R" and "TURN SIGNAL L" turns ON-OFF linked with operation of lighting switch.

**When lighting switch is : TURN SIGNAL R ON**  
**TURN RH position**

**When lighting switch is : TURN SIGNAL L ON**  
**TURN LH position**

☒ Without CONSULT -II

Refer to [LT-182, "Combination Switch Inspection"](#) .

OK or NG

OK >> GO TO 2.

NG >> Check lighting switch. Refer to [LT-182, "Combination Switch Inspection"](#) .

DATA MONITOR	
MONITOR	
TURN SIGNAL R	ON
TURN SIGNAL L	ON

SKIA4499E

# TURN SIGNAL AND HAZARD WARNING LAMPS

## 2. ACTIVE TEST

☑ With CONSULT-II

1. Select "FLASHER" during active test. Refer to [LT-170, "ACTIVE TEST"](#).
2. Make sure "FLASHER RIGHT" and "FLASHER LEFT" operate.

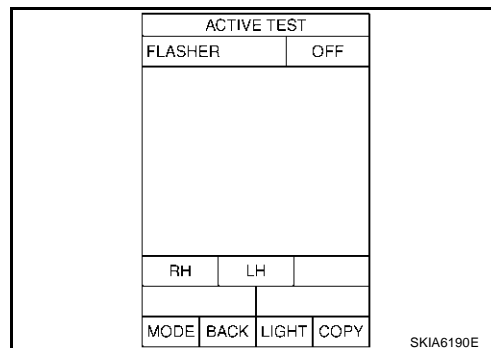
☒ Without CONSULT -II

GO TO 3.

OK or NG

OK >> Replace BCM. Refer to [BCS-28, "Removal and Installation of BCM"](#).

NG >> GO TO 3.



## 3. CHECK TURN SIGNAL LAMPS CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and front combination lamp LH and RH connectors.
3. Check continuity between BCM harness connector M4 terminal 45 (G/W) and front combination lamp LH harness connector E44 terminal 4 (G).

**45 (G/W) – 4 (G) : Continuity should exist.**

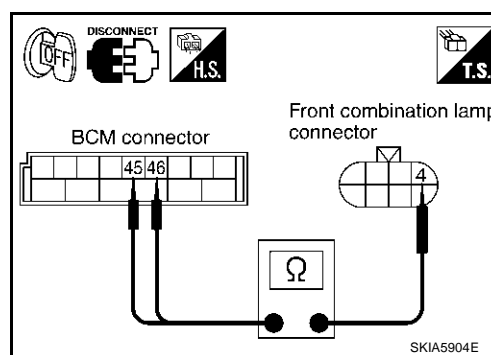
4. Check continuity between BCM harness connector M4 terminal 46 (BR/W) and front combination lamp RH harness connector E24 terminal 4 (PU).

**46 (BR/W) – 4 (PU) : Continuity should exist.**

OK or NG

OK >> GO TO 4.

NG >> Repair harness or connector.



## 4. CHECK GROUND

1. Check continuity between front combination lamp LH harness connector E44 terminal 8 (B) and ground.

**8 (B) – Ground : Continuity should exist.**

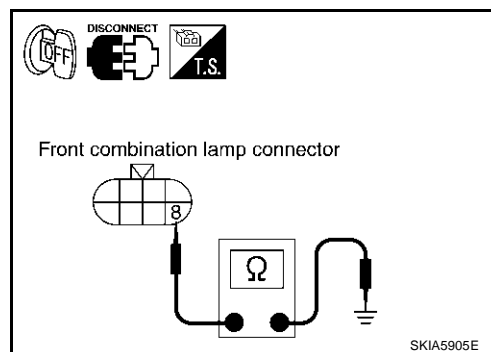
2. Check continuity between front combination lamp RH harness connector E24 terminal 8 (B) and ground.

**8 (B) – Ground : Continuity should exist.**

OK or NG

OK >> GO TO 5.

NG >> Repair harness or connector.



# TURN SIGNAL AND HAZARD WARNING LAMPS

## 5. CHECK TURN SIGNAL LAMPS SHORT CIRCUIT

1. Disconnect rear combination lamp unit connector.
2. Check continuity (short circuit) between front combination lamp LH harness connector E44 terminal 4 (G) and ground.

**4 (G) – Ground : Continuity should not exist.**

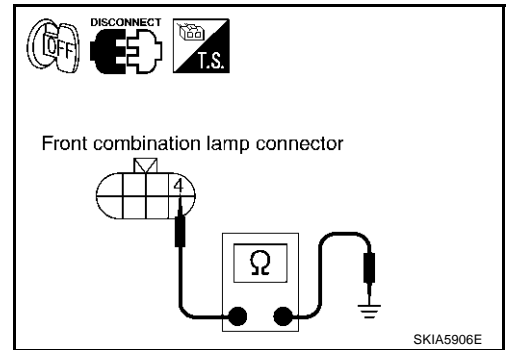
3. Check continuity (short circuit) between front combination lamp RH harness connector E24 terminal 4 (PU) and ground.

**4 (G) – Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 6.

NG >> Repair harness or connector.



## 6. CHECK BULB

Check bulb of each turn signal lamp.

OK or NG

OK >> Replace BCM if turn signal lamps do not work after setting the connector again. Refer to [BCS-28, "Removal and Installation of BCM"](#).

NG >> Replace turn signal lamp bulb.

## Rear Turn Signal Lamp Does Not Operate

AKS007IF

### 1. CHECK TAIL LAMPS AND STOP LAMPS

Make sure tail lamps and stop lamps are illuminated.

OK or NG

OK >> GO TO 2.

NG >> GO TO 3.

### 2. CHECK TURN SIGNAL LAMPS CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between BCM harness connector M4 terminal 45 (G/W) and rear combination lamp control unit harness connector B65 terminal 4 (OR).

**45 (G/W) – 4 (OR) : Continuity should exist.**

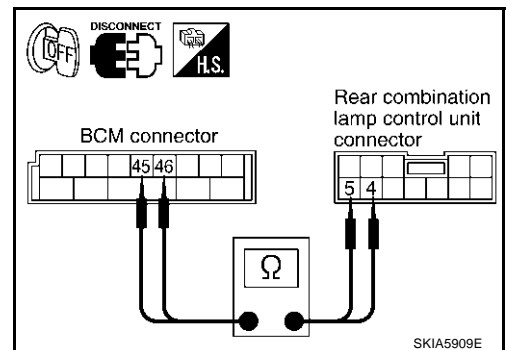
3. Check continuity between BCM harness connector M4 terminal 46 (BR/W) and rear combination lamp control unit harness connector B65 terminal 5 (PU).

**46 (BR/W) – 5 (PU) : Continuity should exist.**

OK or NG

OK >> Replace rear combination lamp control unit.

NG >> Repair harness or connector.



# TURN SIGNAL AND HAZARD WARNING LAMPS

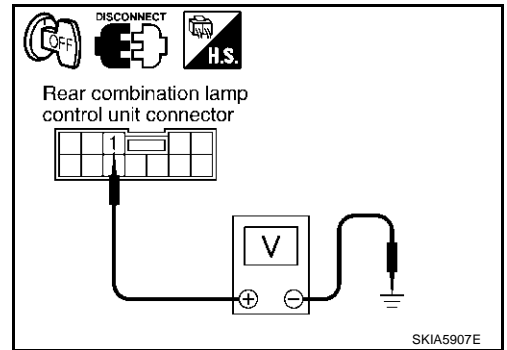
## 3. CHECK POWER SUPPLY CIRCUIT

1. Disconnect rear combination lamp control unit connector.
2. Check voltage between rear combination lamp control unit harness connector B65 terminal 1 (GY) and ground.

**1 (GY) – Ground : Battery voltage should exist.**

OK or NG

- OK >> GO TO 4.  
NG >> Repair harness or connector.



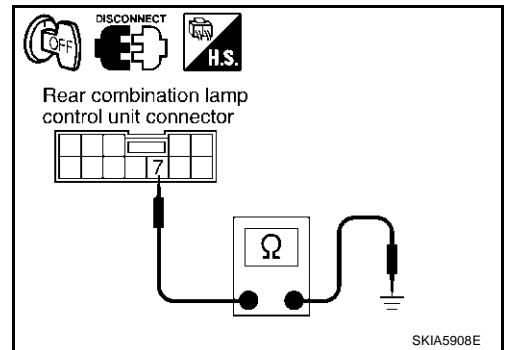
## 4. CHECK GROUND CIRCUIT

- Check continuity between rear combination lamp control unit harness connector B65 terminal 7 (B) and ground.

**7 (B) – Ground : Continuity should exist.**

OK or NG

- OK >> GO TO 5.  
NG >> Repair harness or connector.



## 5. CHECK TURN SIGNAL LAMPS CIRCUIT

1. Disconnect rear combination lamp RH and LH connector.
2. Check continuity between rear combination lamp control unit harness connector B65 terminal 11 (W) and rear combination lamp LH harness connector B57 terminal 3 (W).

**11 (W) – 3 (W) : Continuity should exist.**

3. Check continuity between rear combination lamp control unit harness connector B65 terminal 10 (BR) and rear combination lamp LH harness connector B57 terminal 4 (BR).

**10 (BR) – 4 (BR) : Continuity should exist.**

4. Check continuity between rear combination lamp control unit harness connector B65 terminal 9 (LG) and rear combination lamp RH harness connector B77 terminal 3 (LG).

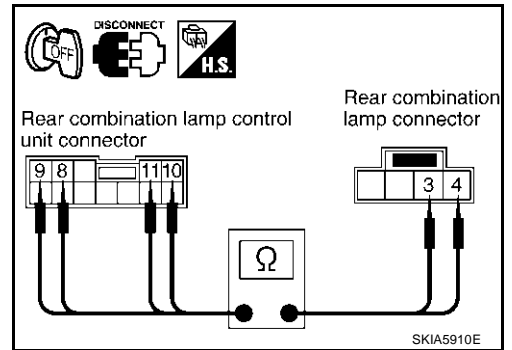
**9 (LG) – 3 (LG) : Continuity should exist.**

5. Check continuity between rear combination lamp control unit harness connector B65 terminal 8 (Y) and rear combination lamp RH harness connector B77 terminal 4 (Y).

**8 (Y) – 4 (Y) : Continuity should exist.**

OK or NG

- OK >> Replace rear combination lamp control unit or rear combination lamp, and then check if turn signal lamps are illuminated.  
NG >> Repair harness or connector.



# TURN SIGNAL AND HAZARD WARNING LAMPS

## Hazard Warning Lamp Does Not Operate But Turn Signal Lamp Operates

AKS007D6

### 1. CHECK BULB

Check bulb of each turn signal lamp.

OK or NG

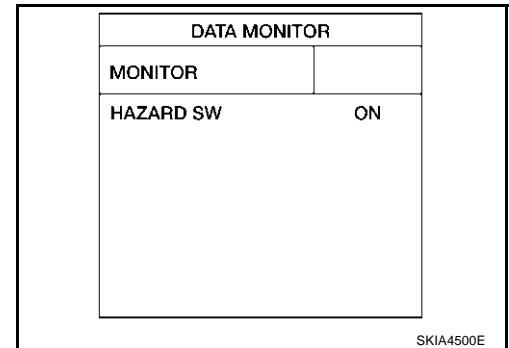
- OK >> GO TO 2.
- NG >> Replace bulb.

### 2. CHECK HAZARD SWITCH INPUT SIGNAL

Ⓜ With CONSULT-II

Select "BCM" on CONSULT-II. With "FLASHER" data monitor to make sure "HAZARD SW" turns ON-OFF linked with operation of hazard switch.

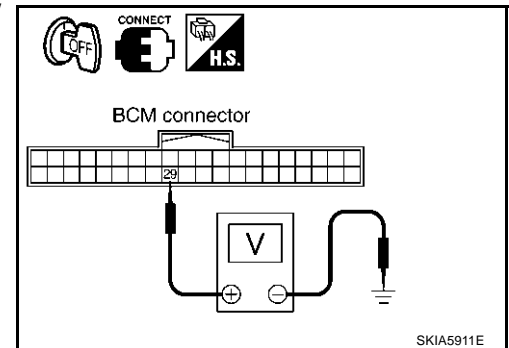
**When hazard switch is ON : HAZARD SW ON position**



ⓧ Without CONSULT -II

Check voltage between BCM harness connector M3 terminal 29 (G/Y) and ground.

Terminals		(-)	Condition	Voltage
(+)	Terminal (Wire color)			
M3	29 (G/Y)	Ground	Hazard switch is ON.	Approx. 0V
			Hazard switch is OFF.	Approx. 5V



OK or NG

- OK >> Replace BCM. Refer to [BCS-28, "Removal and Installation of BCM"](#).
- NG >> GO TO 3.

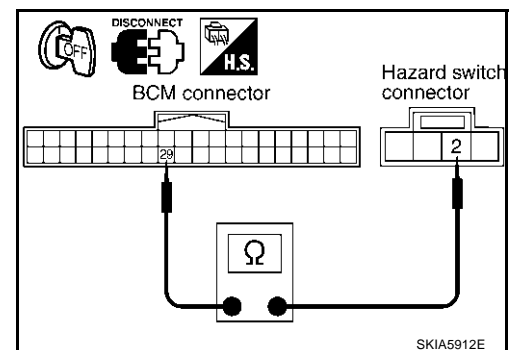
### 3. CHECK HAZARD SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and hazard switch connector.
3. Check continuity BCM harness connector M3 terminal 29 (G/Y) and hazard switch harness connector M51 terminal 2 (G/Y).

**29 (G/Y) – 2 (G/Y) : Continuity should exist.**

OK or NG

- OK >> GO TO 4.
- NG >> Repair harness or connector.



# TURN SIGNAL AND HAZARD WARNING LAMPS

## 4. CHECK GROUND

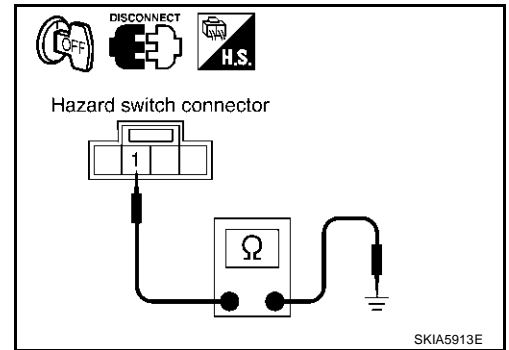
Check continuity hazard switch harness connector M51 terminal 1 (B) and ground.

**1 (B) – Ground : Continuity should exist.**

OK or NG

OK >> GO TO 5.

NG >> Repair harness or connector.



## 5. CHECK HAZARD SWITCH

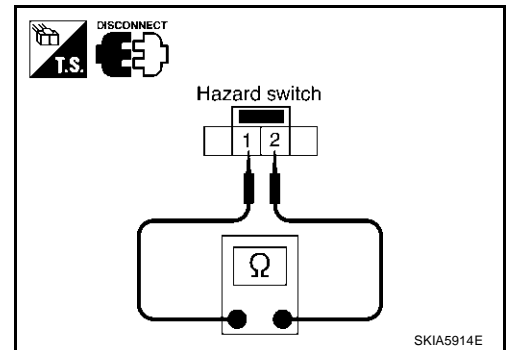
1. Disconnect hazard switch connector.
2. Check continuity hazard switch.

Terminal		Condition	Continuity
Hazard switch			
1	2	Hazard switch is ON.	Yes
		Hazard switch is OFF.	No

OK or NG

OK >> Replace BCM if turn signal lamps do not work after setting the connector again. Refer to [BCS-28, "Removal and Installation of BCM"](#).

NG >> Replace hazard switch.



## Turn Signal Indicator Lamp Does Not Operate

### 1. CHECK BULB

Check bulb of turn signal indicator lamp in combination meter.

OK or NG

OK >> Replace combination meter.

NG >> Replace indicator bulb.

### Bulb Replacement (Front Turn Signal Lamp)

Refer to [LT-48, "Bulb Replacement"](#) in "HEADLAMP -XENON TYPE-".

### Bulb Replacement (Rear Turn Signal Lamp)

Refer to [LT-229, "Bulb Replacement"](#) in "REAR COMBINATION LAMP".

### Removal and Installation of Front Turn Signal Lamp

Refer to [LT-49, "Removal and Installation"](#) in "HEADLAMP -XENON TYPE-".

### Removal and Installation of Rear Turn Signal Lamp

Refer to [LT-229, "Removal and Installation"](#) in "REAR COMBINATION LAMP".

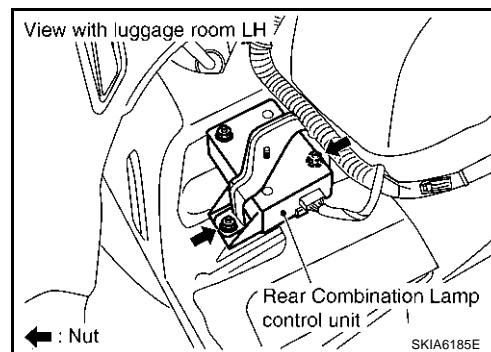
# TURN SIGNAL AND HAZARD WARNING LAMPS

## Removal and Installation of Rear Combination Lamp Control Unit

AKS007NX

### REMOVAL

1. Remove luggage side finisher assembly (left). Refer to [EI-44](#), "[Removal and Installation](#)" in "E1" section.
2. Remove nuts (2), and remove rear combination lamp control unit.



### INSTALLATION

Install in the reverse order of removal.



# LIGHTING AND TURN SIGNAL SWITCH

## LIGHTING AND TURN SIGNAL SWITCH

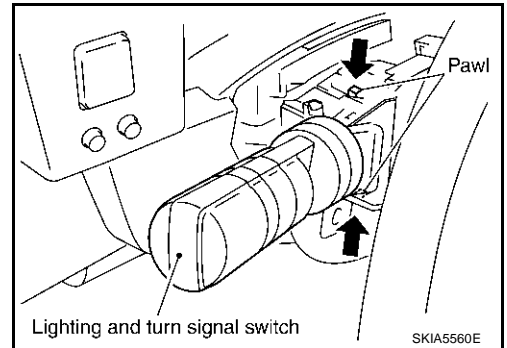
PFP:25540

### Removal and Installation

AKS007DC

#### REMOVAL

1. Remove steering column cover. Refer to [IP-13, "\(L\) Steering Column Front Lower Cover"](#) , [IP-13, "\(M\) Steering Column Lower Cover"](#) in "IP" section.
2. While pressing pawls in direction as shown in the figure, pull lighting and turn signal switch toward driver door and disconnect from the base.



#### INSTALLATION

Installation in the reverse order of removal.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
LT  
L  
M

LT

# HAZARD SWITCH

## HAZARD SWITCH

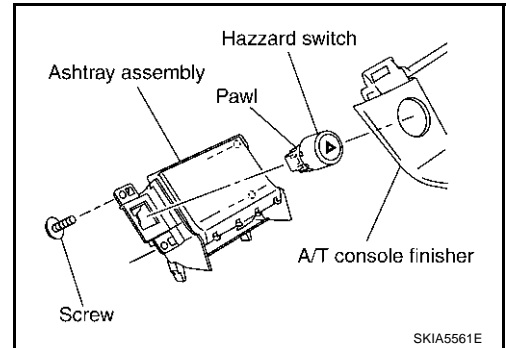
PFP:25290

### Removal and Installation

AKS007DD

#### REMOVAL

1. Remove A/T console finisher. Refer to [IP-12, "\(F\) A/T Console Finisher"](#) in "IP" section.
2. Disconnect hazard switch connector.
3. Remove screws and remove ashtray assembly from A/T console finisher.
4. Press pawl on reverse side and remove the hazard switch.



#### INSTALLATION

Install in the reverse order of removal.

# COMBINATION SWITCH

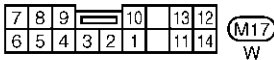
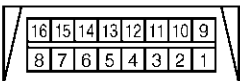
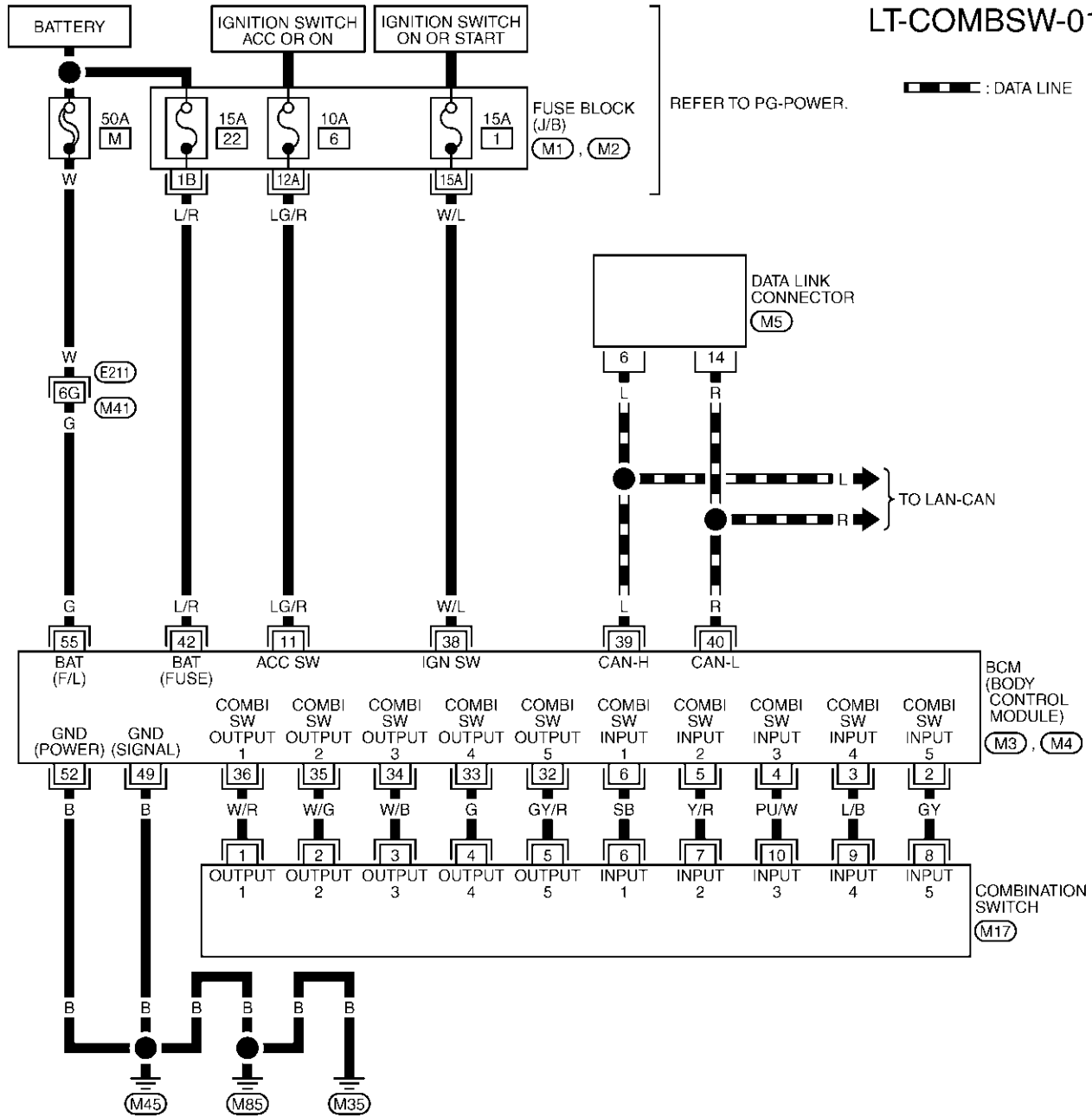
PPF:25567

## COMBINATION SWITCH

### Wiring Diagram — COMBSW —

AKS007G4

## LT-COMBSW-01



REFER TO THE FOLLOWING.

- (E21) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1), (M2) -FUSE BLOCK-JUNCTION BOX (J/B)
- (M3), (M4) -ELECTRICAL UNITS

TKWM0814E

# COMBINATION SWITCH

## Combination Switch Reading Function

AKS007G5

For details, refer to [BCS-3, "COMBINATION SWITCH READING FUNCTION"](#) in "BCS" section.

## CONSULT-II Function

AKS007G6

CONSULT-II performs the following functions communicating with BCM.

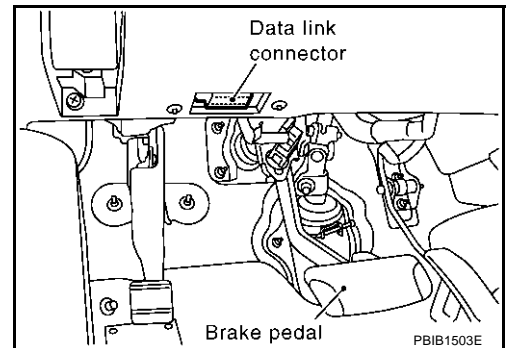
BCM diagnosis part	Check item, diagnosis mode	Description
Combination switch	DATA MONITOR	Displays BCM input data in real time.

## CONSULT-II BASIC OPERATION

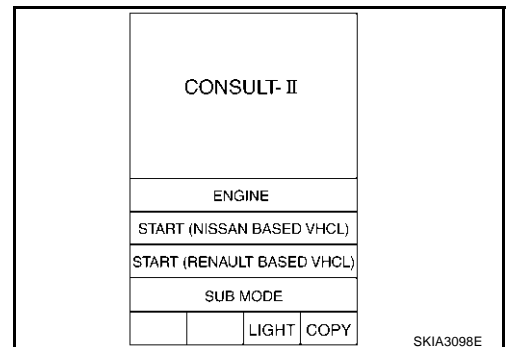
### CAUTION:

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.

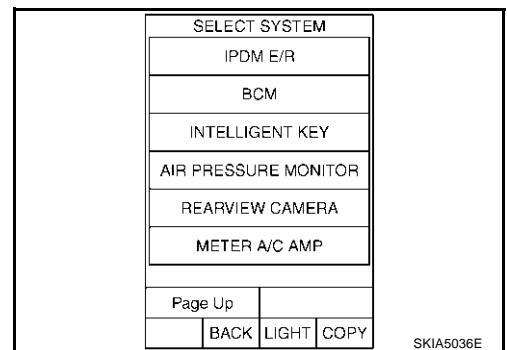
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn ignition switch ON.



2. Touch "START (NISSAN BASED VHCL)".

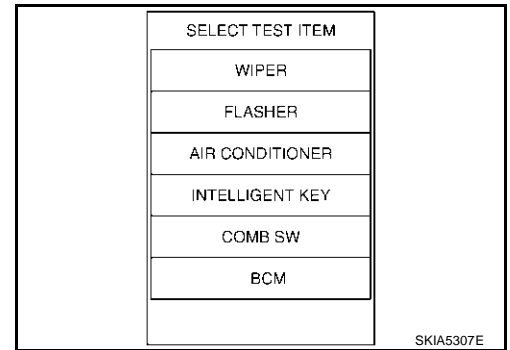


3. Touch "BCM" on "SELECT SYSTEM" screen.  
If "BCM" is not indicated, refer to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



# COMBINATION SWITCH

4. Touch "COMB SW".



## DATA MONITOR

### Operation Procedure

1. Touch "COMB SW" on "SELECT TEST ITEM" screen.
2. Touch "DATA MONITOR" on "SELECT DIAG MODE" screen.
3. Touch either "ALL SIGNALS" or "SELECTION FROM MENU" on "DATA MONITOR" screen.

ALL SIGNALS	Monitors all the signals.
SELECTION FROM MENU	Selects and monitors individual signal.

4. Touch "START".
5. When "SELECTION FROM MENU" is selected, touch items to be monitored. When "ALL SIGNALS" is selected, all the signals will be monitored.
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 name "OPERATION OR UNIT"	Contents
TURN SIGNAL R "ON/OFF"	Displays "Turn Right (ON)/Other (OFF)" status, determined from lighting switch signal.
TURN SIGNAL L "ON/OFF"	Displays "Turn Left (ON)/Other (OFF)" status, determined from lighting switch signal.
HI BEAM SW "ON/OFF"	Displays status (high beam switch: ON/Others: OFF) of high beam switch judged from lighting switch signal.
HEAD LAMP SW 1 "ON/OFF"	Displays "Headlamp switch 1 (ON)/Other (OFF)" status, determined from lighting switch signal.
HEAD LAMP SW 2 "ON/OFF"	Displays status (headlamp switch 2: ON/Others: OFF) of headlamp switch 2 judged from lighting switch signal.
LIGHT SW 1ST "ON/OFF"	Displays status (lighting switch 1st position: ON/Others: OFF) of lighting switch judged from lighting switch signal.
PASSING SW "ON/OFF"	Displays status (flash-to-pass switch: ON/Others: OFF) of flash-to-pass switch judged from lighting switch signal.
AUTO LIGHT SW "ON/OFF"	Displays "Auto light switch (ON)/Other (OFF)" status, determined from lighting switch signal.
FR FOG SW "ON/OFF"	Displays "Front fog lamp switch (ON)/Other (OFF)" status, determined from lighting switch signal.
FR WIPER HI "ON/OFF"	Displays "Front Wiper HI (ON)/Other (OFF)" status, determined from wiper switch signal.
FR WIPER LOW "ON/OFF"	Displays "Front Wiper LOW (ON)/Other (OFF)" status, determined from wiper switch signal.
FR WIPER INT "ON/OFF"	Displays "Front Wiper INT (ON)/Other (OFF)" status, determined from wiper switch signal.
FR WASHER SW "ON/OFF"	Displays "Front Washer Switch (ON)/Other (OFF)" status, determined from wiper switch signal.
INT VOLUME [1 - 7]	Displays intermittent operation knob setting (1 - 7), determined from wiper switch signal.
RR WIPER ON "ON/OFF"	Displays "rear Wiper (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WIPER INT "ON/OFF"	Displays "rear Wiper INT (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WASHER SW "ON/OFF"	Displays "rear Washer Switch (ON)/Other (OFF)" status as judged from wiper switch signal.

# COMBINATION SWITCH

AKS007G7

## Combination Switch Inspection

### 1. SYSTEM CHECK

Referring to table below, check which system malfunctioning switch belongs to.

System 1	System 2	System 3	System 4	System 5
—	FR WASHER	FR WIPER LO	TURN LH	TURN RH
FR WIPER HI	—	FR WIPER INT	PASSING	HEAD LAMP1
INT VOLUME 1	RR WASHER	—	HEAD LAMP2	HI BEAM
RR WIPER INT	INT VOLUME 3	AUTO LIGHT	—	LIGHT SW 1ST
INT VOLUME 2	RR WIPER ON	—	FR FOG	—

>> Check the system to which malfunctioning switch belongs, and GO TO 2.

### 2. SYSTEM CHECK

 With CONSULT-II

#### 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. Connect CONSULT-II, and select "COMB SW" on "SELECT TEST ITEM" screen.
2. Select "DATA MONITOR".
3. Select "START", and confirm that other switches in malfunctioning system operate normally.  
Example: When auto light switch is malfunctioning, confirm that "FRONT WIPER LOW" and "FRONT WIPER INT" in System 3, to which the auto light switch belongs, turn ON-OFF normally.

DATA MONITOR			
MONITOR			
TURN SIGNAL R		OFF	
TURN SIGNAL L		OFF	
HIBEAM SW		OFF	
HEAD LAMP SW1		OFF	
HEAD LAMP SW2		OFF	
LIGHT SW 1ST		OFF	
PASSING SW		OFF	
AUTO LIGHT SW		OFF	
FR FOG SW		OFF	
		Page Down	
RECORD			
MODE	BACK	LIGHT	COPY

SKIA7075E

 Without CONSULT-II

Operating combination switch, and confirm that other switches in malfunctioning system operate normally.  
Example: When auto light switch is malfunctioning, confirm that FRONT WIPER LOW and FRONT WIPER INT in System 3, to which the auto light switch belongs, operate normally.

#### Check results

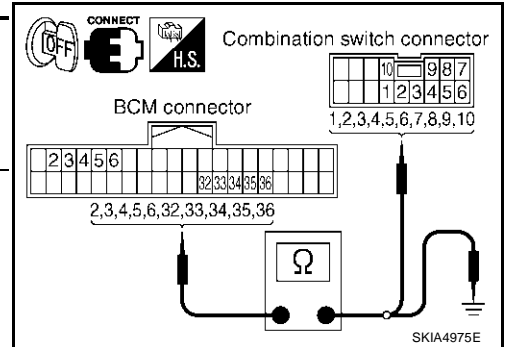
- Other switches in malfunctioning system operate normally.>>Replace lighting switch or wiper switch.
- Other switches in malfunctioning system do not operate normally.>>GO TO 3.

# COMBINATION SWITCH

## 3. HARNESS INSPECTION

1. Disconnect BCM and combination switch connectors.
2. Check for continuity between BCM harness connector of the suspect system and the corresponding combination switch connector terminals.

Suspect system	Terminals				Continuity	
	BCM		Combination switch			
	Connector	Terminal (Wire color)	Connector	Terminal (Wire color)		
1	M3	Input 1	6 (SB)	M17	6 (SB)	Yes
		Output 1	36 (W/R)		1 (W/R)	
2		Input 2	5 (Y/R)		7 (Y/R)	
		Output 2	35 (W/G)		2 (W/G)	
3		Input 3	4 (PU/W)		10 (PU/W)	
		Output 3	34 (W/B)		3 (W/B)	
4		Input 4	3 (L/B)		9 (L/B)	
		Output 4	33 (G)		4 (G)	
5		Input 5	2 (GY)		8 (GY)	
		Output 5	32 (GY/R)		5 (GY/R)	



3. Check for continuity between each terminal of BCM harness connector in suspect malfunctioning system and ground.

Suspect system	Terminals				Continuity
	BCM		Ground		
	Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
1	M3	Input 1	6 (SB)	Ground	No
		Output 1	36 (W/R)		
2		Input 2	5 (Y/R)		
		Output 2	35 (W/G)		
3		Input 3	4 (PU/W)		
		Output 3	34 (W/B)		
4		Input 4	3 (L/B)		
		Output 4	33 (G)		
5		Input 5	2 (GY)		
		Output 5	32 (GY/R)		

OK or NG

OK >> GO TO 4.

NG >> Check harness between BCM and combination switch for open or short circuit.

# COMBINATION SWITCH

## 4. BCM OUTPUT TERMINAL INSPECTION

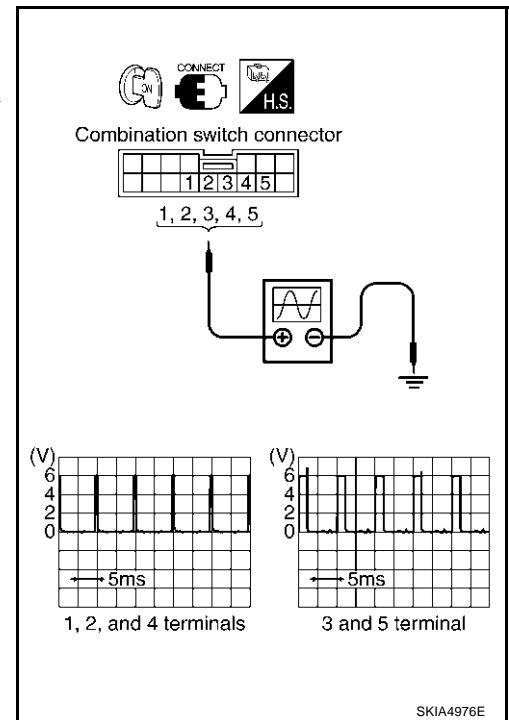
1. Turn lighting switch and wiper switch into OFF.
2. Set wiper dial position 4.
3. Connect BCM and combination switch connectors, and check BCM output terminal voltage waveform of suspect malfunctioning system.

Suspect system	Terminals	
	Combination switch (+)	
	Connector	Terminal (Wire color)
1	M17	1 (W/R)
2		2 (W/G)
3		3 (W/B)
4		4 (G)
5		5 (GY/R)

OK or NG

OK >> Open circuit in combination switch, GO TO 5.

NG >> Replace BCM.



## 5. COMBINATION SWITCH INSPECTION

Referring to table below, perform combination switch inspection.

Procedure									
1	2		3	4		5	6		7
Replace lighting switch.	Confirm check results.	OK	INSPECTION END	Confirm check results.	OK	INSPECTION END	Confirm check results.	OK	INSPECTION END
		NG	Replace wiper switch.		NG	Replace switch base.		NG	Confirm symptom again.

>> INSPECTION END

## Removal and Installation

AKS007G8

For details, refer to [LT-177, "LIGHTING AND TURN SIGNAL SWITCH"](#).



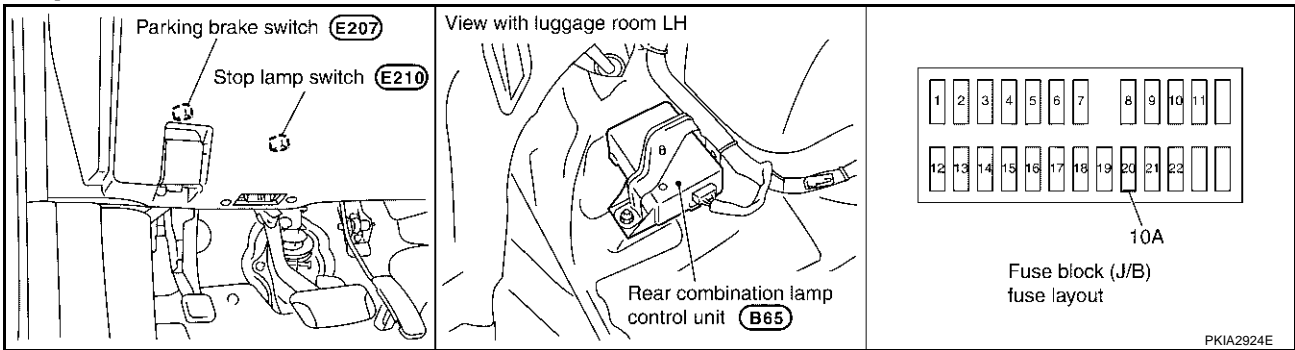
# STOP LAMP

## STOP LAMP

PFP:26550

### Component Parts and Harness Connector Location

AKS0071G



### System Description

AKS0071H

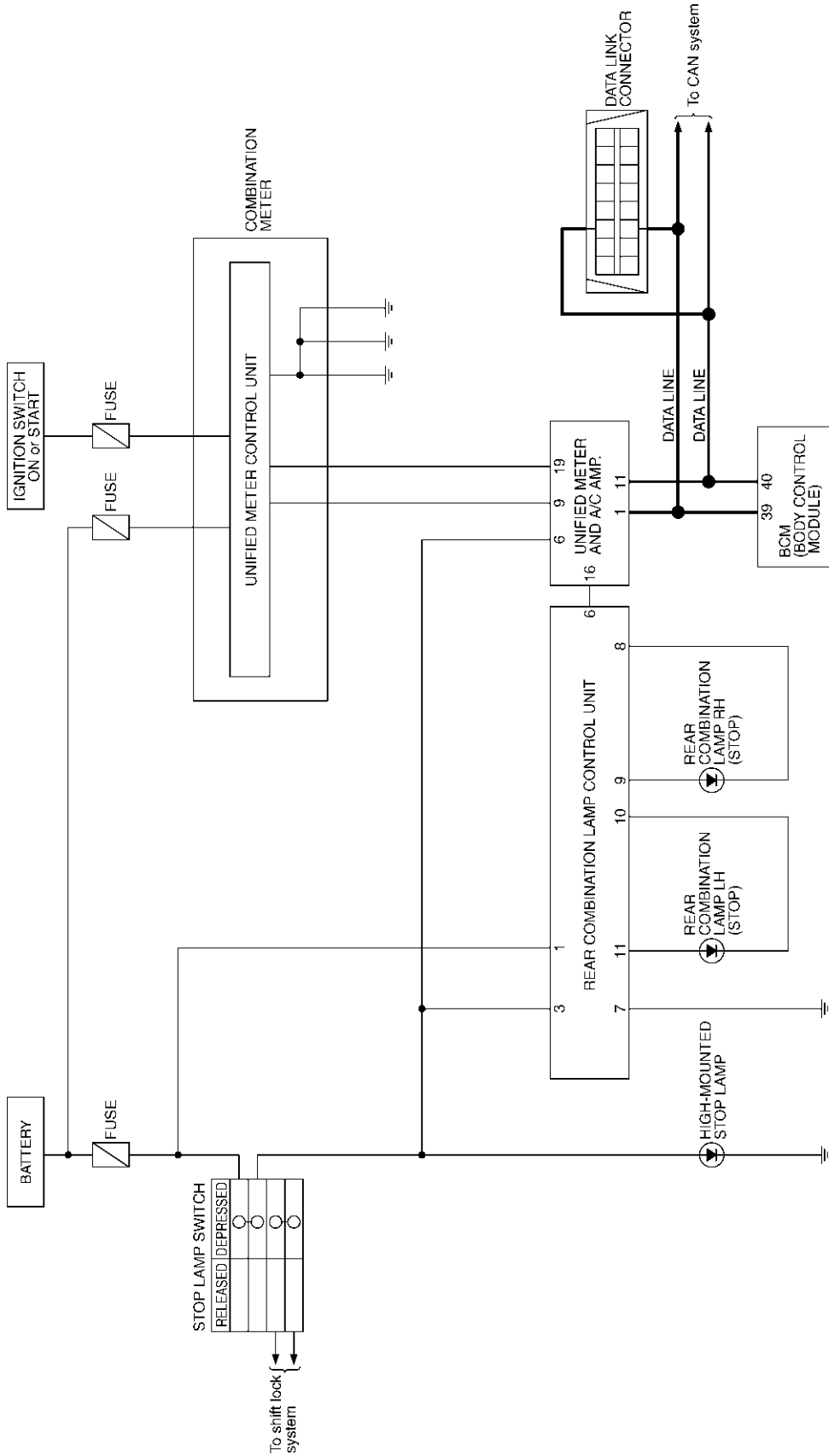
The current that flows by rear combination lamp unit is controlled, and a stop lamp (LED) is made to turn on.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
LT  
L  
M

