SECTION LT
LIGHTING SYSTEM

CONTENTS

SERVICE INFORMATION

MODIFICATION NOTICE

Major Modification Item

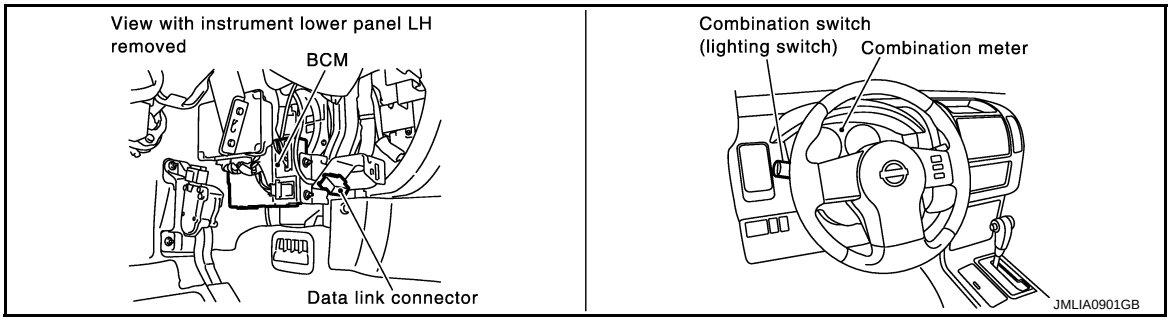
INFOID:0000000007739247

- Wiring diagram has been changed.
- Rear fog lamp has been added (For South Africa).

REAR FOG LAMP

Component Parts and Harness Connector Location

INFOID:0000000007734084



System Description

INFOID:0000000007734085

The control of the rear fog lamp is dependent upon the position of the lighting switch. The lighting switch must be in the 1ST position or 2ND position for rear fog lamp operation. When the lighting switch is placed in the rear fog lamp position the BCM (body control module) receives input signal requesting the rear fog lamp to illuminate.

OUTLINE

Power is supplied at all times
- through 50A fusible link (letter G, located in fuse and fusible link box)
- to BCM terminal 57,
- through 10A fuse [No. 22, located in fuse block (J/B)]
- to combination meter terminal 3.

With the ignition switch in the ON or START position, power is supplied
- through 10A fuse [No. 16, located in fuse block (J/B)]
- to BCM terminal 3,
- through 10A fuse [No. 14, located in fuse block (J/B)]
- to combination meter terminal 16.

Ground is supplied
- to BCM terminal 55 and
- to combination meter terminal 13 and 23
- through grounds M21 and M80.

REAR FOG LAMP OPERATION

The lighting switch must be in the 1ST position or 2ND position (LOW beam is ON) for rear fog lamp operation.
With the rear fog lamp switch in the ON position, the BCM directs power
- through BCM terminal 49
- to rear combination lamp RH terminal 5

Ground is supplied
- to rear combination lamp RH terminal 3
- through grounds E21 and E61.

With power and ground supplied, the rear fog lamp illuminates.
Combination meter that receives rear fog light request signal sent by BCM through the CAN communication makes a rear fog indicator lamp turn on in combination meter.

CAN Communication System Description

INFOID:0000000007740316

Refer to LAN-7, "CAN Communication Signal Chart".

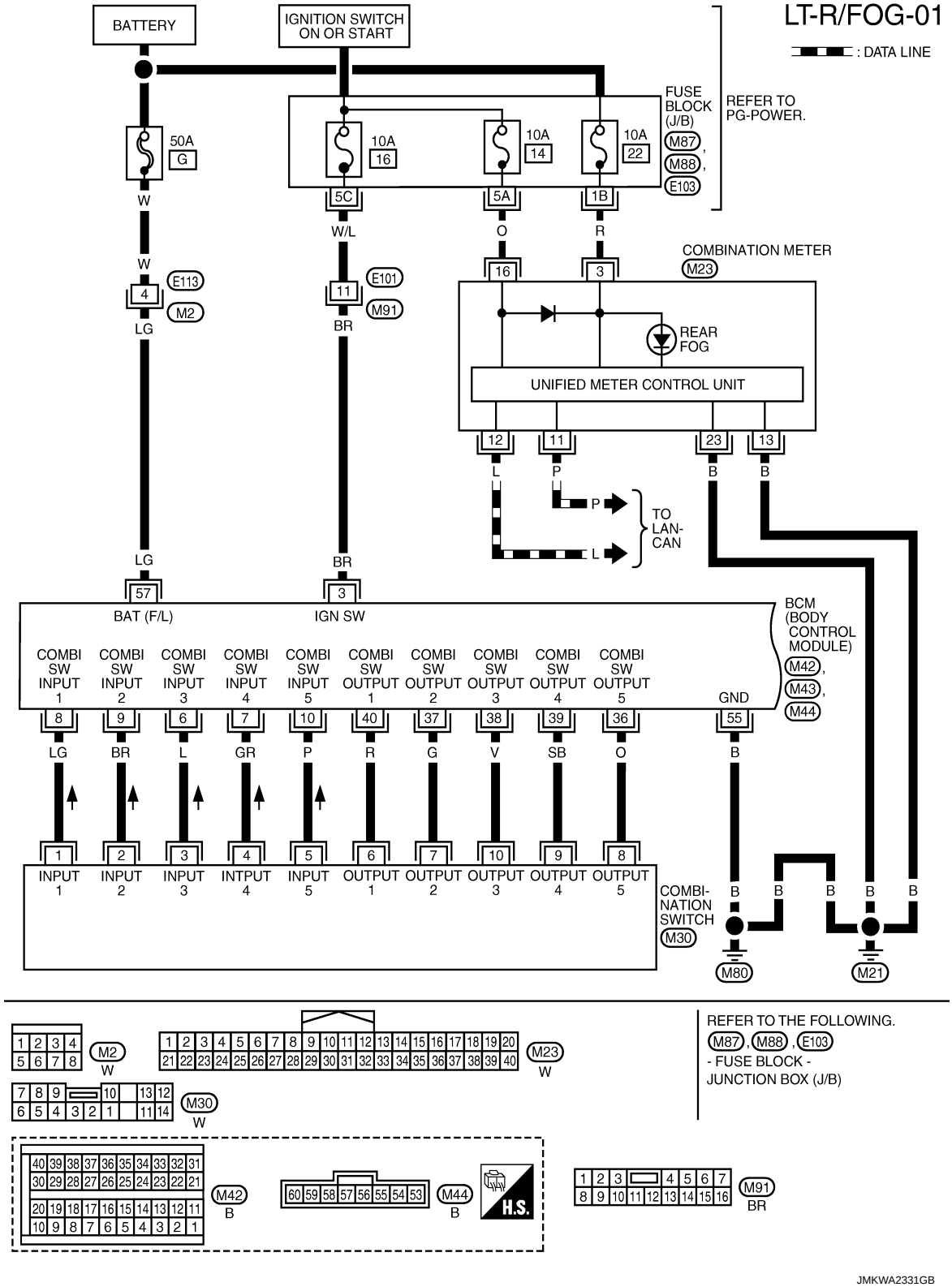
CAN Communication Unit

INFOID:0000000007740317

Refer to LAN-6, "CAN System Specification Chart".