# STOP LAMP

## Schematic

AKS007II



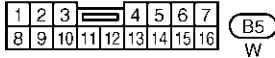
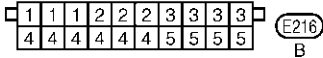
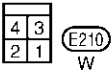
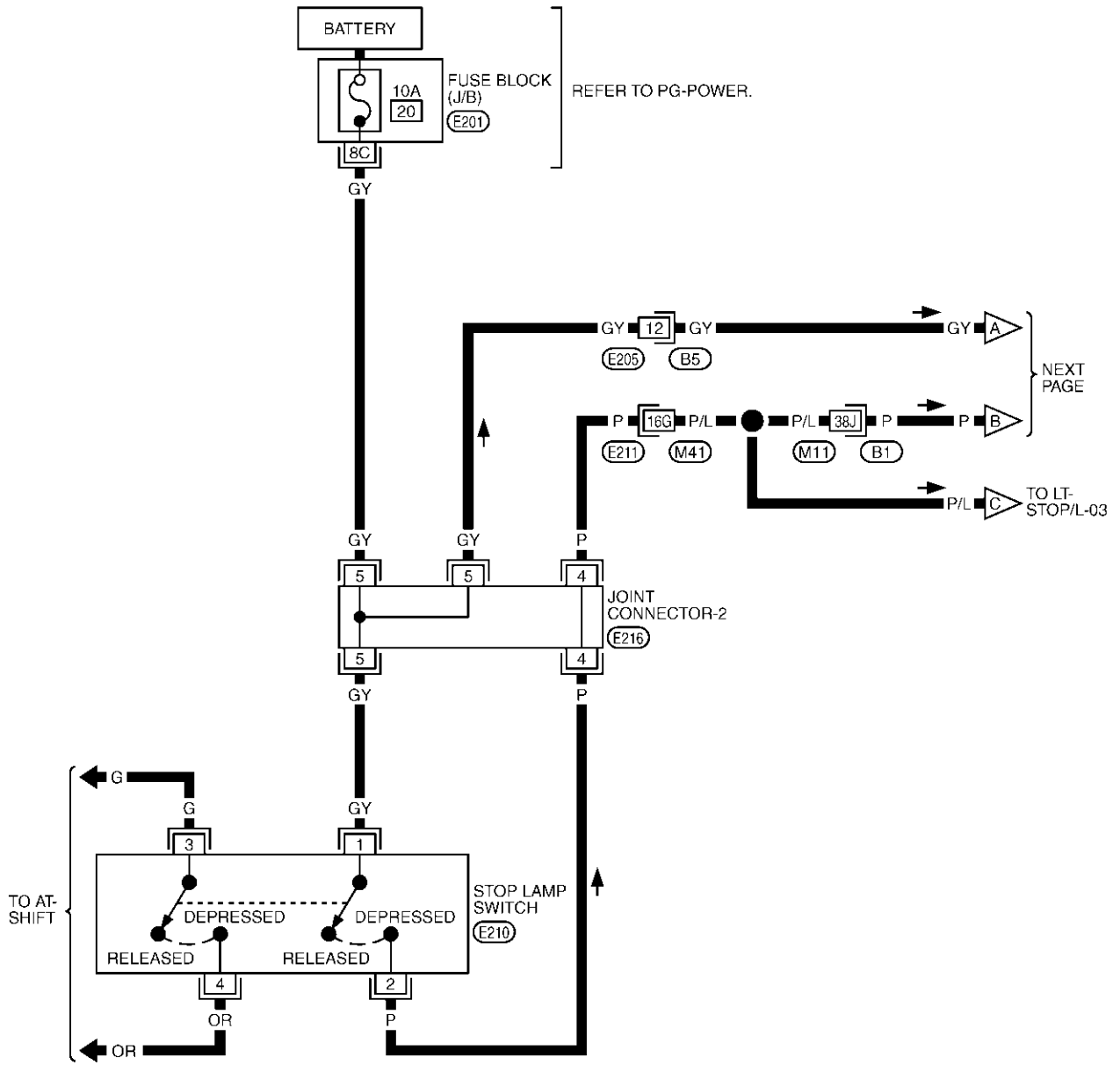
TKWM0625E

# STOP LAMP

## Wiring Diagram — STOP/L —

AKS007DL

LT-STOP/L-01

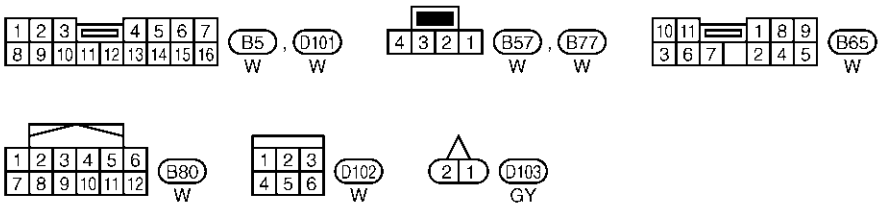
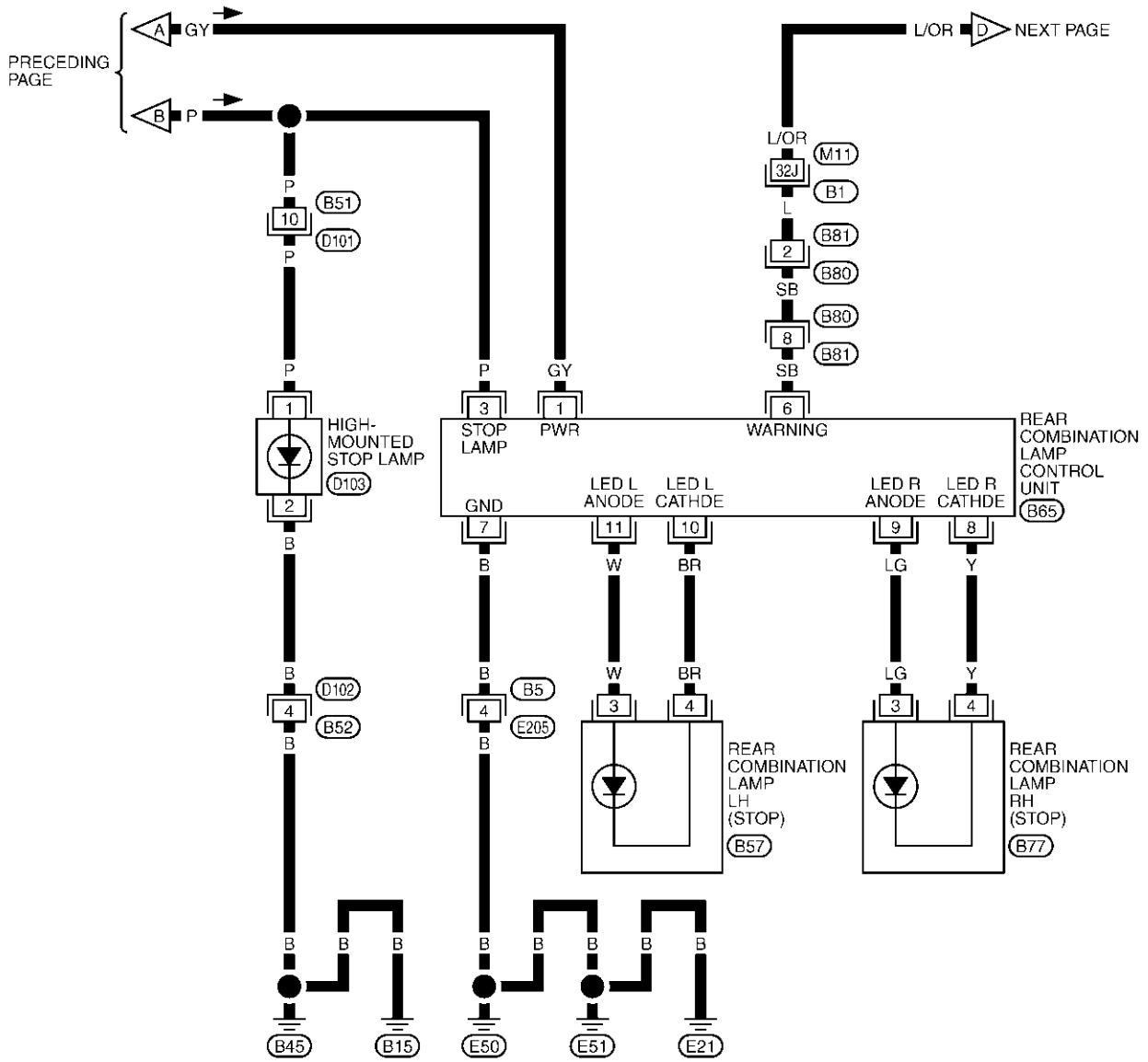


REFER TO THE FOLLOWING.  
 (E211), (B1) -SUPER MULTIPLE JUNCTION (SMJ)  
 (E201) -FUSE BLOCK-JUNCTION BOX (J/B)

TKWM0626E

# STOP LAMP

LT-STOP/L-02

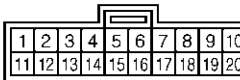
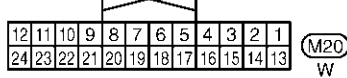
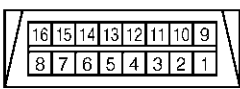
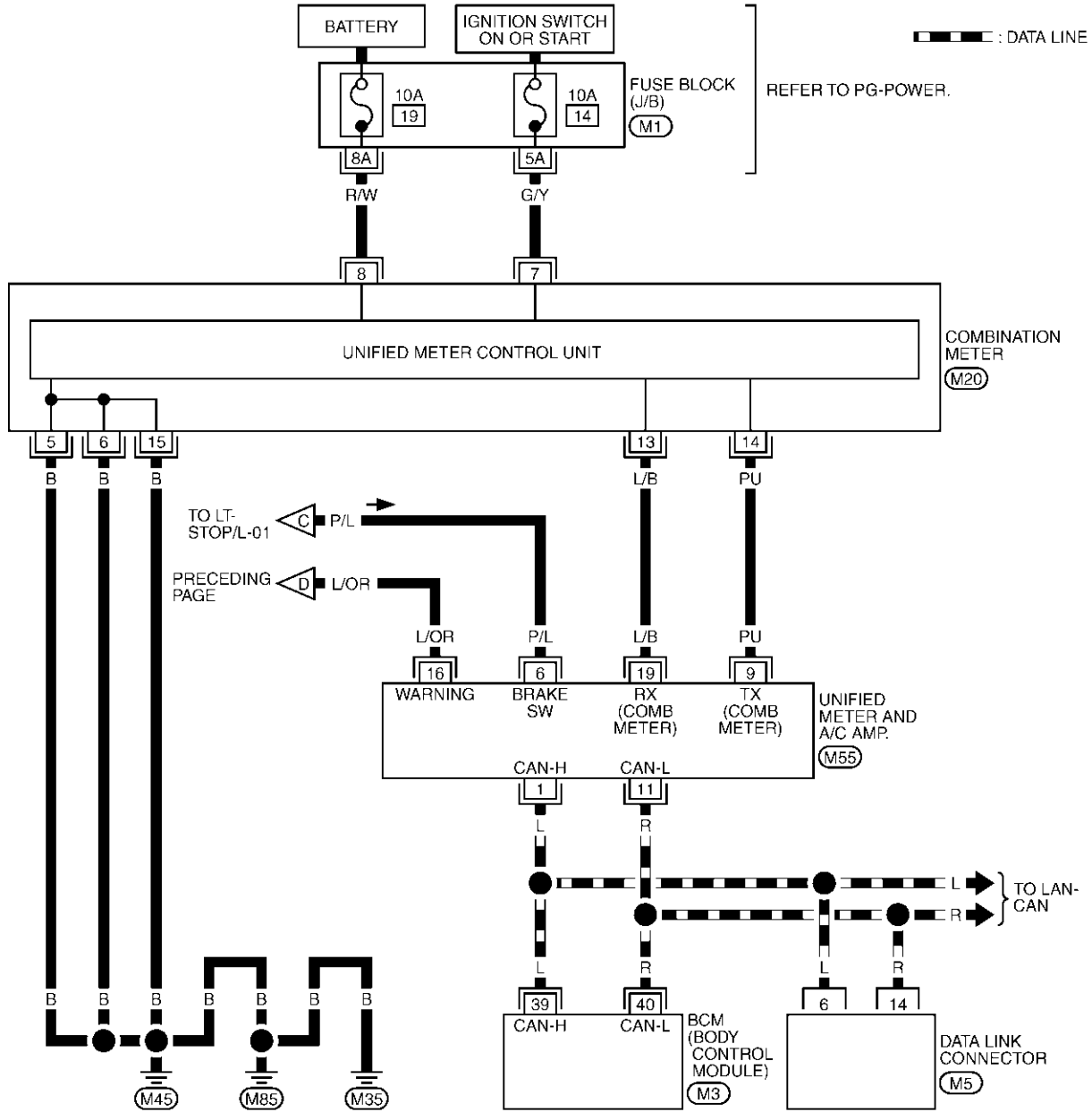


REFER TO THE FOLLOWING.  
 (B1) -SUPER MULTIPLE JUNCTION (SMJ)

TKWM0627E

# STOP LAMP

LT-STOP/L-03



REFER TO THE FOLLOWING.

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

(M3) - ELECTRICAL UNITS

TKWM0628E

# STOP LAMP

AKS007J

## Stop Lamp Does Not Operate

### 1. CHECK TAIL LAMP AND TURN SIGNAL LAMP

Make sure tail lamps and turn signal lamps are illuminated.

OK or NG

- OK >> GO TO 2.
- NG >> GO TO 6.

### 2. CHECK FUSE

Check fuse No. 20 is blow out.

OK or NG

- OK >> GO TO 3.
- NG >> If fuse is blow out, be sure to eliminate cause of malfunction before installing new fuse.

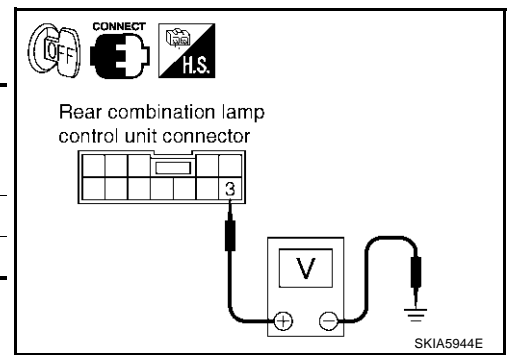
### 3. CHECK INPUT SIGNAL

Check voltage between rear combination lamp control unit harness connector B65 terminal 3 (P) and ground.

Terminals		(-)	Condition	Voltage
Connector	Terminal (Wire color)			
B65	3 (P)	Ground	Stop lamp switch is ON.	Battery voltage
			Stop lamp switch is OFF.	Approx. 0

OK or NG

- OK >> Replace rear combination lamp control unit.
- NG >> GO TO 4.



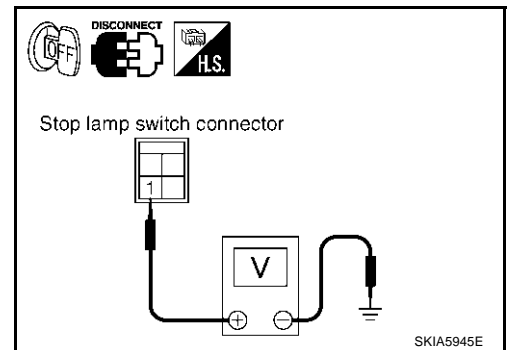
### 4. CHECK STOP LAMP SWITCH POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect stop lamp switch connector.
3. Check voltage between stop lamp switch harness connector E210 terminal 1 (GY) and ground.

**1 (GY) – Ground : Battery voltage should exist.**

OK or NG

- OK >> GO TO 5.
- NG >> Repair harness or connector.



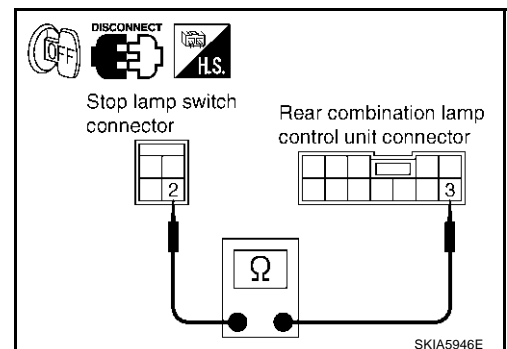
### 5. CHECK STOP LAMP SWITCH CIRCUIT

1. Disconnect rear combination lamp control unit connector.
2. Check continuity between stop lamp switch harness connector E210 terminal 2 (P) and rear combination lamp control unit harness connector B65 terminal 3 (P).

**2 (P) – 3 (P) : Continuity should exist.**

OK or NG

- OK >> Replace stop lamp switch.
- NG >> Repair harness or connector.



# STOP LAMP

## 6. CHECK POWER SUPPLY CIRCUIT

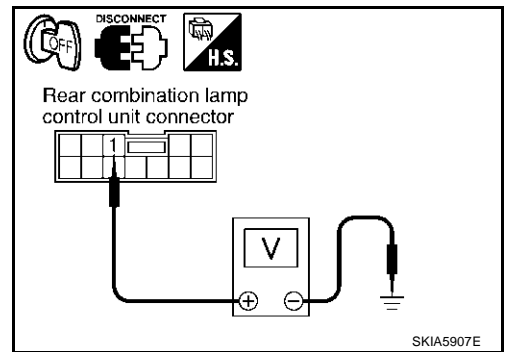
1. Disconnect rear combination lamp control unit connector.
2. Check voltage between rear combination lamp control unit harness connector B65 terminal 1 (GY) and ground.

**1 (GY) – Ground : Battery voltage should exist.**

OK or NG

OK >> GO TO 7.

NG >> Repair harness or connector.



## 7. CHECK GROUND CIRCUIT

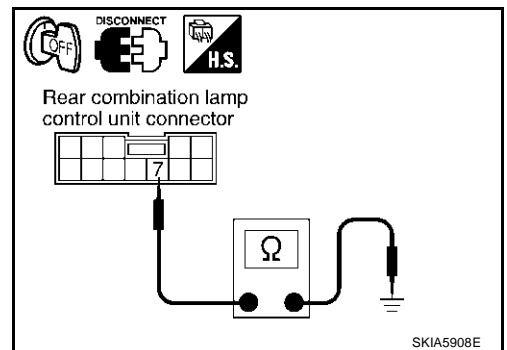
- Check continuity between rear combination lamp control unit harness connector B65 terminal 7 (B) and ground.

**7 (B) – Ground : Continuity should exist.**

OK or NG

OK >> GO TO 8.

NG >> Repair harness or connector.



## 8. CHECK STPO LAMPS CIRCUIT

1. Disconnect rear combination lamp RH and LH connector.
2. Check continuity between rear combination lamp control unit harness connector B65 terminal 11 (W) and rear combination lamp LH harness connector B57 terminal 3 (W).

**11 (W) – 3 (W) : Continuity should exist.**

3. Check continuity between rear combination lamp control unit harness connector B65 terminal 10 (BR) and rear combination lamp LH harness connector B57 terminal 4 (BR).

**10 (BR) – 4 (BR) : Continuity should exist.**

4. Check continuity between rear combination lamp control unit harness connector B65 terminal 9 (LG) and rear combination lamp RH harness connector B77 terminal 3 (LG).

**9 (LG) – 3 (LG) : Continuity should exist.**

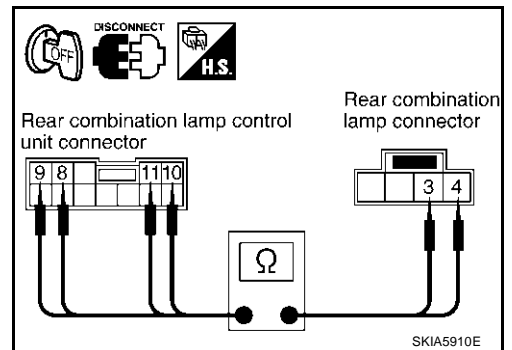
5. Check continuity between rear combination lamp control unit harness connector B65 terminal 8 (Y) and rear combination lamp RH harness connector B77 terminal 4 (Y).

**8 (Y) – 4 (Y) : Continuity should exist.**

OK or NG

OK >> Replace rear combination lamp control unit or rear combination lamp, and then check if turn signal lamps are illuminated.

NG >> Repair harness or connector.



# STOP LAMP

## High-Mounted Stop Lamp

AKS007DM

### BULB REPLACEMENT, REMOVAL AND INSTALLATION

1. Remove cap from back door finisher and remove nuts. Refer to [EI-46, "Removal and Installation"](#) in "EI" section.
2. Disconnect high-mounted stop lamp connector.
3. Remove washer tube from high-mounted stop lamp, and remove high-mounted stop lamp from the rear air spoiler.
4. Remove seal packing from the rear air spoiler.
5. Install in the reverse order of removal.

High-mounted stop lamp : LED

#### CAUTION:

Seal packing cannot be reused.

## Stop Lamp

### BULB REPLACEMENT

AKS007DN

Refer to [LT-229, "Bulb Replacement"](#) in "REAR COMBINATION LAMP".

### REMOVAL AND INSTALLATION

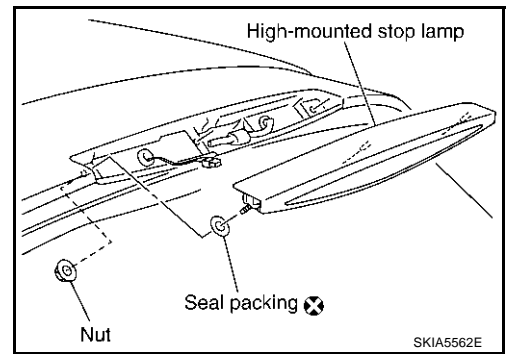
Refer to [LT-229, "Removal and Installation"](#) in "REAR COMBINATION LAMP".

## Rear Combination Lamp Control Unit

AKS007NY

### REMOVAL AND INSTALLATION

Refer to [LT-176, "Removal and Installation of Rear Combination Lamp Control Unit"](#) in "TURN SIGNAL AND HAZARD WARNING LAMPS".





# STEP LAMP

## STEP LAMP

PFP:26420

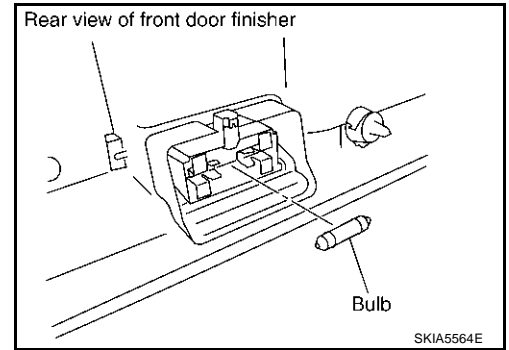
### Front Door Step Lamp BULB REPLACEMENT, REMOVAL AND INSTALLATION

AKS007DO

1. Remove door finisher. Refer to [EI-35, "Removal and Installation"](#) in "EI" section.
2. Insert a screwdriver in lens and remove lens.
3. Remove bulb.

**Step lamp** : 12V - 5W

4. Install in the reverse order of removal.



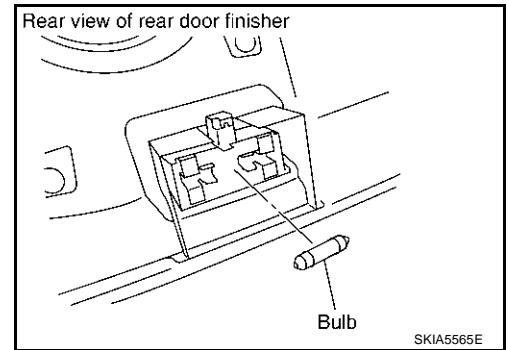
### Rear Door Step Lamp BULB REPLACEMENT, REMOVAL AND INSTALLATION

AKS007DP

1. Remove door finisher. Refer to [EI-35, "Removal and Installation"](#) in "EI" section.
2. Insert a screwdriver in lens and remove lens.
3. Remove bulb.

**Step lamp** : 12V - 5W

4. Install in the reverse order of removal.



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# BACK-UP LAMP

PFP:26550

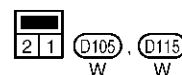
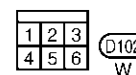
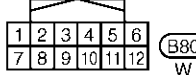
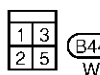
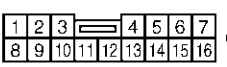
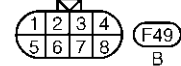
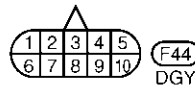
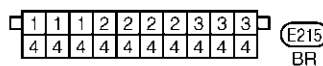
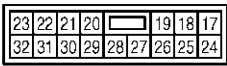
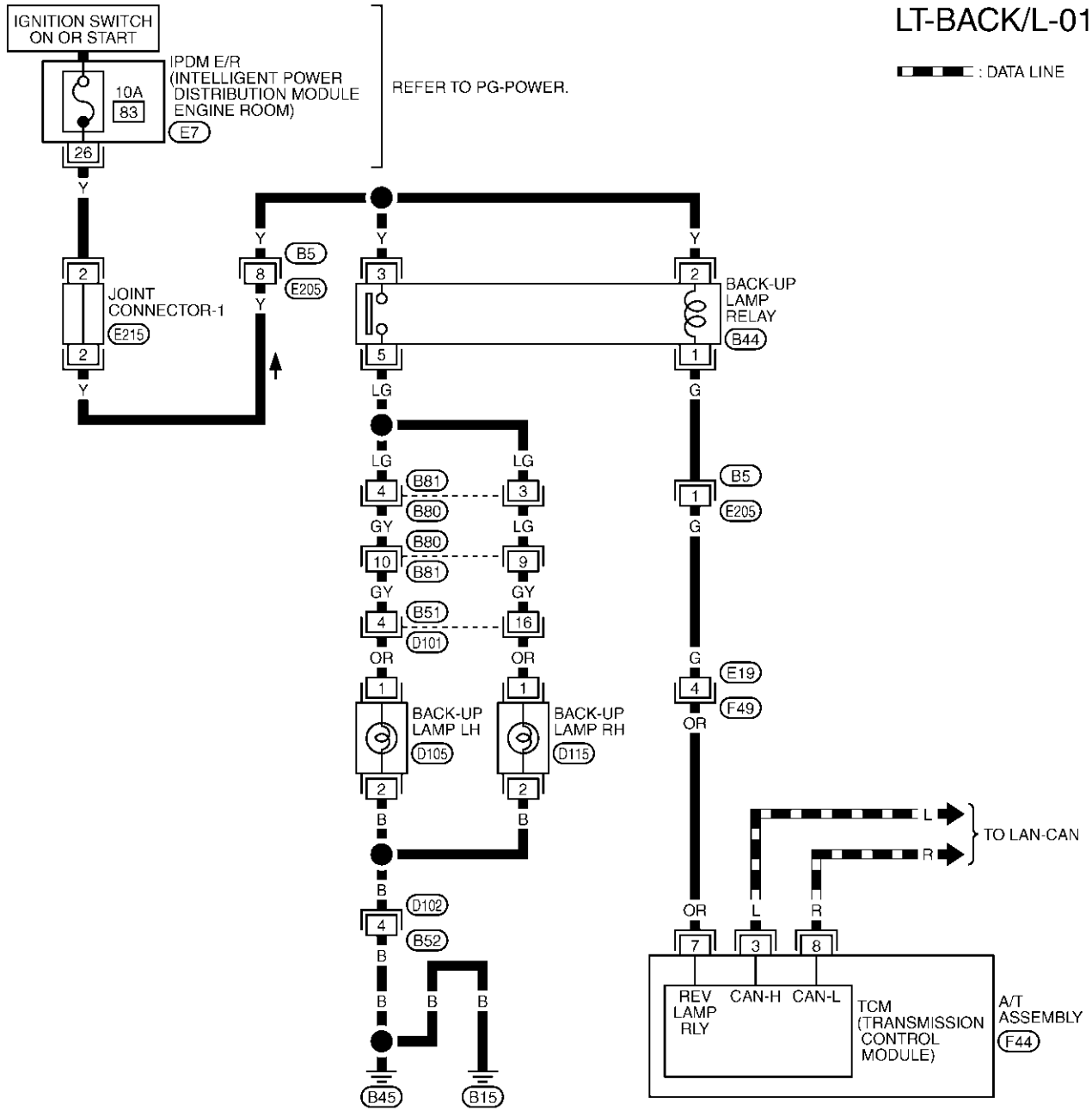
## BACK-UP LAMP

### Wiring Diagram — BACK/L —

AKS007DQ

#### LT-BACK/L-01

▬ : DATA LINE



TKWM0629E

# BACK-UP LAMP

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## Bulb Replacement

AKS007DR

Refer to [LT-229, "Bulb Replacement"](#) in "REAR COMBINATION LAMP".

A

## Removal and Installation

AKS007DS

Refer to [LT-229, "Removal and Installation"](#) in "REAR COMBINATION LAMP".

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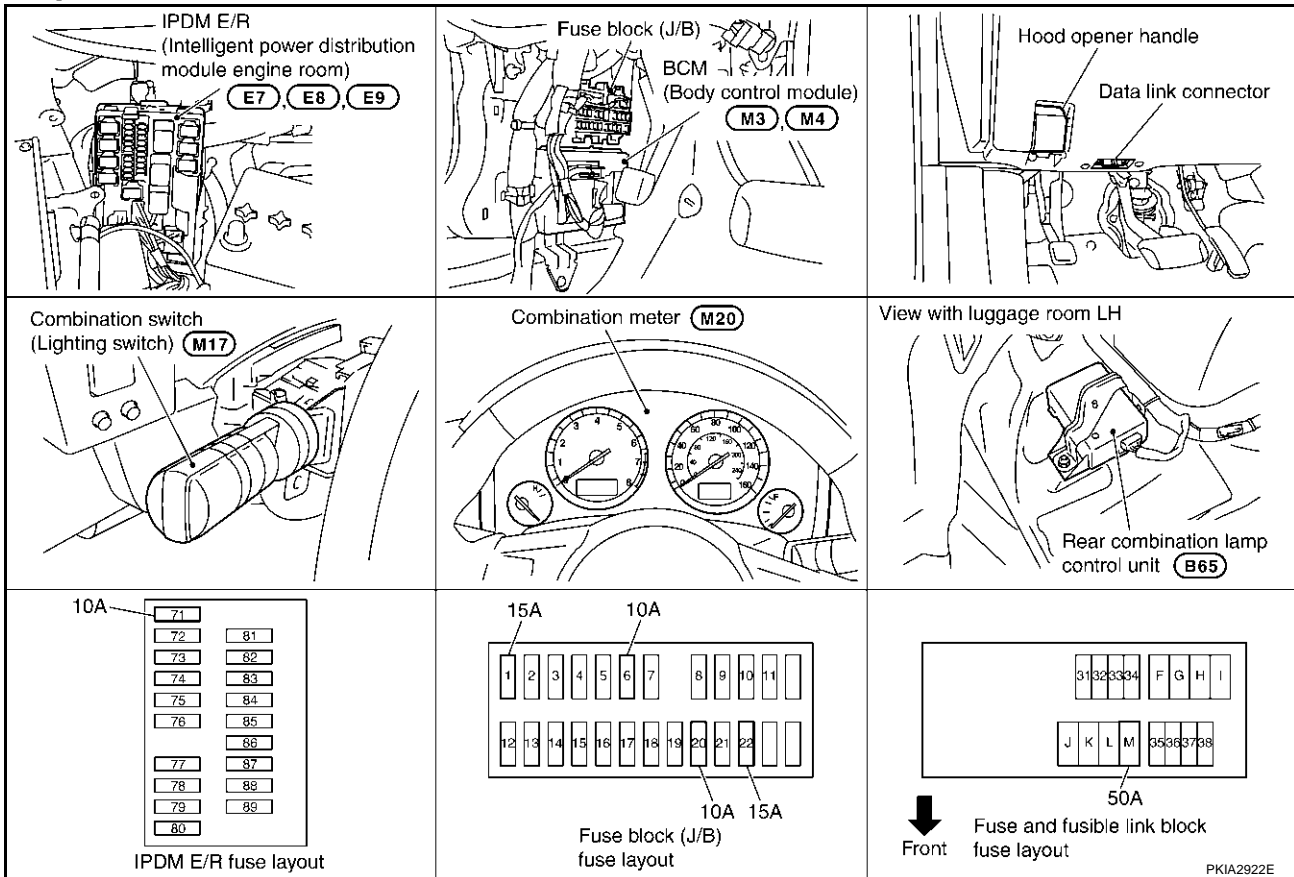
# PARKING, LICENSE PLATE AND TAIL LAMPS

## PARKING, LICENSE PLATE AND TAIL LAMPS

PFP:26550

### Component Parts and Harness Connector Location

AKS00707



PKIA2922E

### System Description

AKS007DT

Control of the parking, license plate, and tail lamp operation is dependent upon the position of the lighting switch (combination switch). When the lighting switch is placed in the 1ST position, the BCM (body control module) receives input signal requesting the parking, license plate, side marker and tail lamps to illuminate. This input signal is communicated to the IPDM E/R (intelligent power distribution module engine room) across the CAN communication lines. CPU (central processing unit) of the IPDM E/R (intelligent power distribution module engine room) controls the tail lamp relay coil. This relay, when energized, directs power to the parking, license plate, side marker and tail lamps, which then illuminate.

The current that flows by rear combination lamp unit is controlled, and a tail lamp (LED) is made to turn on. Power is supplied at all times

- through 10A fuse [No. 71, located in IPDM E/R (intelligent power distribution module engine room)]
- to tail lamp relay [located in IPDM E/R (intelligent power distribution module engine room)]
- through 15A fuse [No. 78, located in IPDM E/R (intelligent power distribution module engine room)]
- to CPU (central processing unit) [located in IPDM E/R (intelligent power distribution module engine room)].

Power is also supplied at all times

- through 50A fusible link (letter M, located in fuse and fusible link block)
- to BCM (body control module) terminal 55
- through 15A fuse [No. 22, located in fuse block (J/B)]
- to BCM (body control module) terminal 42
- through 10A fuse [No. 20, located in fuse block (J/B)]
- to rear combination lamp control unit terminal 1.

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

- through 15A fuse [No. 1, located in fuse block (J/B)]
- to BCM (body control module) terminal 38

## PARKING, LICENSE PLATE AND TAIL LAMPS

- through ignition relay [located in IPDM E/R (intelligent power distribution module engine room)]
- to CPU (central processing unit) [located in IPDM E/R (intelligent power distribution module engine room)].

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

- through 10A fuse [No. 6, located in fuse block (J/B)]
- to BCM (body control module) terminal 11.

Ground is supplied

- to BCM (body control module) terminals 49 and 52
- through grounds M35, M45 and M85
- to IPDM E/R (intelligent power distribution module engine room) terminals 38 and 60
- through grounds E21, E50 and E51
- to rear combination lamp control unit terminal 7
- through grounds E21, E50 and E51.

### OPERATION BY LIGHTING SWITCH

With the lighting switch in the 1ST or 2ND position (or if the auto light system is activated), the BCM receives input signal requesting the parking, license plate, side marker and tail lamps to illuminate. This input signal is communicated to the IPDM E/R across the CAN communication lines. The CPU in the IPDM E/R controls the tail lamp relay coil, which when energized, directs power

- through IPDM E/R terminal 22
- to front side marker lamp LH terminal 1
- to clearance lamp LH terminal 2
- to license plate lamp LH terminal 1
- to rear combination lamp LH terminal 1
- to rear combination lamp control unit terminal 2
- to front side marker lamp RH terminal 1
- to clearance lamp RH terminal 2
- to license plate lamp RH terminal 1
- to rear combination lamp RH terminal 1.

Ground is supplied at all times

- to front side marker lamp LH terminal 2
- through grounds E21, E50 and E51
- to clearance lamp LH terminal 3
- through grounds E21, E50 and E51
- to license plate lamp LH terminal 2
- through grounds B15 and B45
- to rear combination lamp LH terminal 2
- through grounds B15 and B45
- to front side marker lamp RH terminal 2
- through grounds E21, E50 and E51
- to clearance lamp RH terminal 3
- through grounds E21, E50 and E51
- to license plate lamp RH terminal 2
- through grounds B15 and B45
- to rear combination lamp RH terminal 2
- through grounds B15 and B45
- to rear combination lamp control unit terminal 7
- through grounds E21, E50 and E51.

With power and ground supplied, the parking, license plate, side marker and tail lamps illuminate.

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# PARKING, LICENSE PLATE AND TAIL LAMPS

## COMBINATION SWITCH READING FUNCTION

Refer to [BCS-3, "COMBINATION SWITCH READING FUNCTION"](#) .

## EXTERIOR LAMP BATTERY SAVER CONTROL

When the combination switch (lighting switch) is in the 1ST (or 2ND) position, and the ignition switch is turned from ON or ACC to OFF, the battery saver control feature is activated.

Under this condition, the parking, license, side marker and tail lamps remain illuminated for 5 minutes, then the parking, license plate, side marker and tail lamps are turned off.

Exterior lamp battery saver control mode can be changed by the function setting of CONSULT-II.

## CAN Communication System Description

AKS007DU

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

## CAN Communication Unit

AKS0080X

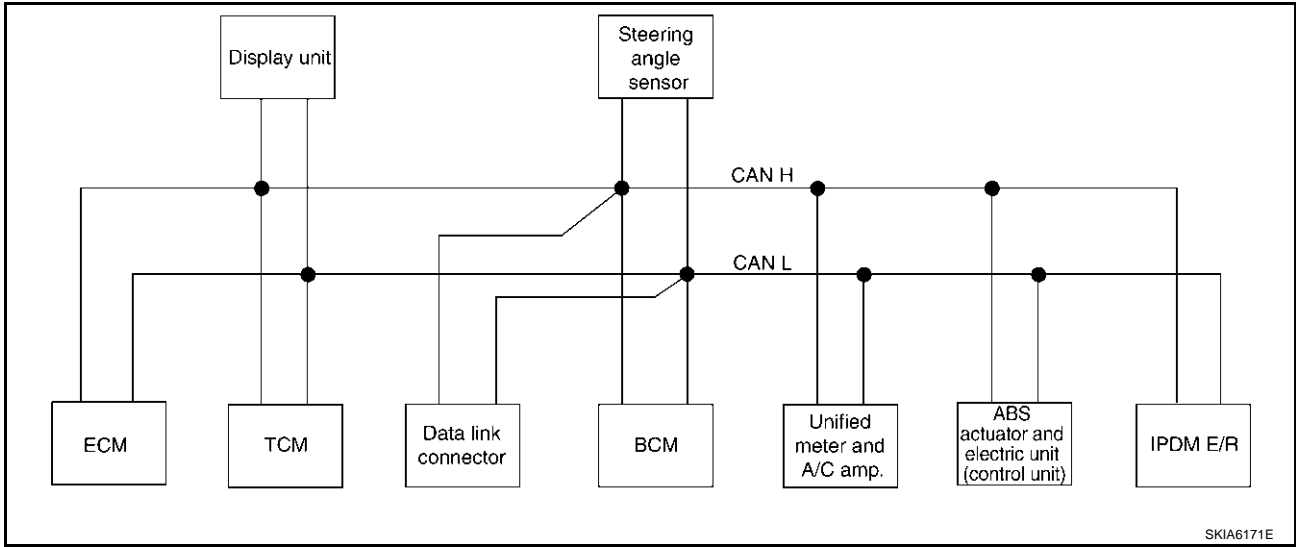
Body type	Wagon					
	2WD			AWD		
Axle	VQ35DE			VQ35DE/VK45DE		
Engine	VQ35DE			VQ35DE/VK45DE		
Transmission	A/T					
Brake control	VDC					
Navigation system			×			×
Low tire pressure warning system			×			×
ICC system			×			×
Intelligent Key system			×			×
Automatic drive positioner		×	×		×	×
CAN communication unit						
ECM	×	×	×	×	×	×
TCM	×	×	×	×	×	×
Display unit	×	×		×	×	
Display control unit			×			×
Low tire pressure warning control unit			×			×
AWD control unit				×	×	×
ICC unit			×			×
Intelligent Key unit			×			×
Data link connector	×	×	×	×	×	×
BCM	×	×	×	×	×	×
Steering angle sensor	×	×	×	×	×	×
Unified meter and A/C amp.	×	×	×	×	×	×
ICC sensor			×			×
ABS actuator and electric unit (control unit)	×	×	×	×	×	×
Driver seat control unit		×	×		×	×
IPDM E/R	×	×	×	×	×	×
CAN communication type	<a href="#">LT-199, "TYPE 1/TYP2"</a>		<a href="#">LT-202, "TYPE 3"</a>	<a href="#">LT-205, "TYPE 4/TYP5"</a>		<a href="#">LT-208, "TYPE 6"</a>

×: Applicable

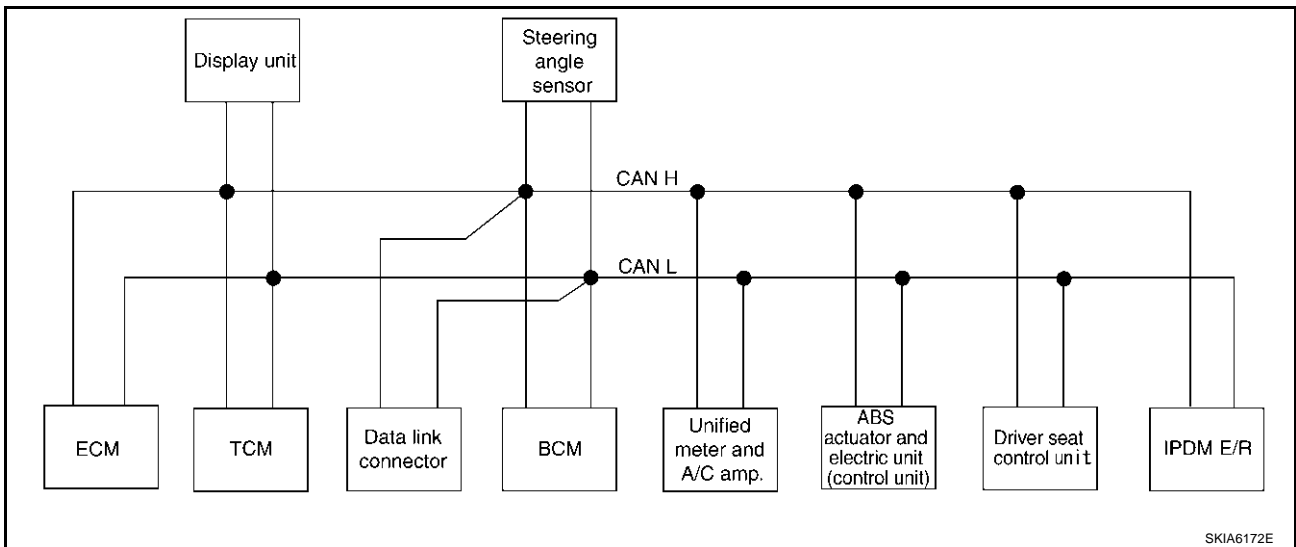
# PARKING, LICENSE PLATE AND TAIL LAMPS

## TYPE 1/TYPE2 System Diagram

- Type1



- Type2



## Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Engine speed signal	T	R	R			R	R		
Engine status signal	T			R					
Engine coolant temperature signal	T	R				R			
A/T self-diagnosis signal	R	T							
Accelerator pedal position signal	T	R					R		
Closed throttle position signal	T	R							
Wide open throttle position signal	T	R							

## PARKING, LICENSE PLATE AND TAIL LAMPS

Signals	ECM	TCM	Display unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Battery voltage signal	T	R							
Key switch signal				T				R	
Ignition switch signal				T				R	R
P range signal		T					R	R	
Stop lamp switch signal		R				T			
ABS operation signal	R						T		
TCS operation signal	R						T		
VDC operation signal	R						T		
Fuel consumption monitor signal	T		R			R			
Input shaft revolution signal	R	T							
Output shaft revolution signal	R	T							
A/C switch signal	R			T					
A/C compressor request signal	T								R
A/C relay status signal	R								T
A/C compressor feedback signal	T					R			
Blower fan motor switch signal	R			T					
A/C control signal			T			R			
			R			T			
Cooling fan speed request signal	T								R
Cooling fan speed signal	R								T
Position light request signal			R	T		R			R
Low beam request signal				T					R
Low beam status signal	R								T
High beam request signal				T		R			R
High beam status signal	R								T
Front fog light request signal				T					R
Day time running light request signal				T		R			
Turn LED burnout status signal				R		T			
Vehicle speed signal						R	T		
	R	R	R	R		T		R	
Sleep wake up signal				T		R		R	R
Door switch signal			R	T		R		R	R
Turn indicator signal				T		R			
Key fob ID signal				T				R	
Key fob door unlock signal				T				R	
Oil pressure switch signal				R					T
				T		R			
Buzzer output signal				T		R			
Fuel level sensor signal	R					T			
Fuel level low warning signal			R			T			



## PARKING, LICENSE PLATE AND TAIL LAMPS

Signals	ECM	TCM	Dis- play unit	BCM	Steer- ing angle sensor	Unified meter and A/ C amp.	ABS actua- tor and electric unit (con- trol unit)	Driver seat control unit	IPDM E/R
ASCD operation signal	T	R							
ASCD OD cancel request	T	R							
Front wiper request signal				T					R
Front wiper stop position signal				R					T
Rear window defogger switch signal				T					R
Rear window defogger control signal	R		R	R					T
Hood switch signal				R					T
Theft warning horn request signal				T					R
Horn chirp signal				T					R
Steering angle sensor signal					T		R		
ABS warning lamp signal						R	T		
VDC OFF indicator lamp signal						R	T		
SLIP indicator lamp signal						R	T		
Brake warning lamp signal						R	T		
System setting signal			T	R				R	
A/T CHECK indicator lamp signal		T				R			
A/T position indicator lamp signal		T				R			
A/T shift schedule change demand signal		R					T		
Manual mode signal		R				T			
Not manual mode signal		R				T			
Manual mode shift up signal		R				T			
Manual mode shift down signal		R				T			
Manual mode indicator signal		T				R			
Distance to empty signal			R			T			
Hand brake switch				R		T			

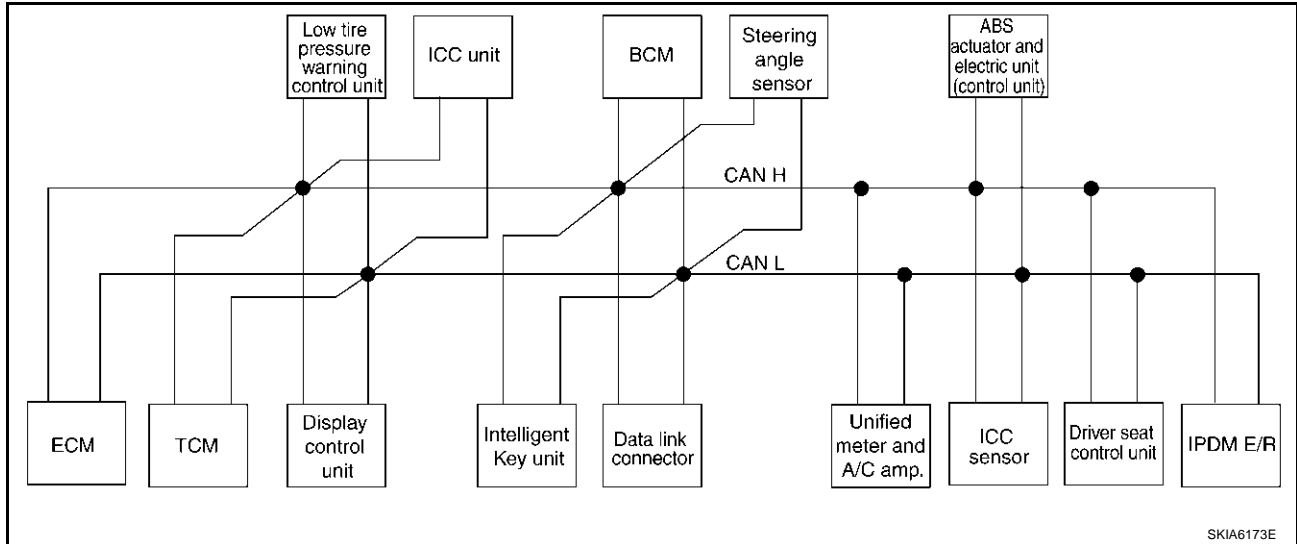
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# PARKING, LICENSE PLATE AND TAIL LAMPS

## TYPE 3

### System Diagram

- Type3



### Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Engine speed signal	T	R	R		R				R		R		
Engine status signal	T						R						
Engine coolant temperature signal	T	R			R				R				
A/T self-diagnosis signal	R	T											
Accelerator pedal position signal	T	R			R						R		
Closed throttle position signal	T	R			R								
Wide open throttle position signal	T	R											
Battery voltage signal	T	R											
Key switch signal							T					R	
Ignition switch signal							T					R	R
P range signal		T			R						R	R	
Stop lamp switch signal		R							T				
ABS operation signal	R				R						T		
TCS operation signal	R				R						T		
VDC operation signal	R				R						T		
Fuel consumption monitor signal	T		R						R				

# PARKING, LICENSE PLATE AND TAIL LAMPS

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Input shaft revolution signal	R	T			R								
Output shaft revolution signal	R	T			R								
A/C switch signal	R						T						
A/C compressor request signal	T												R
A/C relay status signal	R												T
A/C compressor feedback signal	T								R				
Blower fan motor switch signal	R						T						
A/C control signal			T						R				
			R						T				
Cooling fan speed signal	R												T
Position light request signal	R						T		R				R
Low beam request signal							T						R
Low beam status signal	R												T
High beam request signal							T		R				R
High beam status signal	R												T
Front fog light request signal							T						R
Day time running light request signal							T		R				
Turn LED burnout status signal							R		T				
Vehicle speed signal					R				R		T		
	R	R	R	R		R	R		T	R		R	
Sleep wake up signal							T		R			R	R
						T	R						
Door switch signal			R			R	T		R			R	R
Turn indicator signal							T		R				
Key fob ID signal							T					R	
Key fob door unlock signal							T					R	
Oil pressure switch signal							R						T
							T		R				
Buzzer output signal							T		R				
						T			R				
					T				R				

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## PARKING, LICENSE PLATE AND TAIL LAMPS

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Fuel level sensor signal	R								T				
Fuel level low warning signal			R						T				
ICC operation signal	R				T								
Front wiper request signal					R		T						R
Front wiper stop position signal							R						T
Rear window defogger switch signal							T						R
Rear window defogger control signal	R		R				R						T
Hood switch signal							R						T
Theft warning horn request signal							T						R
Horn chirp signal							T						R
Steering angle sensor signal								T			R		
Tire pressure signal				T					R				
Tire pressure data signal			R	T									
ABS warning lamp signal					R				R		T		
VDC OFF indicator lamp signal					R				R		T		
SLIP indicator lamp signal									R		T		
Brake warning lamp signal									R		T		
System setting signal			T			R						R	
Distance to empty signal			R						T				
Hand brake switch signal							R		T				
Door lock/unlock request signal						T	R						
Door lock/unlock status signal						R	T						
Starter permission signal						T	R						
Back door open request signal						T	R						
Power window open request signal						T	R						
Alarm request signal						T	R						
Key warning signal						T			R				
ICC sensor signal					R					T			
ICC warning lamp signal					T				R				

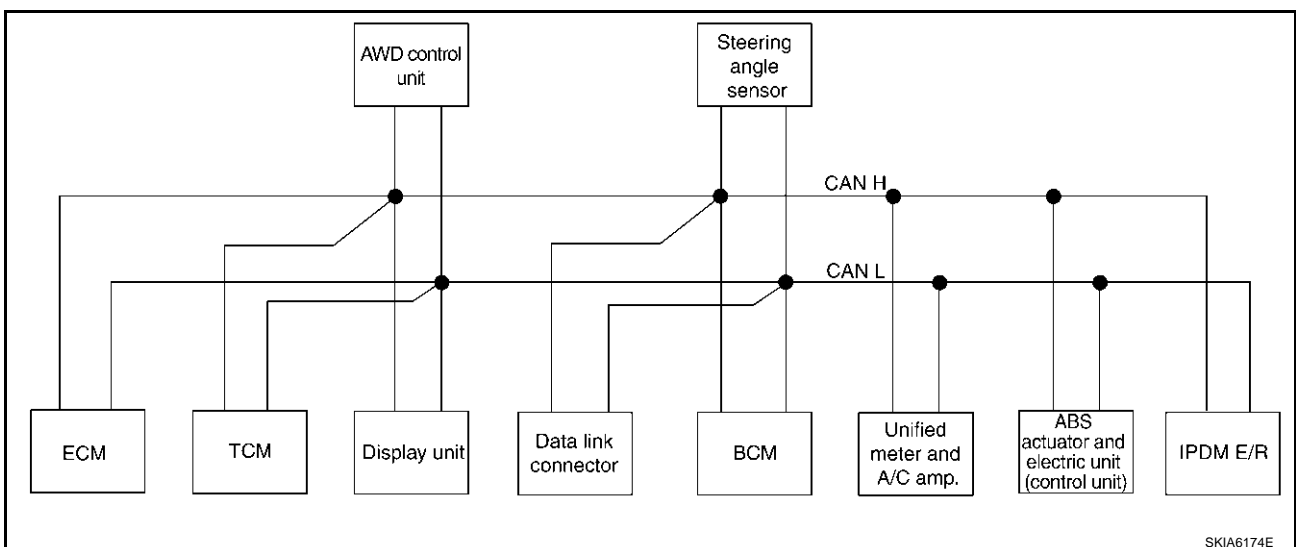
# PARKING, LICENSE PLATE AND TAIL LAMPS

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
ICC system display signal					T				R				
Current gear position signal		T			R						R		
Steering switch signal	T				R								
ASCD operation signal	T	R											
ASCD OD cancel request	T	R											
ICC OD cancel request	R	R			T								
A/T CHECK indicator lamp signal		T							R				
A/T position indicator lamp signal		T							R				
A/T shift schedule change demand signal		R									T		
Manual mode signal		R							T				
Not manual mode signal		R							T				
Manual mode shift up signal		R							T				
Manual mode shift down signal		R							T				
Manual mode indicator signal		T			R				R				
Ignition knob switch signal						T	R						

## TYPE 4/TYPES

### System Diagram

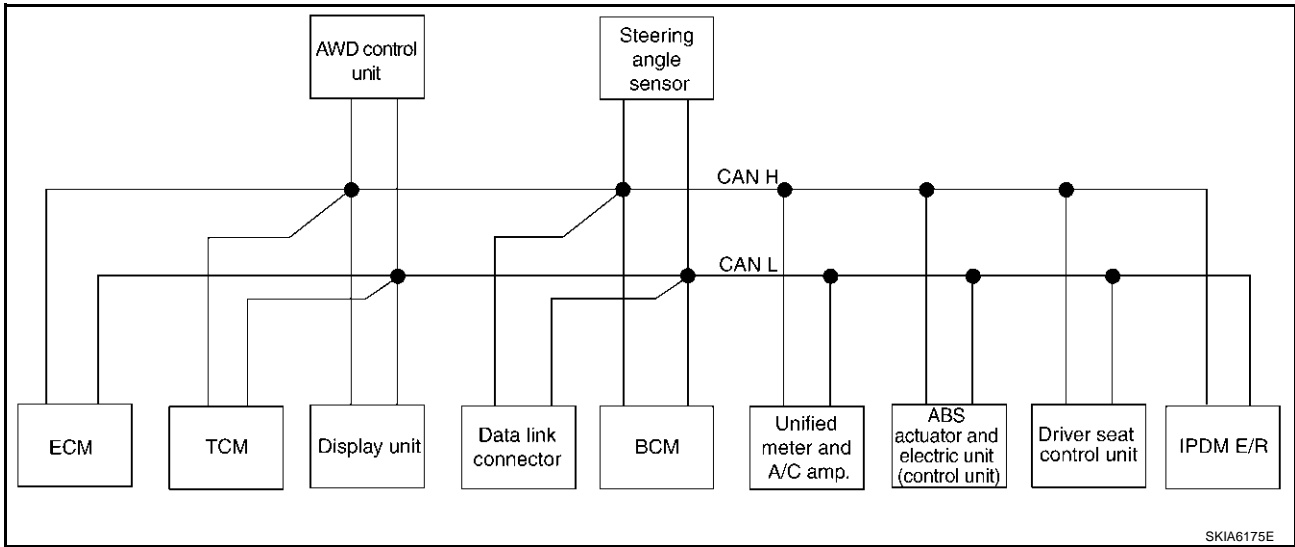
- Type4



SKIA6174E

# PARKING, LICENSE PLATE AND TAIL LAMPS

● Type5



## Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display unit	AWD control unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
A/T self-diagnosis signal	R	T								
ABS operation signal	R			R				T		
TCS operation signal	R							T		
VDC operation signal	R			R				T		
Stop lamp switch signal		R		R			T			
Battery voltage signal	T	R								
Key switch signal					T				R	
Ignition switch signal					T				R	R
P range signal		T						R	R	
Closed throttle position signal	T	R								
Wide open throttle position signal	T	R								
Engine speed signal	T	R	R	R			R	R		
Engine status signal	T				R					
Engine coolant temperature signal	T	R					R			
Accelerator pedal position signal	T	R		R				R		
Fuel consumption monitor signal	T		R				R			
Input shaft revolution signal	R	T								
Output shaft revolution signal	R	T								
A/C switch signal	R				T					
A/C compressor request signal	T									R
A/C relay status signal	R									T
A/C compressor feedback signal	T						R			

## PARKING, LICENSE PLATE AND TAIL LAMPS

Signals	ECM	TCM	Display unit	AWD control unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Blower fan motor switch signal	R				T					
A/C control signal			T				R			
			R				T			
Cooling fan speed signal	R									T
Position light request signal			R		T		R			R
Low beam request signal					T					R
Low beam status signal	R									T
High beam request signal					T		R			R
High beam status signal	R									T
Front fog light request signal					T					R
Day time running light request signal					T		R			
Turn LED burnout status signal					R		T			
Vehicle speed signal							R	T		
	R	R	R		R		T		R	
Sleep wake up signal					T		R		R	R
Door switch signal			R		T		R		R	R
Turn indicator signal					T		R			
Key fob ID signal					T				R	
Key fob door unlock signal					T				R	
Oil pressure switch signal					R					T
					T		R			
Buzzer output signal					T		R			
Fuel level sensor signal	R						T			
Fuel level low warning signal			R				T			
Front wiper request signal					T					R
Front wiper stop position signal					R					T
Rear window defogger switch signal					T					R
Rear window defogger control signal	R		R		R					T
Hood switch signal					R					T
Theft warning horn request signal					T					R
Horn chirp signal					T					R
Steering angle sensor signal						T		R		
ABS warning lamp signal							R	T		
VDC OFF indicator lamp signal							R	T		
SLIP indicator lamp signal							R	T		
Brake warning lamp signal							R	T		
System setting signal			T		R				R	
AWD warning lamp signal				T			R			

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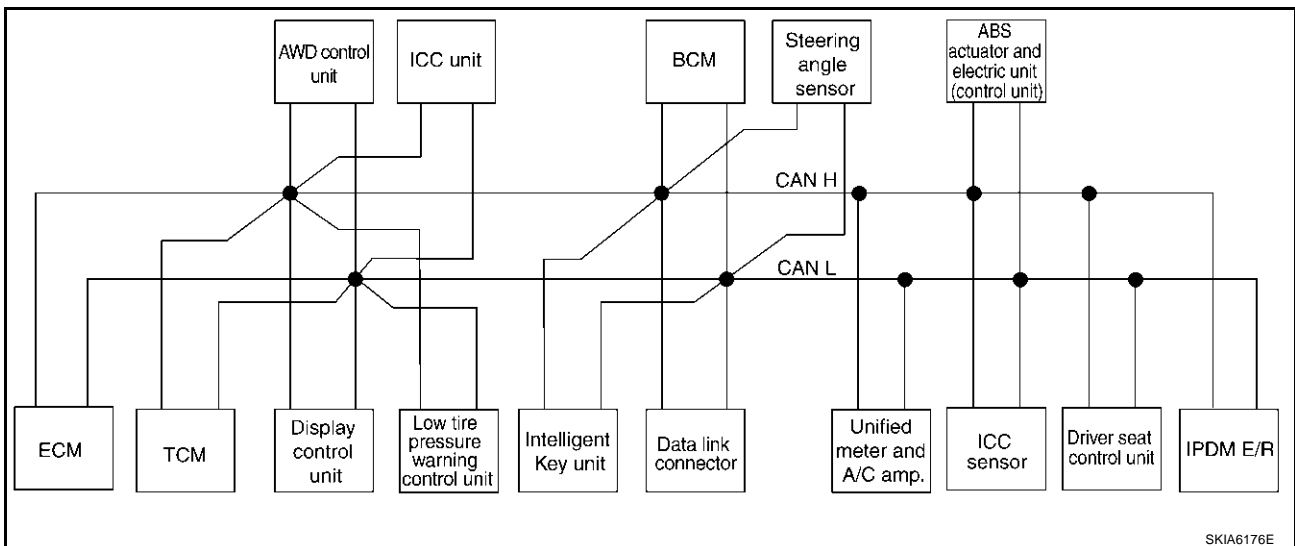
# PARKING, LICENSE PLATE AND TAIL LAMPS

Signals	ECM	TCM	Display unit	AWD control unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
AWD lock indicator lamp signal				T			R			
Distance to empty signal			R				T			
Hand brake switch signal				R	R		T			
ASCD operation signal	T	R								
ASCD OD cancel request	T	R								
A/T CHECK indicator lamp signal		T					R			
A/T position indicator lamp signal		T					R			
A/T shift schedule change demand signal		R						T		
Manual mode signal		R					T			
Not manual mode signal		R					T			
Manual mode shift up signal		R					T			
Manual mode shift down signal		R					T			
Manual mode indicator signal		T					R			

## TYPE 6

### System Diagram

- Type6





# PARKING, LICENSE PLATE AND TAIL LAMPS

## Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	AWD control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPD M E/R
A/T self-diagnosis signal	R	T												
ABS operation signal	R				R	R						T		
TCS operation signal	R					R						T		
VDC operation signal	R				R	R					R	T		
Stop lamp switch signal		R			R					T				
Battery voltage signal	T	R												
Key switch signal								T					R	
Ignition switch signal								T					R	R
P range signal		T				R						R	R	
Closed throttle position signal	T	R				R								
Wide open throttle position signal	T	R												
Engine speed signal	T	R	R		R	R				R		R		
Engine status signal	T							R						
Engine coolant temperature signal	T	R				R				R				
Accelerator pedal position signal	T	R			R	R						R		
Fuel consumption monitor signal	T		R							R				
A/T self-diagnosis signal	R	T												
Input shaft revolution signal	R	T				R								
Output shaft revolution signal	R	T				R								
A/C switch signal	R							T						
A/C compressor request signal	T													R
A/C relay status signal	R													T
A/C compressor feedback signal	T									R				
Blower fan motor switch signal	R							T						
A/C control signal			T							R				
			R							T				
Cooling fan speed signal	R													T
Position light request signal			R					T		R				R
Low beam request signal								T						R
Low beam status signal	R													T
High beam request signal								T		R				R

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## PARKING, LICENSE PLATE AND TAIL LAMPS

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	AWD control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPD M E/R
High beam status signal	R													T
Front fog light request signal								T						R
Day time running light request signal								T		R				
Turn LED burnout status signal								R		T				
Vehicle speed signal						R				R		T		
	R	R	R	R			R	R		T	R		R	
Sleep wake up signal								T		R			R	R
							T	R						
Door switch signal			R				R	T		R			R	R
Key fob ID signal								T					R	
Key fob door unlock signal								T					R	
Oil pressure switch signal								R						T
								T		R				
Buzzer output signal							T			R				
						T				R				
Fuel level sensor signal	R									T				
Fuel level low warning signal			R							T				
ICC operation signal	R					T								
Front wiper request signal						R		T						R
Front wiper stop position signal								R						T
Rear window defogger switch signal								T						R
Rear window defogger control signal	R		R					R						T
Hood switch signal								R						T
Theft warning horn request signal								T						R
Horn chirp signal								T						R
Steering angle sensor signal									T			R		
Tire pressure signal				T						R				
Tire pressure data signal			R	T										
ABS warning lamp signal						R				R		T		
VDC OFF indicator lamp signal						R				R		T		
SLIP indicator lamp signal										R		T		

## PARKING, LICENSE PLATE AND TAIL LAMPS

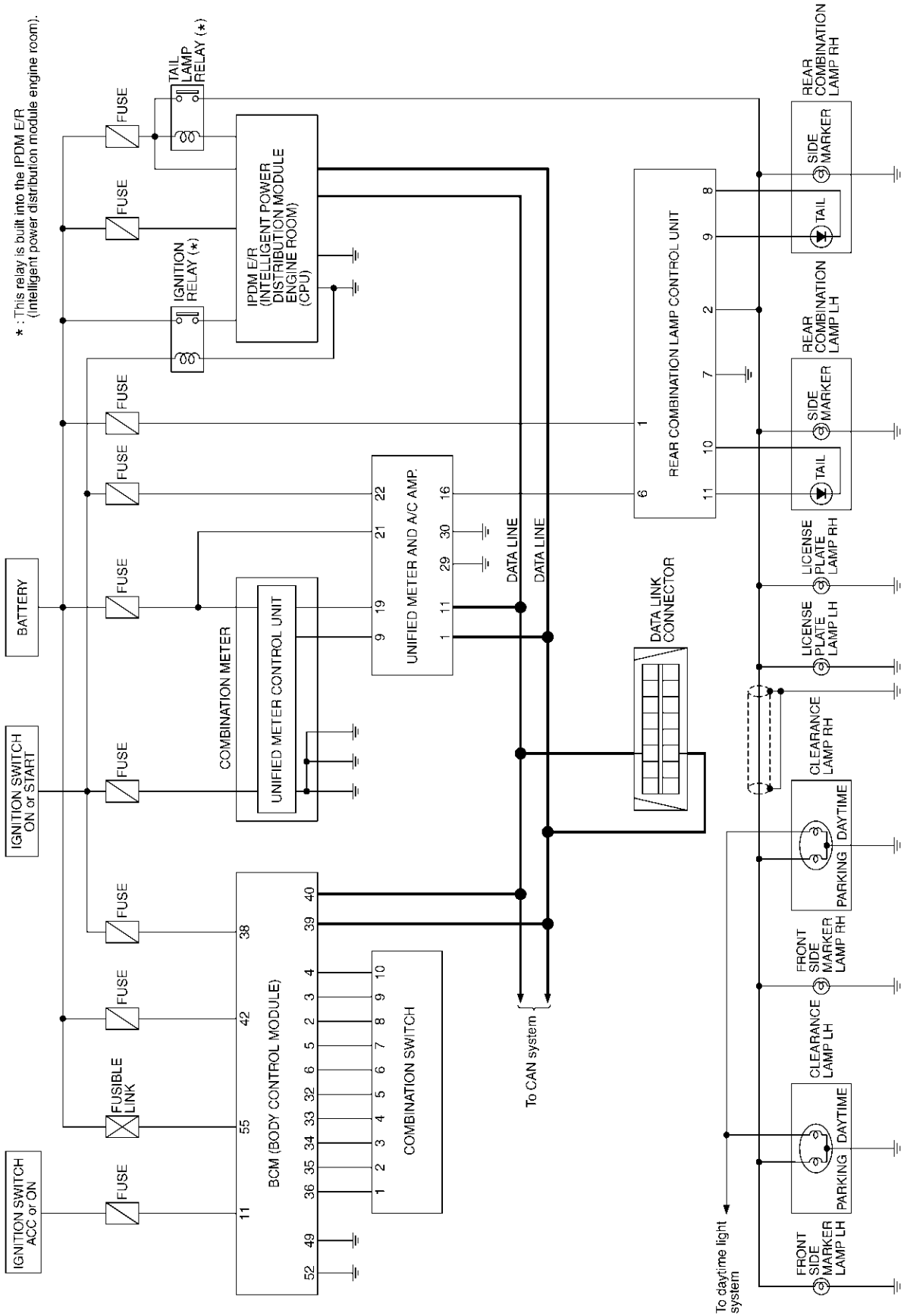
Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	AWD control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPD M E/ R
Brake warning lamp signal										R		T		
System setting signal			T				R						R	
AWD warning lamp signal					T					R				
AWD lock indicator lamp signal					T					R				
Distance to empty signal			R							T				
Hand brake switch signal					R			R		T				
Door lock/unlock request signal							T	R						
Door lock/unlock status signal							R	T						
Starter permission signal							T	R						
Back door open request signal							T	R						
Power window open request signal							T	R						
Alarm request signal							T	R						
Key warning signal							T			R				
ICC sensor signal						R					T			
ICC warning lamp signal						T				R				
ICC system display signal						T				R				
Current gear position signal		T				R						R		
Steering switch signal	T					R								
ASCD operation signal	T	R												
ASCD OD cancel request	T	R												
ICC OD cancel request	R	R				T								
A/T CHECK indicator lamp signal		T								R				
A/T position indicator lamp signal		T								R				
A/T shift schedule change demand signal		R										T		
Manual mode signal		R								T				
Not manual mode signal		R								T				
Manual mode shift up signal		R								T				
Manual mode shift down signal		R								T				
Manual mode indicator signal		T								R				
Ignition knob switch signal							T	R						

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# PARKING, LICENSE PLATE AND TAIL LAMPS

## Schematic

AKS007DW



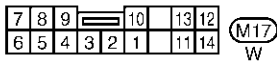
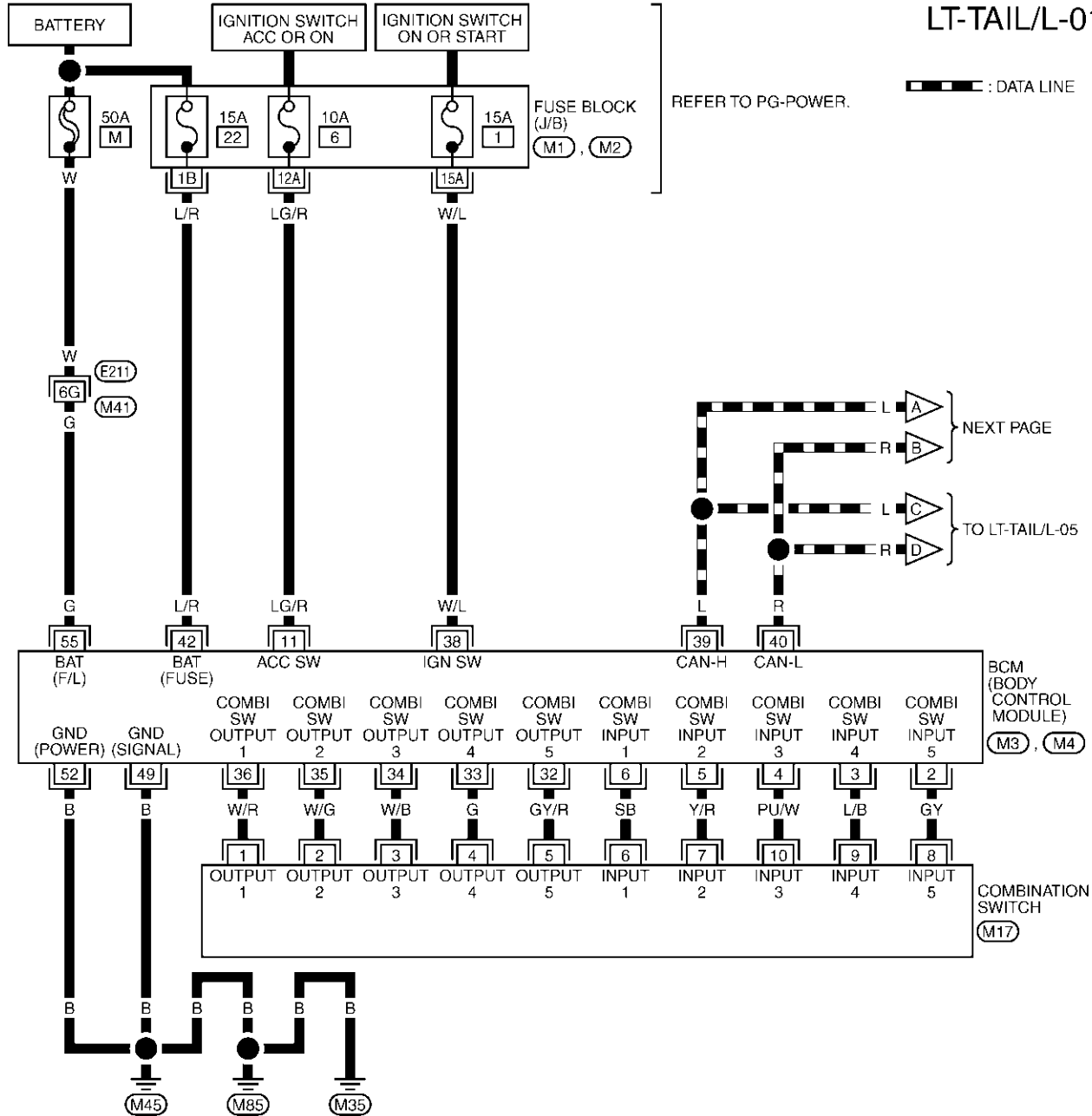
TKWM0630E

# PARKING, LICENSE PLATE AND TAIL LAMPS

## Wiring Diagram — TAIL/L —

AKS007DX

### LT-TAIL/L-01

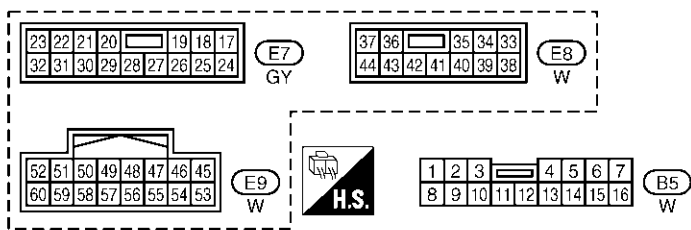
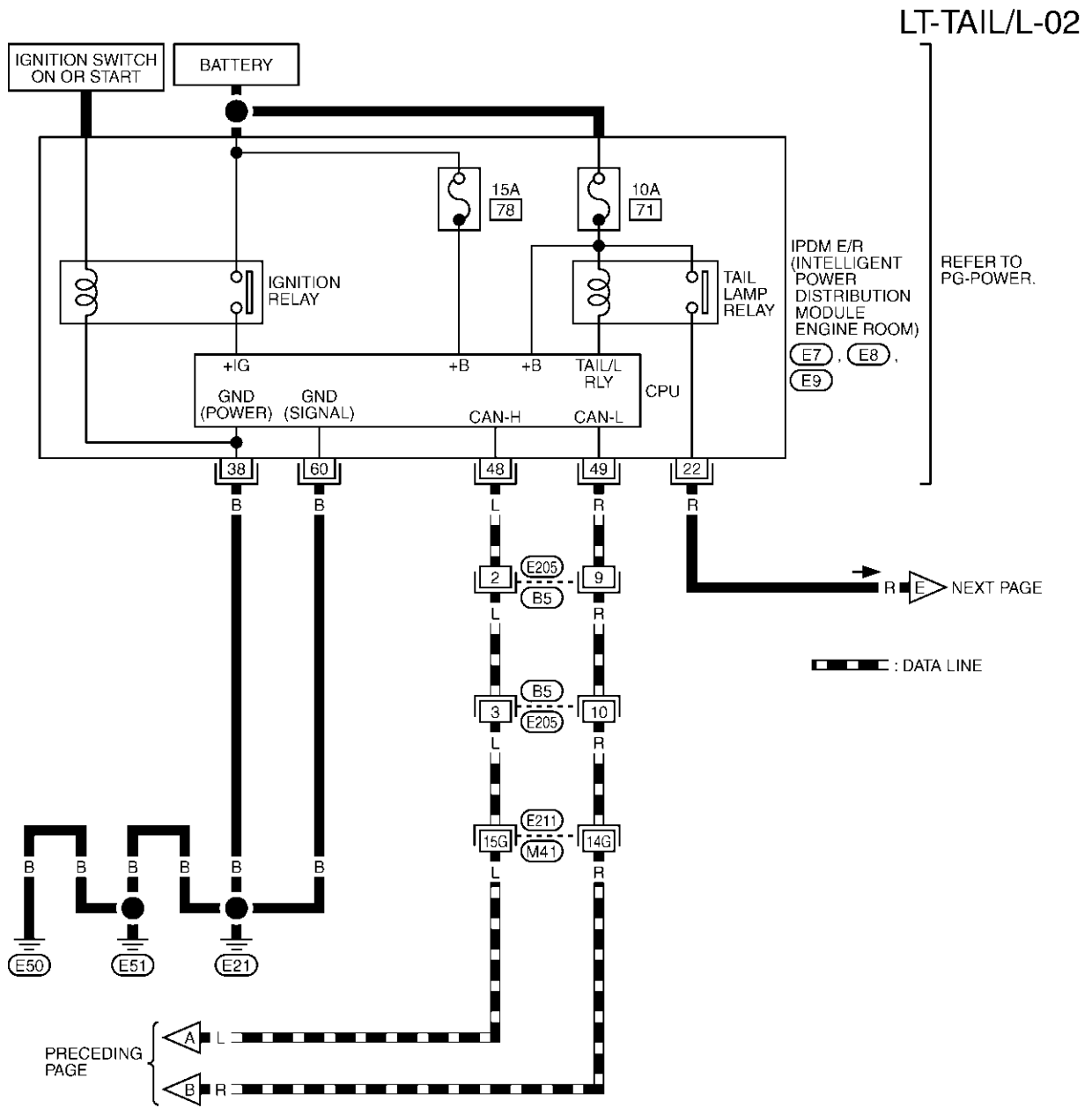


REFER TO THE FOLLOWING.

- (E211) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1), (M2) -FUSE BLOCK-JUNCTION BOX (J/B)
- (M3), (M4) -ELECTRICAL UNITS

TKWM0821E

# PARKING, LICENSE PLATE AND TAIL LAMPS



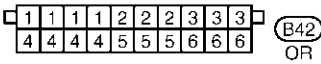
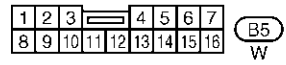
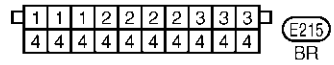
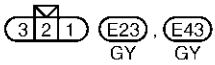
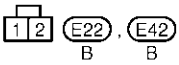
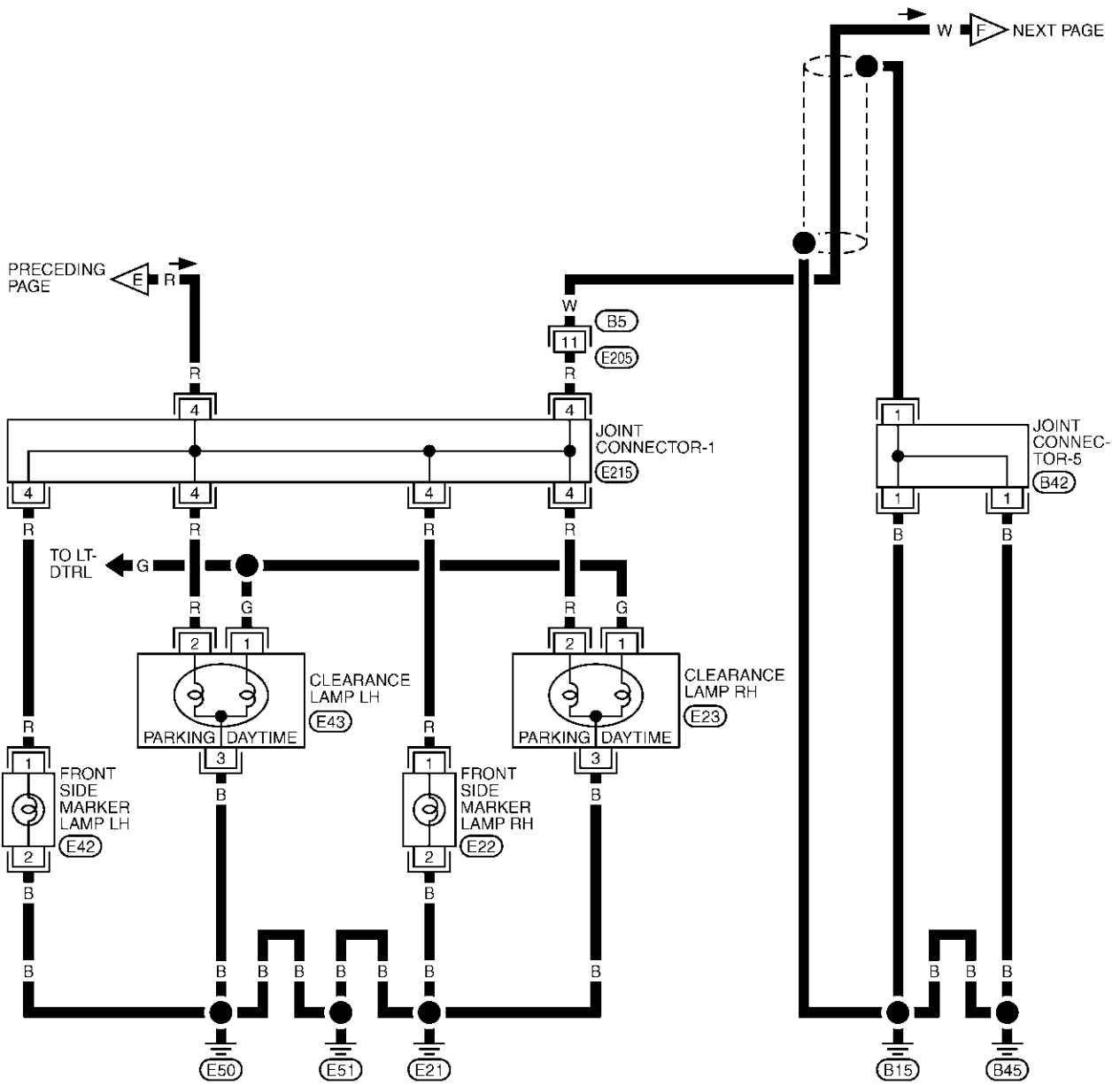
REFER TO THE FOLLOWING.  
 (E21) -SUPER MULTIPLE JUNCTION (SMJ)

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# PARKING, LICENSE PLATE AND TAIL LAMPS

LT-TAIL/L-03

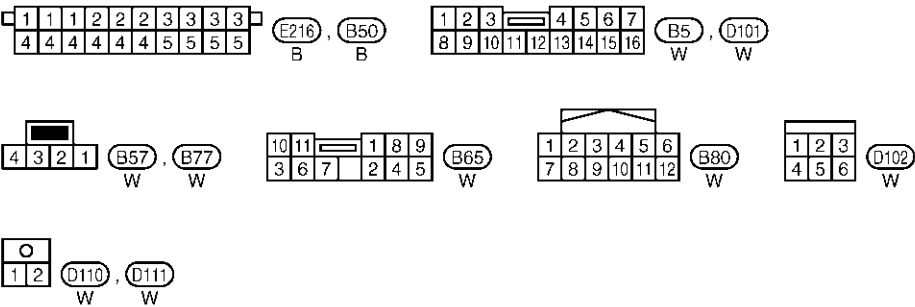
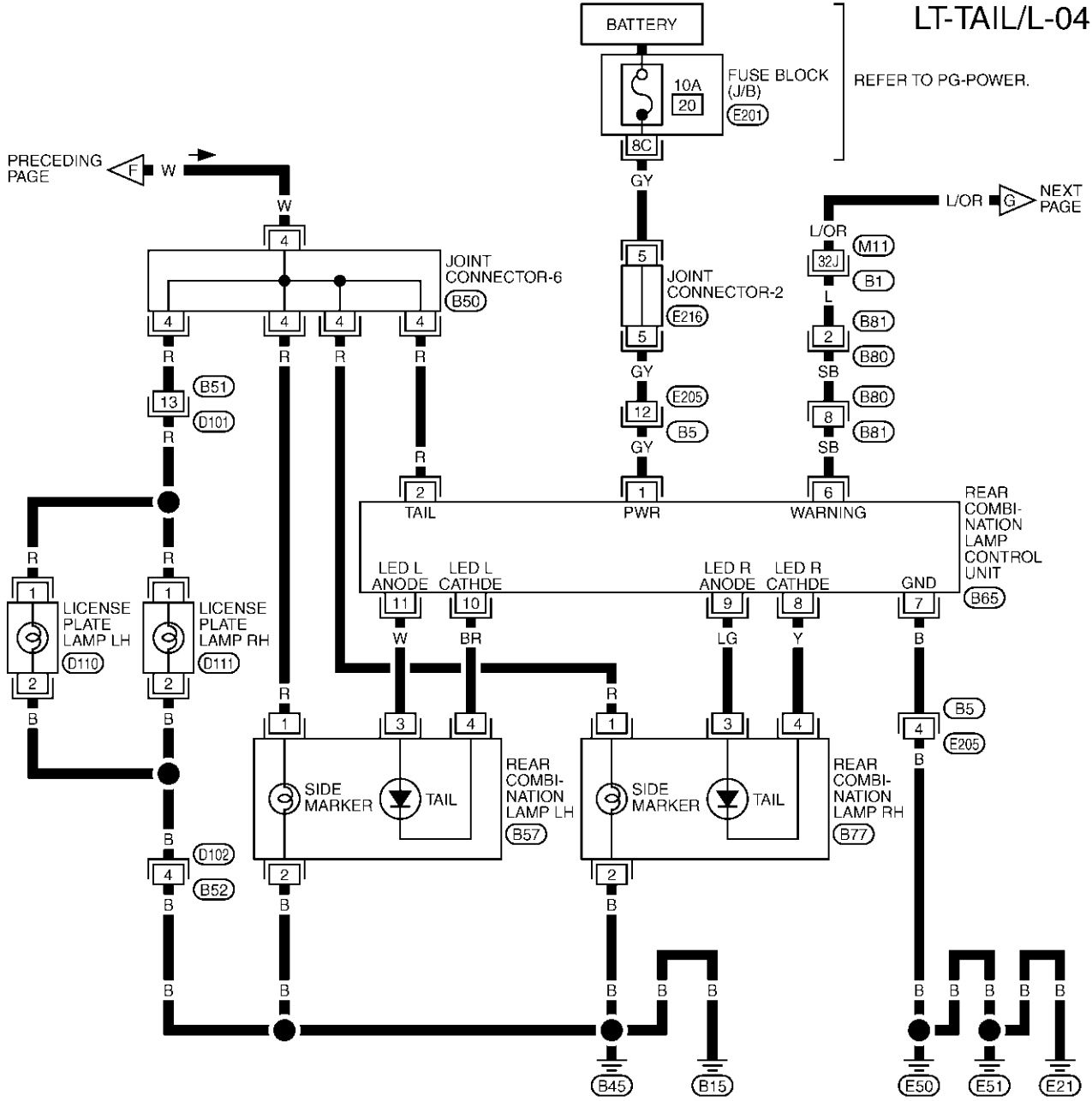
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# PARKING, LICENSE PLATE AND TAIL LAMPS

LT-TAIL/L-04

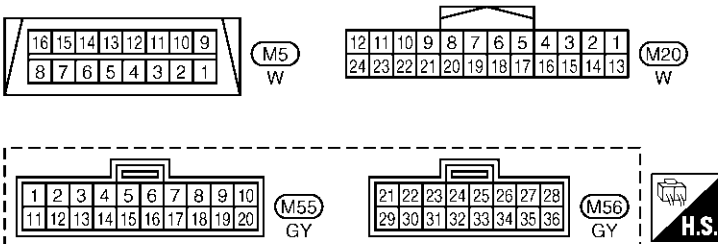
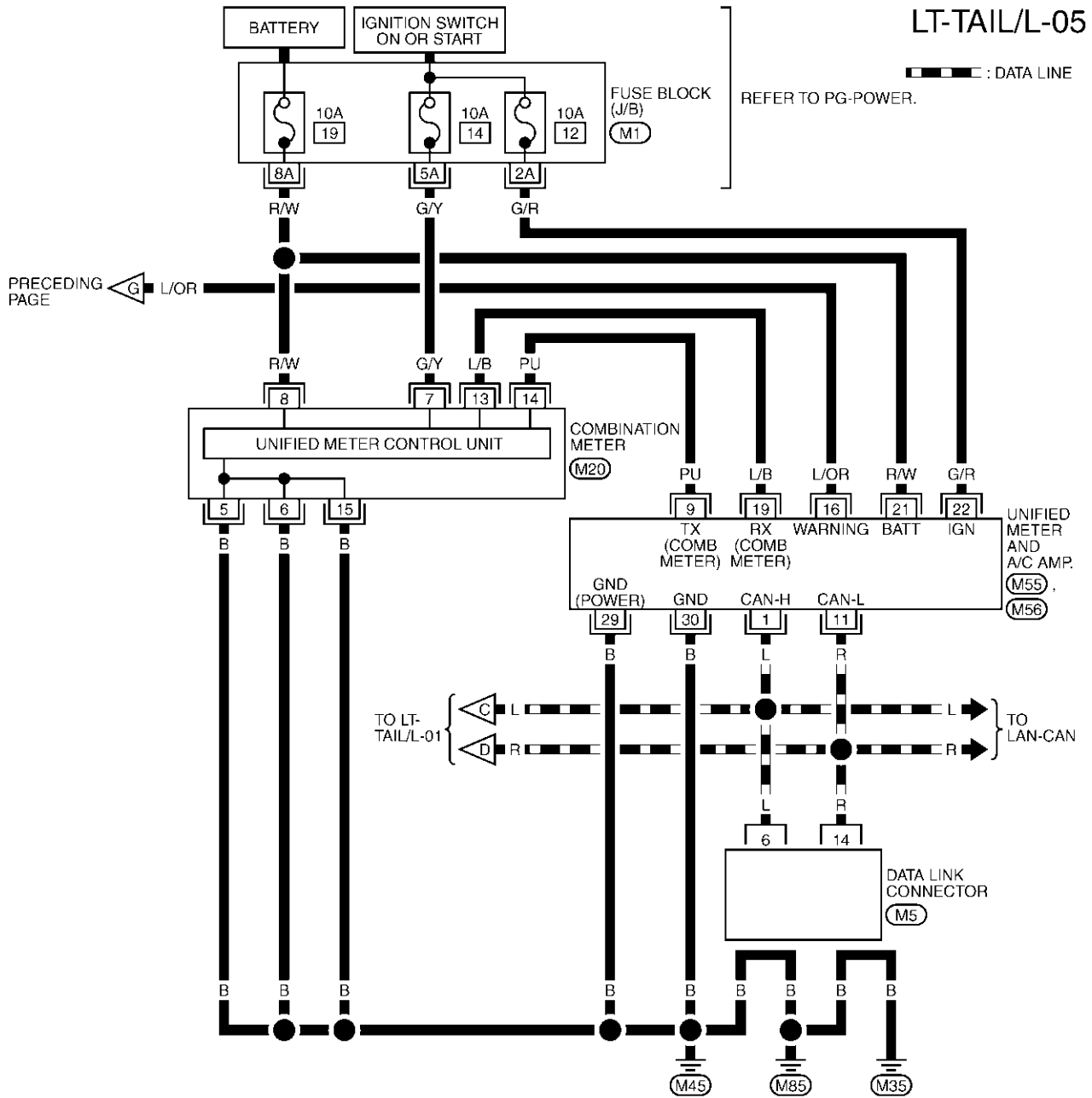


REFER TO THE FOLLOWING.  
 (B1) -SUPER MULTIPLE JUNCTION (SMJ)  
 (E201) -FUSE BLOCK-JUNCTION BOX (J/B)

TKWM0634E



# PARKING, LICENSE PLATE AND TAIL LAMPS



REFER TO THE FOLLOWING.