Wiring Diagram - R/FOG -

INFOID:0000000007734088



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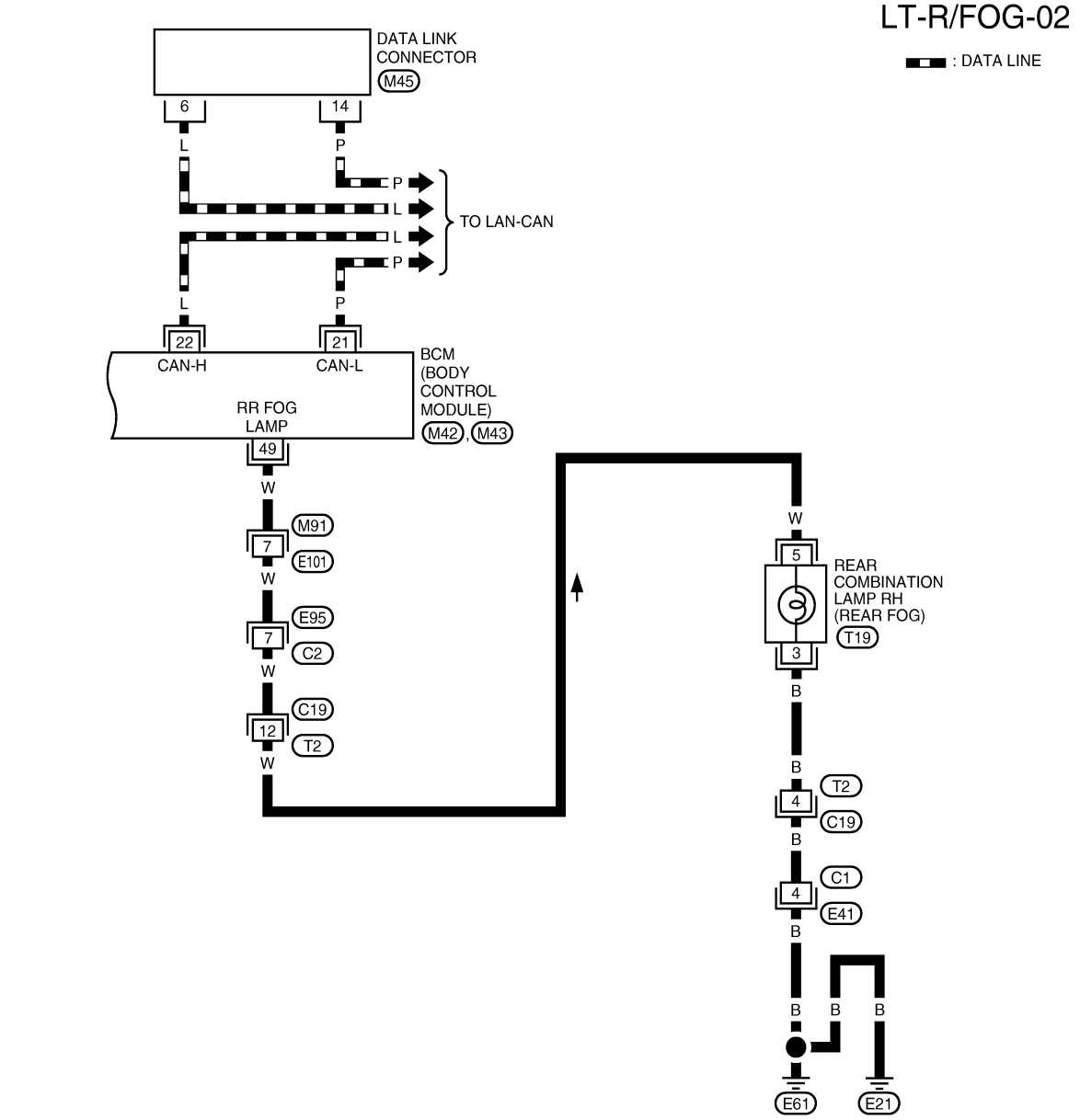
LT-R/FOG-02



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Terminal and Reference Value for BCM

INFOID:0000000007734089

Terminal No.	Wire color	Signal name	Measuring condition			Reference value
			Ignition switch	Operation or condition		
3	BR	Ignition switch (ON)	ON	—		Battery voltage
21	P	CAN- L	—	—		—
22	L	CAN- H	—	—		—
49	W	Rear fog lamp output	ON	Lighting switch (Rear fog lamp switch)	ON	Battery voltage
					OFF	Approx. 0 V
55	B	Ground	ON	—		Approx. 0 V
57	LG	Battery power supply (fusible link)	OFF	—		Battery voltage

How to Proceed with Trouble Diagnosis

INFOID:0000000007734090

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

Preliminary Check

INFOID:0000000007734091

CHECK POWER SUPPLY AND GROUND CIRCUIT

1.CHECK FUSES OR FUSIBLE LINK

Check for blown fuses or fusible link.

Unit	Power source	Fuse and fusible link No.
BCM	Battery	G
	Ignition switch ON or START position	16
Combination meter	Battery	22
	Ignition switch ON or START position	14

Refer to LT-4, "Wiring Diagram - R/FOG -".

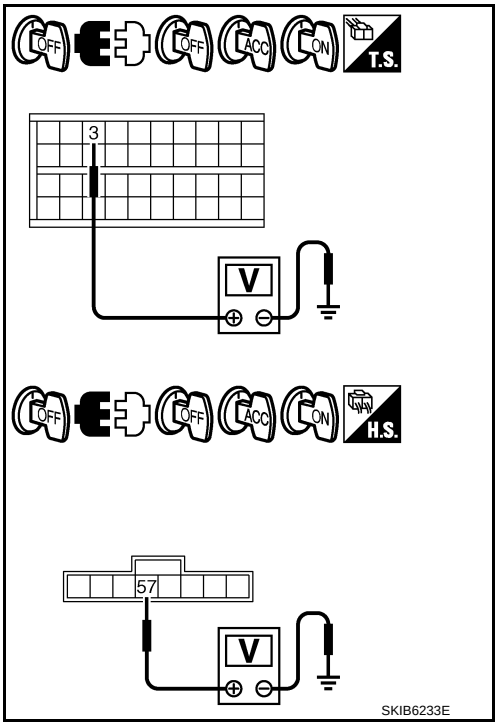
OK or NG

OK >> GO TO 2.
NO >> If fuse or fusible link is blown, be sure to eliminate cause of malfunction before installing new fuse or fusible link.

2.CHECK POWER SUPPLY CIRCUIT

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

Terminal			Ignition switch position		
(+)		(-)	OFF	ACC	ON
Connector	Terminal				
M42	3	Ground	Approx. 0 V	Approx. 0 V	Battery voltage
M44	57		Battery voltage	Battery voltage	Battery voltage



SKIB6233E

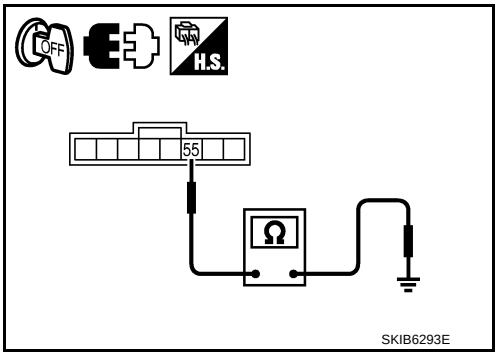
OK or NG

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

3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

Connector	Terminal	Ground	Continuity
M44	55		Existed



SKIB6293E

OK or NG

OK >> INSPECTION END
NG >> Repair or replace harness.

CONSULT-III Functions (BCM - HEAD LAMP)

INFOID:0000000007739474

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

Diagnosis mode	Description
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.
SELF-DIAG RESULTS	BCM performs self-diagnosis of CAN communication.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.

WORK SUPPORT

Work Support Setting Item

Work item	Description
CUSTOM A/LIGHT SETTING NOTE 1	—
HEAD LIGHT TIMER	Friendly lighting function headlamp OFF timer period can be changed in this time. Selects friendly lighting function headlamp OFF timer period two modes. • MODE 1 (10sec.)/ MODE 2 (30sec.)NOTE 2

NOTE:

1. This item is indicated, but not operated.
2. Factory setting

DATA MONITOR

Display Item List

Monitor item		Contents
IGN ON SW	“On/Off”	Displays status (ignition switch IGN position: ON/other: OFF) of ignition switch judged from the ignition switch signal.
ACC ON SW	“On/Off”	Displays status (ignition switch ACC or IGN position: ON/other: OFF) of ignition switch judged from the ignition switch signal.
HI BEAM SW	“On/Off”	Displays status (lighting switch high beam position: ON/other: OFF) of high beam switch judged from the lighting switch signal.
HEAD LAMP SW 1	“On/Off”	Displays status (lighting switch 2ND position: ON/other: OFF) of headlamp 1 switch judged from the lighting switch signal.
HEAD LAMP SW 2	“On/Off”	Displays status (lighting switch 2ND position: ON/other: OFF) of headlamp 2 switch judged from the lighting switch signal.
LIGHT SW 1ST	“On/Off”	Displays status (lighting switch 1ST or 2ND position: ON/other: OFF) of lighting switch 1ST position switch judged from the lighting switch signal.
AUTO LIGHT SW[NOTE]	“On/Off”	—
PASSING SW	“On/Off”	Displays status (lighting switch passing position: ON/other: OFF) of passing switch judged from the lighting switch signal.
FR FOG SW	“On/Off”	Displays status (lighting switch front fog lamp ON position: ON/others: OFF) of front fog lamp switch judged from the lighting switch signal.
RR FOG SW	“On/Off”	Displays status (rear fog lamp switch position: ON/other: OFF) of rear fog switch judged from the lighting switch signal.
DOOR SW - DR	“On/Off”	Displays status (door is open: ON/door is closed: OFF) of driver side door switch judged from the driver side door switch signal.
DOOR SW - AS	“On/Off”	Displays status (door is open: ON/door is closed: OFF) of passenger side door switch judged from the passenger side door switch signal.
DOOR SW - RR	“On/Off”	Displays status (door is open: ON/door is closed: OFF) of rear door switch (RH) judged from the rear door switch (RH) signal.
DOOR SW - RL	“On/Off”	Displays status (door is open: ON/door is closed: OFF) of rear door switch (LH) judged from the rear door switch (LH) signal.
BACK DOOR SW[NOTE]	“Off”	—
TURN SIGNAL R	“On/Off”	Displays status (turn signal switch right position: ON/other: OFF) of turn RH switch judged from the turn signal switch signal.
TURN SIGNAL L	“On/Off”	Displays status (turn signal switch left position: ON/other: OFF) of turn LH switch judged from the turn signal switch signal.
CARGO LAMP SW[NOTE]	“Off”	—
HD LIGHT TIMER	“10 Sec./ 30 Sec.”	Displays status (MODE 1: 10 sec./ MODE 2: 30 sec.) of head light timer.
LIT-SEN FAIL[NOTE]	“OK”	—
AUT LIGHT SYS[NOTE]	“Off”	—

NOTE:

This item is displayed, but cannot be monitored.

ACTIVE TEST

Display Item List

Test item	Description
TAIL LAMP	Allows tail lamp relay to operate by switching ON–OFF.
HEAD LAMP (HI, LO)	Allows headlamp relay to operate by switching ON–OFF.
RR FOG LAMP	Allows rear fog lamp to operate by switching ON–OFF.
FR FOG LAMP	Allows front fog lamp relay to operate by switching ON–OFF.

NOTE:

This item is displayed, but cannot be monitored.

Rear Fog Lamp Does Not Operate

INFOID:0000000007734093

1.CHECK BULB

Check bulb standard of rear fog lamp is correct.

OK or NG

OK >> GO TO 2.
NG >> Replace rear fog lamp bulb.

2.CHECK CIRCUITS BETWEEN COMBINATION SWITCH AND BCM (1)

CONSULT-III DATA MONITOR

1. Select “RR FOG SW” of BCM (HEAD LAMP) data monitor item.
2. With operating the rear fog lamp switch, check the monitor status.

When rear fog lamp switch is ON : RR FOG SW ON

OK or NG

OK >> GO TO 3.
NG >> Check rear fog lamp switch.

3.CHECK CIRCUITS BETWEEN COMBINATION SWITCH AND BCM (2)

CONSULT-III ACTIVE TEST

1. Select “RR FOG LAMP” of BCM (HEAD LAMP) active test item.
2. With operating the test item, check rear fog lamp operation.

Rear fog lamp should operate.

OK or NG

OK >> Replace BCM.
NG >> GO TO 4.

4.CHECK CIRCUITS BETWEEN BCM AND REAR FOG LAMP(1)

CONSULT-III ACTIVE TEST

1. Turn ignition switch OFF.
2. Disconnect rear combination lamp connector.
3. Select “RR FOG LAMP” of BCM (HEAD LAMP) active test item
4. With operating the test item, check voltage between rear combination lamp harness connector and ground.

Terminal			Voltage
(+)		(-)	
Rear combination lamp connector	Terminal		
T19	5	Ground	Battery voltage

WITHOUT CONSULT-III

1. Turn ignition switch OFF.
2. Disconnect rear fog lamp connector.
3. Turn ignition switch ON.

4. Set rear fog lamp switch in ON position.
5. Check voltage between rear combination lamp harness connector and ground.

Terminal			Voltage
(+)		(-)	
Rear combination lamp connector	Terminal		
T19	5	Ground	Battery voltage

OK or NG

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

5.CHECK CIRCUIT BETWEEN IPDM E/R AND REAR FOG LAMP (2)

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between BCM harness connector and rear combination lamp harness connector.

BCM		Rear combination lamp connector		Continuity
Connector	Terminal	Connector	Terminal	
M43	49	T19	5	Existed

4. Check harness continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M43	49		Not existed

OK or NG

OK >> Replace BCM.
NG >> Repair or replace harness.

6.CHECK CIRCUIT BETWEEN REAR COMBINATION LAMP AND GROUND

1. Turn ignition switch OFF.
2. Check continuity between rear combination lamp harness connector and ground.

Rear combination lamp connector	Terminal	Ground	Continuity
T19	3		Existed

OK or NG

OK >> Check connector for connection, bend and loose fit.
NG >> Repair or replace harness.

Rear Fog Lamp Indicator Lamp Does Not Illuminate

INFOID:0000000007734094

1.CHECK CAN COMMUNICATION

1. Select ”BCM” on CONSULT-III. Select “BCM” on “SELECT TEST ITEM” screen.
2. Select ”SELF-DIAG RESULTS” on “SELECT DIAG MODE” screen.

Display of self-diagnostic results

NO DTC>> Replace combination meter.
CAN COMM CIRCUIT>> Refer to LAN-6, "CAN System Specification Chart".