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

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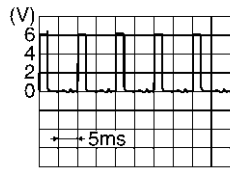
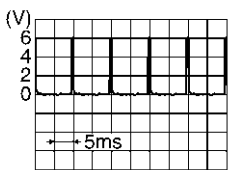
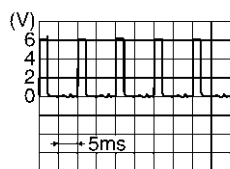
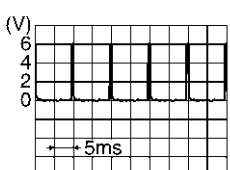


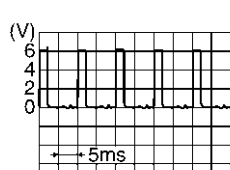
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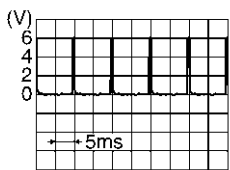
# PARKING, LICENSE PLATE AND TAIL LAMPS

## Terminals and Reference Value for BCM

AKS007XQ

Terminal No.	Wire color	Signal name	Measuring condition		Reference value
			Ignition switch	Operation or condition	
2	GY	Combination switch input 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5291E</p>
3	L/B	Combination switch input 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5292E</p>
4	PU/W	Combination switch input 3	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5291E</p>
5	Y/R	Combination switch input 2	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5292E</p>
6	SB	Combination switch input 1			
11	LG/R	Ignition switch (ACC)	ACC	—	Battery voltage
32	GY/R	Combination switch output 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5291E</p>
33	G	Combination switch output 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5292E</p>
34	W/B	Combination switch output 3	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5291E</p>

# PARKING, LICENSE PLATE AND TAIL LAMPS

Terminal No.	Wire color	Signal name	Measuring condition		Reference value
			Ignition switch	Operation or condition	
35	W/G	Combination switch output 2	ON	Lighting, turn, wiper OFF Wiper dial position 4	
36	W/R	Combination switch output 1			
38	W/L	Ignition switch (ON)	ON	—	Battery voltage
39	L	CAN- H	—	—	—
40	R	CAN- L	—	—	—
42	L/R	Battery power supply	OFF	—	Battery voltage
49	B	Ground	ON	—	Approx. 0V
52	B	Ground	ON	—	Approx. 0V
55	G	Battery power supply	OFF	—	Battery voltage

## Terminals and Reference Values for IPDM E/R

AKS0071M

Terminal No.	Wire color	Signal name	Measuring condition		Reference value
			Ignition switch	Operation or condition	
22	R	Parking, license, and tail lamp	ON	Lighting switch 1ST position	OFF Approx. 0V
					ON Battery voltage
38	B	Ground	ON	—	Approx. 0V
48	L	CAN- H	—	—	—
49	R	CAN- L	—	—	—
60	B	Ground	ON	—	Approx. 0V

## How to Proceed With Trouble Diagnosis

AKS007E0

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to [LT-196, "System Description"](#) .
3. Carry out the Preliminary Check. Refer to [LT-219, "Preliminary Check"](#) .
4. Check symptom and repair or replace the cause of malfunction.
5. Do the parking, license and tail lamps operate normally? If YES: GO TO 6. If NO: GO TO 4.
6. INSPECTION END

## Preliminary Check CHECK POWER SUPPLY AND GROUND CIRCUIT

AKS007E1

### 1. CHECK FUSES

- Check fuses for blown-out.

Unit	Power source	Fuse and fusible link No.
BCM	Battery	M
		22
	Ignition switch ON or START position	1
	Ignition switch ACC or ON position	6
IPDM E/R	Battery	71
		78
Rear combination lamp control unit	Battery	20

# PARKING, LICENSE PLATE AND TAIL LAMPS

Refer to [LT-213, "Wiring Diagram — TAIL/L —"](#).

## OK or NG

OK >> GO TO 2.

NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to [PG-3, "POWER SUPPLY ROUTING CIRCUIT"](#).

## 2. CHECK POWER SUPPLY CIRCUIT

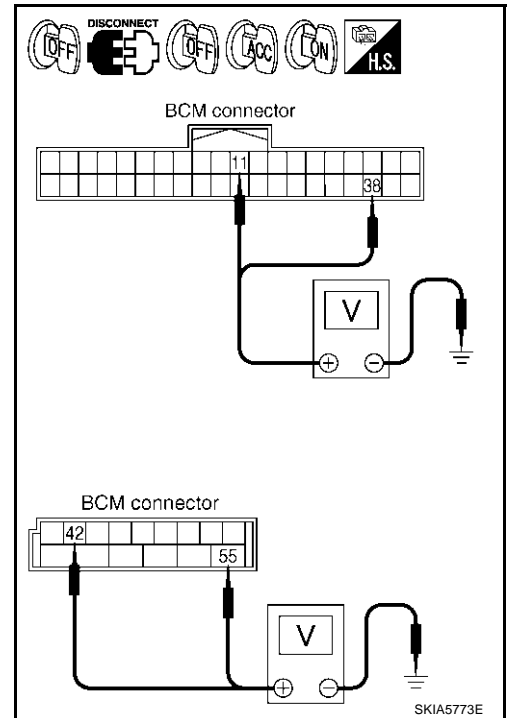
1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check voltage between BCM harness connector and ground.

Terminals		(-)	Ignition switch position		
Connector	Terminal (Wire color)		OFF	ACC	ON
M3	11 (LG/R)	Ground	0V	Battery voltage	Battery voltage
	38 (W/L)		0V	0V	Battery voltage
M4	42 (L/R)		Battery voltage	Battery voltage	Battery voltage
	55 (G)		Battery voltage	Battery voltage	Battery voltage

## OK or NG

OK >> GO TO 3.

NG >> Check harness for open or short between BCM and fuse.



## 3. CHECK GROUND CIRCUIT

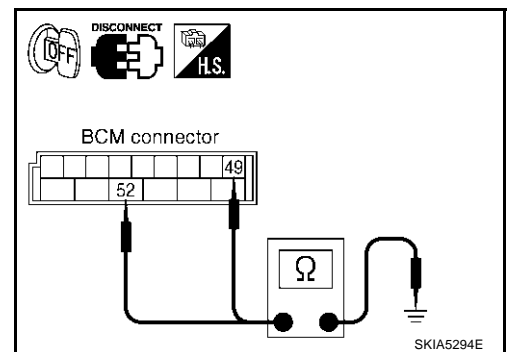
Check continuity between BCM harness connector and ground.

Terminals		Continuity
Connector	Terminal (Wire color)	
M4	49 (B)	Ground
	52 (B)	
		Yes

## OK or NG

OK >> INSPECTION END

NG >> Check ground circuit harness.



## CONSULT-II Function

Refer to [LT-32, "CONSULT-II Function \(BCM\)"](#) in HEAD LAMP.

Refer to [LT-35, "CONSULT-II Functions \(IPDM E/R\)"](#) in HEAD LAMP.



# PARKING, LICENSE PLATE AND TAIL LAMPS

## 4. CHECK INPUT SIGNAL

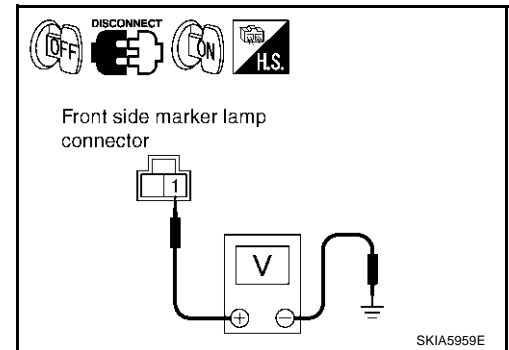
Ⓜ With CONSULT-II

1. Turn ignition switch OFF.
2. Disconnect front side marker, clearance lamp, license plate lamp and rear combination lamp connectors.
3. Select "IPDM E/R" on CONSULT-II. and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
4. Select "TAIL LAMP" on "SELECT TEST ITEM" screen.
5. Touch "ON" screen.
6. When tail lamp is operating, check voltage between front side marker lamp, clearance lamp, license plate lamp, rear combination lamp harness connector and ground.

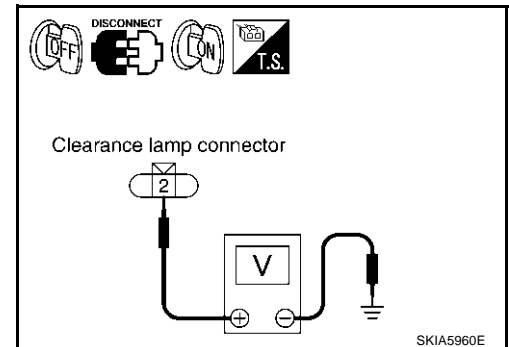
ⓧ Without CONSULT-II

1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH and LH connector.
3. Start auto active test. Refer to [PG-39, "Auto Active Test"](#).
4. When tail lamp is operating, check voltage between front side marker lamp, clearance lamp, license plate lamp, rear combination lamp harness connector and ground.

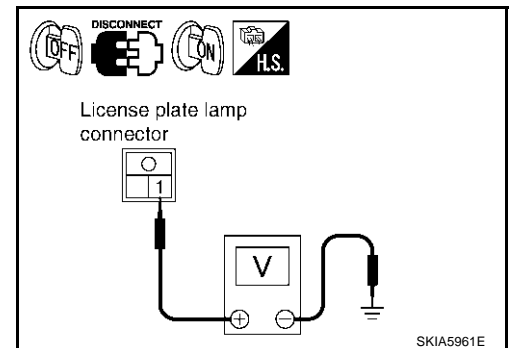
Terminals			(-)	Voltage
Front side marker lamp (+)				
Connector		Terminal (Wire color)	Ground	Battery voltage
RH	E22	1 (R)		
LH	E42			



Terminals			(-)	Voltage
Clearance lamp (+)				
Connector		Terminal (Wire color)	Ground	Battery voltage
RH	E23	2 (R)		
LH	E43			



Terminals			(-)	Voltage
License plate lamp (+)				
Connector		Terminal (Wire color)	Ground	Battery voltage
RH	D111	1 (R)		
LH	D110			

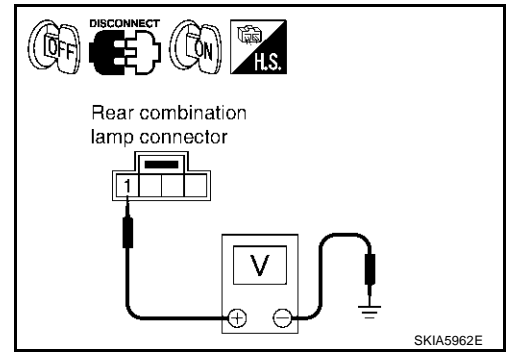


# PARKING, LICENSE PLATE AND TAIL LAMPS

Terminals				Voltage
Rear combination lamp (+) (Side marker)			(-)	
Connector		Terminal (Wire color)		
RH	B77	1 (R)		
LH	B57			

**OK or NG**

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



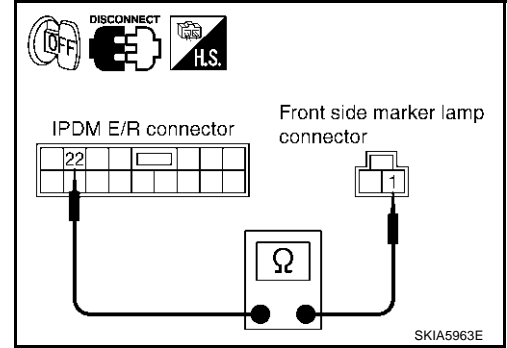
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# PARKING, LICENSE PLATE AND TAIL LAMPS

## 5. CHECK PARKING, LICENSE PLATE AND TAIL LAMP CIRCUIT

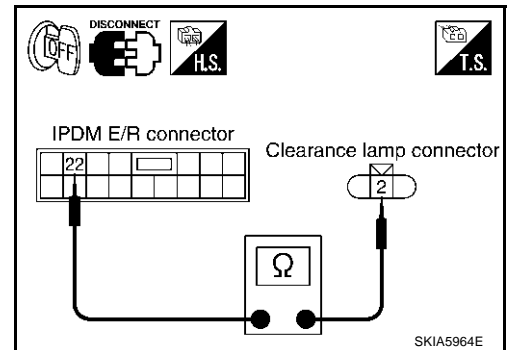
1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Check continuity between IPDM E/R harness connector and front side marker lamp harness connector.

Terminals					Continuity
IPDM E/R		Front side marker lamp			
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)		
E7	22 (R)	RH	E22	1 (R)	Yes
		LH	E42		



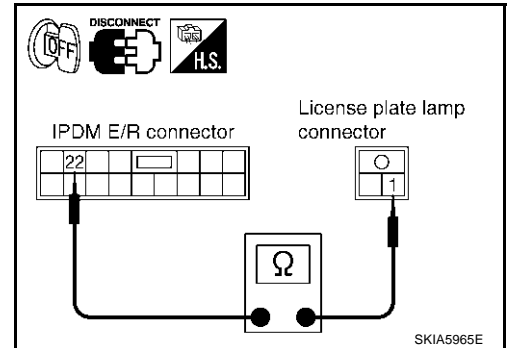
4. Check continuity between IPDM E/R harness connector and clearance lamp harness connector.

Terminals					Continuity
IPDM E/R		Clearance lamp (Parking)			
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)		
E7	22 (R)	RH	E23	2 (R)	Yes
		LH	E43		



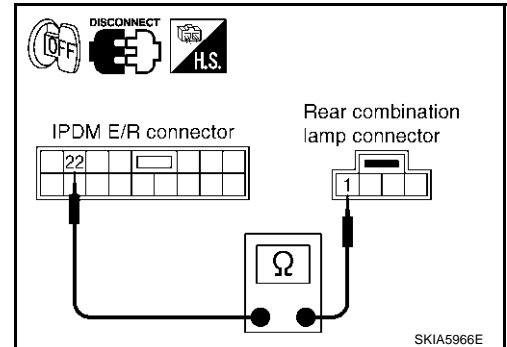
5. Check continuity between IPDM E/R harness connector and license plate lamp harness connector.

Terminals					Continuity
IPDM E/R		License plate lamp			
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)		
E7	22 (R)	RH	D111	1 (R)	Yes
		LH	D110		



6. Check continuity between IPDM E/R harness connector and rear combination lamp harness connector.

Terminals					Continuity
IPDM E/R		Rear combination lamp			
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)		
E7	22 (R)	RH	B77	1 (R)	Yes
		LH	B57		



OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness or connector.

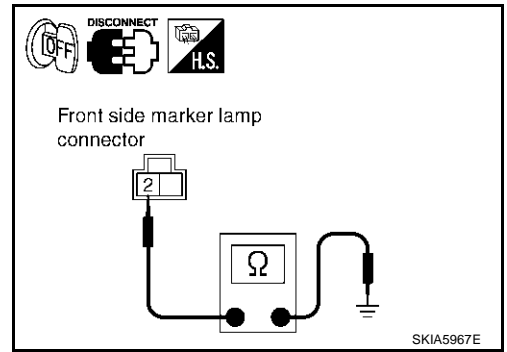


# PARKING, LICENSE PLATE AND TAIL LAMPS

## 6. CHECK GROUND

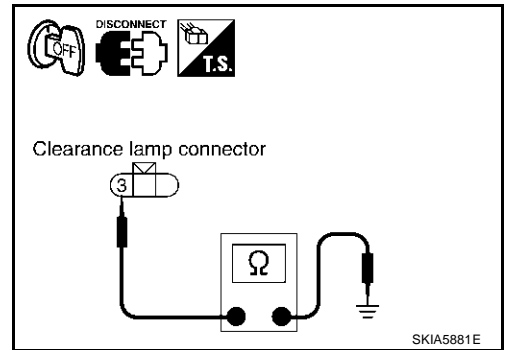
1. Check continuity between front side marker lamp harness connector and ground.

Terminals			Ground	Continuity
Front side marker lamp				
Connector		Terminal (Wire color)	Ground	Yes
RH	E22	2 (B)		
LH	E42			



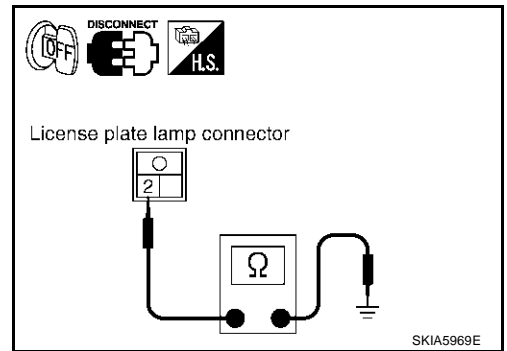
2. Check continuity between clearance lamp harness connector and ground.

Terminals			Ground	Continuity
Clearance lamp				
Connector		Terminal (Wire color)	Ground	Yes
RH	E23	3 (B)		
LH	E43			



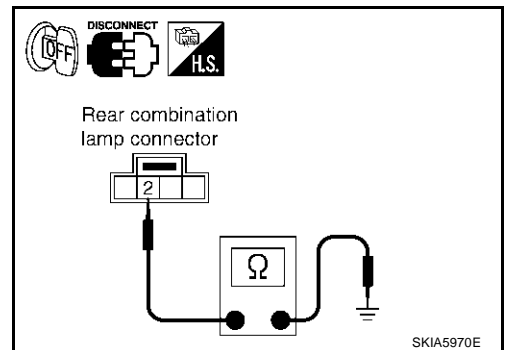
3. Check continuity between license plate lamp harness connector and ground.

Terminals			Ground	Continuity
License plate lamp				
Connector		Terminal (Wire color)	Ground	Yes
RH	D111	2 (B)		
LH	D110			



4. Check continuity between rear combination lamp harness connector and ground.

Terminals			Ground	Continuity
Rear combination lamp (Side marker)				
Connector		Terminal (Wire color)	Ground	Yes
RH	B77	2 (B)		
LH	B57			



OK or NG

- OK >> Check bulb.
- NG >> Repair harness or connector.

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# PARKING, LICENSE PLATE AND TAIL LAMPS

AKS0071N

## Tail Lamp Does Not Operate

### 1. CHECK STOP LAMP AND TURN SIGNAL LAMP

Make sure stop lamps and turn signal lamps are illuminated.

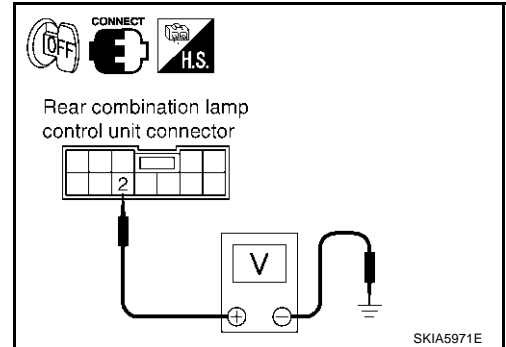
OK or NG

- OK >> GO TO 2.
- NG >> GO TO 3.

### 2. CHECK INPUT SIGNAL

Check voltage between rear combination lamp control unit harness connector B65 terminal 2 (R) and ground.

Terminal (+)		(-)	Condition	Voltage
Connector	Terminal (Wire color)			
B65	2 (R)	Ground	Lighting switch 1ST position is ON.	Battery voltage
			Lighting switch 1ST position is OFF.	Approx. 0



OK or NG

- OK >> Replace rear combination lamp control unit.
- NG >> Repair harness or connector.

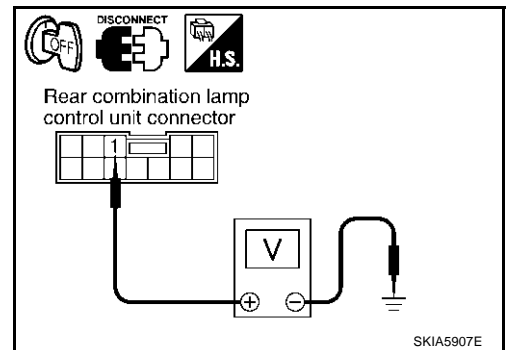
### 3. CHECK POWER SUPPLY CIRCUIT

1. Disconnect rear combination lamp control unit connector.
2. Check voltage between rear combination lamp control unit harness connector B65 terminal 1 (GY) and ground.

**1 (GY) – Ground : Battery voltage should exist.**

OK or NG

- OK >> GO TO 4.
- NG >> Repair harness or connector.



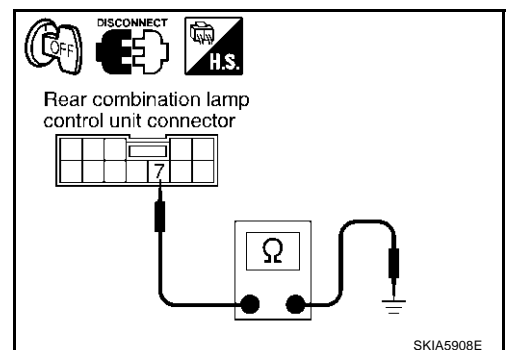
### 4. CHECK GROUND CIRCUIT

Check continuity between rear combination lamp control unit harness connector B65 terminal 7 (B) and ground.

**7 (B) – Ground : Continuity should exist.**

OK or NG

- OK >> GO TO 5.
- NG >> Repair harness or connector.



# PARKING, LICENSE PLATE AND TAIL LAMPS

## 5. CHECK TURN SIGNAL LAMPS CIRCUIT

1. Disconnect rear combination lamp RH and LH connector.
2. Check continuity between rear combination lamp control unit harness connector B65 terminal 11 (W) and rear combination lamp LH harness connector B57 terminal 3 (W).

**11 (W) – 3 (W) : Continuity should exist.**

3. Check continuity between rear combination lamp control unit harness connector B65 terminal 10 (BR) and rear combination lamp LH harness connector B57 terminal 4 (BR).

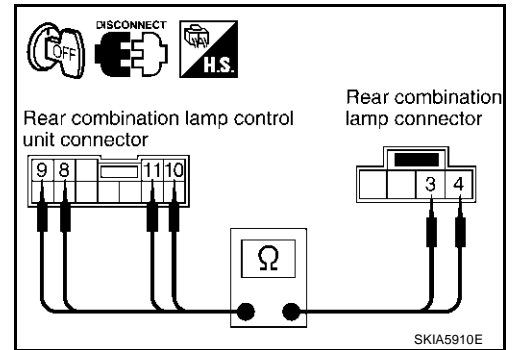
**10 (BR) – 4 (BR) : Continuity should exist.**

4. Check continuity between rear combination lamp control unit harness connector B65 terminal 9 (LG) and rear combination lamp RH harness connector B77 terminal 3 (LG).

**9 (LG) – 3 (LG) : Continuity should exist.**

5. Check continuity between rear combination lamp control unit harness connector B65 terminal 8 (Y) and rear combination lamp RH harness connector B77 terminal 4 (Y).

**8 (Y) – 4 (Y) : Continuity should exist.**



### OK or NG

- OK >> Replace rear combination lamp control unit or rear combination lamp, and then check if turn signal lamps is illuminated.
- NG >> Repair harness or connector.

## Parking, License Plate and Tail Lamps Do Not Turn OFF (After Approx. 10 Minutes)

AKS007E4

### 1. CHECK IPDM E/R

1. Turn ignition switch ON. Turn the combination switch (lighting switch) to the OFF position. Turn ignition switch OFF.
2. Verify that the parking, license plate, and tail lamps turn on and off after approximately 10 minutes.

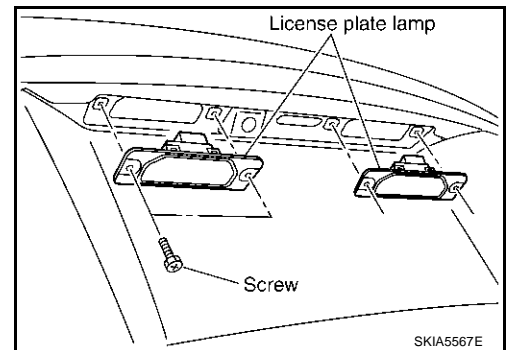
### OK or NG

- OK >> Ignition relay malfunction. Refer to [PG-34, "Function of Detecting Ignition Relay Malfunction"](#).
- NG >> INSPECTION END

## License Plate Lamp BULB REPLACEMENT, REMOVAL AND INSTALLATION

AKS007E5

1. Remove screws and remove license plate lamp from back door.
2. Disconnect license plate lamp connector.

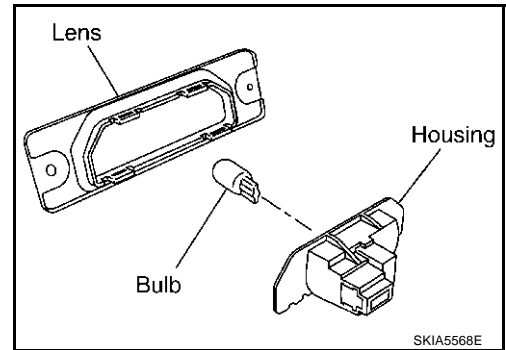


## PARKING, LICENSE PLATE AND TAIL LAMPS

3. Insert a flat head or suitable tool and remove housing.
4. Remove bulb from it's socket.

**License plate lamp : 12V - 5W**

5. Install in the reverse order of removal.



### Front Parking (Clearance) Lamp BULB REPLACEMENT

AKS007E6

For bulb replacement, refer to [LT-48, "Bulb Replacement"](#) in "HEAD LAMP-XENON TYPE-".

#### REMOVAL AND INSTALLATION

For front parking (clearance) lamp removal and installation procedures, refer to [LT-49, "Removal and Installation"](#) in "HEAD LAMP -XENON TYPE-".

### Tail Lamp BULB REPLACEMENT

AKS007E7

For bulb replacement, refer to [LT-229, "Bulb Replacement"](#) in "REAR COMBINATION LAMP".

#### REMOVAL AND INSTALLATION

For tail lamp removal and installation procedures, refer to [LT-229, "Removal and Installation"](#) in "REAR COMBINATION LAMP".

### Front Side Marker Lamp BULB REPLACEMENT

AKS007E8

For bulb replacement, refer to [LT-48, "Bulb Replacement"](#) in "HEAD LAMP-XENON TYPE-".

#### REMOVAL AND INSTALLATION

For head lamp removal and installation procedures, refer to [LT-49, "Removal and Installation"](#) in "HEAD LAMP-XENON TYPE-".

### Rear Side Marker Lamp BULB REPLACEMENT

AKS007E9

For bulb replacement, refer to [LT-229, "Bulb Replacement"](#) in "REAR COMBINATION LAMP".

#### REMOVAL AND INSTALLATION

For rear side marker lamp removal and installation procedures, refer to [LT-229, "Removal and Installation"](#) in "REAR COMBINATION LAMP".

### Rear Combination Lamp Control Unit REMOVAL AND INSTALLATION

AKS007O3

Refer to [LT-176, "Removal and Installation of Rear Combination Lamp Control Unit"](#) in "TURN SIGNAL AND HAZARD WARNING LAMPS".

# REAR COMBINATION LAMP

## REAR COMBINATION LAMP

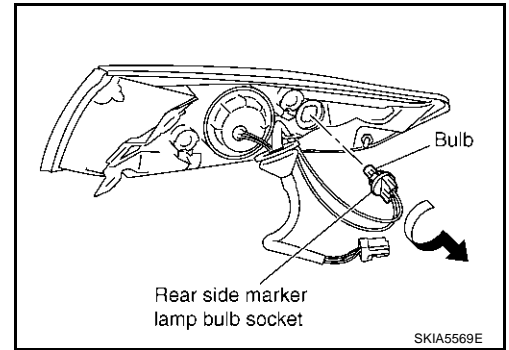
PPF:26554

### Bulb Replacement

#### REAR FENDER SIDE (REAR SIDE MARKER LAMP BULB)

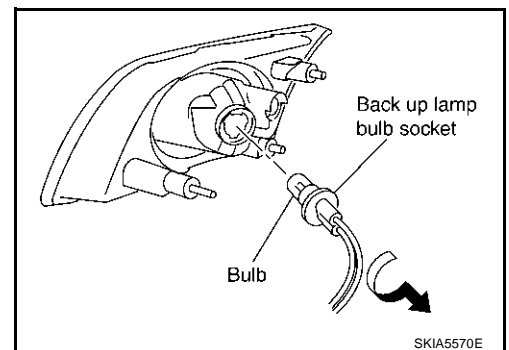
AKS007FP

1. Remove rear combination lamp.
2. Turn bulb socket counterclockwise and unlock it.
3. Remove bulb.



#### BACK DOOR SIDE (BACK-UP LAMP)

1. Remove rear combination lamp.
2. Turn bulb socket counterclockwise and unlock it.
3. Remove bulb.



Stop/tail lamp (rear fender side)

: LED (Replace together with rear combination lamp assembly.)

Rear side marker lamp (rear fender side)

: 12V - 3.8W

Back-up lamp (back door side)

: 12V - 18W

Rear turn signal lamp (rear fender side)

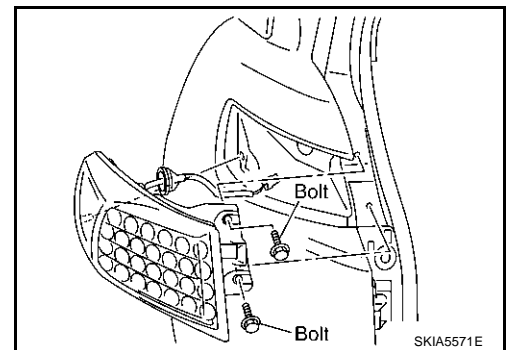
: LED (Replace together with rear combination lamp assembly.)

## Removal and Installation

### REMOVAL

#### Rear Fender Side

1. Remove bumper side cover A. Refer to [EI-18, "Removal and Installation"](#) in "EI" section.
2. Disconnect rear combination lamp connector.
3. Remove rear combination lamp mounting bolts.
4. Pull rear combination lamp toward side of the vehicle and remove from the vehicle.

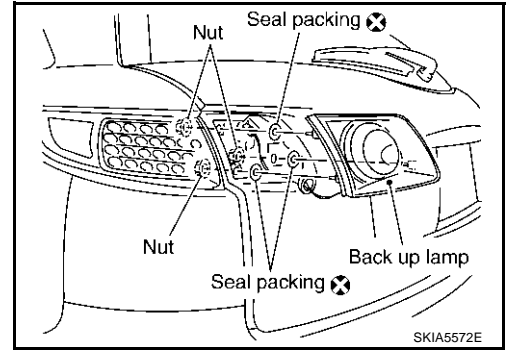


AKS007FQ

# REAR COMBINATION LAMP

## Trunk Lid Side

1. Remove back door finisher. Refer to [EI-46, "Removal and Installation"](#) in "EI" section.
2. Disconnect rear combination lamp connector.
3. Remove rear combination lamp mounting nuts.
4. Remove rear combination lamp from back door.
5. Remove seal packing from back door.



## INSTALLATION

Note the following, and install in the reverse order of removal.

- Install a new seal packing to the rear combination lamp.

### **CAUTION:**

**Seal packing cannot be reused.**

Rear combination lamp mounting nut



**3.2 N-m (0.33 kg-m, 28 in-lb)**

# VANITY MIRROR LAMP

## VANITY MIRROR LAMP

PFP:96400

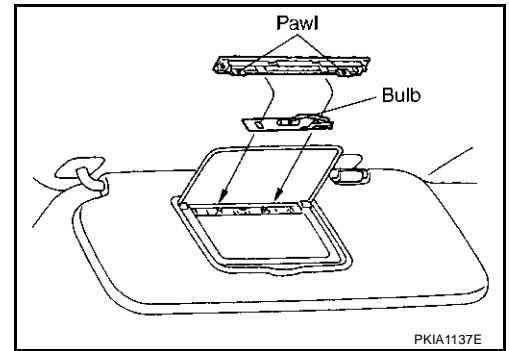
### Bulb Replacement

1. Insert a thin screwdriver in the lens end and remove lens.
2. Remove bulb together with substrate.

**Vanity mirror lamp : 12V - 1.32W**

3. Install in the reverse order of removal.

AKS007EC



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# MAP LAMP

## MAP LAMP

PFP:26430

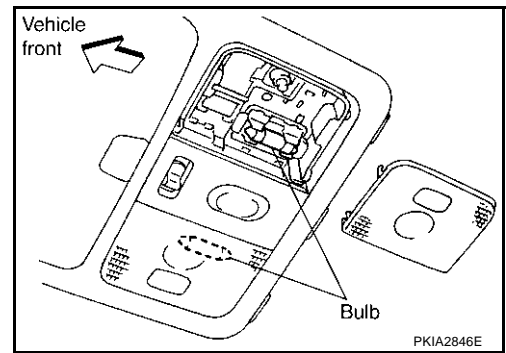
### Bulb Replacement

AKS007ED

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

**Map lamp : 12V - 8 W**

3. Install in the reverse order of removal.

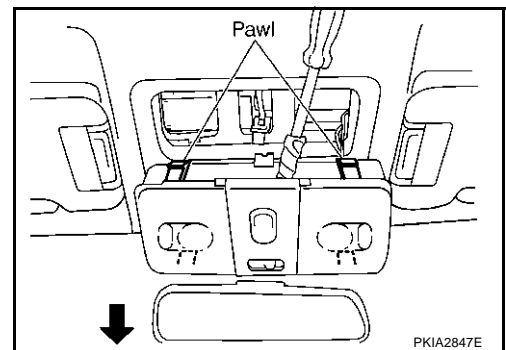


### Removal and Installation

#### REMOVAL

AKS007EE

1. Insert a clip driver or suitable tool back of map lamp and pull down it to disengage metal clip.
2. Pull down map lamp in direction shown by the arrow in the figure.
3. Disconnect map lamp connector and remove map lamp.



#### INSTALLATION

Install in the reverse order of removal.



# PERSONAL LAMP

## PERSONAL LAMP

PPF:26415

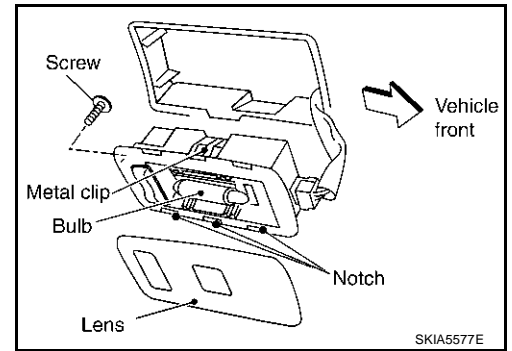
### Bulb Replacement

AKS007FT

1. Remove personal lamp. Refer to [LT-233, "Removal and Installation"](#).
2. Remove screw from personal lamp.
3. Insert a screwdriver or similar tool and remove lens.
4. Remove bulb.

**Personal lamp : 12V - 8W**

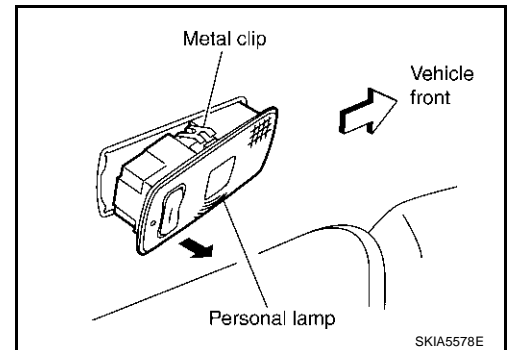
5. Install in the reverse order of removal.



### Removal and Installation REMOVAL

AKS007FU

1. Use a clip driver or similar tool to press metal clip, and remove personal lamp.
2. Disconnect personal lamp connector.



### INSTALLATION

Install in the reverse order of removal.

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LT

# LUGGAGE ROOM LAMP

## LUGGAGE ROOM LAMP

PFP:26410

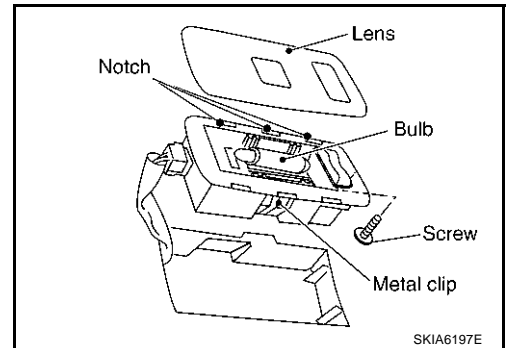
### Bulb Replacement

AKS007FV

1. Remove luggage room lamp. Refer to [LT-234, "Removal and Installation"](#).
2. Remove screw from luggage room lamp.
3. Insert a suitable tool and remove lens.
4. Remove bulb.

**Luggage room lamp : 12V - 8W**

5. Install in the reverse order of removal.

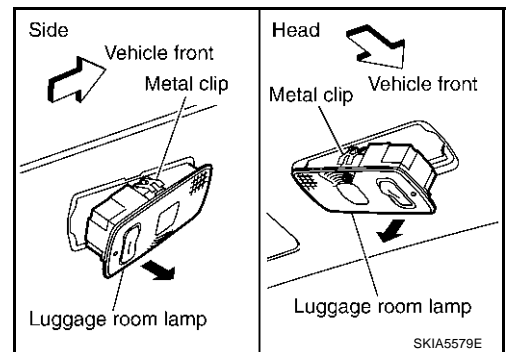


### Removal and Installation

#### REMOVAL

AKS007FW

1. Use a clip driver or similar tool to press metal clip, and remove luggage room lamp.
2. Disconnect luggage room lamp connector.



#### INSTALLATION

Install in the reverse order of removal.

# IGNITION KEY HOLE ILLUMINATION

## IGNITION KEY HOLE ILLUMINATION

PF:48476

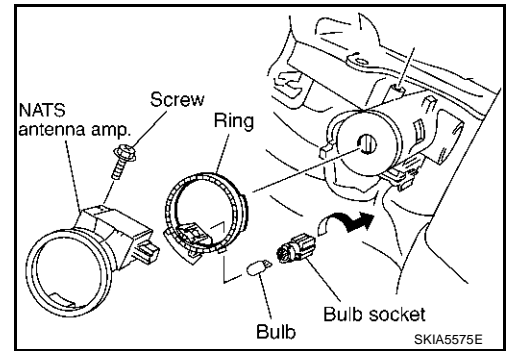
### Bulb Replacement, Removal and Installation

AKS007FR

1. Remove combination meter. Refer to [DI-28, "Removal and Installation"](#) in "DI" section.
2. Remove screw and remove NATS antenna amp.
3. Pull out ring and turn bulb socket to left to release lock.