Rear Fog Lamp Does Not Turn OFF

INFOID:0000000007734095

1. CHECK CIRCUIT BETWEEN COMBINATION SWITCH AND BCM

CONSULT-III DATA MONITOR
1. Turn rear fog lamp switch OFF.
2. Select “RR FOG SW” of BCM (HEAD LAMP) data monitor item.
3. With operating the rear fog lamp switch, check the monitor status.

When rear fog lamp switch is OFF	**: RR FOG SW OFF**

OK or NG

OK >> Replace BCM.
NG >> Inspect rear fog lamp switch.

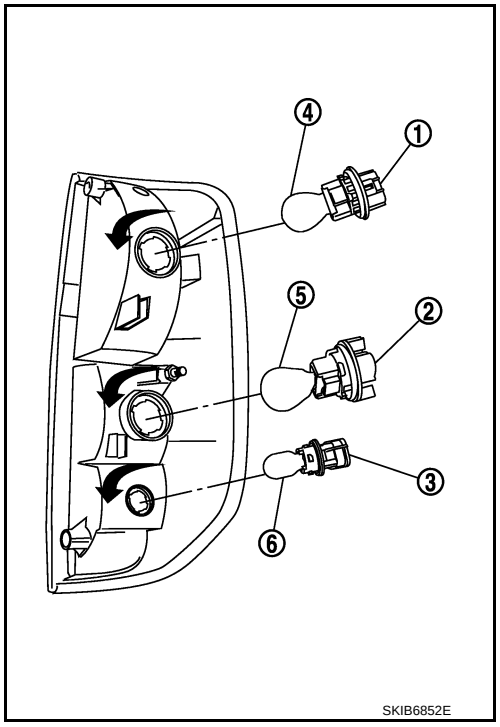
Bulb Replacement

INFOID:0000000007742317

REMOVAL

1. Remove rear combination lamp. Refer to LT-11, "Removal and Installation".
2. Turn bulb socket (1), (2) and (3) counterclockwise and unlock it.
3. Remove bulb (4), (5) and (6).

Stop / tail lamp	**: 12V - 21/ 5W**
Rear turn signal lamp	**: 12V - 21W**
Buck up lamp (or rear fog lamp)	**: 12V - 16W (21W)**



INSTALLATION

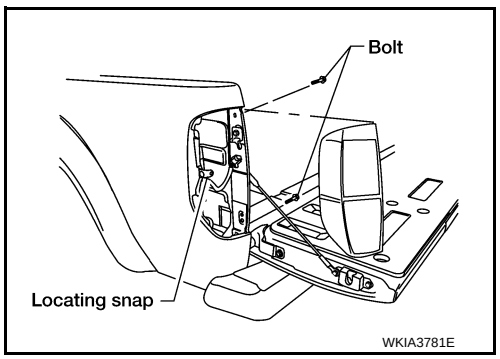
Installation is the reverse order of removal.

Removal and Installation

INFOID:0000000007742318

REMOVAL

1. Remove rear combination lamp mounting bolts.
2. Pull rear combination lamp to remove from the vehicle.
3. Disconnect rear combination lamp connector.



INSTALLATION

Installation is the reverse order of removal.

TURN SIGNAL AND HAZARD WARNING LAMPS

System Description

INFOID:0000000007733992

OUTLINE

Power is supplied at all times
- through 50A fusible link (letter G, located in fuse and fusible link box)
- to BCM (body control module) terminal 57,
- through 10A fuse [No. 21, located in fuse block (J/B)]
- to combination meter terminal 41.

When the ignition switch is in the ON or START position, power is supplied
- through 10A fuse [No. 16, located in fuse block (J/B)]
- to BCM terminal 3,
- through 10A fuse [No. 14, located in fuse block (J/B)]
- to combination meter terminal 16.

Ground is supplied
- to BCM terminal 55 and
- to combination meter terminal 13 and 23
- through grounds M21and M80.

TURN SIGNAL OPERATION

LH Turn

When the turn signal switch is moved to the left position, BCM receives input signal requesting left turn signals to flash.
BCM then supplies power
- through BCM terminal 47
- to front turn signal lamp LH terminal 1
- to side turn signal lamp LH terminal 1 and
- to rear combination lamp LH terminal 2.

Ground is supplied
- to front turn signal lamp LH terminal 2
- to rear combination lamp LH terminal 3 (except for A-chassis and for South Africa) or 6 (A-chassis models)
- through grounds E21 and E61.
- to side turn signal lamp LH terminal 2
- through grounds E21 and E61.

With power and input supplied, BCM controls flashing of LH turn signal lamps.
The BCM also supplies input to combination meter through the CAN communication. This input is processed by unified meter control unit in combination meter, which in turn supplies ground to the left turn signal indicator lamp.

RH Turn

When the turn signal switch is moved to the right position, BCM receives input signal requesting right turn signals to flash.
BCM then supplies power
- through BCM terminal 48
- to front turn signal lamp RH terminal 1
- to side turn signal lamp RH terminal 1 and
- to rear combination lamp RH terminal 2.

Ground is supplied
- to front turn signal lamp RH terminal 2
- to rear combination lamp RH terminal 3 (except for A-chassis and for South Africa) or 6 (A-chassis models)
- to side turn signal lamp RH terminal 2
- through grounds E21and E61.

With power and input supplied, BCM controls flashing of RH turn signal lamps.
The BCM also supplies input to combination meter through the CAN communication. This input is processed by unified meter control unit in combination meter, which in turn supplies ground to the right turn signal indicator lamp.

HAZARD LAMP OPERATION

Power is supplied at all times
- through 50A fusible link (letter G, located in fuse and fusible link box)

- to BCM terminal 57,
- through 10A fuse [No. 22, located in fuse block (J/B)]
- to combination meter terminal 3.

Ground is supplied
- to BCM terminal 55
- to combination meter terminal 13 and 23
- through grounds M21and M80.

When the hazard switch is depressed, ground is supplied
- to BCM terminal 33
- through hazard switch terminal 2
- through hazard switch terminal 1
- through grounds M21and M80.

When the hazard switch is depressed, BCM receives input signal requesting turn signals to flash.
BCM then supplies power
- through BCM terminal 47
- to front turn signal lamp LH terminal 1
- to side turn signal lamp LH terminal 1 and
- to rear combination lamp LH terminal 2.
- through BCM terminal 48
- to front turn signal lamp RH terminal 1
- to side turn signal lamp RH terminal 1 and
- to rear combination lamp RH terminal 2.

Ground is supplied
- to front turn signal lamp RH and LH terminals 2
- to rear combination lamp RH and LH terminals 3 (except for A-chassis and for South Africa) or 6 (A-chassis models)
- to side turn signal lamp RH and LH terminal 2
- through ground E21 and E61.

With power and input supplied, BCM controls flashing of hazard warning lamps.
The BCM also supplies input to combination meter through the CAN communication. This input is processed by unified meter control unit in combination meter, which in turn supplies ground to the left and right turn signal indicator lamps.