**Key cylinder illumination : 12V - 1.4W**

4. Install in the reverse order of removal.



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# GLOVE BOX LAMP

## GLOVE BOX LAMP

PFP:68520

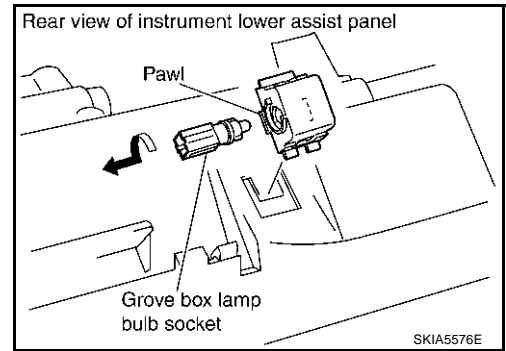
### Bulb Replacement, Removal and Installation

AKS007FS

1. Remove instrument passenger lower panel. Refer to [IP-13, "\(J\) Instrument Passenger Lower Panel"](#) in "IP" section.
2. Turn bulb socket left to release lock and remove it.

**Glove box lamp : 12V - 1.4W**

3. Install in the reverse order of removal.



# ASHTRAY ILLUMINATION

## ASHTRAY ILLUMINATION

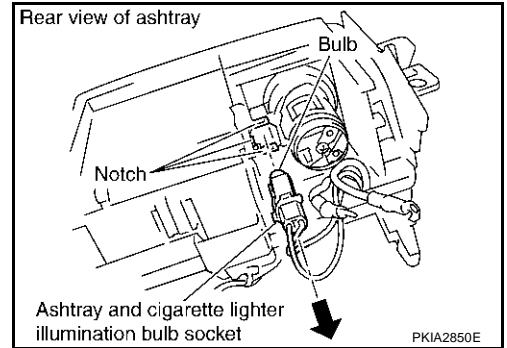
PFP:25860

### Bulb Replacement and Removal and Installation

AKS007NZ

1. Remove A/T console finisher. Refer to [IP-12, "\(F\) A/T Console Finisher"](#) in "IP" section.
2. Remove instrument ashtray and hazard switch. Refer to [IP-16, "A/T CONSOLE FINISHER"](#) in "IP" section.
3. Use a screwdriver to undo ashtray finisher hooks.
4. Turn bulb socket on circuit board to left to undo lock. Remove bulb socket.
5. Install in the reverse order of removal.

**Ashtray and cigarette  
lighter illumination** : 12V - 1.4W



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# CIGARETTE LIGHTER ILLUMINATION

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## CIGARETTE LIGHTER ILLUMINATION

PFP:25331

### Bulb Replacement and Removal and Installation

AKS00700

Refer to [LT-237, "Bulb Replacement and Removal and Installation"](#) in "ASHTRAY ILLUMINATION".

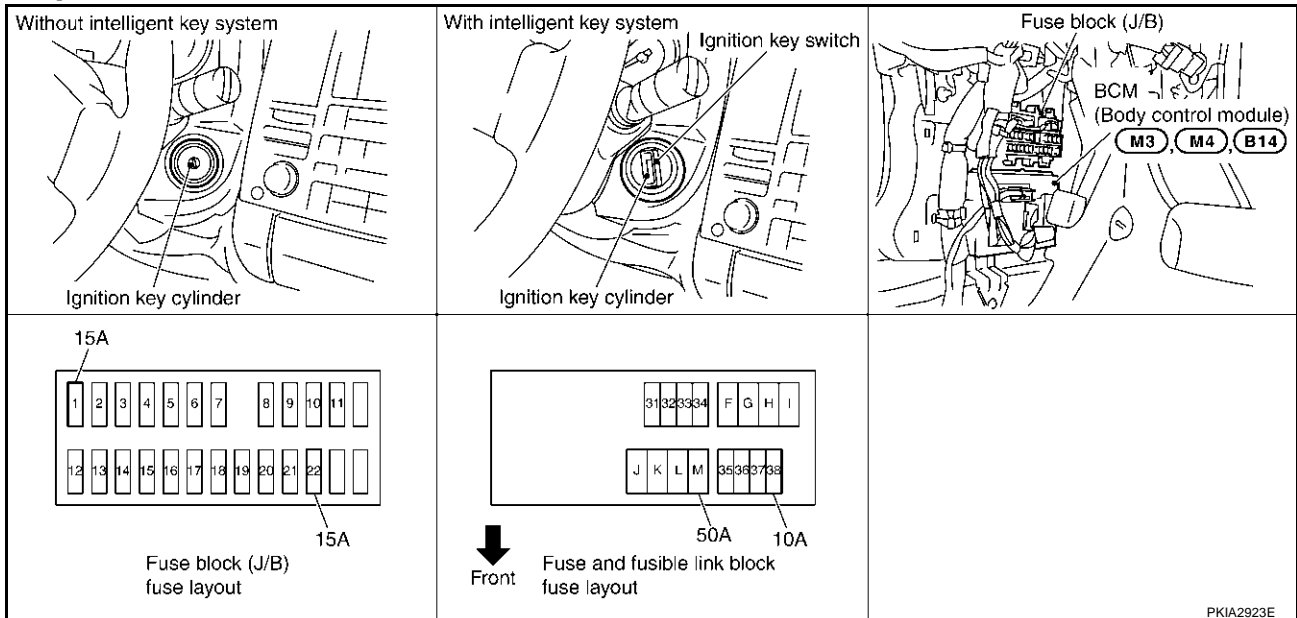
# INTERIOR ROOM LAMP

## INTERIOR ROOM LAMP

PFP:26410

### Component Parts and Harness Connector Location

AKS00708



### System Description

AKS007F7

When room lamp and personal lamp switch is in DOOR position, room lamp and personal lamp ON/OFF is controlled by timer according to signals from switches including key switch, front door switch driver side, unlock signal from keyfob, door lock and unlock switch, key cylinder lock and unlock switch, ignition switch. When room lamp and personal lamp turns ON, there is a gradual brightening over 1 second. When room lamp and personal lamp turns OFF, there is a gradual dimming over 1 second. The room lamp and personal lamp timer is controlled by the BCM (body control module). Room lamp and personal lamp timer control settings can be changed with CONSULT-II. Ignition keyhole illumination turns ON at time when driver door is opened (door switch ON) or removed keyfob from key cylinder. Illumination turns OFF when driver door is closed (door switch OFF). Step lamp turns ON at time when driver door or passenger door is opened (door switch ON). Lamp turns OFF when driver, passenger doors are closed (all door switches OFF).

### POWER SUPPLY AND GROUND

Power is supplied at all times (without intelligent key system)

- through 15A fuse [No. 22, located in fuse block (J/B)]
- to key switch terminal 2, and
- to BCM (body control module) terminal 42
- through 50A fusible link [letter M, located in the fuse and fusible link block]
- to BCM (body control module) terminal 55.

Power is supplied at all times (with intelligent key system)

- through 10A fuse [No.38, located in fuse and fusible link block]
- to key switch and ignition knob switch terminal 1 and 3
- through 15A fuse [No.22, located in fuse block (J/B)]
- to BCM (body control module) terminal 42
- through 50A fusible link [letter M, located in fuse and fusible link block]
- to BCM (body control module) terminal 55.

When the key plate inserted to key switch, power is supplied (without intelligent key system)

- through the key switch terminal 1
- to BCM (body control module) terminal 37.

When inserted the key plate to key switch, power is supplied (with intelligent key system)

- through the key switch and ignition knob switch terminal 4

# INTERIOR ROOM LAMP

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- to BCM (body control module) terminal 37.

When moved the ignition knob switch, power is supplied (with intelligent key system)

- through the ignition knob switch terminal 2
- to intelligent key unit terminal 27.

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

- through 15A fuse [No. 1, located in fuse block (J/B)]
- to BCM (body control module) terminal 38.

Ground is supplied

- to BCM (body control module) terminals 49 and 52
- through grounds M35, M45 and M85.

When the driver side door is opened, ground is supplied

- through case ground of door switch driver side
- to BCM (body control module) terminal 62.

When the passenger side door is opened, ground is supplied

- through case ground of door switch passenger side
- to BCM (body control module) terminal 12.

When the rear door LH is opened, ground is supplied

- through case ground of door switch rear door LH
- to BCM (body control module) terminal 63, and
- to personal lamp LH terminal 1.

When the rear door RH is opened, ground is supplied

- through case ground of door switch rear door RH
- to BCM (body control module) terminal 13, and
- to personal lamp RH terminal 1.

When the driver side door is unlocked by the door lock and unlock switch, BCM (body control module) receives a ground signal

- through grounds M35, M45 and M85
- to power window main switch terminal 17 (door lock and unlock switch) or front power window (passenger side) terminal 11 (door lock and unlock switch)
- from power window main switch terminal 14 (door lock and unlock switch) or front power window (passenger side) terminal 16 (door lock and unlock switch)
- to BCM (body control module) terminal 22.

When the front driver side door is unlocked by the driver side door lock assembly (door key cylinder switch), BCM (body control module) receives a ground signal

- through grounds M35, M45 and M85
- to front door lock assembly (driver side) (door key cylinder switch) terminal 5
- from front door lock assembly (driver side) (door key cylinder switch) terminal 6
- to power window main switch terminal 6 (door lock and unlock switch)
- from power window main switch terminal 14 (door lock and unlock switch)
- to BCM (body control module) terminal 22.

When a signal, or combination of signals is received by BCM (body control module), ground is supplied

- through BCM (body control module) terminal 48
- to interior room lamp terminal 1,
- to map lamp terminal 2 and
- to front door inside handle illumination terminal 2

With power and supplied, the interior lamp illuminates.

## SWITCH OPERATION

When driver door switch is ON (door is opened), ground is supplied

- through BCM terminal 1



# INTERIOR ROOM LAMP

- to ignition keyhole illumination terminal 2.

And power is supplied

- from BCM terminal 41
- to ignition keyhole illumination terminal 1.

When any door switch is ON (door is opened), ground is supplied

- through BCM terminal 47
- to front step lamp driver side and passenger side, rear step lamp (LH and RH) terminal 2.
- through rear door switch terminal 1
- to personal lamp (LH and RH) terminal 1.

And power is supplied

- from BCM terminal 41
- to every step lamp terminal 1, and personal lamp (LH and RH) terminal 2.

When map lamp switch is ON, ground is supplied

- through grounds M35, M45 and M85
- to map lamp terminal 1.

And power is supplied

- from BCM terminal 41
- to map lamp terminal 3.

When vanity mirror lamp (driver side and passenger side) is ON, ground is supplied

- through grounds M35, M45 and M85
- to vanity mirror lamp (driver side and passenger side) terminal 2.

And power is supplied

- from BCM terminal 41
- to vanity mirror lamp (driver side and passenger side) terminal 1.

When luggage room lamp (RH and LH) is ON, ground is supplied

- through grounds B15 and B45
- to luggage room lamp (RH and LH) terminal 3.

And power is supplied

- from BCM terminal 41
- to luggage room lamp (RH and LH) terminal 2.

## ROOM LAMP TIMER OPERATION

### Without Intelligent Key System

When interior room lamp and map lamp switch is in DOOR position, and when all conditions below are met, BCM performs timer control (maximum 30 seconds) for interior room lamp and map lamp ON/OFF.

In addition, when spot turns ON or OFF there is gradual brightening or dimming over 1 second.

Power is supplied

- to 15A fuse [No. 22, located in fuse block (J/B)]
- through key switch terminal 2.

Key is removed from ignition key cylinder (key switch OFF), power will not be supplied to BCM terminal 37.

Ground is supplied

- from BCM terminal 22
- to power window main switch (door lock and unlock switch) terminal 14.

At the time that driver door are opened, BCM detects that driver door is unlocked. It determines that interior room lamp and map lamp timer operation conditions are met, and turns the interior room lamp and map lamp ON for 30 seconds.

Key is in ignition key cylinder (key switch ON).

Power is supplied

- through key switch terminal 1
- to BCM terminal 37.

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## INTERIOR ROOM LAMP

When key is removed from key switch (key switch OFF), power supply to BCM terminal 37 is terminated. BCM detects that key has been removed, determines that interior room lamp and map lamp timer conditions are met, and turns the interior room lamp and map lamp ON for 30 seconds.

When driver door opens → closes, and the key is not inserted in the key switch (key switch OFF), BCM terminal 62 changes between 0V (door open) → 12V (door closed). The BCM determines that conditions for interior room lamp and map lamp operation are met and turns the interior room lamp ON for 30 seconds.

Timer control is canceled under the following conditions.

- Driver door is locked [when locked keyfob or power window main switch (door lock and unlock switch), door key cylinder switch].
- Driver door is opened (driver door switch turns ON).
- Ignition switch ON.

### With Intelligent Key System

When interior room lamp and map lamp switch is in DOOR position, and when all conditions below are met, BCM performs timer control (maximum 30 second) for interior room lamp and map lamp ON/OFF.

In addition, when spot turns ON or OFF there is gradual brightening or dimming over 1 second.

Power is supplied

- to 10A fuse [No. 38, located in the fuse and fusible link block]
- through key switch and ignition knob switch terminals 3 and 1.

Key is removed from ignition key cylinder (key switch OFF), power will not be supplied to BCM terminal 37.

And not turned ignition knob switch, power will not be supplied to intelligent key unit.

Ground is supplied

- from BCM terminal 22
- to power window main switch (door lock and unlock switch) terminal 14.

At the time that driver door are opened, BCM detects that driver door is unlocked. It determines that interior room lamp and map lamp timer operation conditions are met, and turns the interior room lamp and map lamp ON for 30 seconds.

Key is in ignition key cylinder (key switch ON), or turned ignition knob switch.

Power is supplied

- through key switch and ignition knob switch terminal 4
- to BCM terminal 37
- through key switch and ignition knob switch terminal 2
- to Intelligent Key unit terminal 27.

When key is removed from key switch (key switch OFF), power supply to BCM terminal 37 is terminated. And turned ignition knob switch, power supply to Intelligent Key unit is terminated. BCM detects that key has been removed, determines that interior room lamp and map lamp timer conditions are met, and turns the interior room lamp and map lamp ON for 30 seconds.

When driver door opens → closes, and the key is not inserted in the key switch (or not turned ignition knob switch), BCM terminal 62 changes between 0V (door open) → 12V (door closed). The determines that conditions for interior room lamp and map lamp operation are met and turns the interior room lamp ON for 30 seconds.

Timer control is canceled under the following conditions.

- Driver door is locked [when locked keyfob or power window main switch (door lock and unlock switch), door key cylinder switch].
- Driver door is opened (driver door switch turns ON).
- Ignition switch ON.

### INTERIOR LAMP BATTERY SAVER CONTROL

If interior lamp is left "ON", it will not be turned out even when door is closed.

BCM turns off interior lamp automatically to save battery 30 minutes after ignition switch is turned off.

BCM controls interior lamps listed below:

- Luggage room lamp
- Vanity mirror lamp
- Map lamp
- Interior room lamp
- Personal lamp

## INTERIOR ROOM LAMP

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

- signal from keyfob, or power window main switch (door lock and unlock switch) or key cylinder is locked or unlocked,
- door is opened or closed,
- key is removed from ignition key cylinder or inserted in ignition key cylinder, or turned ignition knob switch.

Interior lamp battery saver control period can be changed by the function setting of CONSULT-II.

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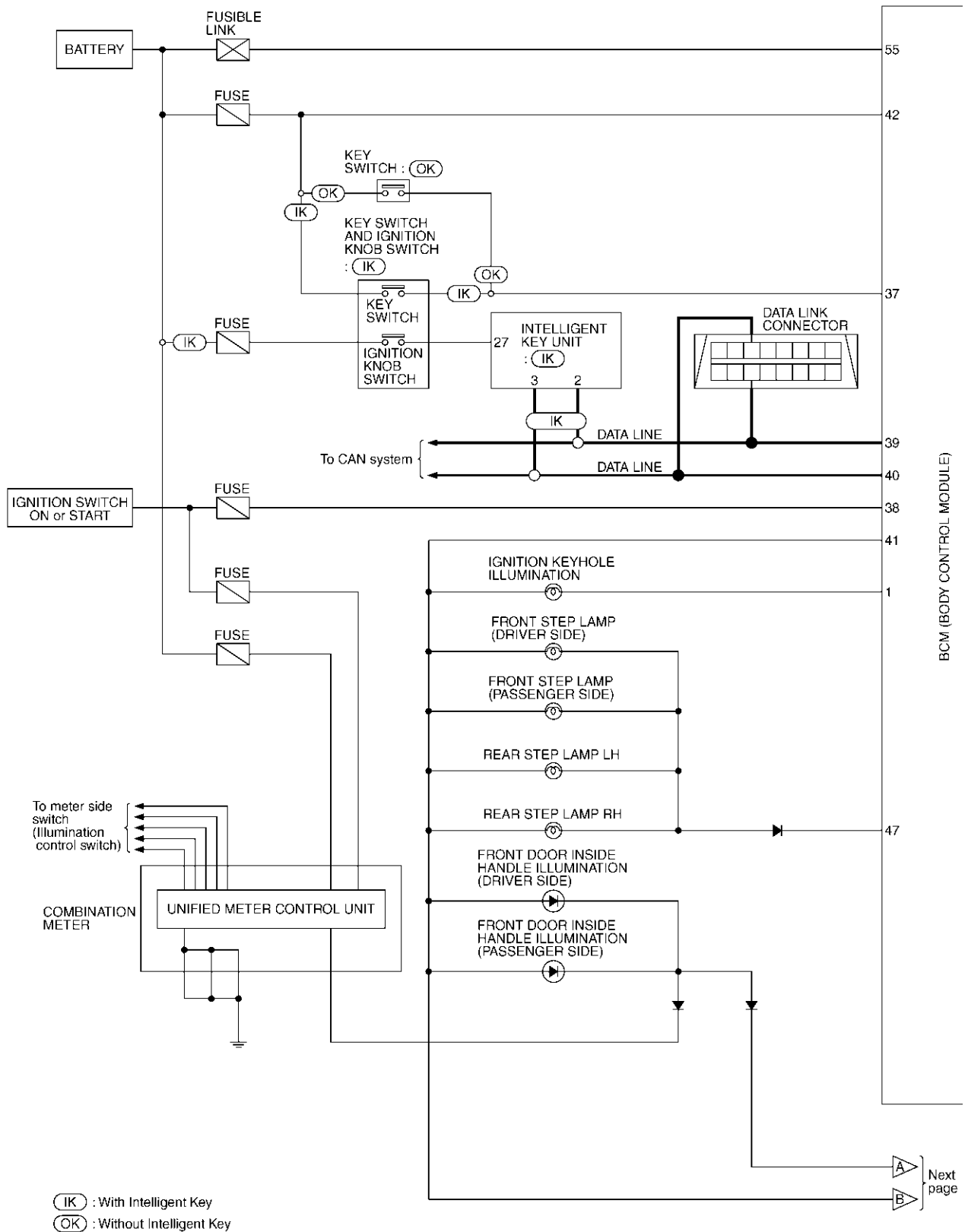
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# INTERIOR ROOM LAMP

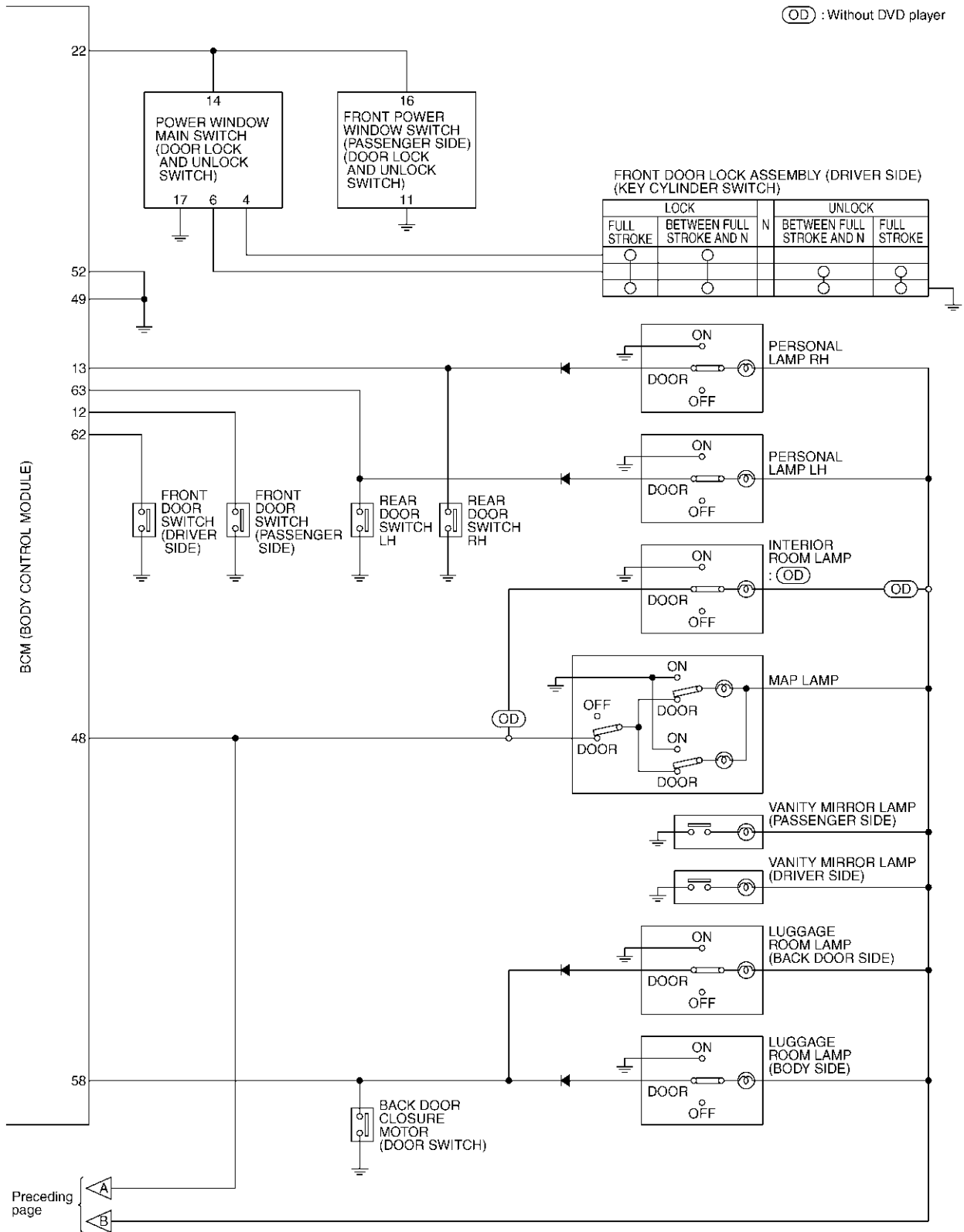
## Schematic

AKS007F9



TKWM0822E

# INTERIOR ROOM LAMP



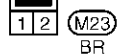
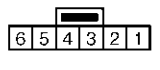
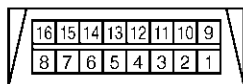
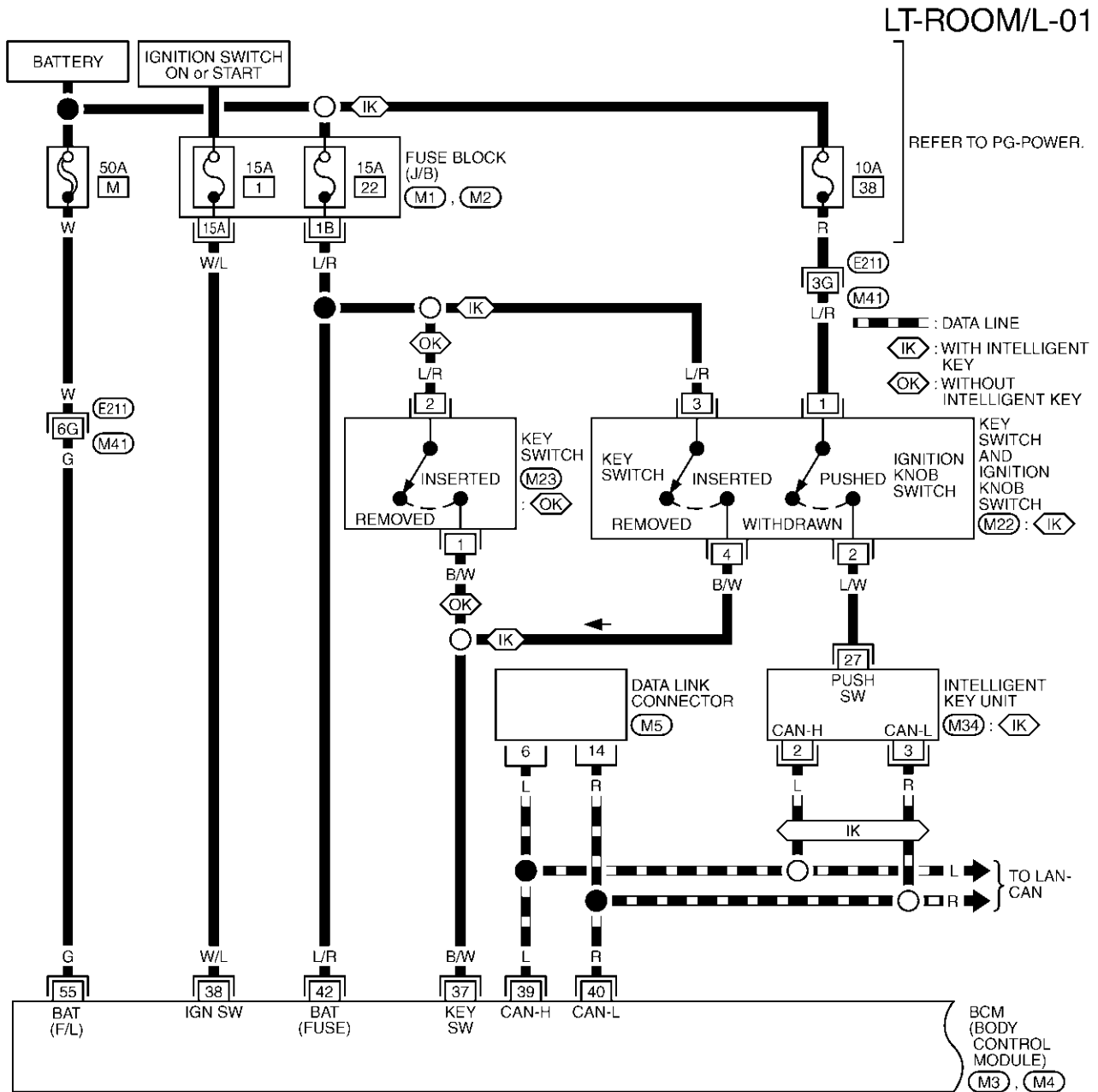
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TKWM0823E

# INTERIOR ROOM LAMP

## Wiring Diagram — ROOM/L —

AKS007FA



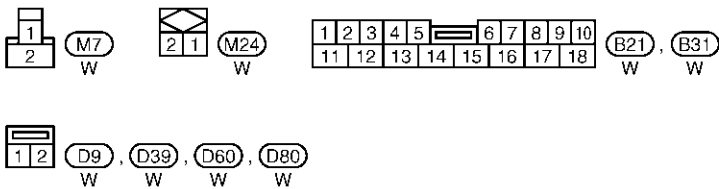
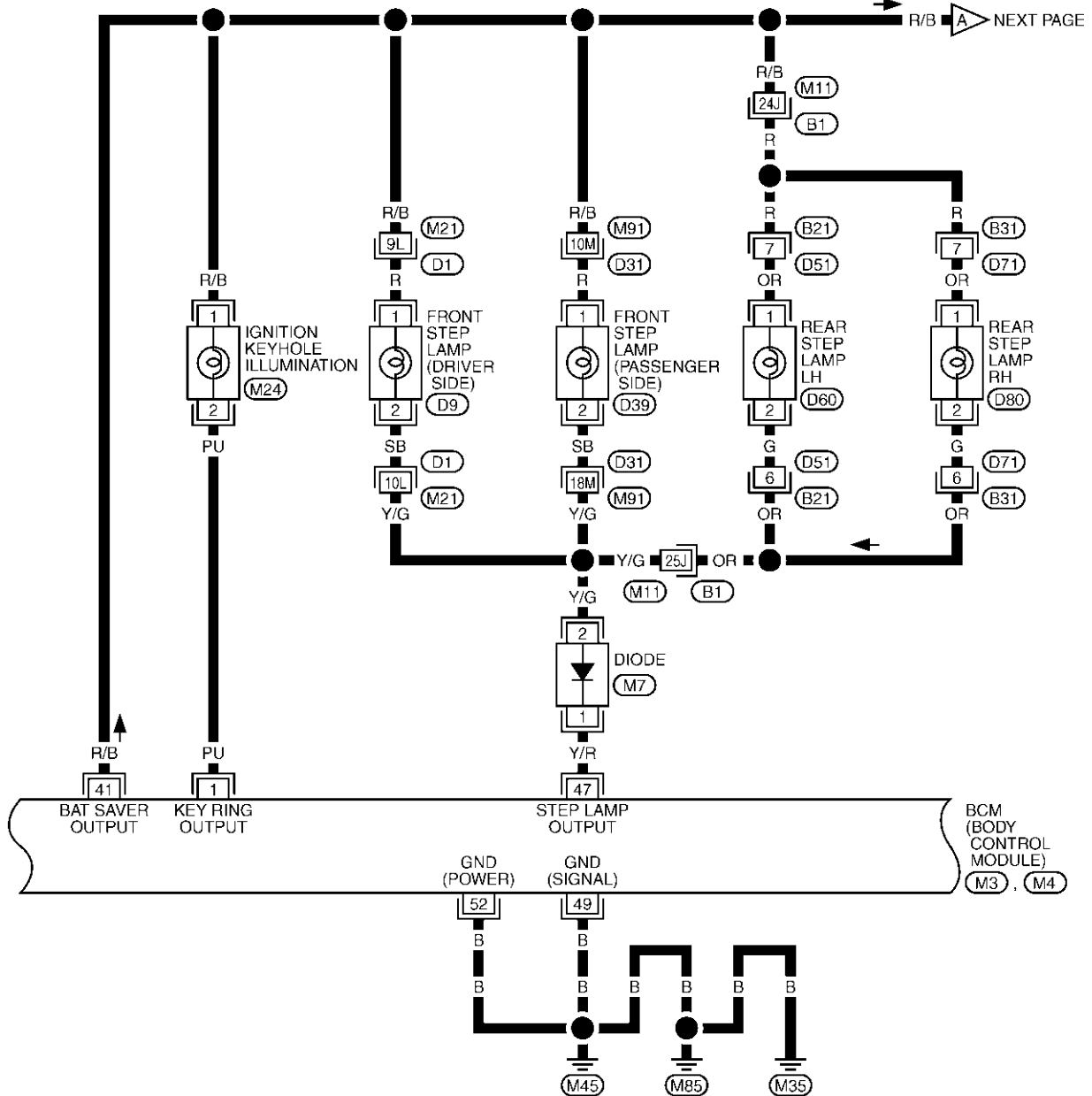
REFER TO THE FOLLOWING.

- (E21) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1), (M2) -FUSE BLOCK-JUNCTION BOX (J/B)
- (M3), (M4), (M34) -ELECTRICAL UNITS

TKWM0824E

# INTERIOR ROOM LAMP

LT-ROOM/L-02

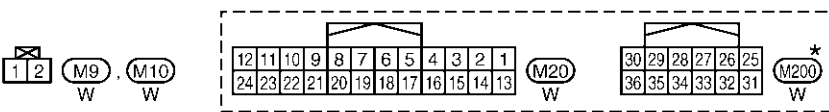
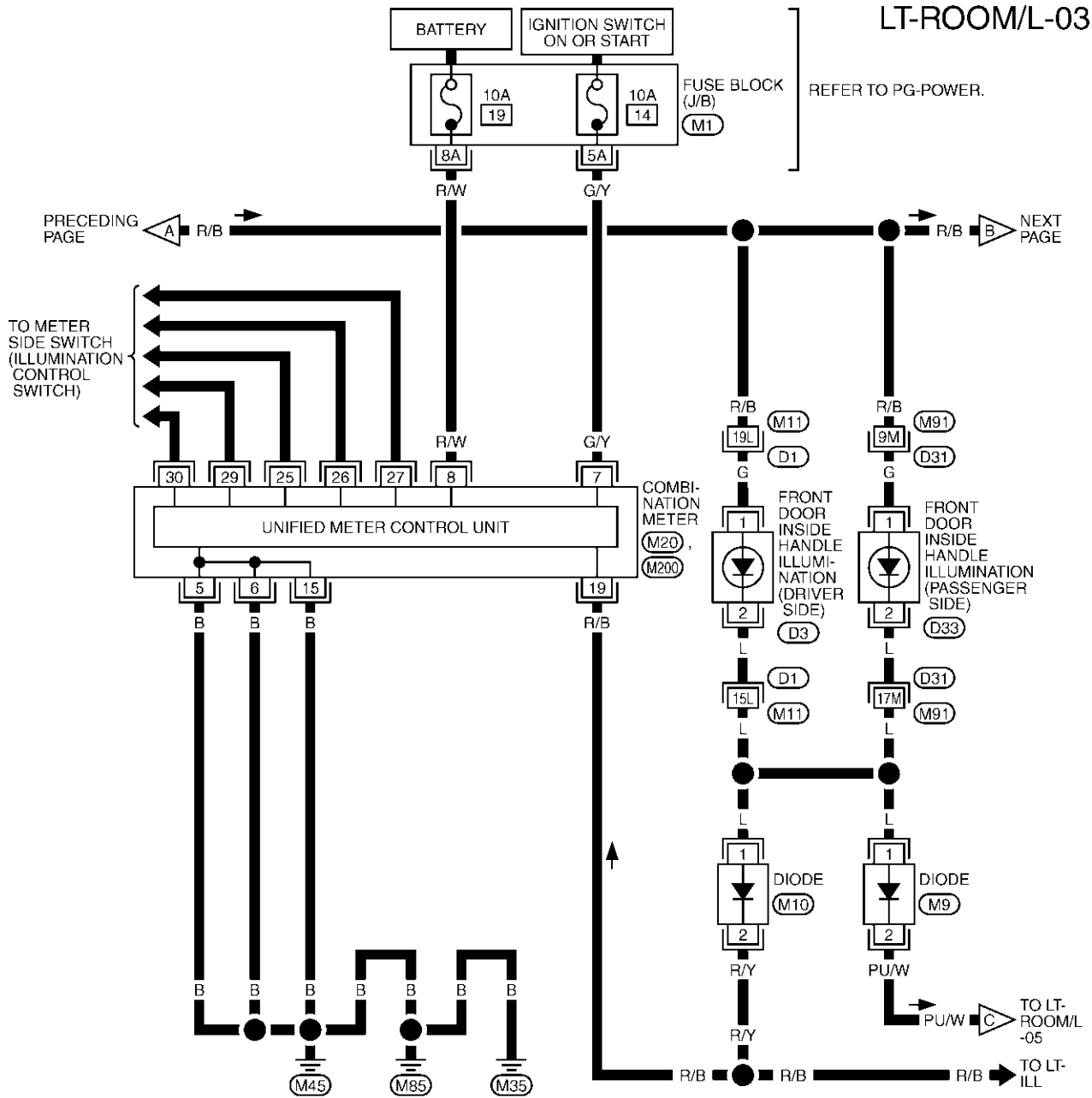


REFER TO THE FOLLOWING.  
 (B1), (D1), (D31) -SUPER  
 MULTIPLE JUNCTION (SMJ)  
 (M3), (M4) -ELECTRICAL  
 UNITS

TKWM0638E

# INTERIOR ROOM LAMP

LT-ROOM/L-03



REFER TO THE FOLLOWING.  
 (D1), (D31) -SUPER MULTIPLE JUNCTION (SMJ)  
 (M1) -FUSE BLOCK-JUNCTION BOX (J/B)

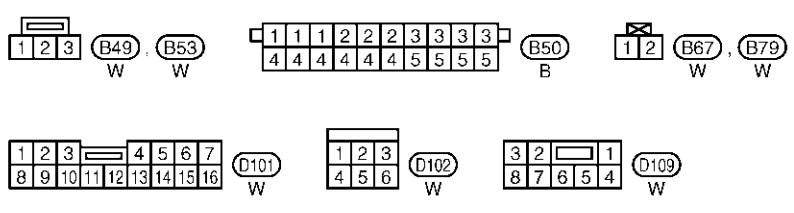
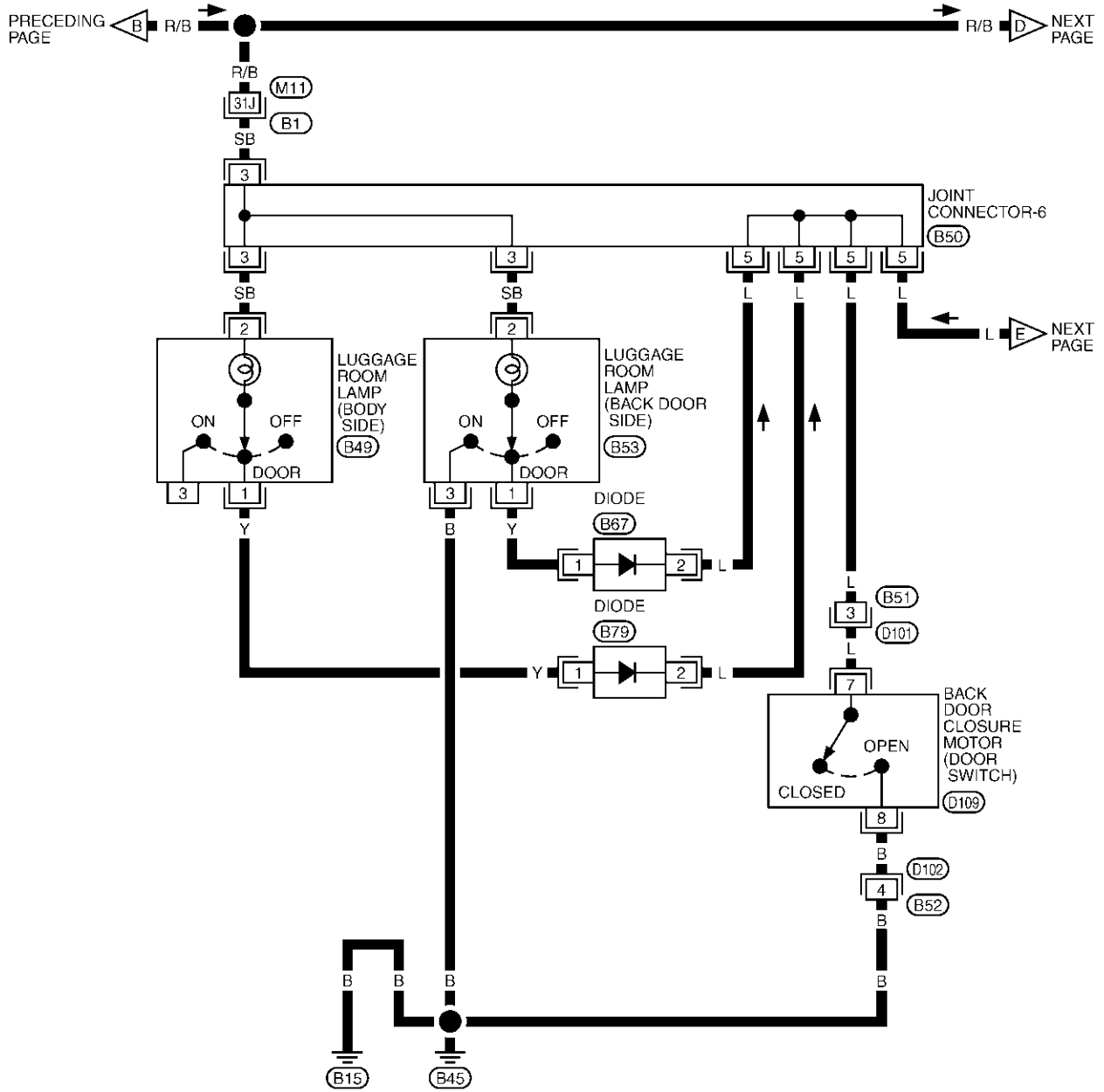
\*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWM0766E



# INTERIOR ROOM LAMP

LT-ROOM/L-04



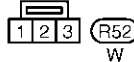
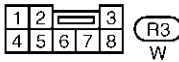
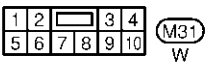
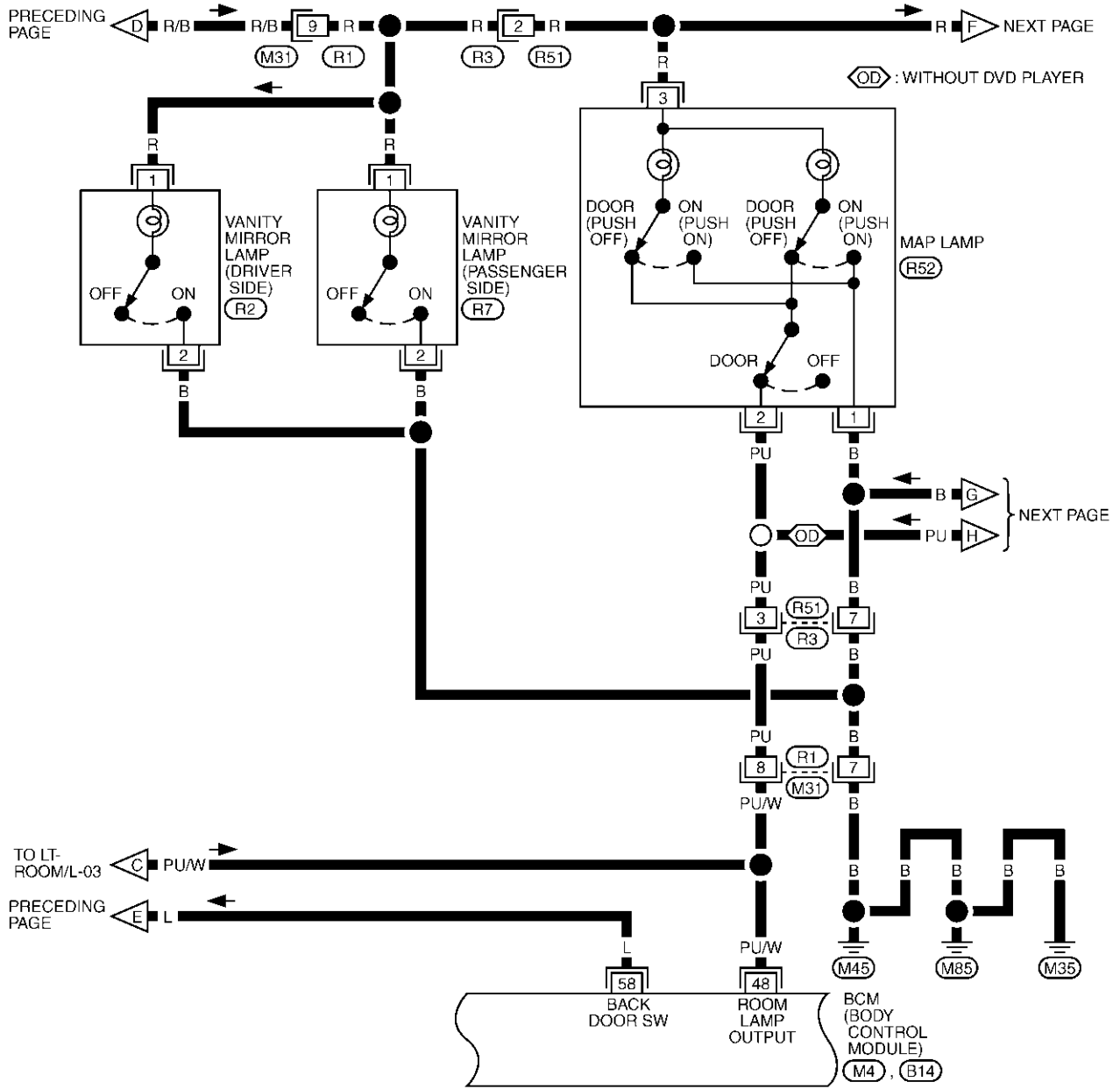
REFER TO THE FOLLOWING.  
 (B1) -SUPER MULTIPLE JUNCTION (SMJ)