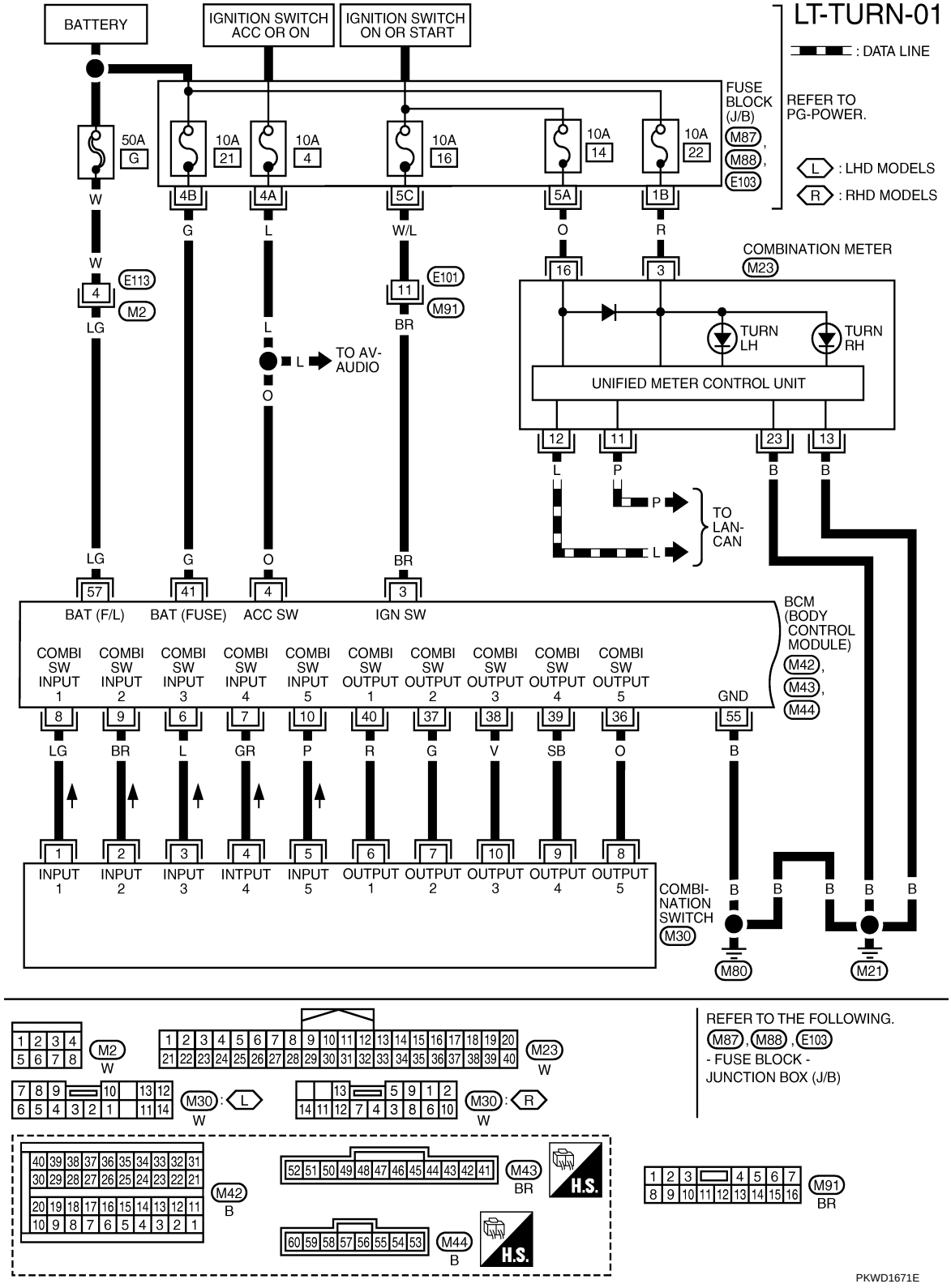
COMBINATION SWITCH READING FUNCTION

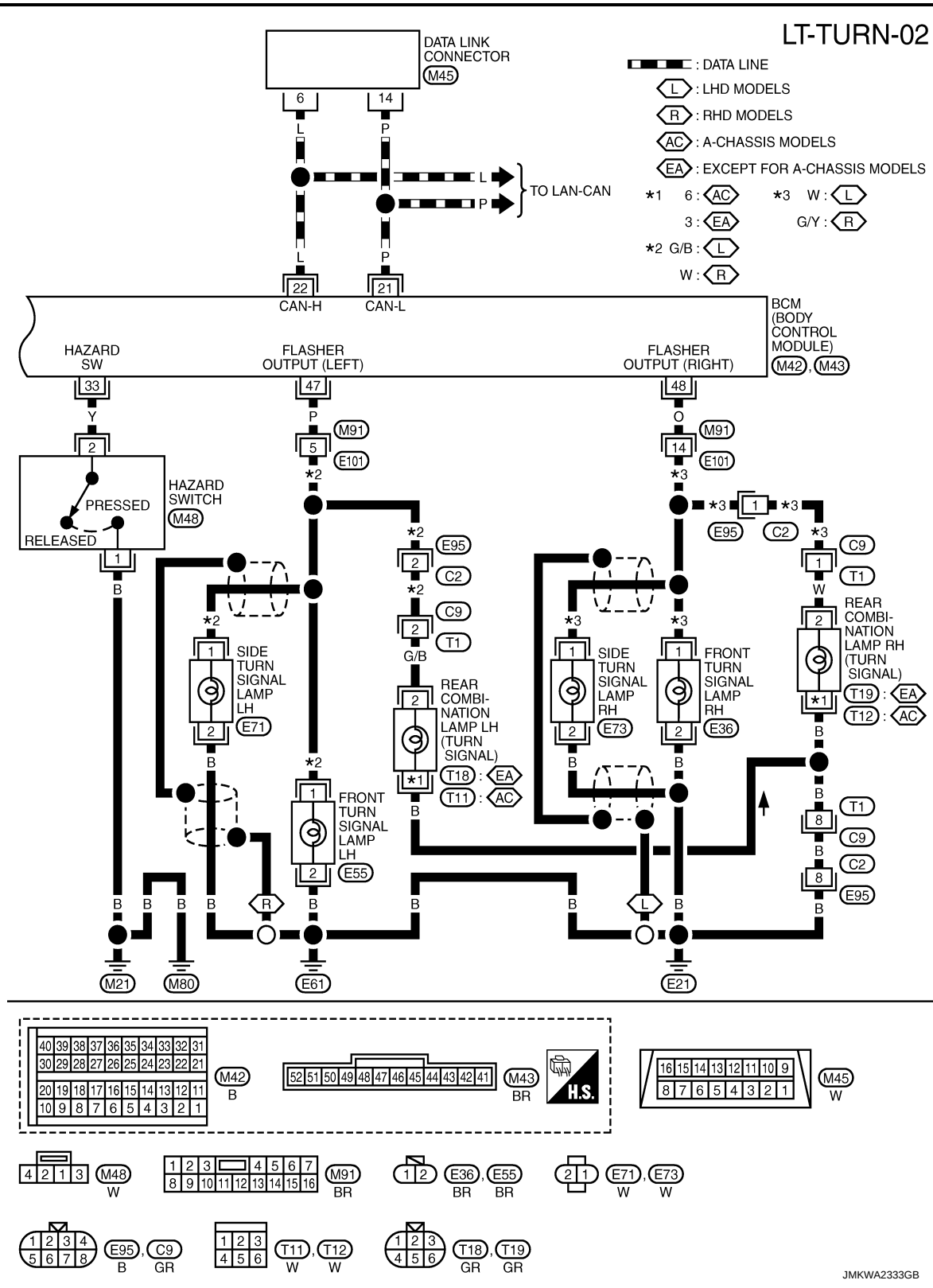
Refer to BCS-3, "System Description".

Wiring Diagram - TURN -

INFOID:0000000007733995

Except For South Africa




LT-TURN-02
DATA LINK CONNECTOR
M45
: DATA LINE
L : LHD MODELS
R : RHD MODELS
AC : A-CHASSIS MODELS
EA : EXCEPT FOR A-CHASSIS MODELS
*1 6 : AC
3 : EA
*2 G/B : L
W : R
*3 W : L
G/Y : R
TO LAN-CAN
CAN-H
CAN-L
BCM (BODY CONTROL MODULE)
M42, M43
HAZARD SW
FLASHER OUTPUT (LEFT)
FLASHER OUTPUT (RIGHT)
HAZARD SWITCH
M48
PRESSED
RELEASED
SIDE TURN SIGNAL LAMP LH
E71
FRONT TURN SIGNAL LAMP LH
E55
REAR COMBI-NATION LAMP LH (TURN SIGNAL)
T18 : EA
T11 : AC
SIDE TURN SIGNAL LAMP RH
E73
FRONT TURN SIGNAL LAMP RH
E36
REAR COMBI-NATION LAMP RH (TURN SIGNAL)
T19 : EA
T12 : AC
M21
M80
E61
E21
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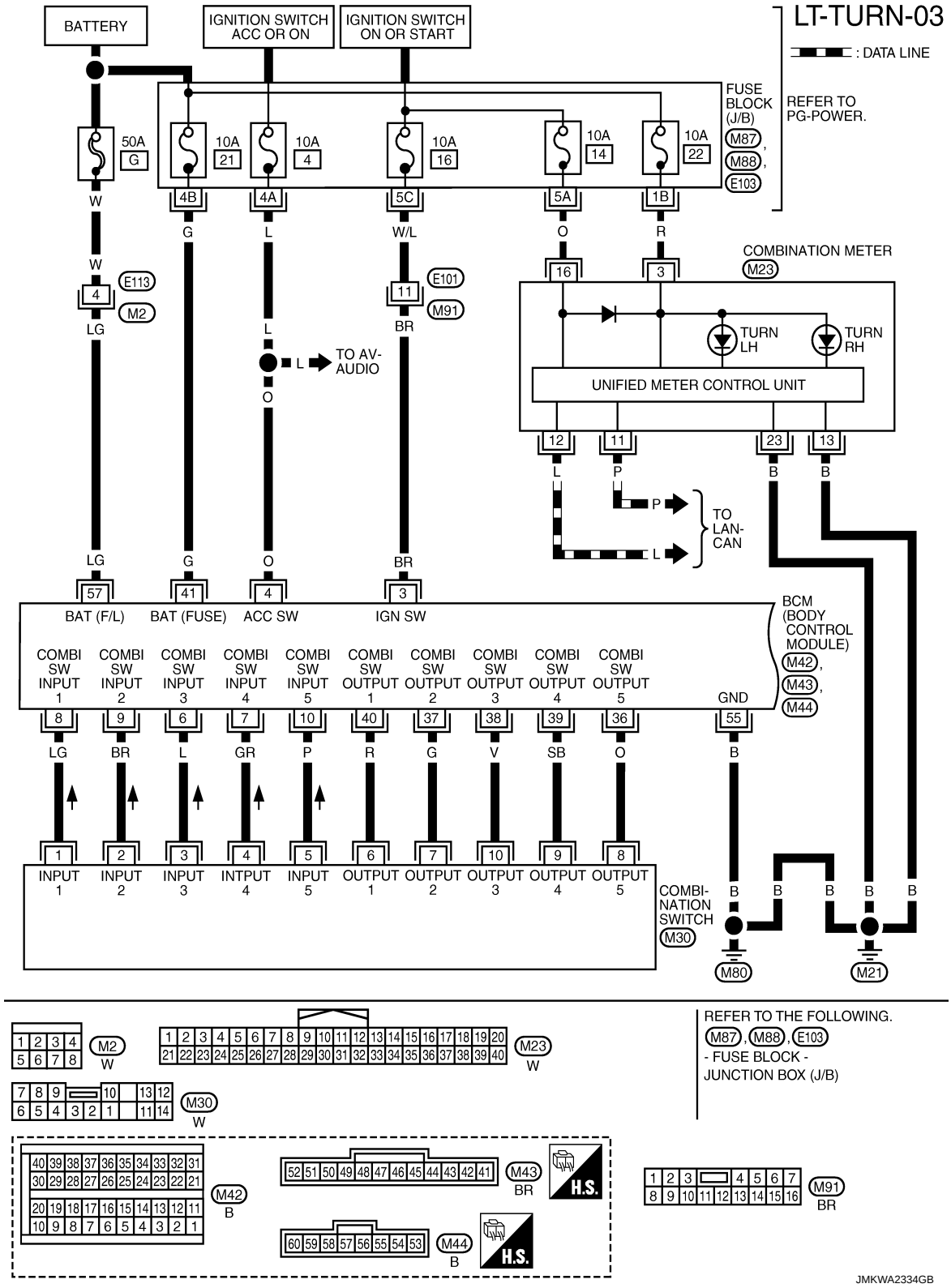
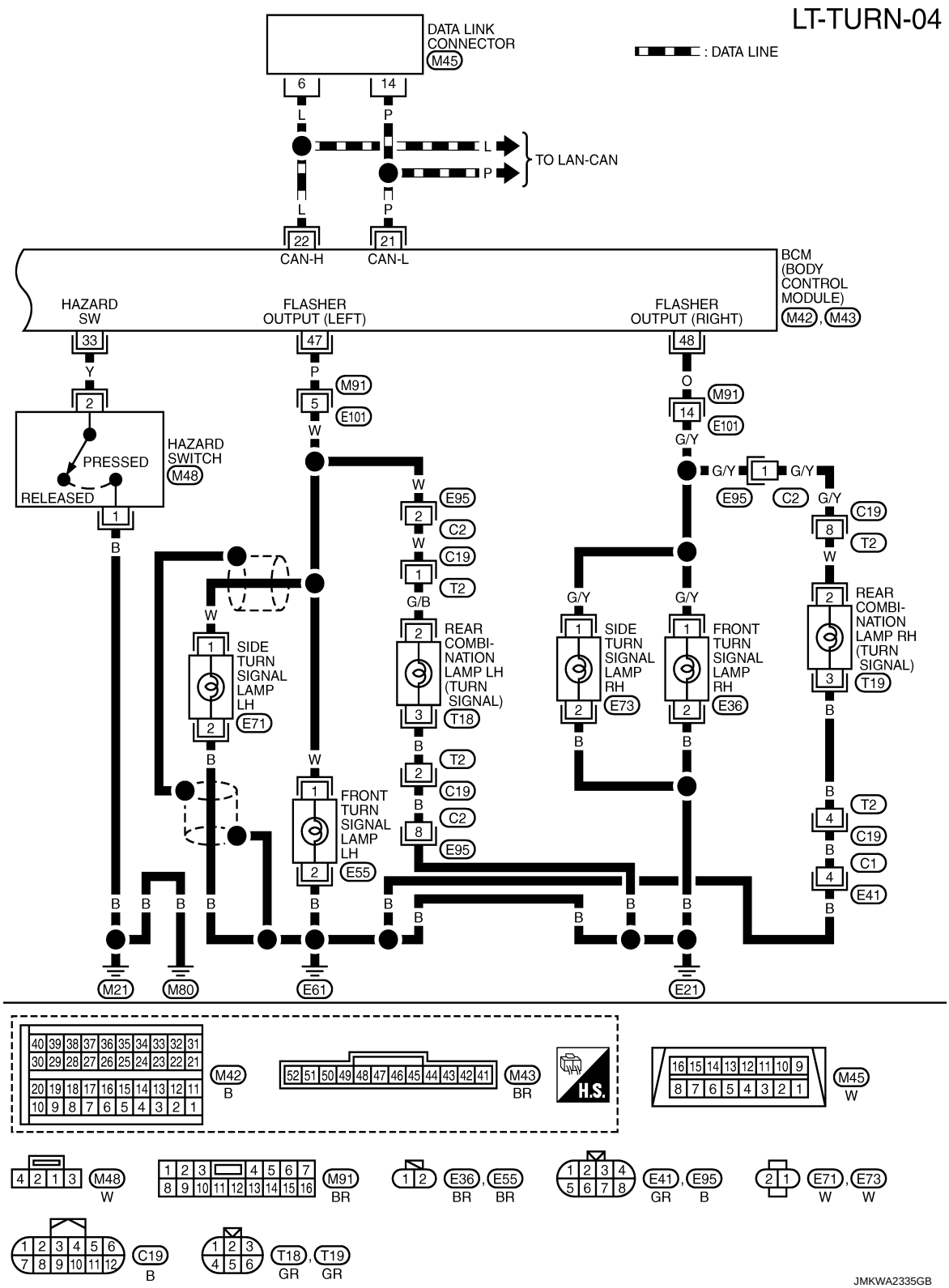
For South Africa