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# INTERIOR ROOM LAMP

LT-ROOM/L-05

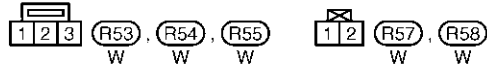
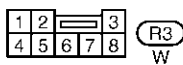
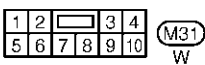
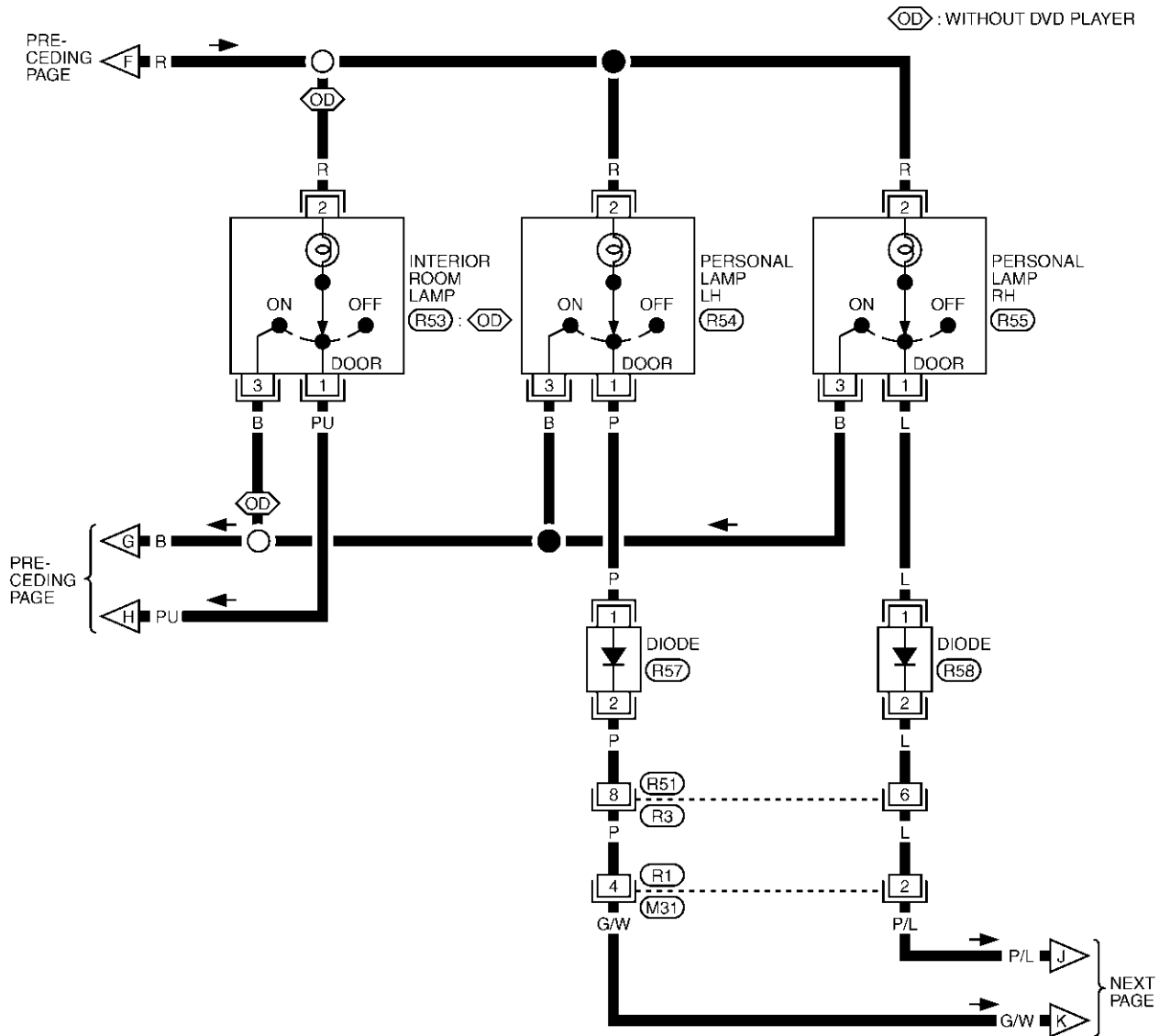


REFER TO THE FOLLOWING.  
M4, B14 -ELECTRICAL  
UNITS

TKWM0640E

# INTERIOR ROOM LAMP

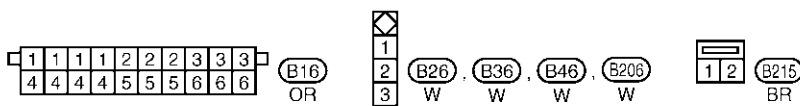
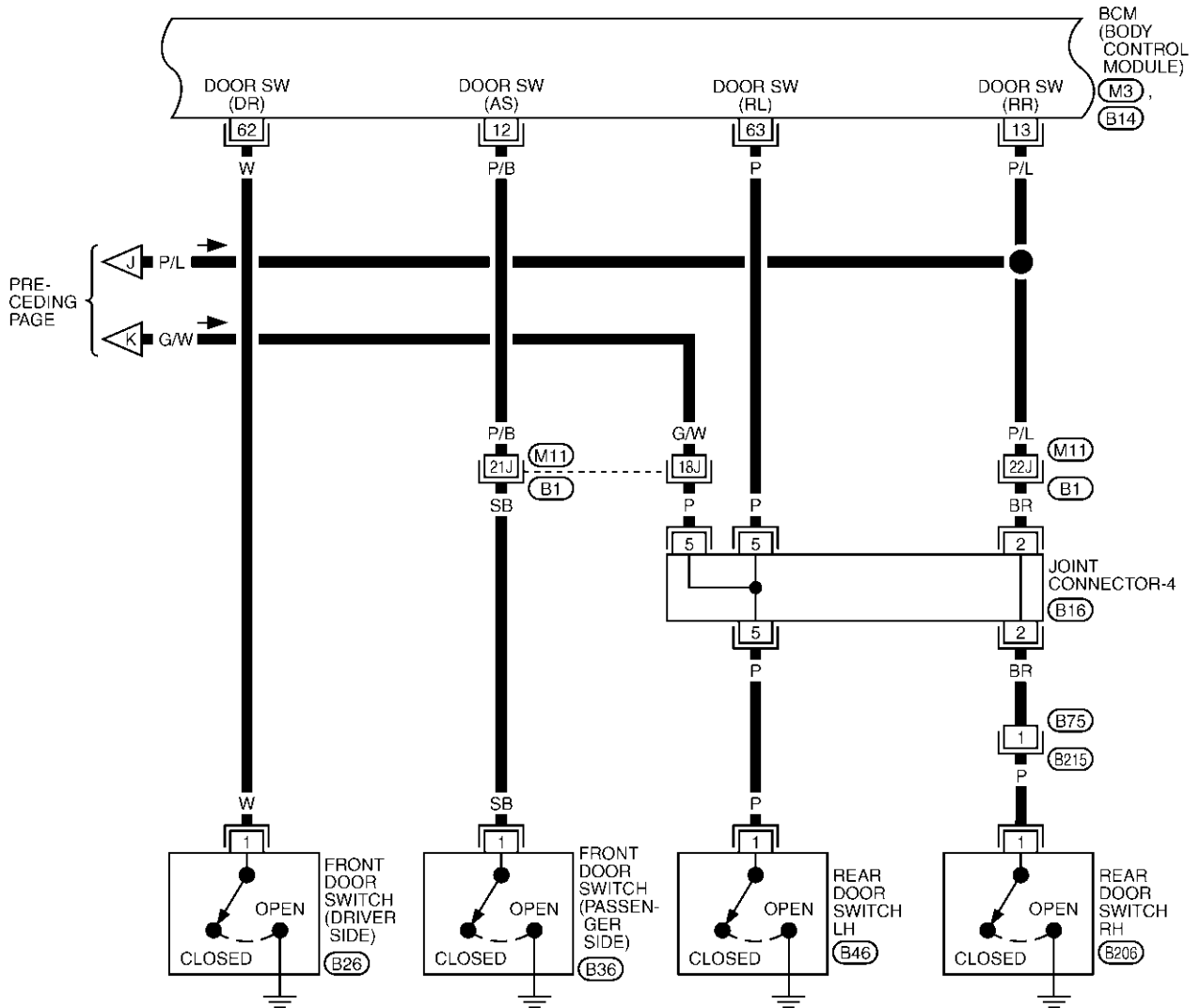
LT-ROOM/L-06



TKWM0825E

# INTERIOR ROOM LAMP

LT-ROOM/L-07



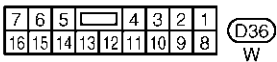
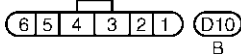
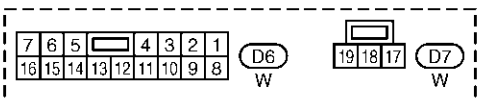
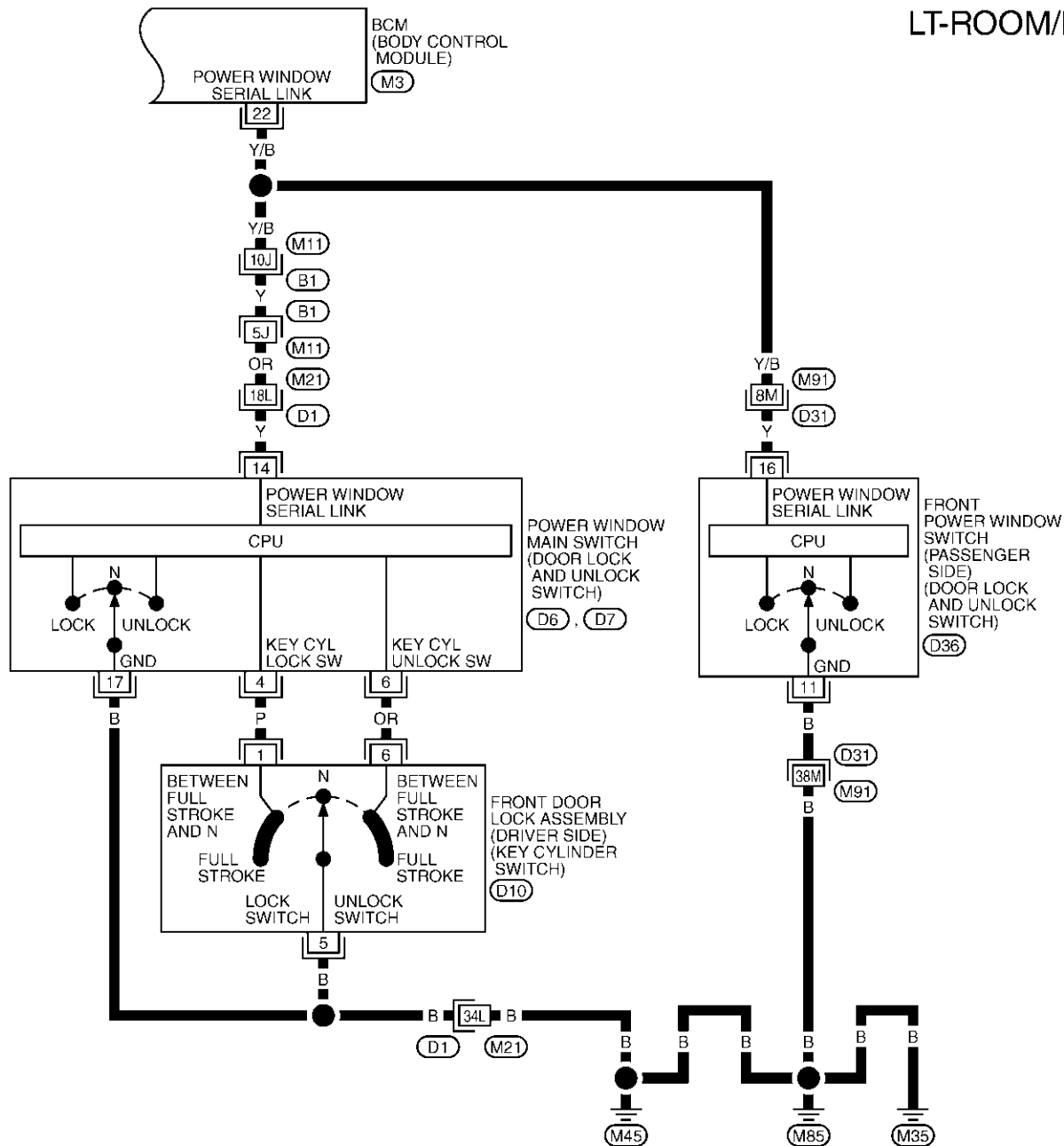
REFER TO THE FOLLOWING.

- (B1) -SUPER MULTIPLE JUNCTION (SMJ)
- (M3), (B14) -ELECTRICAL UNITS

TKWM0642E

# INTERIOR ROOM LAMP

LT-ROOM/L-08

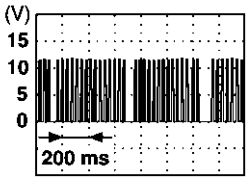


TKWM1258E

# INTERIOR ROOM LAMP

## Terminals and Reference Value for BCM

AKS007FB

Terminal No.	Wire color	Signal name	Measuring condition			Reference value
			Ignition switch	Operation or condition		
1	PU	Ignition keyhole illumination signal	OFF	Door is locked. (SW OFF)		Battery voltage
				Door is unlocked. (SW ON)		Approx. 0V
12	P/B	Front door switch AS signal	OFF	Front door switch AS	ON (open)	Approx. 0V
					OFF (closed)	Battery voltage
13	P/L	Rear door switch RH signal	OFF	Rear door switch RH	ON (open)	Approx. 0V
					OFF (closed)	Battery voltage
22	Y/B	Power window switch serial link	—	—		
37	B/W	Key-in detection switch signal	OFF	Vehicle key is removed.		Approx. 0V
				Vehicle key is inserted.		Battery voltage
38	W/L	Ignition power supply	ON	—		Battery voltage
39	L	CAN-H	—	—		—
40	R	CAN-L	—	—		—
41	R/B	Battery saver output signal	OFF	30 minutes after ignition switch is turned to OFF		Approx. 0V
			ON	—		Battery voltage
42	L/R	Battery power supply	OFF	—		Battery voltage
47	Y/R	Step lamp signal	OFF	Any door is open (ON)		Approx. 0V
				All doors are closed (OFF)		Battery voltage
48	PU/W	Interior room lamp, map lamp and front door inside handle illumination output signal	OFF	Interior door switch: DOOR position	Any door switch ON (open)	Approx. 0V
					Any door switch OFF (closed)	Battery voltage
49, 52	B	Ground	ON	—		Approx. 0V
55	G	Battery power supply	OFF	—		Battery voltage
58	L	Back door switch signal (Auto close motor)	OFF	Back door switch	ON (open)	Approx. 0V
					OFF (closed)	Battery voltage
62	W	Front door switch DR signal	OFF	Front door switch DR	ON (open)	Approx. 0V
					OFF (closed)	Battery voltage
63	P	Rear door switch LH signal	OFF	Rear door switch LH	ON (open)	Approx. 0V
					OFF (closed)	Battery voltage

## How to Proceed With Trouble Diagnosis

AKS007FC

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to [LT-239, "System Description"](#) .
3. Carry out the Preliminary Check. Refer to [LT-255, "Preliminary Check"](#) .
4. Check symptom and repair or replace the cause of malfunction.
5. Does the interior room lamp operate normally? If YES: GO TO 6. If NO: GO TO 4.
6. INSPECTION END

# INTERIOR ROOM LAMP

## Preliminary Check INSPECTION FOR POWER SUPPLY AND GROUND CIRCUIT

AKS007FD

### 1. CHECK FUSES

- Check for blown BCM fuses.

Unit	Power source	Fuse and fusible link No.
BCM	Battery	M
		22
	Ignition switch ON or START position	1

Refer to [LT-246, "Wiring Diagram — ROOM/L —"](#).

#### OK or NG

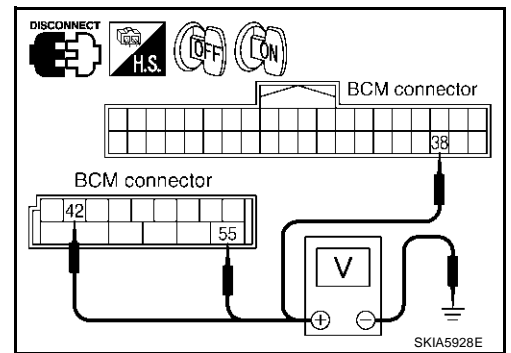
OK >> GO TO 2.

NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to [PG-3, "POWER SUPPLY ROUTING CIRCUIT"](#).

### 2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check voltage between BCM connector and ground.

Terminals		(-)	Ignition switch position	
(+)	Connector		Terminal (Wire color)	OFF
M4	Ground	42 (L/R)	Battery voltage	Battery voltage
		55 (G)	Battery voltage	Battery voltage
M3	Ground	38 (W/L)	0V	Battery voltage



#### OK or NG

OK >> GO TO 3.

NG >> Check harness for open or short between BCM and fuse.

### 3. CHECK GROUND CIRCUIT

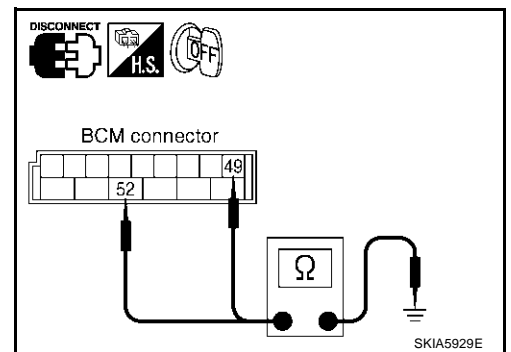
Check continuity between BCM and ground.

Terminals			Continuity
Connector	Terminal (Wire color)	Ground	
M4	49 (B)	Ground	Yes
	52 (B)		

#### OK or NG

OK >> INSPECTION END

NG >> Check harness ground circuit.



# INTERIOR ROOM LAMP

AKS007FE

## CONSULT-II Function

CONSULT-II performs the following functions communicating with BCM.

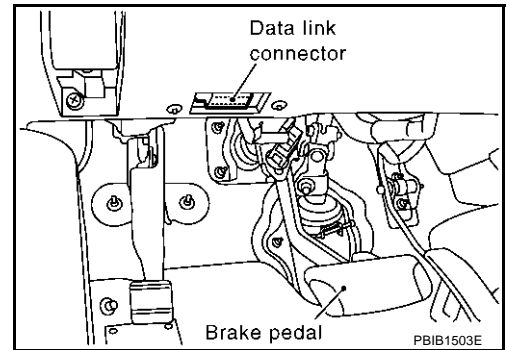
BCM diagnosis part	Check item, diagnosis mode	Description
INTERIOR LAMP	WORK SUPPORT	Changes the setting for each function.
	DATA MONITOR	Displays BCM input data in real time.
	ACTIVE TEST	Operation of electrical loads can be checked by sending driving signal to them.

## CONSULT-II BASIC OPERATION

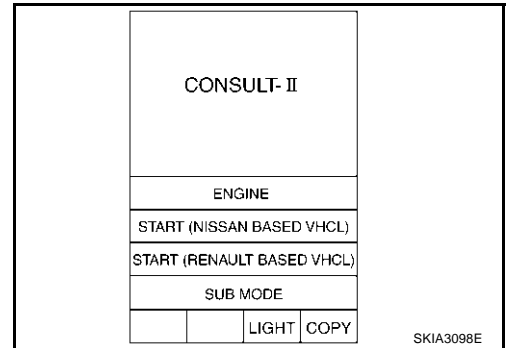
### CAUTION:

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.

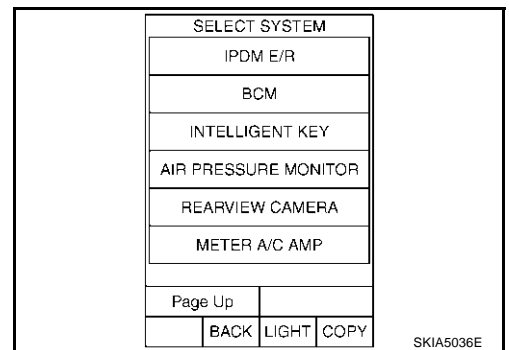
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn ignition switch ON.



2. Touch "START (NISSAN BASED VHCL)".



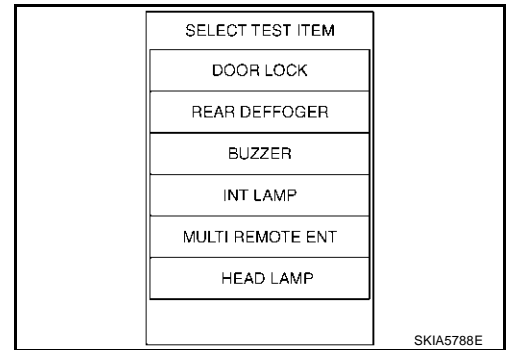
3. Touch "BCM" on "SELECT SYSTEM" screen. If "BCM" is not indicated, refer to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).





# INTERIOR ROOM LAMP

4. Touch "INT LAMP" on "SELECT TEST ITEM" screen.



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## WORK SUPPORT

### Operation Procedure

1. Touch "INT LAMP" on "SELECT TEST ITEM" screen.
2. Touch "WORK SUPPORT" on "SELECT DIAG MODE" screen.
3. Touch "SET I/L D- UNLCK INTCON" on "SELECT WORK ITEM" screen.
4. Touch "START".
5. Touch "CHANGE SETT".
6. The setting will be changed and "CUSTOMIZING COMPLETED " will be displayed.
7. Touch "END".

### Display Item List

Item	Description	CONSULT-II
SET I/L D-UNLCK INTCON	The 30 seconds glowing function the interior room lamps and the ignition key-hole illumination can be selected when driver door is released (unlocked).	ON/OFF
TURN ON TIME	The time in order to escalate illumination can be adjusted when the interior room lamps and the ignition keyhole illumination is turned on.	MODE 1 - 7
TURN OFF TIME	The time in order to diminish illumination can be adjusted when the interior room lamps and the ignition keyhole illumination is turned off.	MODE 1 - 7

Reference between "MODE" and "TIME" for "TURN ON/OFF"

MODE	1	2	3	4	5	6	7
Time (sec.)	0.5	1	2	3	4	5	0

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## DATA MONITOR

### Operation Procedure

1. Touch "INT LAMP" on "SELECT TEST ITEM" screen.
2. Touch "DATA MONITOR" on "SELECT DIAG MODE" screen.
3. Touch either "ALL SIGNALS" or "SELECTION FROM MENU" on "DATA MONITOR" screen.

All signals	Monitors all the signals.
Selection from menu	Selects and monitors the individual signal.

4. Touch "START".
5. When "SELECTION FROM MENU" is selected, touch items to be monitored. When "ALL SIGNALS" is selected, all the items will be monitored.
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
IGN ON SW	"ON/OFF" Displays "IGN position (ON)/OFF, ACC position (OFF)" judged from the ignition switch signal.
KEY ON SW	"ON/OFF" Displays "Key inserted (ON)/key removed (OFF)" status judged from the key switch signal.

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# INTERIOR ROOM LAMP

Monitor item	Contents
DOOR SW - DR "ON/OFF"	Displays status of the driver door as judged from the driver door switch signal. (Door is open: ON/Door is closed: OFF)
DOOR SW - AS "ON/OFF"	Displays "Door open (ON)/Door closed (OFF)" status, determined from passenger door switch signal.
DOOR SW - RR "ON/OFF"	Displays "Door open (ON)/Door closed (OFF)" status, determined from rear door switch RH signal.
DOOR SW - RL "ON/OFF"	Displays "Door open (ON)/Door closed (OFF)" status, determined from rear door switch LH signal.
BACK DOOR SW "ON/OFF"	Displays "Door open (ON)/Door closed (OFF)" status, determined from back door switch signal.
KEY CYL LK - SW "ON/OFF"	Displays "Door locked (ON) status, determined from key cylinder lock switch in driver door.
KEY CYL UN - SW "ON/OFF"	Displays "Door unlocked (OFF) status, determined from key cylinder lock switch in driver door.
CDL LOCK SW "ON/OFF"	Displays "Door locked (ON)/Door unlocked (OFF) status, determined from locking detection switch in driver door.
CDL UNLOCK SW "ON/OFF"	Displays "Door unlocked (OFF)" status, determined from locking detection switch in passenger door.
I- KEY LOCK <sup>NOTE</sup> "ON/OFF"	Displays "Locked (ON)/Other (OFF)" status, determined from lock signal.
I- KEY UNLOCK <sup>NOTE</sup> "ON/OFF"	Displays "Unlocked (ON)/Other (OFF)" status, determined from unlock signal.
KEYLESS LOCK "ON/OFF"	Displays "Locked (ON)/Other (OFF)" status, determined from lock signal.
KEYLESS UNLOCK "ON/OFF"	Displays "Unlocked (ON)/Other (OFF)" status, determined from unlock signal.

**NOTE:**

Vehicle with intelligent key system display this item.

## ACTIVE TEST

### Operation Procedure

1. Touch "INT LAMP" on "SELECT TEST ITEM" screen.
2. Touch "ACTIVE TEST" on "SELECT DIAG MODE" screen.
3. Touch item to be tested and check operation of the selected item.
4. During the operation check, touching "BACK" deactivates the operation.

### Display Item List

Test item	Description
INT LAMP	Interior room lamp can be operated by any ON-OFF operations.
IGN ILLUM	Ignition key hole illumination can be operated by ON- OFF operation.

## Interior Room Lamp Control Does Not Operate

AKS007FF

### 1. CHECK EACH SWITCH

Select "BCM" on CONSULT-II. With "INT LAMP" data monitor to make sure switches listed in display item list turn ON-OFF linked with switch operation. Refer to [LT-257, "Display Item List"](#) for switches and their functions.

#### OK or NG

- OK >> GO TO 2.  
 NG >> Inspect malfunctioning switch system.

DATA MONITOR	
MONITOR	
IGN ON SW	ON
KEY ON SW	ON
DOOR SW-DR	ON
DOOR SW-AS	ON
DOOR SW-RR	OFF
DOOR SW-RL	OFF
BACK DOOR SW	OFF
KEY CYL LK-SW	OFF
KEY CYL UN-SW	OFF

SKIA5930E

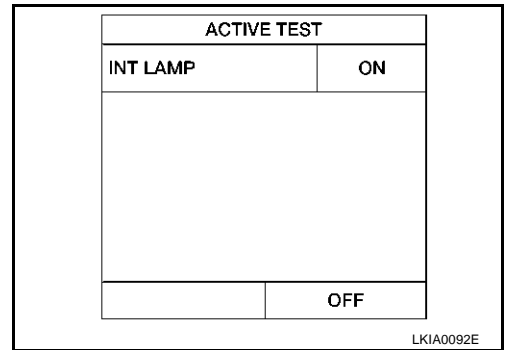
# INTERIOR ROOM LAMP

## 2. ACTIVE TEST

1. Select "BCM" on CONSULT-II. Select "INT LAMP" active test.
2. When interior room lamp switch is in "DOOR" position, use active test to make sure interior room lamp operates.

### OK or NG

- OK >> Replace BCM. Refer to [BCS-28, "Removal and Installation of BCM"](#).
- NG >> GO TO 3.



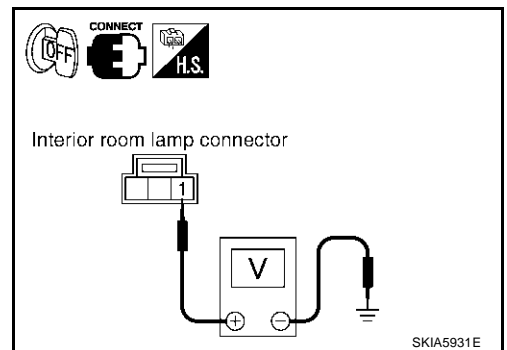
## 3. CHECK INTERIOR ROOM LAMP INPUT

1. Turn ignition switch OFF.
2. Check voltage between interior room lamp harness connector R53 terminal 1 (PU) and ground.

**Battery voltage should exist.**

### OK or NG

- OK >> GO TO 4.
- NG >> GO TO 6.



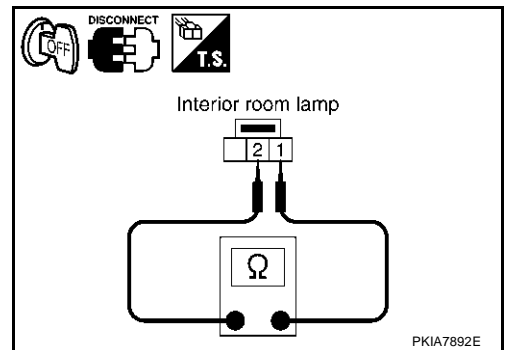
## 4. CHECK INTERIOR ROOM LAMP

1. Disconnect interior room lamp connector.
2. Check continuity between interior room lamp.

Terminal		Condition	Continuity
Interior room lamp			
1	2	Interior room lamp switch is DOOR.	Yes
		Interior room lamp switch is OFF.	No

### OK or NG

- OK >> GO TO 5.
- NG >> Replace Interior room lamp.



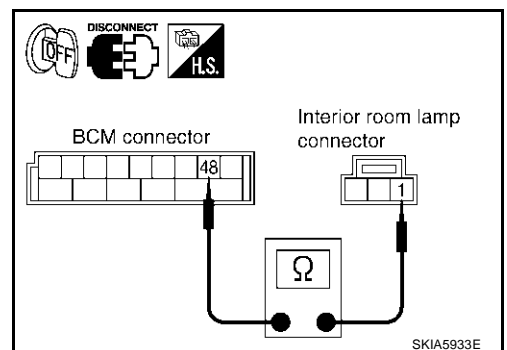
## 5. CHECK INTERIOR ROOM LAMP CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between BCM harness connector M4 terminal 48 (PU/W) and interior room lamp harness connector R53 terminal 1 (PU).

**Continuity should exist.**

### OK or NG

- OK >> Replace BCM if turn signal lamps do not work after setting the connector again. Refer to [BCS-28, "Removal and Installation of BCM"](#).
- NG >> Repair harness or connector.



# INTERIOR ROOM LAMP

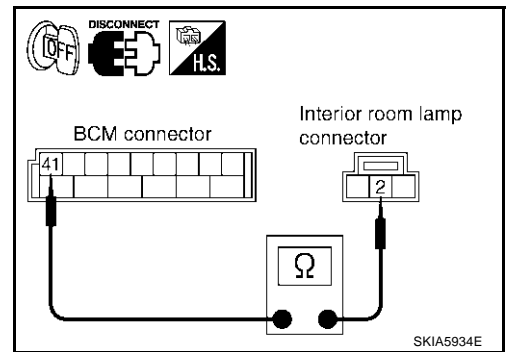
## 6. CHECK INTERIOR ROOM LAMP CIRCUIT

1. Disconnect BCM connector and interior room lamp connector.
2. Check continuity between BCM harness connector M4 terminal 41 (R/B) and interior room lamp harness connector R53 terminal 2 (R).

**Continuity should exist.**

### OK or NG

- OK >> Replace BCM if turn signal lamps do not work after setting the connector again. Refer to [BCS-28, "Removal and Installation of BCM"](#).
- NG >> Repair harness or connector.



## Map Lamp Control Does Not Operate

### 1. CHECK EACH SWITCH

Select "BCM" on CONSULT-II. With "INT LAMP" data monitor to make sure switches listed in display item list turn ON-OFF linked with switch operation. Refer to [LT-257, "Display Item List"](#) for switches and their functions.

### OK or NG

- OK >> GO TO 2.
- NG >> Inspect malfunctioning switch system.

DATA MONITOR	
MONITOR	
IGN ON SW	ON
KEY ON SW	ON
DOOR SW-DR	ON
DOOR SW-AS	ON
DOOR SW-RR	OFF
DOOR SW-RL	OFF
BACK DOOR SW	OFF
KEY CYL LK-SW	OFF
KEY CYL UN-SW	OFF

LKIA5930E

### 2. ACTIVE TEST

1. Select "BCM" on CONSULT-II. Select "INT LAMP" active test.
2. When map lamp switch is in "DOOR" position, use active test to make sure map lamp operates.

### OK or NG

- OK >> Replace BCM. Refer to [BCS-28, "Removal and Installation of BCM"](#).
- NG >> GO TO 3.

ACTIVE TEST	
INT LAMP	ON
	OFF

LKIA0092E

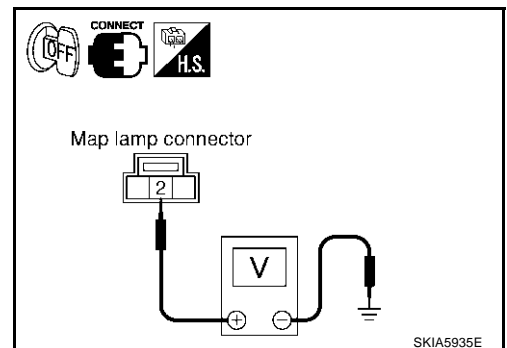
### 3. CHECK MAP LAMP INPUT

1. Turn ignition switch OFF.
2. Check voltage between map lamp harness connector R52 terminal 2 (PU) and ground.

**Battery voltage should exist.**

### OK or NG

- OK >> GO TO 4.
- NG >> GO TO 6.



# INTERIOR ROOM LAMP

## 4. CHECK MAP LAMP

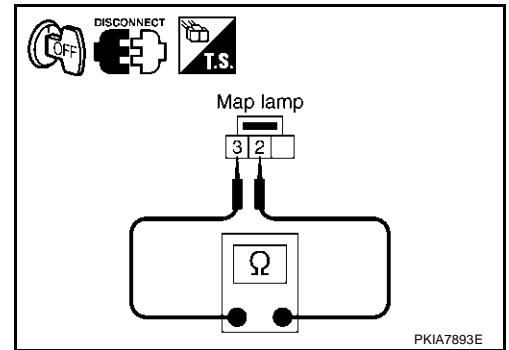
1. Disconnect map lamp connector.
2. Check continuity between map lamp.

Terminal		Condition	Continuity
Map lamp			
2	3	Map lamp switch is DOOR.	Yes
		Map lamp switch is ON.	No

OK or NG

OK >> GO TO 5.

NG >> Replace Map lamp.



## 5. CHECK MAP LAMP CIRCUIT

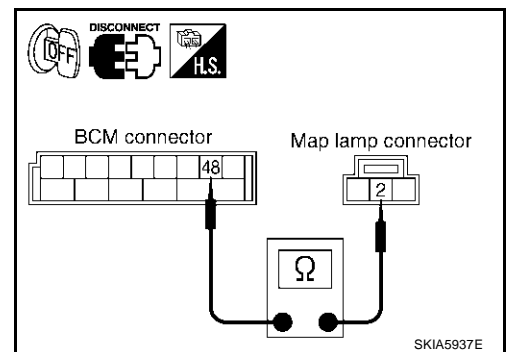
1. Disconnect BCM connector.
2. Check continuity between BCM harness connector M4 terminal 48 (PU/W) and map lamp harness connector R52 terminal 2 (PU).

**Continuity should exist.**

OK or NG

OK >> Replace BCM if turn signal lamps do not work after setting the connector again. Refer to [BCS-28, "Removal and Installation of BCM"](#).

NG >> Repair harness or connector.



## 6. CHECK MAP LAMP CIRCUIT

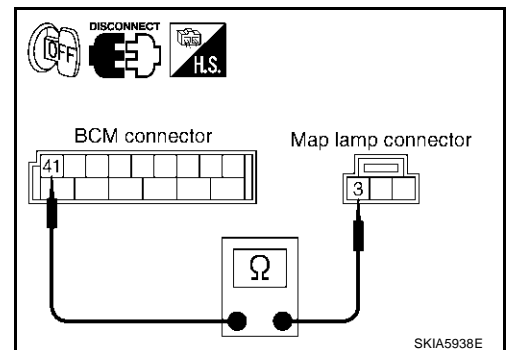
1. Disconnect BCM connector and map lamp connector.
2. Check continuity between BCM harness connector M4 terminal 41 (R/B) and map lamp harness connector R52 terminal 3 (R).

**Continuity should exist.**

OK or NG

OK >> Replace BCM if turn signal lamps do not work after setting the connector again. Refer to [BCS-28, "Removal and Installation of BCM"](#).

NG >> Repair harness or connector.



# INTERIOR ROOM LAMP

AKS007FG

## Personal Lamp Control Does Not Operate

### 1. CHECK REAR DOOR SWITCH

Select "BCM" on CONSULT-II. With "INT LAMP" data monitor to make sure switch "DOOR SW-RR" and "DOOR SW-RL" turn ON-OFF linked with rear door (RH and LH) operation.

OK or NG

- OK >> GO TO 2.
- NG >> Inspect malfunctioning rear door switch.

DATA MONITOR	
MONITOR	
IGN ON SW	ON
KEY ON SW	ON
DOOR SW-DR	ON
DOOR SW-AS	ON
DOOR SW-RR	OFF
DOOR SW-RL	OFF
BACK DOOR SW	OFF
KEY CYL LK-SW	OFF
KEY CYL UN-SW	OFF

SKIA5930E

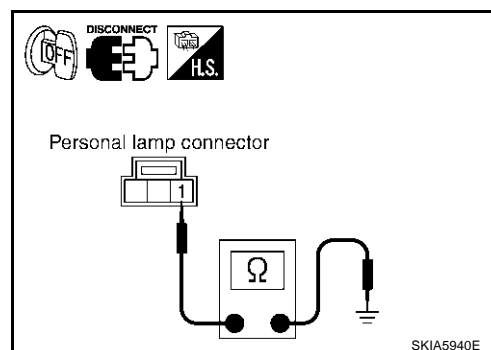
### 2. CHECK PERSONAL LAMP CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect personal lamp connector.
3. Open the rear door.
4. When personal lamp switch is in "DOOR" position, check continuity between personal lamp harness connector R54 terminal 1 (P), R55 terminal 1 (L) and ground.

**Continuity should exist.**

OK or NG

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



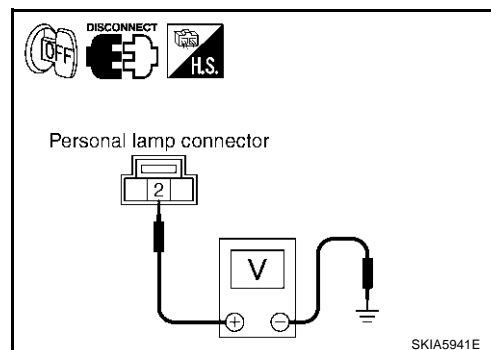
### 3. CHECK PERSONAL LAMP INPUT

Check voltage between personal lamp harness connector R54 and R55 terminal 2 (R) and ground.

**Battery voltage should exist.**

OK or NG

- OK >> Replace personal lamp. Refer to [LT-233, "Removal and Installation"](#).
- NG >> GO TO 4.



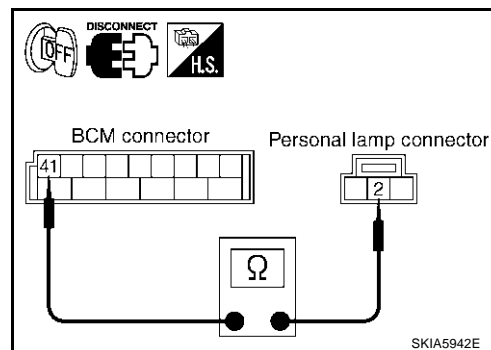
### 4. CHECK PERSONAL LAMP CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between BCM harness connector M4 terminal 41 (R/B) and personal lamp harness connector R54 and R55 terminal 2 (R).

**Continuity should exist.**

OK or NG

- OK >> Replace BCM if turn signal lamps do not work after setting the connector again. Refer to [BCS-28, "Removal and Installation of BCM"](#).
- NG >> Repair harness or connector.



# INTERIOR ROOM LAMP

## Ignition key Hole illumination Control Does Not Operate

AKS007FH

### 1. CHECK EACH SWITCH

Select "BCM" on CONSULT-II. With "INT LAMP" data monitor to make sure switches listed in display item list turn ON-OFF linked with switch operation. Refer to [LT-257, "Display Item List"](#) for switches and their functions.

OK or NG

- OK >> GO TO 2.
- NG >> Inspect malfunctioning switch system.

DATA MONITOR	
MONITOR	
IGN ON SW	ON
KEY ON SW	ON
DOOR SW-DR	ON
DOOR SW-AS	ON
DOOR SW-RR	OFF
DOOR SW-RL	OFF
BACK DOOR SW	OFF
KEY CYL LK-SW	OFF
KEY CYL UN-SW	OFF

SKIA5930E

### 2. ACTIVE TEST

1. Select "BCM" on CONSULT-II. Select "INT LAMP".
2. Select "IGN ILLUM" active test to make sure lamp operates.

OK or NG

- OK >> Replace BCM.
- NG >> GO TO 3.

ACTIVE TEST	
IGN ILLUM	ON
	OFF

SKIA3992E

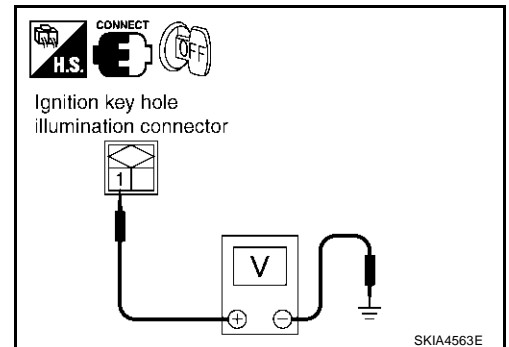
### 3. CHECK IGNITION KEY HOLE ILLUMINATION INPUT

1. Turn ignition switch OFF.
2. Check voltage between ignition key hole illumination harness connector M24 terminal 1 (R/B) and ground.

**Battery voltage should exist.**

OK or NG

- OK >> GO TO 4.
- NG >> GO TO 6.



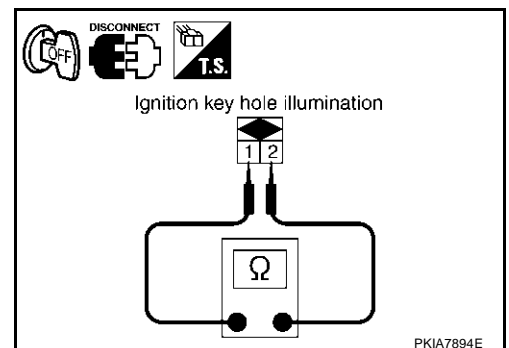
### 4. CHECK IGNITION KEY HOLE ILLUMINATION BULB

1. Disconnect ignition key hole illumination connector.
2. Check continuity between ignition key hole illumination terminal 1 and 2.

**Continuity should exist.**

OK or NG

- OK >> GO TO 5.
- NG >> Replace ignition key hole illumination. Refer to [LT-235, "Bulb Replacement, Removal and Installation"](#).



# INTERIOR ROOM LAMP

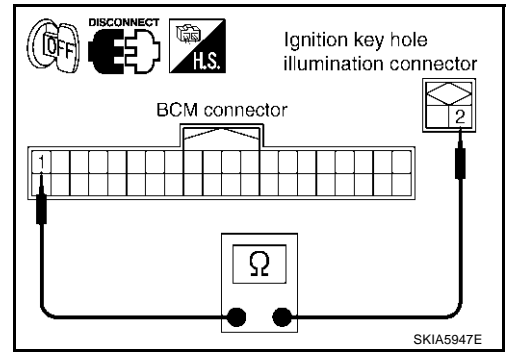
## 5. CHECK IGNITION KEY HOLE ILLUMINATION CIRCUIT

1. Disconnect BCM connector and key hole illumination connector.
2. Check continuity between BCM harness connector M3 terminal 1 (PU) and key hole illumination harness connector M24 terminal 2 (PU).

**Continuity should exist.**

OK or NG

- OK >> Replace BCM if turn signal lamps do not work after setting the connector again. Refer to [BCS-28, "Removal and Installation of BCM"](#).
- NG >> Repair harness or connector.



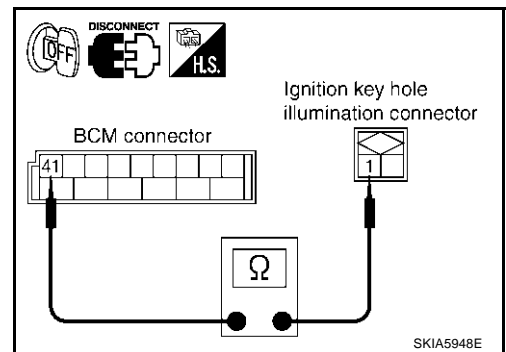
## 6. CHECK IGNITION KEY HOLE ILLUMINATION CIRCUIT

1. Disconnect BCM connector and key hole illumination connector.
2. Check continuity between BCM harness connector M4 terminal 41 (R/B) and key hole illumination harness connector M24 terminal 1 (R/B).

**Continuity should exist.**

OK or NG

- OK >> Replace BCM if turn signal lamps do not work after setting the connector again. Refer to [BCS-28, "Removal and Installation of BCM"](#).
- NG >> Repair harness or connector.



## All Step Lamps Do Not Operate

### 1. CHECK EACH DOOR SWITCH

Select "BCM" on CONSULT-II. With "INT LAMP" data monitor to make sure switches listed below turn ON-OFF linked with switch operation.

Switch name	CONSULT screen
Driver side door switch	DOOR SW - DR
Passenger side door switch	DOOR SW - AS
Rear RH side door switch	DOOR SW - RR
Rear LH side door switch	DOOR SW - RL

DATA MONITOR	
MONITOR	
IGN ON SW	ON
KEY ON SW	ON
DOOR SW-DR	ON
DOOR SW-AS	ON
DOOR SW-RR	OFF
DOOR SW-RL	OFF
BACK DOOR SW	OFF
KEY CYL LK-SW	OFF
KEY CYL UN-SW	OFF

OK or NG

- OK >> GO TO 2.
- NG >> Inspect malfunctioning switch system.

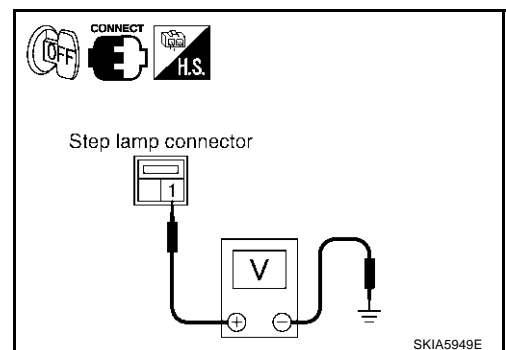
### 2. CHECK STEP LAMP INPUT

1. Turn ignition switch OFF.
2. Check voltage between front door driver side step lamp harness connector D9 terminal 1 (R) and ground.

**Battery voltage should exist.**

OK or NG

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





# INTERIOR ROOM LAMP

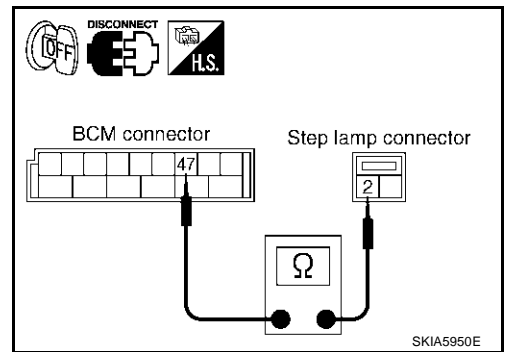
## 3. CHECK STEP LAMP CIRCUIT

1. Disconnect BCM connector and front door driver side step lamp connector.
2. Check continuity between BCM harness connector M4 terminal 47 (Y/R) and front door driver side step lamp harness connector D9 terminal 2 (SB).

**Continuity should exist.**

### OK or NG

- OK >> Replace BCM if turn signal lamps do not work after setting the connector again. Refer to [BCS-28, "Removal and Installation of BCM"](#).
- NG >> Repair harness or connector.



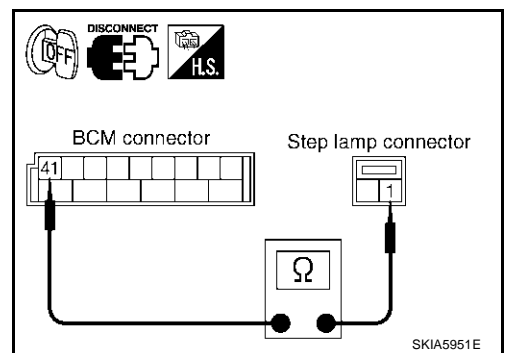
## 4. CHECK STEP LAMP CIRCUIT

1. Disconnect BCM connector and step lamp connector.
2. Check continuity between BCM harness connector M4 terminal 41 (R/B) and front door driver side step lamp harness connector D9 terminal 1 (R).

**Continuity should exist.**

### OK or NG

- OK >> Replace BCM if turn signal lamps do not work after setting the connector again. Refer to [BCS-28, "Removal and Installation of BCM"](#).
- NG >> Repair harness or connector.



## All Interior Room Lamps Do Not Operate

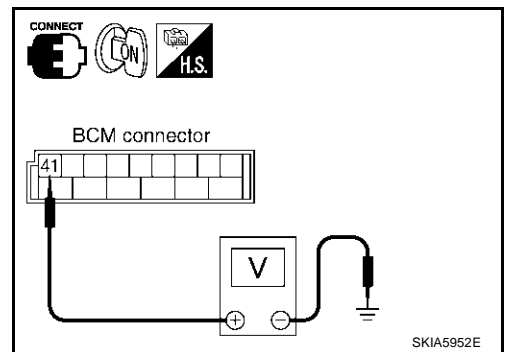
### 1. CHECK POWER SUPPLY CIRCUIT

1. All interior room lamps switch are OFF.
2. Turn ignition switch ON.
3. Check voltage between BCM harness connector M4 terminal 41 (R/B) and ground.

**Battery voltage should exist.**

### OK or NG

- OK >> Repair harness or connector. In a case of making a short circuit, be sure to disconnect battery negative cable after repairing harness, and then reconnect.
- NG >> Replace BCM. Refer to [BCS-28, "Removal and Installation of BCM"](#).

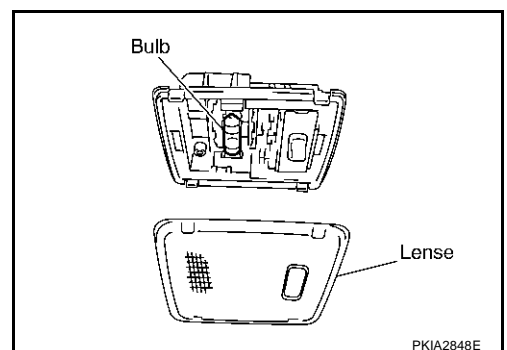


## Bulb Replacement ROOM LAMP

1. Remove room lamp. Refer to [LT-266, "Removal and Installation"](#).
2. Insert a suitable tool and remove lens.
3. Remove the bulb.

**Room lamp :12V - 8W**

4. Install in the reverse order of removal.



# INTERIOR ROOM LAMP

## MAP LAMP

Refer to [LT-232, "Bulb Replacement"](#) in "MAP LAMP".

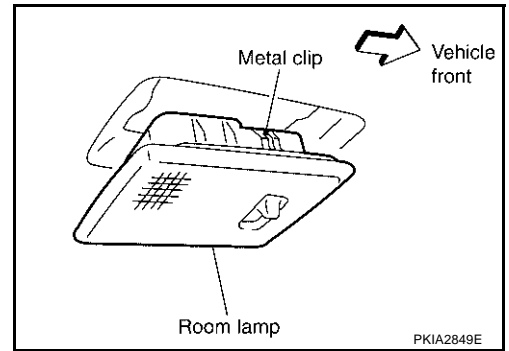
## PERSONAL LAMP

Refer to [LT-233, "Bulb Replacement"](#) in "PERSONAL LAMP".

## Removal and Installation ROOM LAMP

1. Use a suitable tool to press metal clip and remove room lamp.
2. Disconnect room lamp connector.

AKS007FL



## MAP LAMP

Refer to [LT-232, "Removal and Installation"](#) in "MAP LAMP".

## PERSONAL LAMP

Refer to [LT-233, "Removal and Installation"](#) in "PERSONAL LAMP".

**ILLUMINATION****System Description**

AKS007EI

Control of the illumination lamps operation is dependent upon the position of the lighting switch (combination switch). When the lighting switch is placed in the 1ST or 2ND position (or if the auto light system is activated) the BCM (body control module) receives input signal requesting the illumination lamps to illuminate. This input signal is communicated to the IPDM E/R (intelligent power distribution module engine room) across the CAN communication lines. The central processing unit of the IPDM E/R (intelligent power distribution module engine room) controls the tail lamp relay coil. This relay, when energized, directs power to the illumination lamps, which then illuminate.

Power is supplied at all times

- to tail lamp relay [located in IPDM E/R (intelligent power distribution module engine room)]
- through 10A fuse [No. 71, located in the IPDM E/R (intelligent power distribution module engine room)].

Power is also supplied at all times

- to BCM (body control module) terminal 55
- through 50A fusible link (letter M, located in fuse and fusible link block)
- to BCM (body control module) terminal 42
- through 15A fuse [No. 22, located in fuse block (J/B)]
- to CPU (central processing unit) [located in IPDM E/R (intelligent power distribution module engine room)]
- through 15A fuse [No. 78, located in IPDM E/R (intelligent power distribution module engine room)]
- to unified meter and A/C amp. terminal 21 and
- to combination meter terminal 8
- through 10A fuse [No. 19, located in fuse block (J/B)].

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

- to BCM (body control module) terminal 38 and
- to unified meter and A/C amp. terminal 22
- through 10A fuse [No. 12, located in fuse block (J/B)]
- to ignition relay in IPDM E/R (intelligent power distribution module engine room)
- from ignition switch
- to combination meter terminal 7
- through 10A fuse [No. 14 located in fuse block (J/B)].

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

- to BCM (body control module) terminal 11
- through 10A fuse [No. 6, located in fuse block (J/B)].

Ground is supplied

- to BCM (body control module) terminals 49 and 52
- to unified meter and A/C amp. terminals 29 and 30, and
- to combination meter terminals 5, 6, and 15
- through grounds M35, M45, and M85
- to IPDM E/R (intelligent power distribution module engine room) terminals 38 and 60
- through grounds E21, E50, and E51.

**ILLUMINATION OPERATION BY LIGHTING SWITCH**

With the lighting switch in the 1ST or 2ND position (or if the auto light system is activated), the BCM receives input signal requesting the illumination lamps to illuminate. This input signal is communicated to the IPDM E/R across the CAN communication lines. The central processing unit of the IPDM E/R controls the tail lamp relay coil, which, when energized, directs power

- through IPDM E/R terminal 22
- to glove box lamp terminal 1
- to A/T device (illumination) terminal 11
- to AWD lock switch (illumination) terminal 4 (AWD models)
- to VDC off switch (illumination) terminal 3 (with VDC)

# ILLUMINATION

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- to clock (illumination) terminal 3
- to hazard switch (illumination) terminal 3
- to heated seat switch (driver side) (illumination) terminal 5 (with heater seat)
- to heated seat switch (passenger side) (illumination) terminal 5 (with heater seat)
- to A/C and AV switch (illumination) terminal 3
- to NAVI control unit (illumination) terminal 25
- to DVD player (illumination) terminal 12
- to front cigarette lighter socket terminal 2
- to rear power window switch LH (illumination) terminal 6
- to rear power window switch RH (illumination) terminal 6.

## Illumination control

- through combination meter terminal 19
- to A/T device (illumination) terminal 12
- to AWD lock switch (illumination) terminal 2 (AWD models)
- to VDC off switch (illumination) terminal 4 (with VDC)
- to clock (illumination) terminal 4
- to hazard switch (illumination) terminal 4
- to heated seat switch (driver side) (illumination) terminal 6 (with heater seat)
- to heated seat switch (passenger side) (illumination) terminal 6 (with heater seat)
- to A/C and AV switch (illumination) terminal 4
- to NAVI control unit (illumination) terminal 30
- to DVD player (illumination) terminal 10.

## Ground is supplied at all times

- to glove box lamp terminal 2 and
- to front cigarette lighter socket terminal 3
- through grounds M35, M45 and M85
- to rear power window switch LH (illumination) terminal 7 and
- to rear power window switch RH (illumination) terminal 7
- through grounds B15 and B45.

With power and ground supplied, illumination lamps illuminate.

## EXTERIOR LAMP BATTERY SAVER CONTROL

When the combination switch (lighting switch) is in the 1ST or 2ND position (or if auto light system is activated), and the ignition switch is turned from ON or ACC to OFF, the battery saver control function is activated. Under this condition, the illumination lamps remain illuminated for 5 minutes, then the illumination lamps are turned off.

When the lighting switch is turned from OFF to 1ST or 2ND position (or if auto light system is activated) after illumination lamps are turned off by the battery saver control, and illumination lamps illuminate again.

Exterior lamp battery saver control mode can be changed by the function setting of CONSULT-II.

## CAN Communication System Description

AKS007EJ

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

# ILLUMINATION

## CAN Communication Unit

AKS0080Y

Body type	Wagon					
Axle	2WD			AWD		
Engine	VQ35DE			VQ35DE/VK45DE		
Transmission	A/T					
Brake control	VDC					
Navigation system			×			×
Low tire pressure warning system			×			×
ICC system			×			×
Intelligent Key system			×			×
Automatic drive positioner		×	×		×	×
CAN communication unit						
ECM	×	×	×	×	×	×
TCM	×	×	×	×	×	×
Display unit	×	×		×	×	
Display control unit			×			×
Low tire pressure warning control unit			×			×
AWD control unit				×	×	×
ICC unit			×			×
Intelligent Key unit			×			×
Data link connector	×	×	×	×	×	×
BCM	×	×	×	×	×	×
Steering angle sensor	×	×	×	×	×	×
Unified meter and A/C amp.	×	×	×	×	×	×
ICC sensor			×			×
ABS actuator and electric unit (control unit)	×	×	×	×	×	×
Driver seat control unit		×	×		×	×
IPDM E/R	×	×	×	×	×	×
CAN communication type	<u>LT-270. "TYPE 1/TYPE2"</u>		<u>LT-273. "TYPE 3"</u>	<u>LT-276. "TYPE 4/TYPE5"</u>		<u>LT-279. "TYPE 6"</u>

×: Applicable

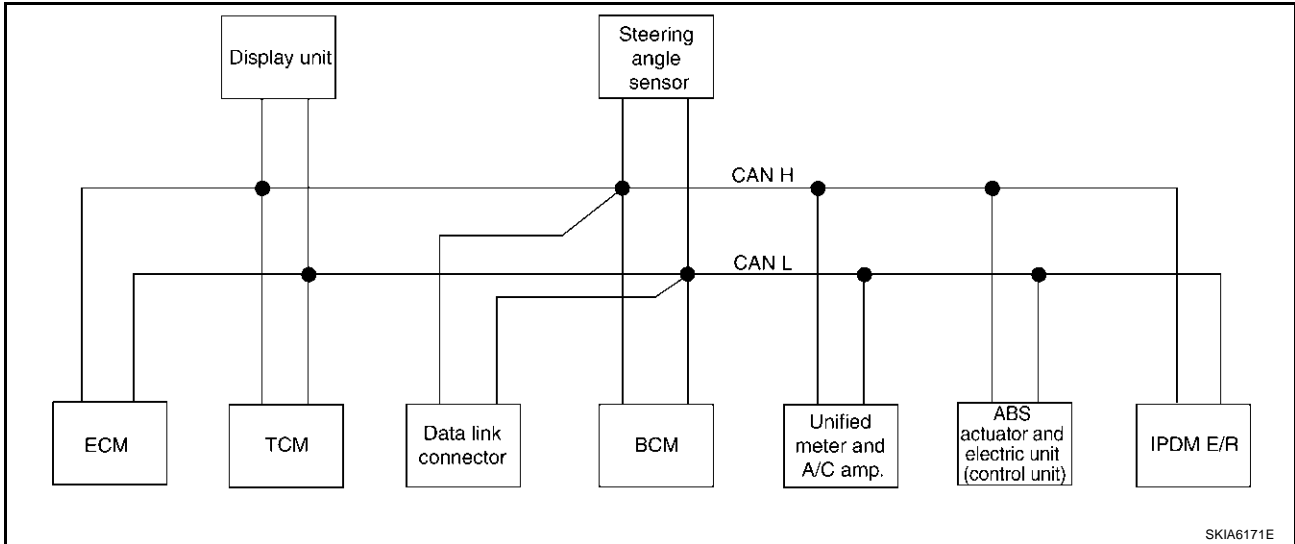
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# ILLUMINATION

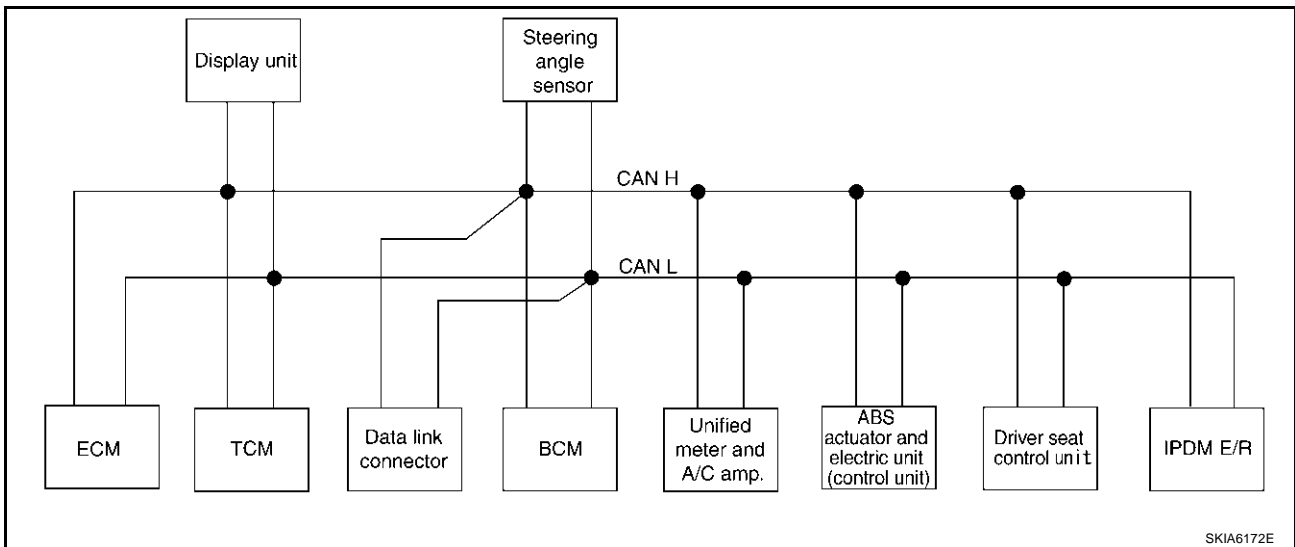
## TYPE 1/TYPE2

### System Diagram

- Type1



- Type2



### Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Engine speed signal	T	R	R			R	R		
Engine status signal	T			R					
Engine coolant temperature signal	T	R				R			
A/T self-diagnosis signal	R	T							
Accelerator pedal position signal	T	R					R		
Closed throttle position signal	T	R							
Wide open throttle position signal	T	R							

# ILLUMINATION

Signals	ECM	TCM	Dis- play unit	BCM	Steer- ing angle sensor	Unified meter and A/ C amp.	ABS actua- tor and electric unit (con- trol unit)	Driver seat control unit	IPDM E/R
Battery voltage signal	T	R							
Key switch signal				T				R	
Ignition switch signal				T				R	R
P range signal		T					R	R	
Stop lamp switch signal		R				T			
ABS operation signal	R						T		
TCS operation signal	R						T		
VDC operation signal	R						T		
Fuel consumption monitor signal	T		R			R			
Input shaft revolution signal	R	T							
Output shaft revolution signal	R	T							
A/C switch signal	R			T					
A/C compressor request signal	T								R
A/C relay status signal	R								T
A/C compressor feedback signal	T					R			
Blower fan motor switch signal	R			T					
A/C control signal			T			R			
			R			T			
Cooling fan speed request signal	T								R
Cooling fan speed signal	R								T
Position light request signal			R	T		R			R
Low beam request signal				T					R
Low beam status signal	R								T
High beam request signal				T		R			R
High beam status signal	R								T
Front fog light request signal				T					R
Day time running light request signal				T		R			
Turn LED burnout status signal				R		T			
Vehicle speed signal						R	T		
	R	R	R	R		T		R	
Sleep wake up signal				T		R		R	R
Door switch signal			R	T		R		R	R
Turn indicator signal				T		R			
Key fob ID signal				T				R	
Key fob door unlock signal				T				R	
Oil pressure switch signal				R					T
				T		R			
Buzzer output signal				T		R			
Fuel level sensor signal	R					T			
Fuel level low warning signal			R			T			

A  
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I  
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M

LT

# ILLUMINATION

Signals	ECM	TCM	Dis- play unit	BCM	Steer- ing angle sensor	Unified meter and A/ C amp.	ABS actua- tor and electric unit (con- trol unit)	Driver seat control unit	IPDM E/R
ASCD operation signal	T	R							
ASCD OD cancel request	T	R							
Front wiper request signal				T					R
Front wiper stop position signal				R					T
Rear window defogger switch signal				T					R
Rear window defogger control signal	R		R	R					T
Hood switch signal				R					T
Theft warning horn request signal				T					R
Horn chirp signal				T					R
Steering angle sensor signal					T		R		
ABS warning lamp signal						R	T		
VDC OFF indicator lamp signal						R	T		
SLIP indicator lamp signal						R	T		
Brake warning lamp signal						R	T		
System setting signal			T	R				R	
A/T CHECK indicator lamp signal		T				R			
A/T position indicator lamp signal		T				R			
A/T shift schedule change demand signal		R					T		
Manual mode signal		R				T			
Not manual mode signal		R				T			
Manual mode shift up signal		R				T			
Manual mode shift down signal		R				T			
Manual mode indicator signal		T				R			
Distance to empty signal			R			T			
Hand brake switch				R		T			

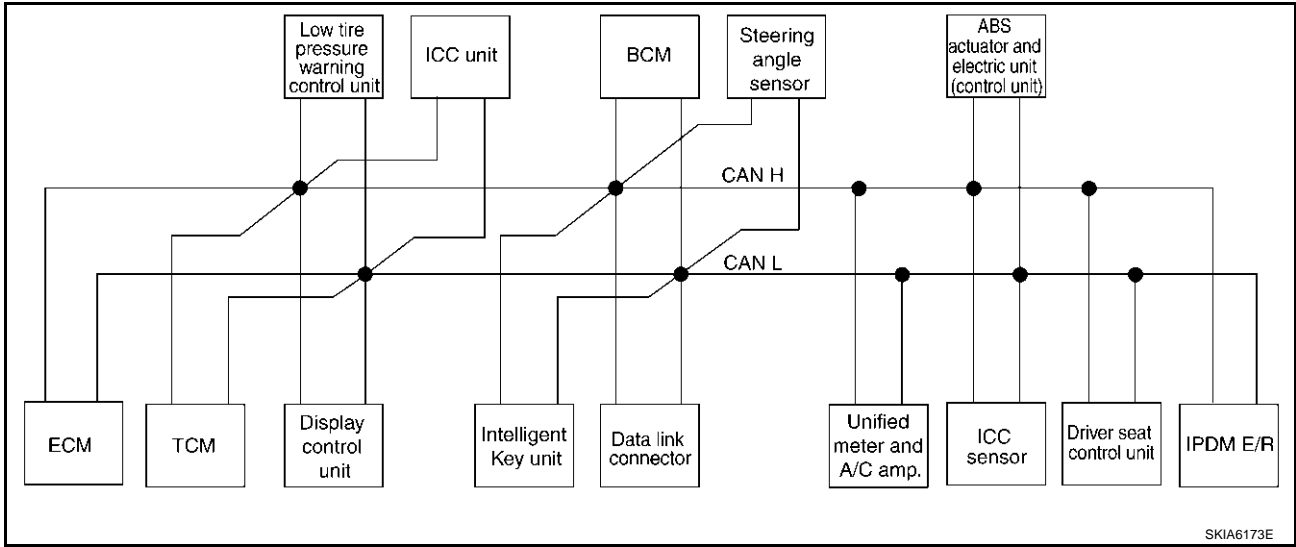


# ILLUMINATION

## TYPE 3

### System Diagram

- Type3



### Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Engine speed signal	T	R	R		R				R		R		
Engine status signal	T						R						
Engine coolant temperature signal	T	R			R				R				
A/T self-diagnosis signal	R	T											
Accelerator pedal position signal	T	R			R						R		
Closed throttle position signal	T	R			R								
Wide open throttle position signal	T	R											
Battery voltage signal	T	R											
Key switch signal							T					R	
Ignition switch signal							T					R	R
P range signal		T			R						R	R	
Stop lamp switch signal		R							T				
ABS operation signal	R				R						T		
TCS operation signal	R				R						T		
VDC operation signal	R				R						T		
Fuel consumption monitor signal	T		R						R				

# ILLUMINATION

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Input shaft revolution signal	R	T			R								
Output shaft revolution signal	R	T			R								
A/C switch signal	R						T						
A/C compressor request signal	T												R
A/C relay status signal	R												T
A/C compressor feedback signal	T								R				
Blower fan motor switch signal	R						T						
A/C control signal			T						R				
			R						T				
Cooling fan speed signal	R												T
Position light request signal	R						T		R				R
Low beam request signal							T						R
Low beam status signal	R												T
High beam request signal							T		R				R
High beam status signal	R												T
Front fog light request signal							T						R
Day time running light request signal							T		R				
Turn LED burnout status signal							R		T				
Vehicle speed signal					R				R		T		
	R	R	R	R		R	R		T	R		R	
Sleep wake up signal							T		R			R	R
						T	R						
Door switch signal			R			R	T		R			R	R
Turn indicator signal							T		R				
Key fob ID signal							T					R	
Key fob door unlock signal							T					R	
Oil pressure switch signal							R						T
							T		R				
Buzzer output signal							T		R				
						T			R				
					T				R				

# ILLUMINATION

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Fuel level sensor signal	R								T				
Fuel level low warning signal			R						T				
ICC operation signal	R				T								
Front wiper request signal					R		T						R
Front wiper stop position signal							R						T
Rear window defogger switch signal							T						R
Rear window defogger control signal	R		R				R						T
Hood switch signal							R						T
Theft warning horn request signal							T						R
Horn chirp signal							T						R
Steering angle sensor signal								T			R		
Tire pressure signal				T					R				
Tire pressure data signal			R	T									
ABS warning lamp signal					R				R		T		
VDC OFF indicator lamp signal					R				R		T		
SLIP indicator lamp signal									R		T		
Brake warning lamp signal									R		T		
System setting signal			T			R						R	
Distance to empty signal			R						T				
Hand brake switch signal							R		T				
Door lock/unlock request signal						T	R						
Door lock/unlock status signal						R	T						
Starter permission signal						T	R						
Back door open request signal						T	R						
Power window open request signal						T	R						
Alarm request signal						T	R						
Key warning signal						T			R				
ICC sensor signal					R					T			
ICC warning lamp signal					T				R				

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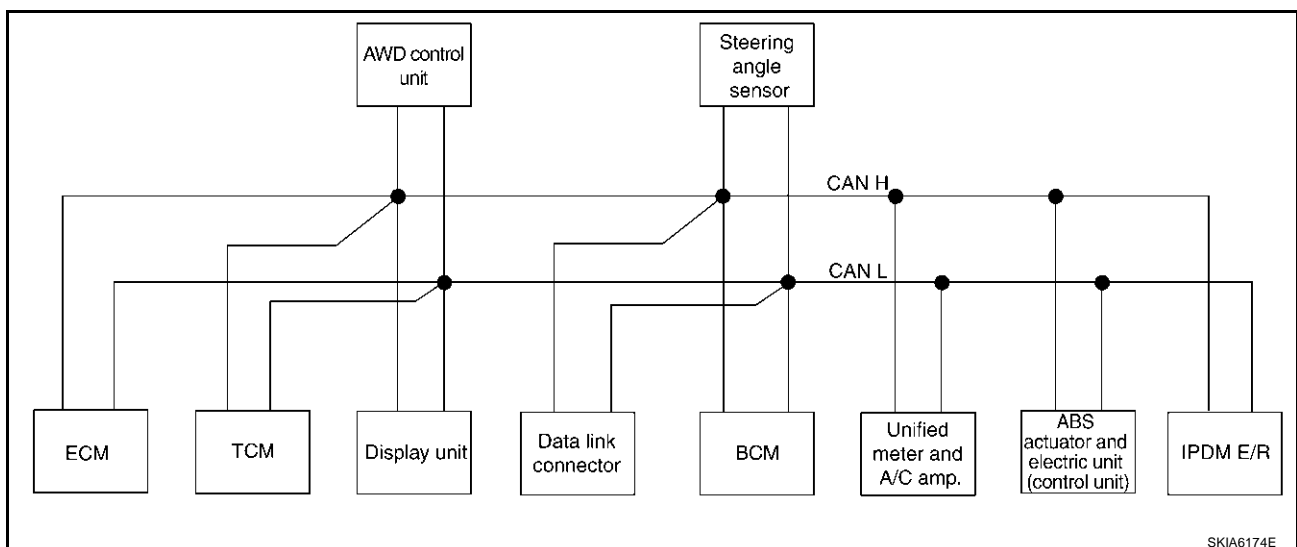
# ILLUMINATION

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
ICC system display signal					T				R				
Current gear position signal		T			R						R		
Steering switch signal	T				R								
ASCD operation signal	T	R											
ASCD OD cancel request	T	R											
ICC OD cancel request	R	R			T								
A/T CHECK indicator lamp signal		T							R				
A/T position indicator lamp signal		T							R				
A/T shift schedule change demand signal		R									T		
Manual mode signal		R							T				
Not manual mode signal		R							T				
Manual mode shift up signal		R							T				
Manual mode shift down signal		R							T				
Manual mode indicator signal		T			R				R				
Ignition knob switch signal						T	R						

## TYPE 4/TYPE5

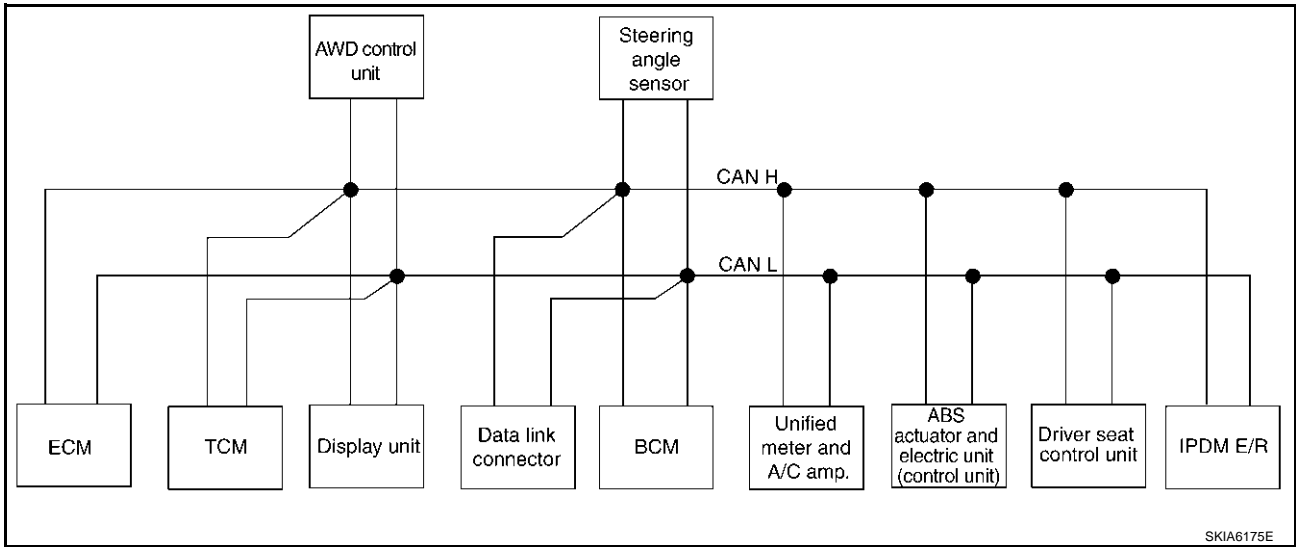
### System Diagram

- Type4



# ILLUMINATION

● Type5



**Input/output Signal Chart**

T: Transmit R: Receive

Signals	ECM	TCM	Display unit	AWD control unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
A/T self-diagnosis signal	R	T								
ABS operation signal	R			R				T		
TCS operation signal	R							T		
VDC operation signal	R			R				T		
Stop lamp switch signal		R		R			T			
Battery voltage signal	T	R								
Key switch signal					T				R	
Ignition switch signal					T				R	R
P range signal		T						R	R	
Closed throttle position signal	T	R								
Wide open throttle position signal	T	R								
Engine speed signal	T	R	R	R			R	R		
Engine status signal	T				R					
Engine coolant temperature signal	T	R					R			
Accelerator pedal position signal	T	R		R				R		
Fuel consumption monitor signal	T		R				R			
Input shaft revolution signal	R	T								
Output shaft revolution signal	R	T								
A/C switch signal	R				T					
A/C compressor request signal	T									R
A/C relay status signal	R									T
A/C compressor feedback signal	T						R			

# ILLUMINATION

Signals	ECM	TCM	Display unit	AWD control unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
Blower fan motor switch signal	R				T					
A/C control signal			T				R			
			R				T			
Cooling fan speed signal	R									T
Position light request signal			R		T		R			R
Low beam request signal					T					R
Low beam status signal	R									T
High beam request signal					T		R			R
High beam status signal	R									T
Front fog light request signal					T					R
Day time running light request signal					T		R			
Turn LED burnout status signal					R		T			
Vehicle speed signal							R	T		
	R	R	R		R		T		R	
Sleep wake up signal					T		R		R	R
Door switch signal			R		T		R		R	R
Turn indicator signal					T		R			
Key fob ID signal					T				R	
Key fob door unlock signal					T				R	
Oil pressure switch signal					R					T
					T		R			
Buzzer output signal					T		R			
Fuel level sensor signal	R						T			
Fuel level low warning signal			R				T			
Front wiper request signal					T					R
Front wiper stop position signal					R					T
Rear window defogger switch signal					T					R
Rear window defogger control signal	R		R		R					T
Hood switch signal					R					T
Theft warning horn request signal					T					R
Horn chirp signal					T					R
Steering angle sensor signal						T		R		
ABS warning lamp signal							R	T		
VDC OFF indicator lamp signal							R	T		
SLIP indicator lamp signal							R	T		
Brake warning lamp signal							R	T		
System setting signal			T		R				R	
AWD warning lamp signal				T			R			

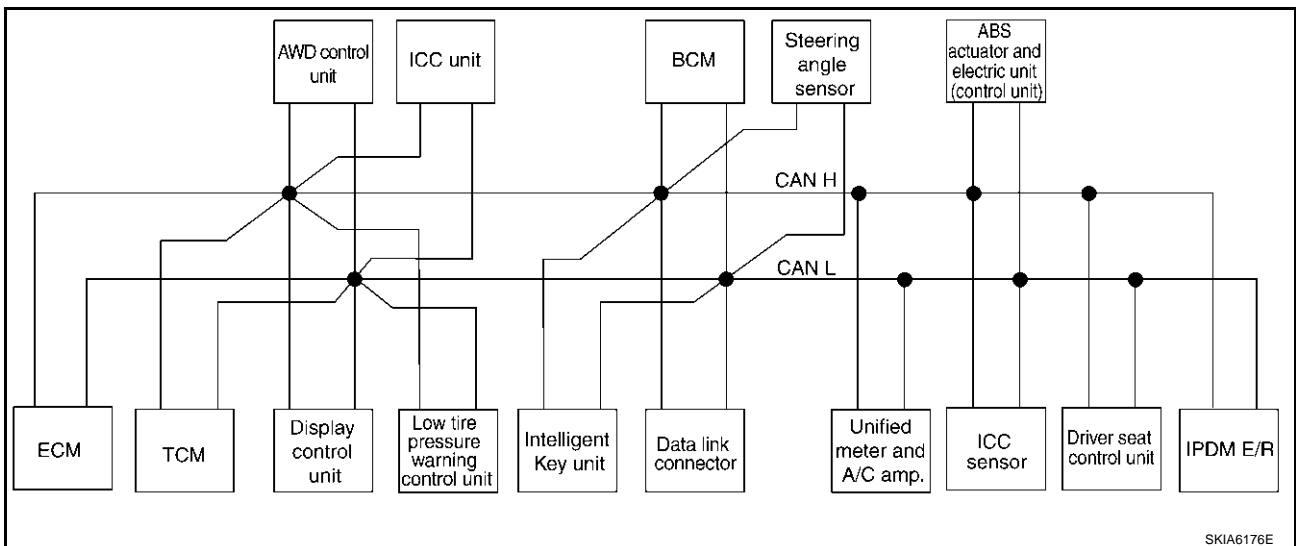
# ILLUMINATION

Signals	ECM	TCM	Display unit	AWD control unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ABS actuator and electric unit (control unit)	Driver seat control unit	IPDM E/R
AWD lock indicator lamp signal				T			R			
Distance to empty signal			R				T			
Hand brake switch signal				R	R		T			
ASCD operation signal	T	R								
ASCD OD cancel request	T	R								
A/T CHECK indicator lamp signal		T					R			
A/T position indicator lamp signal		T					R			
A/T shift schedule change demand signal		R						T		
Manual mode signal		R					T			
Not manual mode signal		R					T			
Manual mode shift up signal		R					T			
Manual mode shift down signal		R					T			
Manual mode indicator signal		T					R			

## TYPE 6

### System Diagram

- Type6



# ILLUMINATION

## Input/output Signal Chart

T: Transmit R: Receive

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	AWD control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPD M E/R
A/T self-diagnosis signal	R	T												
ABS operation signal	R				R	R						T		
TCS operation signal	R					R						T		
VDC operation signal	R				R	R					R	T		
Stop lamp switch signal		R			R					T				
Battery voltage signal	T	R												
Key switch signal								T					R	
Ignition switch signal								T					R	R
P range signal		T				R						R	R	
Closed throttle position signal	T	R				R								
Wide open throttle position signal	T	R												
Engine speed signal	T	R	R		R	R				R		R		
Engine status signal	T							R						
Engine coolant temperature signal	T	R				R				R				
Accelerator pedal position signal	T	R			R	R						R		
Fuel consumption monitor signal	T		R							R				
A/T self-diagnosis signal	R	T												
Input shaft revolution signal	R	T				R								
Output shaft revolution signal	R	T				R								
A/C switch signal	R							T						
A/C compressor request signal	T													R
A/C relay status signal	R													T
A/C compressor feedback signal	T									R				
Blower fan motor switch signal	R							T						
A/C control signal			T							R				
			R							T				
Cooling fan speed signal	R													T
Position light request signal			R					T		R				R
Low beam request signal								T						R
Low beam status signal	R													T
High beam request signal								T		R				R



# ILLUMINATION

Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	AWD control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPD M E/R
High beam status signal	R													T
Front fog light request signal								T						R
Day time running light request signal								T		R				
Turn LED burnout status signal								R		T				
Vehicle speed signal						R				R		T		
	R	R	R	R			R	R		T	R		R	
Sleep wake up signal								T		R			R	R
							T	R						
Door switch signal			R				R	T		R			R	R
Key fob ID signal								T					R	
Key fob door unlock signal								T					R	
Oil pressure switch signal								R						T
								T		R				
Buzzer output signal								T		R				
						T				R				
Fuel level sensor signal	R									T				
Fuel level low warning signal			R							T				
ICC operation signal	R					T								
Front wiper request signal						R		T						R
Front wiper stop position signal								R						T
Rear window defogger switch signal								T						R
Rear window defogger control signal	R		R					R						T
Hood switch signal								R						T
Theft warning horn request signal								T						R
Horn chirp signal								T						R
Steering angle sensor signal									T			R		
Tire pressure signal				T						R				
Tire pressure data signal			R	T										
ABS warning lamp signal						R				R		T		
VDC OFF indicator lamp signal						R				R		T		
SLIP indicator lamp signal										R		T		