How to Proceed with Trouble Diagnosis

INFOID:0000000007733997

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to LT-12, "System Description".
3. Perform preliminary check. Refer to LT-18, "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

Preliminary Check

INFOID:0000000007733998

CHECK POWER SUPPLY AND GROUND CIRCUIT

1.CHECK FUSES OR FUSIBLE LINK

Check for blown fuses or fusible link.

Unit	Power source	Fuse and fusible link No.
BCM	Battery	G
	Ignition switch ON or START position	16
Combination meter	Battery	22
	Ignition switch ON or START position	14

Refer to LT-14, "Wiring Diagram - TURN -".

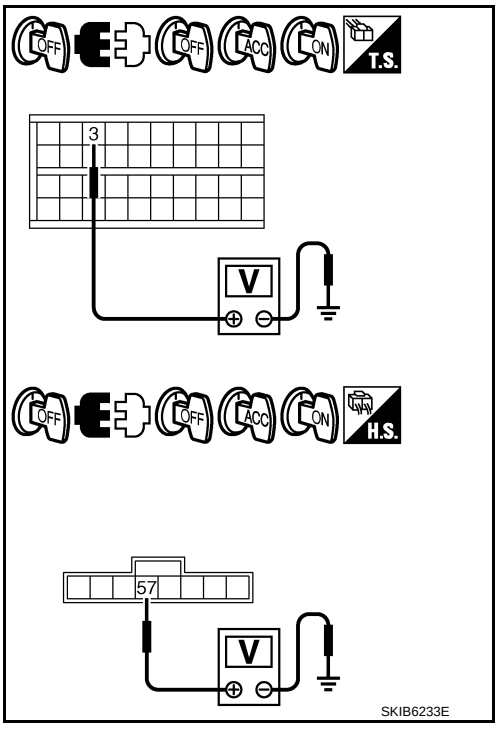
OK or NG

OK >> GO TO 2.
NG >> If fuse or fusible link is blown, be sure to eliminate cause of malfunction before installing new fuse or fusible link.

2.CHECK POWER SUPPLY CIRCUIT

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

Terminal			Ignition switch position		
(+)		(-)	OFF	ACC	ON
BCM connector	Terminal				
M42	3	Ground	Approx. 0 V	Approx. 0 V	Battery voltage
M44	57		Battery voltage	Battery voltage	Battery voltage



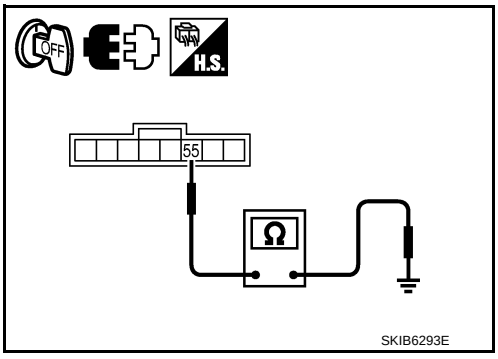
OK or NG

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

3.CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BCM connector	Terminal	Ground	Continuity
M44	55		Existed



OK or NG

OK >> INSPECTION END
NG >> Repair or replace harness.

Turn Signal Lamp Does Not Operate

INFOID:0000000007734000

1.CHECK BULB

Check bulb standard of each turn signal lamp is correct.

OK or NG

OK >> GO TO 2.
NG >> Replace turn signal lamp bulb.

2.CHECK COMBINATION SWITCH INPUT SIGNAL

CONSULT-III DATA MONITOR
1. Select “TURN SIGNAL R” and “TURN SIGNAL L” of BCM (FLASHER) data monitor item.
2. With operating the lighting switch, check the monitor status.

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

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

OK or NG

OK >> GO TO 3.
NG >> Check combination switch (lighting switch).

3.ACTIVE TEST

CONSULT-III ACTIVE TEST
1. Select “FLASHER” of BCM (FLASHER) active test item.
2. With operating the test item, check the turn signal lamps operation.

Turn signal lamps should operate.

OK or NG

OK >> Replace BCM.
NG >> GO TO 4.

4.CHECK TURN SIGNAL LAMP CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector, front turn signal lamp (RH and LH) connector, side turn signal lamp (RH and LH) and rear combination lamp (RH and LH) connector.
3. Check continuity between BCM harness connector and front turn signal lamp (RH and LH) harness connector.

Circuit	BCM		Front turn signal lamp		Continuity
	Connector	Terminal	Connector	Terminal	
RH	M43	48	E36	1	Existed
LH		47	E55		

4. Check continuity between BCM harness connector and side turn signal lamp (RH and LH) harness connector.

Circuit	BCM		Side turn signal lamp		Continuity
	Connector	Terminal	Connector	Terminal	
RH	M43	48	E73	1	Existed
LH		47	E71		

5. Check continuity between BCM harness connector and rear combination lamp (RH and LH) harness connector.

Circuit	BCM		Rear combination lamp		Continuity
	Connector	Terminal	Connector	Terminal	
RH	M43	48	T19	2	Existed
LH		47	T18		

OK or NG

OK >> GO TO 5.
NG >> Repair or replace harness.

5. CHECK TURN SIGNAL LAMP CIRCUIT (SHORT CIRCUIT)

Check continuity between BCM harness connector and ground.

BCM connector		Terminal	Ground	Continuity
RH	M43	48		Not existed
LH		47		

OK or NG

OK >> GO TO 6.
NG >> Repair or replace harness.

6. CHECK TURN SIGNAL LAMP GROUND CIRCUIT

1. Check continuity between front turn signal lamp (RH and LH) harness connector and ground.

Circuit	Front turn signal lamp		–	Continuity
	Connector	Terminal		
RH	E36	2	Ground	Existed
LH	E55			

2. Check continuity between side turn signal lamp (RH and LH) harness connector and ground.

Circuit	Side turn signal lamp		–	Continuity
	Connector	Terminal		
RH	E73	2	Ground	Existed
LH	E71			

3. Check continuity between rear combination lamp (RH and LH) harness connector and ground.

Except for A-chassis models and for South Africa

Circuit	Rear combination lamp		–	Continuity
	Connector	Terminal		
RH	T19	3	Ground	Existed
LH	T18			

For A-chassis models

Circuit	Rear combination lamp		–	Continuity
	Connector	Terminal		
RH	T19	6	Ground	Existed
LH	T18			

OK or NG

OK >> Replace BCM if turn signal lamp does not work after setting the connector again.
NG >> Repair or replace harness.