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LT

# ILLUMINATION

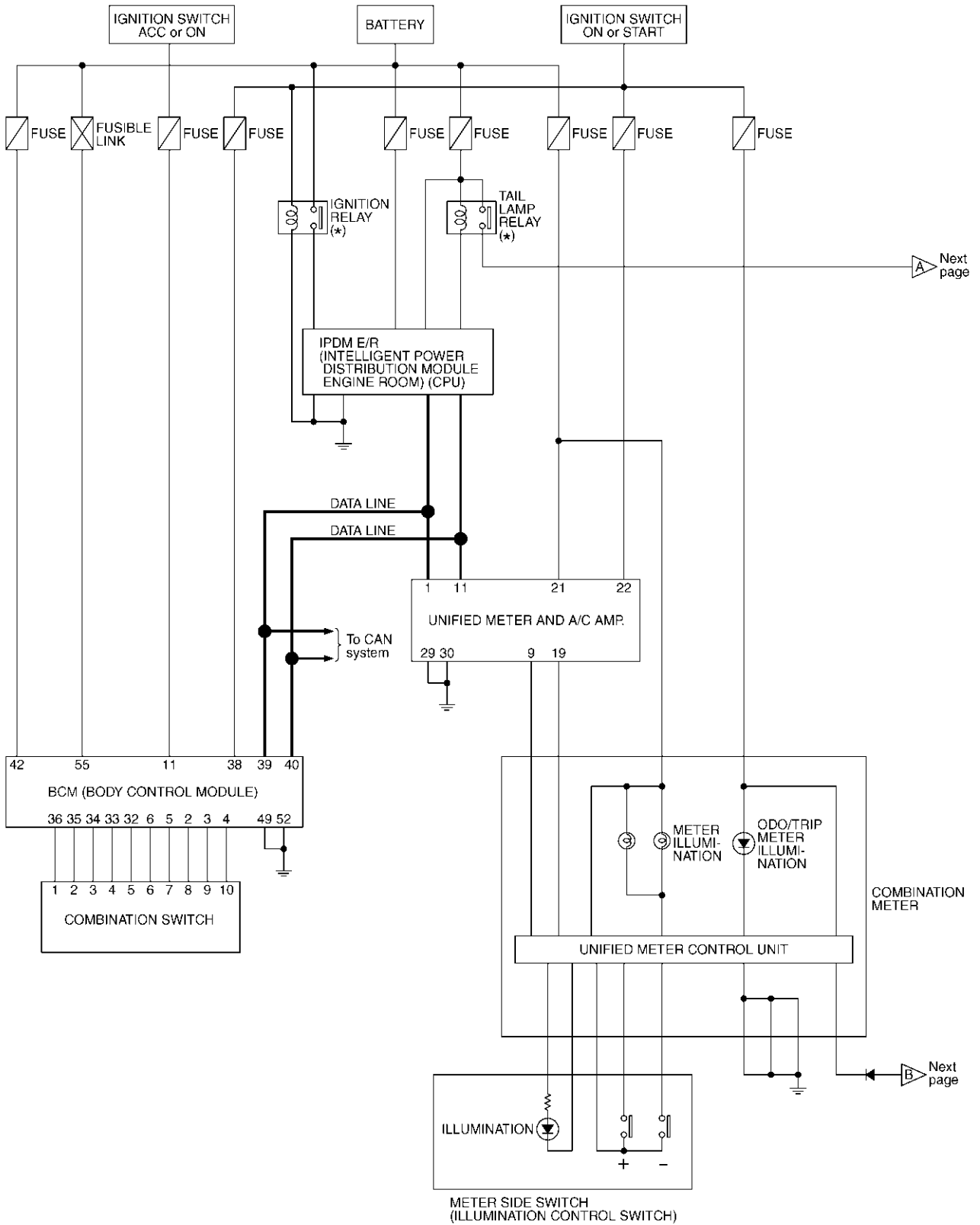
Signals	ECM	TCM	Display control unit	Low tire pressure warning control unit	AWD control unit	ICC unit	Intelligent Key unit	BCM	Steering angle sensor	Unified meter and A/C amp.	ICC sensor	ABS actuator and electric unit (control unit)	Driver seat control unit	IPD M E/R
Brake warning lamp signal										R		T		
System setting signal			T				R						R	
AWD warning lamp signal					T					R				
AWD lock indicator lamp signal					T					R				
Distance to empty signal			R							T				
Hand brake switch signal					R			R		T				
Door lock/unlock request signal							T	R						
Door lock/unlock status signal							R	T						
Starter permission signal							T	R						
Back door open request signal							T	R						
Power window open request signal							T	R						
Alarm request signal							T	R						
Key warning signal							T			R				
ICC sensor signal						R					T			
ICC warning lamp signal						T				R				
ICC system display signal						T				R				
Current gear position signal		T				R						R		
Steering switch signal	T					R								
ASCD operation signal	T	R												
ASCD OD cancel request	T	R												
ICC OD cancel request	R	R				T								
A/T CHECK indicator lamp signal		T								R				
A/T position indicator lamp signal		T								R				
A/T shift schedule change demand signal		R										T		
Manual mode signal		R								T				
Not manual mode signal		R								T				
Manual mode shift up signal		R								T				
Manual mode shift down signal		R								T				
Manual mode indicator signal		T								R				
Ignition knob switch signal							T	R						

# ILLUMINATION

## Schematic

AKS007EL

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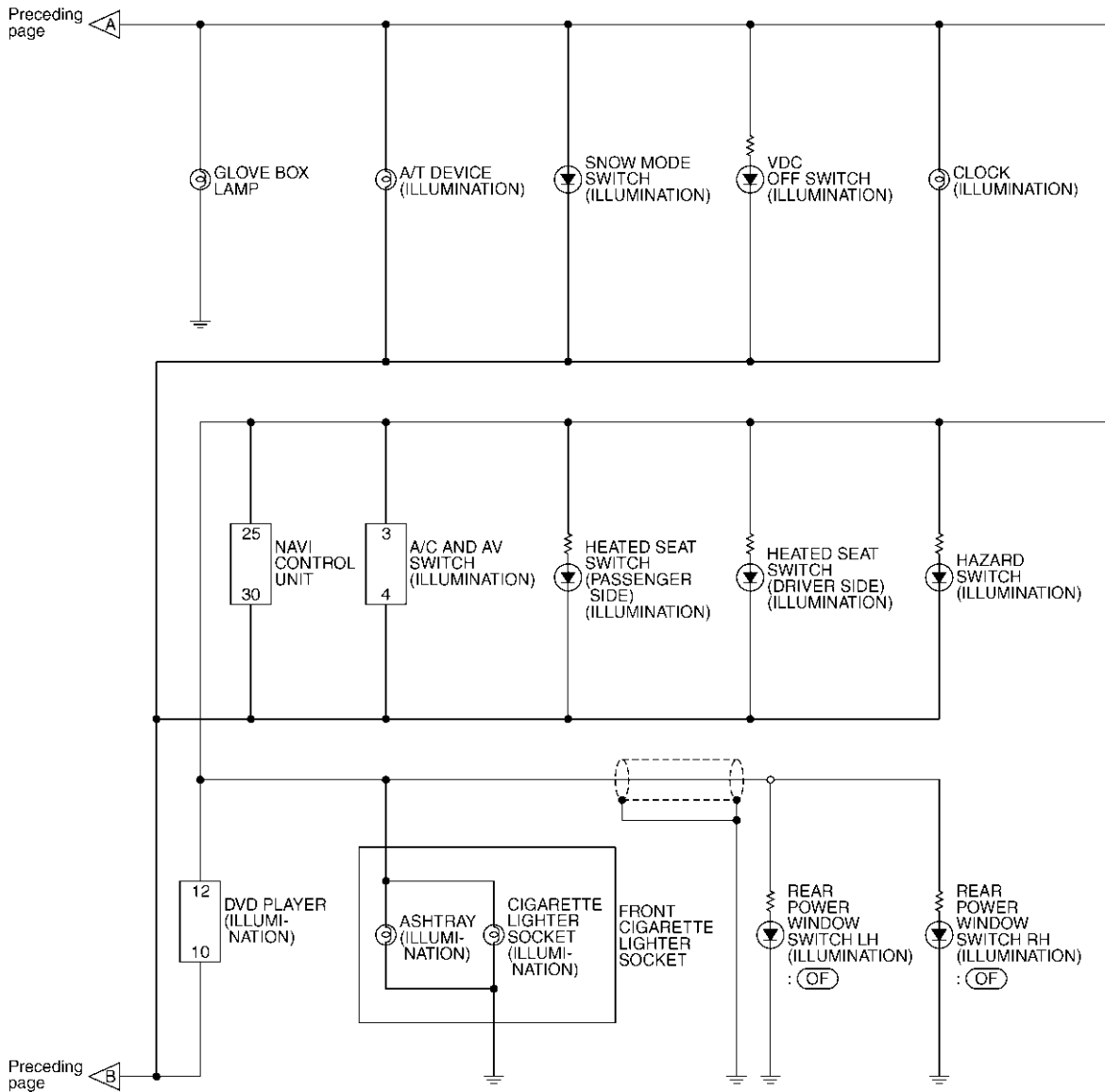


\* : This relay is built into the IPDM E/R (Intelligent power distribution module engine room).

TKWM0670E

# ILLUMINATION

(OF) : Without interruption detection function for rear door window



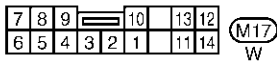
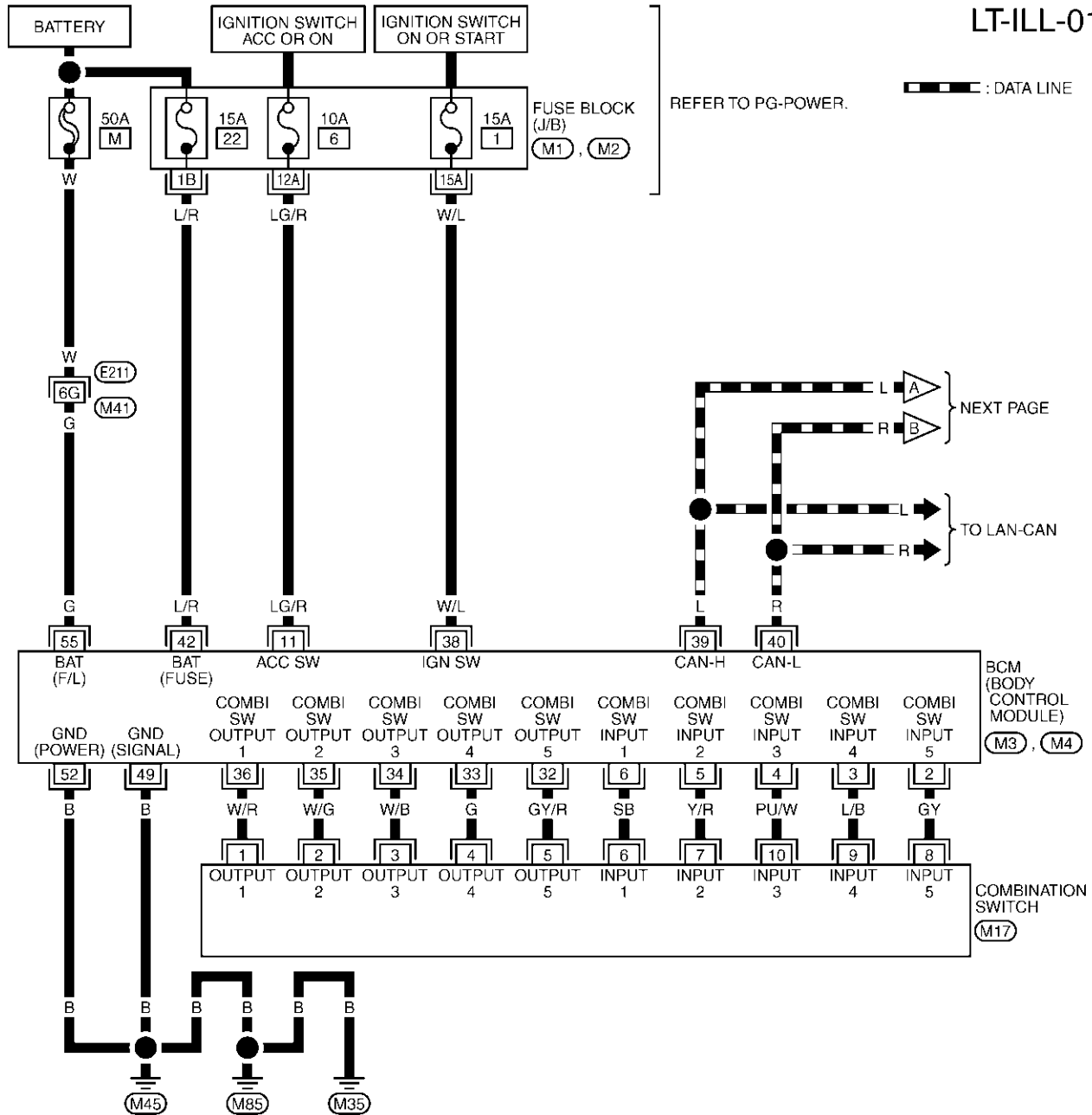
TKWM1254E

# ILLUMINATION

## Wiring Diagram — ILL —

AKS007EM

LT-ILL-01



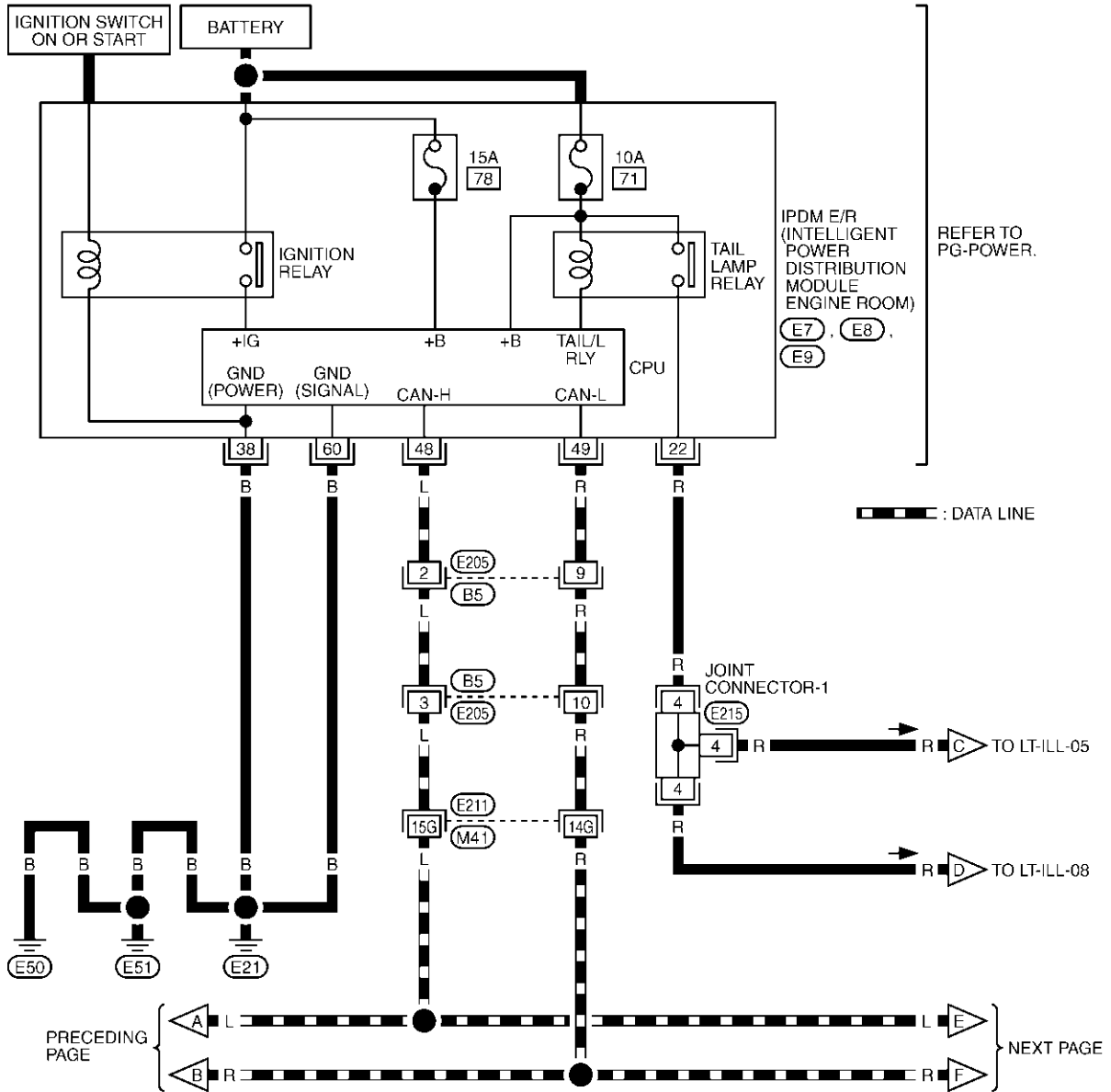
REFER TO THE FOLLOWING.

- (E21) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1), (M2) -FUSE BLOCK-JUNCTION BOX (J/B)
- (M3), (M4) -ELECTRICAL UNITS

TKWM0826E

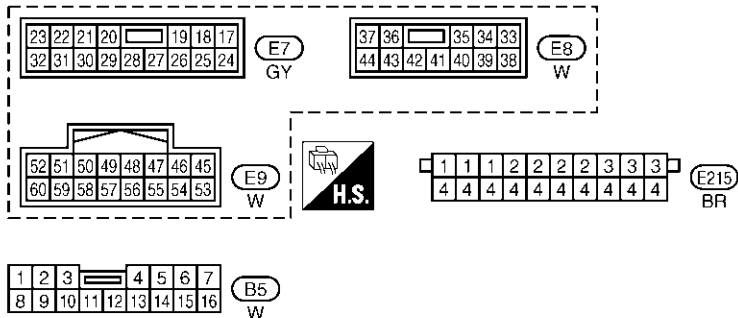
# ILLUMINATION

LT-ILL-02



DATA LINE

REFER TO THE FOLLOWING.  
**(E21)** -SUPER MULTIPLE JUNCTION (SMJ)



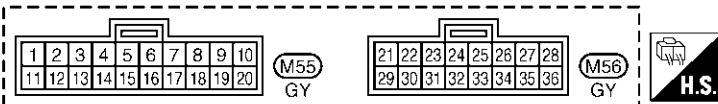
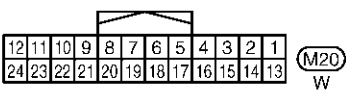
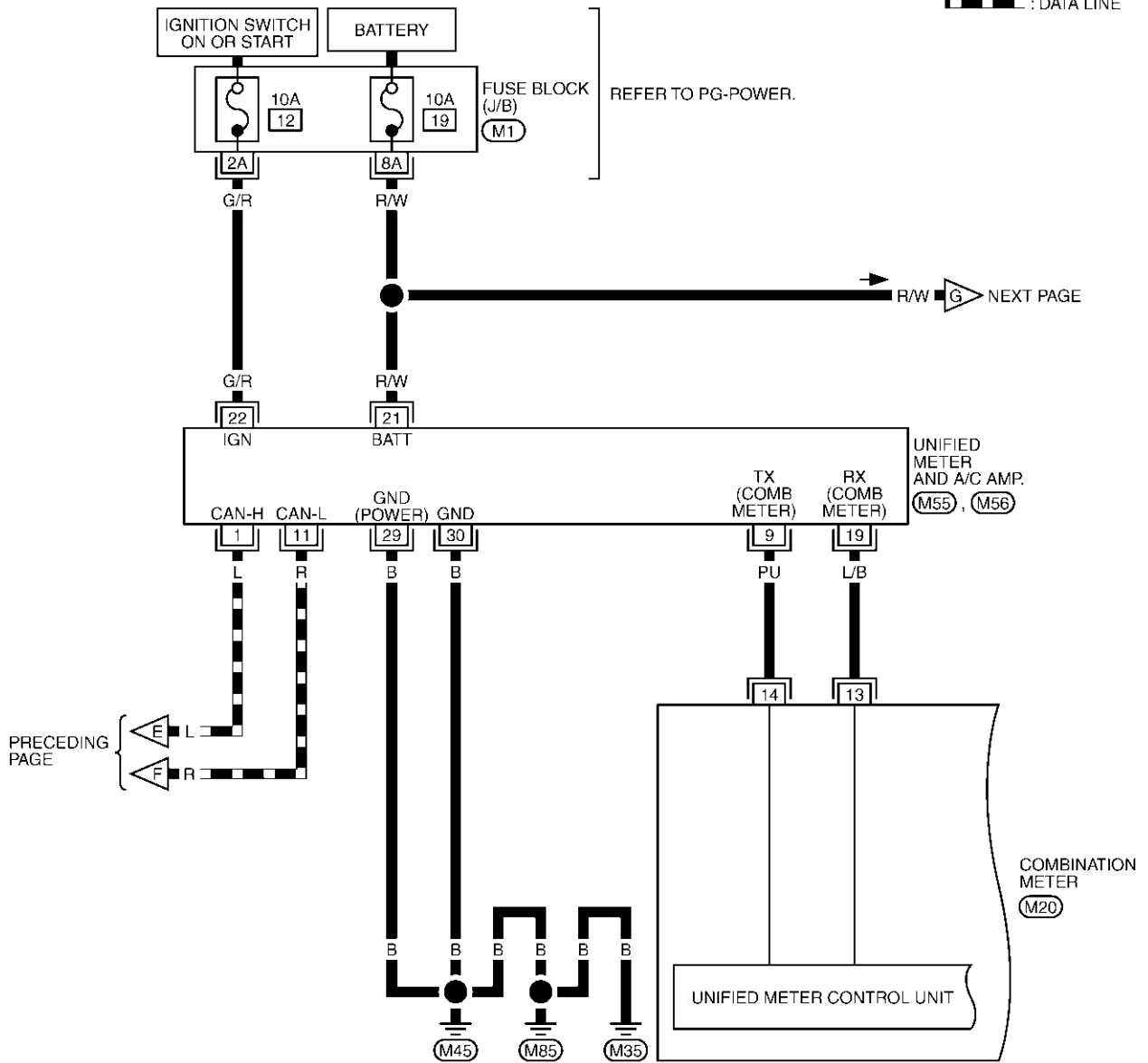
TKWM0673E

# ILLUMINATION

LT-ILL-03

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▬ : DATA LINE

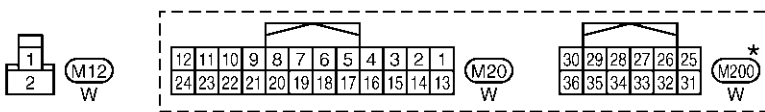
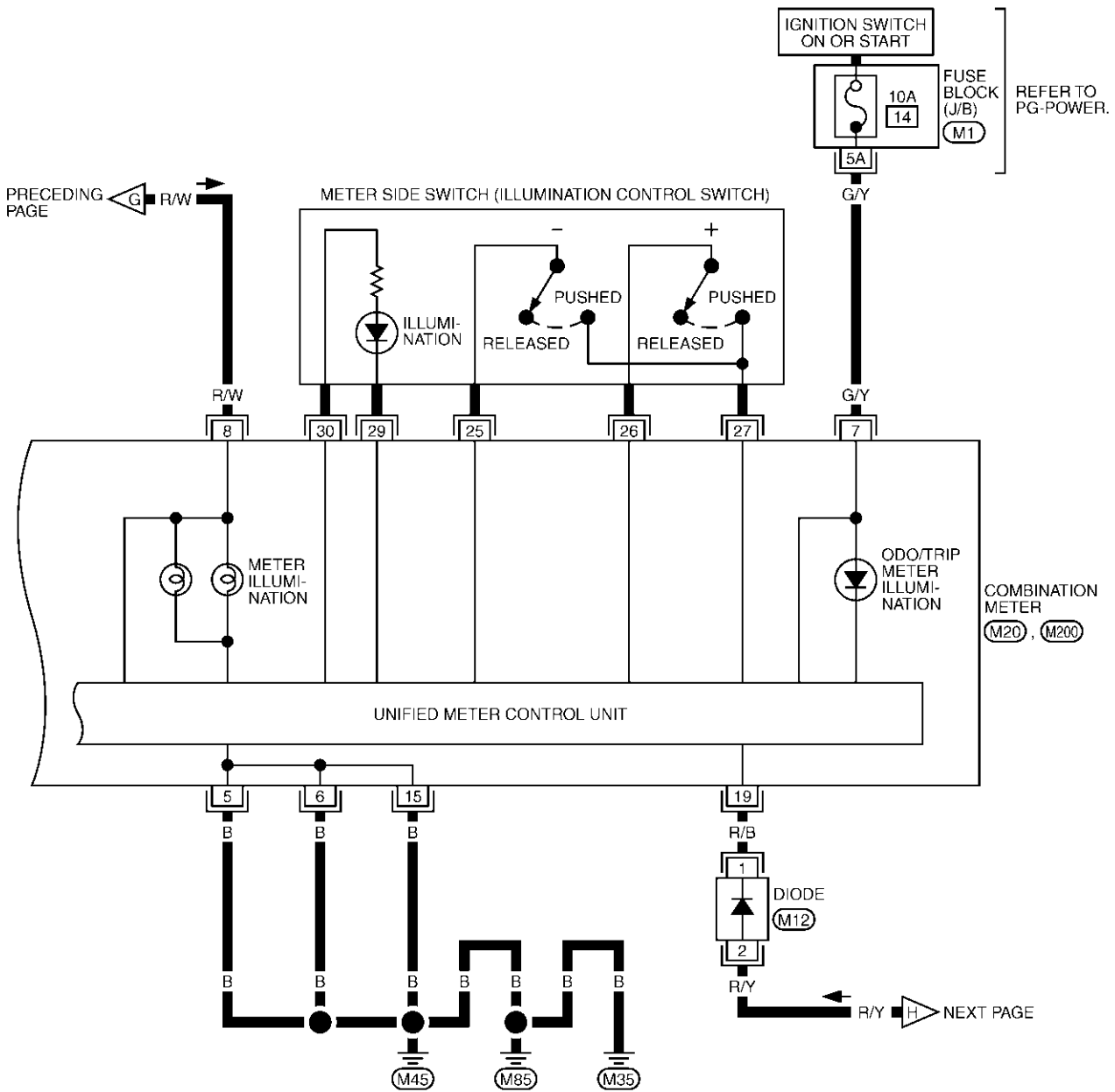


REFER TO THE FOLLOWING.  
 (M1) - FUSE BLOCK-JUNCTION BOX (J/B)

TKWM0674E

# ILLUMINATION

LT-ILL-04



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

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

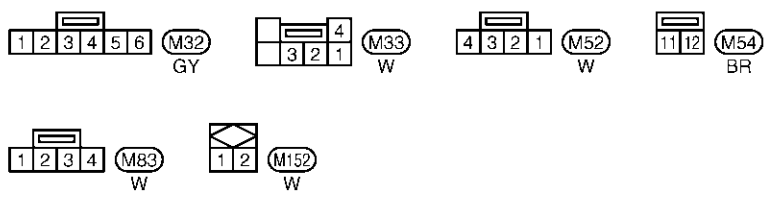
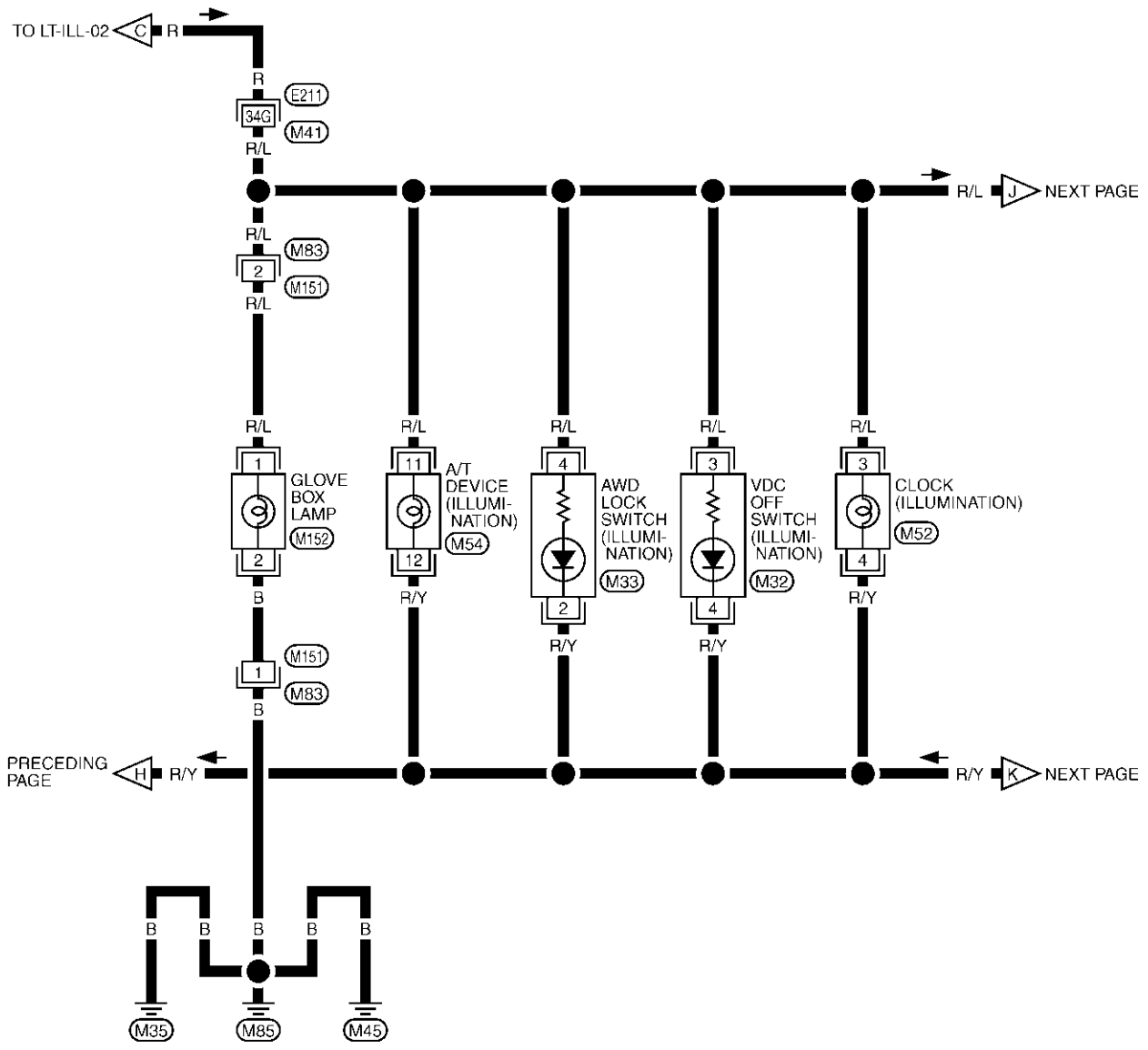
TKWM0675E



# ILLUMINATION

LT-ILL-05

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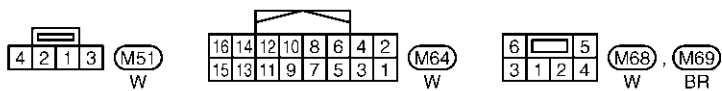
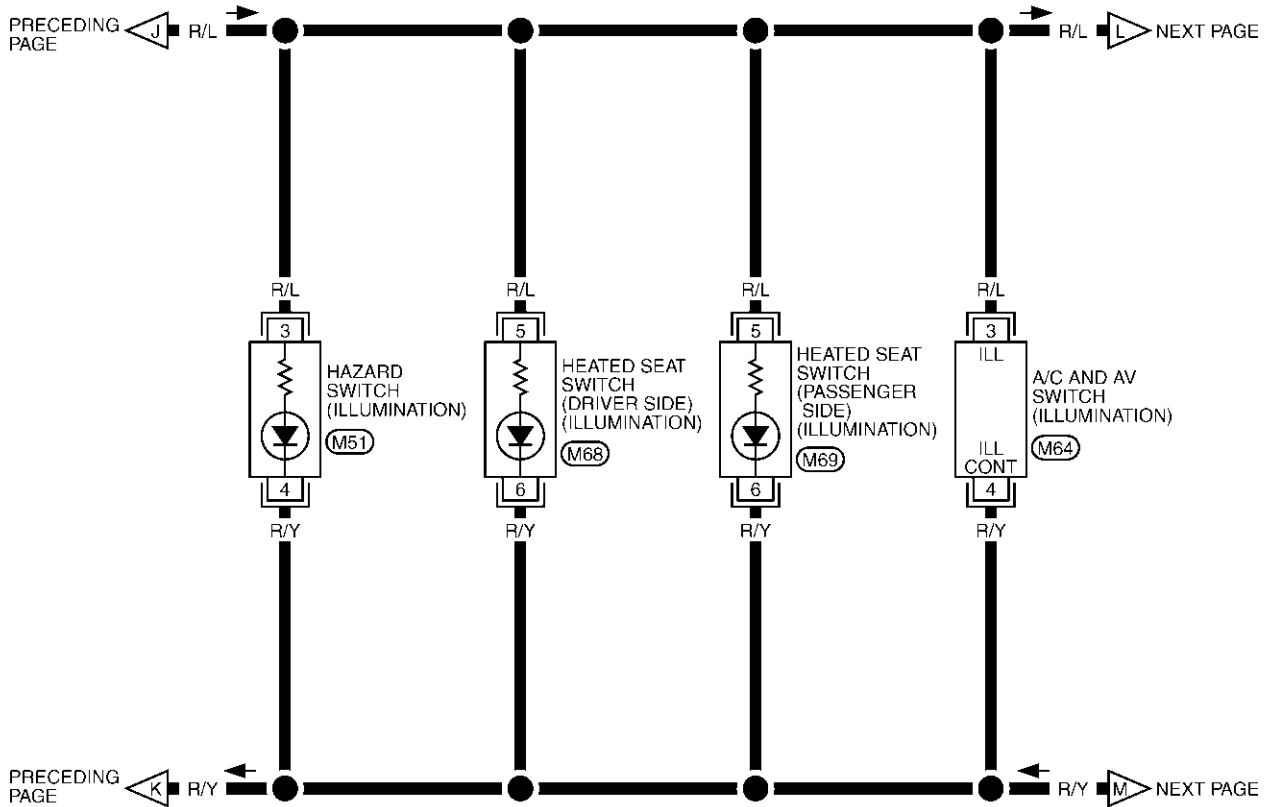


REFER TO THE FOLLOWING.  
 (E211) -SUPER MULTIPLE JUNCTION (SMJ)

TKWM0676E

# ILLUMINATION

LT-ILL-06

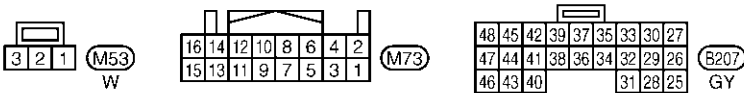
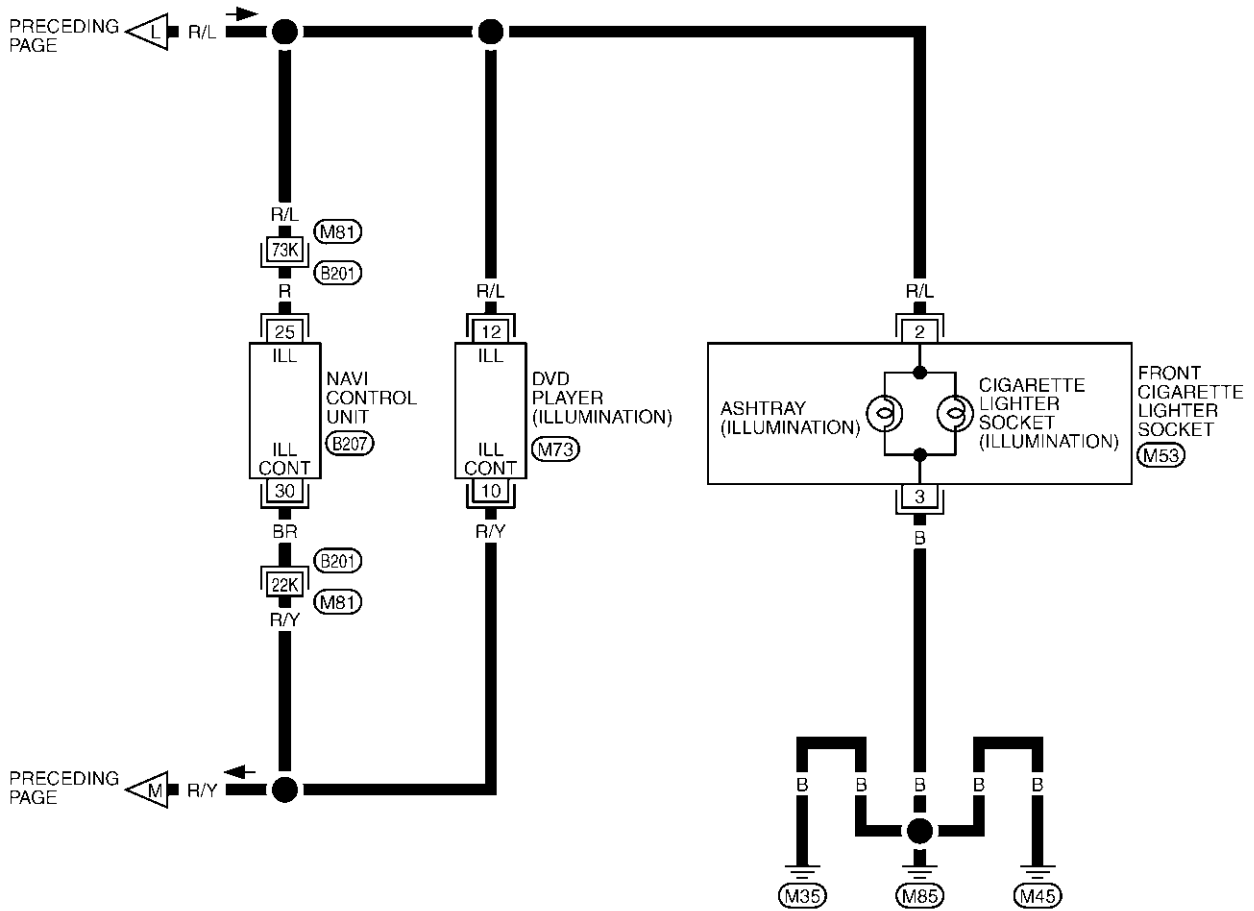


TKWM0677E

# ILLUMINATION

LT-ILL-07

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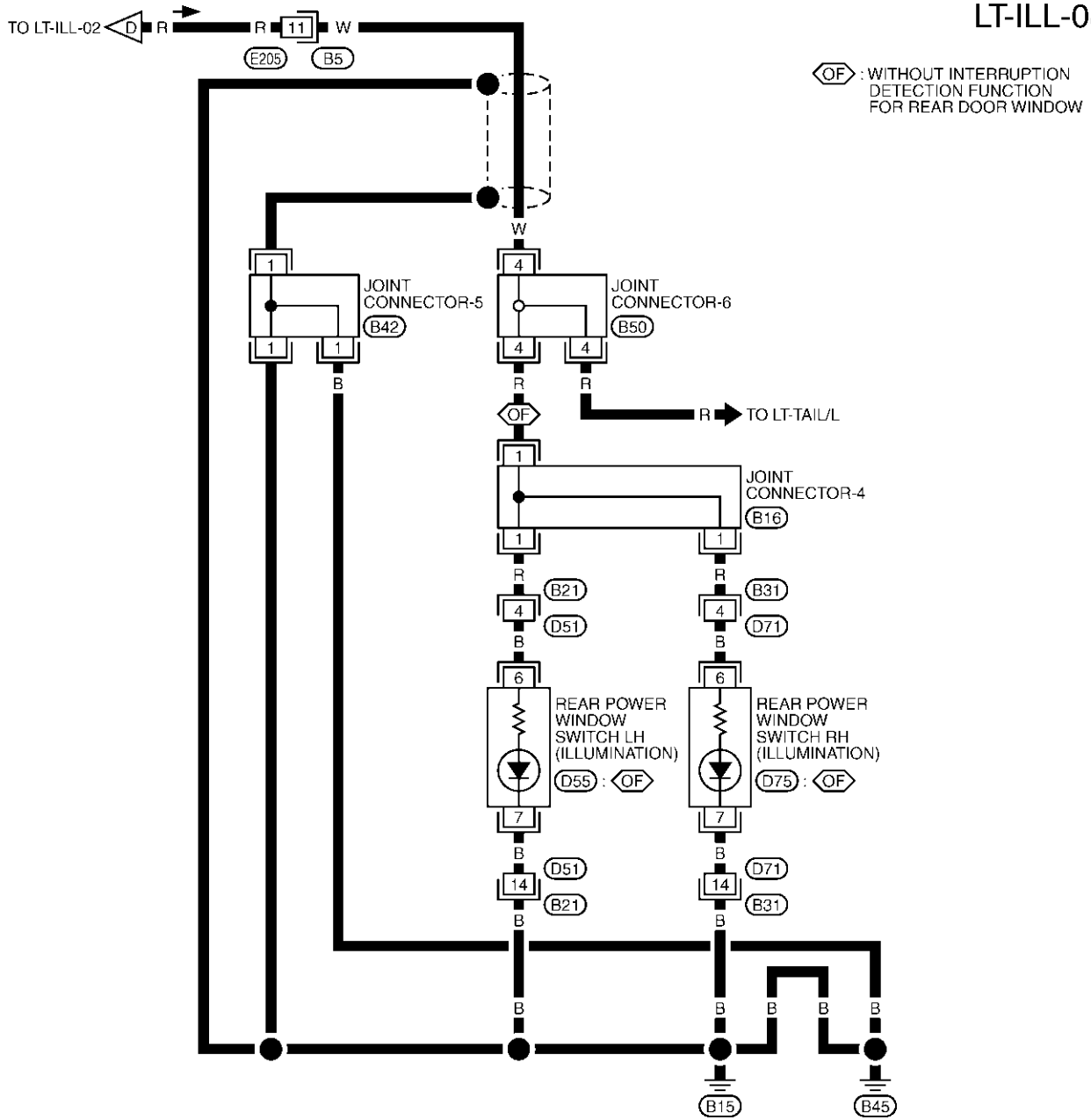


REFER TO THE FOLLOWING.  
 (B201) -SUPER MULTIPLE JUNCTION (SMJ)

TKWM1255E

# ILLUMINATION

LT-ILL-08



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

(B5)  
W

1	1	1	1	2	2	2	3	3	3
4	4	4	4	5	5	5	6	6	6

(B16)  
OR

(B42)  
OR

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18		

(B21), (B31)  
W

(B31)  
W

1	1	1	2	2	3	3	3	3
4	4	4	4	4	5	5	5	5

(B50)  
B

6	7
1	5

(D55), (D75)  
W

(D75)  
W

TKWM0679E

# ILLUMINATION

AKS007EN

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## Removal and Installation ILLUMINATION CONTROL SWITCH

A

Refer to [DI-30, "Removal and Installation of Odo/Trip Meter and Illumination Control Switch"](#) in "DI" section.

## GLOVE BOX LAMP

B

Refer to [LT-236, "Bulb Replacement, Removal and Installation"](#) .

## FRONT DOOR INSIDE ILLUMINATION

C

Refer to [EI-35, "Removal and Installation"](#) in "EI" section.

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# BULB SPECIFICATIONS

## BULB SPECIFICATIONS

PFP:26297

### Headlamp

AKS007EO

Item	Wattage (W)
High/Low (Xenon type)	35 (D2S)

### Exterior Lamp

AKS007EP

Item	Wattage (W)	
Front combination lamp	Front Turn signal lamp	21 (amber)
	Parking lamp	5
	Front side marker lamp	3.8
Rear combination lamp	Stop/Tail lamp	LED
	Rear Turn signal lamp	LED
	Rear side marker lamp	3.8
Front fog lamp	51 (HB4)	
Back-up lamp	18	
License plate lamp	5	
High-mounted stop lamp (back door mount)	LED	

### Interior Lamp/Illumination

AKS007EQ

Item	Wattage (W)
Map lamp	8
Room lamp	8
Personal lamp	8
Luggage room lamp	8
Step lamp	5
Glove box lamp	1.4
Vanity mirror lamp	2
Ignition key hole illumination	2
Front door inside handle illumination	LED
Console illumination lamp	1.4