Hazard Warning Lamp Does Not Operate But Turn Signal Lamp Operates

INFOID:0000000007734001

1. CHECK HAZARD SWITCH INPUT SIGNAL

CONSULT-III DATA MONITOR
1. Select “HAZARD SW” of BCM (FLASHER) data monitor item.
2. With operating the hazard switch, check the monitor status.

When hazard switch is in ON position : HAZARD SW ON

CHECK HAZARD SWITCH INPUT SIGNAL
Check voltage between BCM harness connector and ground.

Terminal			Condition	Voltage
(+)		(-)		
Connector	Terminal			
M42	33	Ground	Hazard switch is pressed	Approx. 0 V
			Hazard switch is released	Approx. 5 V

OK or NG

OK >> Replace BCM.
NG >> GO TO 2.

2. CHECK HAZARD SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and hazard switch connector.
3. Check continuity between BCM harness connector and hazard switch harness connector.

BCM		Hazard switch		Continuity
Connector	Terminal	Connector	Terminal	
M42	33	M48	2	Existed

OK or NG

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

3. CHECK GROUND CIRCUIT

Check continuity between hazard switch harness connector and ground.

Hazard switch connector	Terminal	Ground	Continuity
M48	1		Existed

OK or NG

OK >> GO TO 4.
NG >> Repair or replace harness.

4. CHECK HAZARD SWITCH

Check continuity of hazard switch.

Hazard switch		Condition	Continuity
Terminal			
1	2	Hazard switch is pressed	Existed
		Hazard switch is released	Not existed

OK or NG

OK >> Replace BCM if turn signal lamps do not work after setting the connector again.
NG >> Replace hazard switch.

COMBINATION SWITCH

Combination Switch Reading Function

INFOID:0000000007739504

Refer to BCS-3, "System Description".

CONSULT-III Function (BCM - COMB SW)

INFOID:0000000007739506

CONSULT-III can display each diagnostic item using the diagnostic test mode shown following.

Diagnostic mode	Description
DATA MONITOR	Displays BCM input/output data in real time.

DATA MONITOR

Display Item List

Monitor item		Contents
TURN SIGNAL R	“On/Off”	Displays status (turn signal switch right position: ON/other: OFF) of turn RH switch judged from the turn signal switch signal.
TURN SIGNAL L	“On/Off”	Displays status (turn signal switch left position: ON/other: OFF) of turn LH switch judged from the turn signal switch signal.
HI BEAM SW	“On/Off”	Displays status (lighting switch high beam position: ON/other: OFF) of high beam switch judged from the lighting switch signal.
HEAD LAMP SW 1	“On/Off”	Displays status (lighting switch 2ND position: ON/other: OFF) of headlamp 1 switch judged from the lighting switch signal.
HEAD LAMP SW 2	“On/Off”	Displays status (lighting switch 2ND position: ON/other: OFF) of headlamp 2 switch judged from the lighting switch signal.
LIGHT SW 1ST	“On/Off”	Displays status (lighting switch 1ST or 2ND position: ON/other: OFF) of lighting switch 1ST position switch judged from the lighting switch signal.
PASSING SW	“On/Off”	Displays status (lighting switch passing position: ON/other: OFF) of passing switch judged from the lighting switch signal.
AUTO LIGHT SW[NOTE]	“Off”	—
FR FOG SW	“On/Off”	Displays status (lighting switch front fog lamp ON position: ON/others: OFF) of front fog lamp switch judged from the lighting switch signal.
RR FOG SW	“On/Off”	Displays status (rear fog lamp switch position: ON/other: OFF) of rear fog switch judged from the lighting switch signal.
FR WIPER HI	“On/Off”	Displays status (front wiper switch high position: ON/other: OFF) of front wiper high switch judged from the wiper switch signal.
FR WIPER LOW	“On/Off”	Displays status (front wiper switch low position: ON/other: OFF) of front wiper low switch judged from the wiper switch signal.
FR WIPER INT	“On/Off”	Displays status (front wiper switch intermittent position: ON/other: OFF) of front wiper intermittent switch judged from the wiper switch signal.
FR WASHER SW	“On/Off”	Displays status (front washer switch ON position: ON/other: OFF) of front washer switch judged from the wiper switch signal.
INT VOLUME	“1 - 7”	Displays status (wiper intermittent dial position setting 1-7) of intermittent volume switch judged from the wiper switch signal.
RR WIPER ON[NOTE]	“On/Off”	—
RR WIPER INT[NOTE]	“On/Off”	—
RR WASHER SW[NOTE]	“On/Off”	—

NOTE:

This item is displayed, but cannot be monitored.

Combination Switch Inspection

INFOID:0000000007739507

1.SYSTEM CHECK

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

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	—	—	HEAD LAMP2	HI BEAM
—	INT VOLUME 3	—	—	LIGHT SW 1ST
INT VOLUME 2	—	RR FOG	FR FOG	—

>> GO TO 2.

2.SYSTEM CHECK

CONSULT-III DATA MONITOR
1. Select “COMB SW”.
2. Select “DATA MONITOR”.
3. Select “START”, and confirm that other switches in malfunctioning system operate normally.
   Example: When the HI BEAM switch is malfunctioning, confirm that “TURN RH”, “HEAD LAMP 1” and “LIGHT SW 1ST” in system 5, to which the HI BEAM switch belongs, turn ON-OFF normally.

SYSTEM CHECK
Operating combination switch, and confirm that other switches in malfunctioning system operate normally.
Example: When the HI BEAM switch is malfunctioning, confirm that “TURN RH”, “HEAD LAMP 1” and “LIGHT SW 1ST” in system 5, to which HI BEAM switch belongs, turn ON-OFF normally.

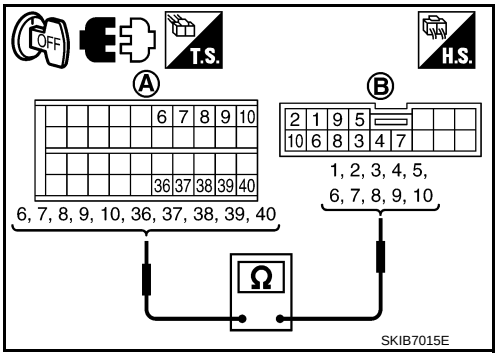
Check results

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.

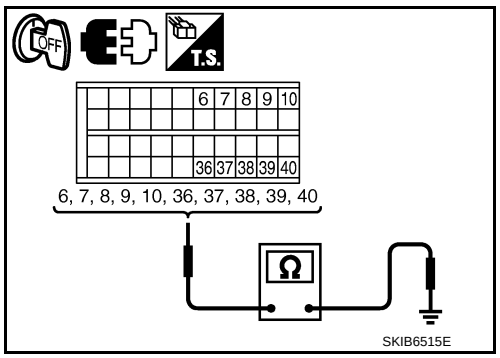
3.HARNESS INSPECTION

1. Turn ignition switch OFF.
2. Disconnect BCM and combination switch connectors.
3. Check for continuity between BCM harness connector (A) of the suspect system and the corresponding combination switch harness connector (B).

Suspect system	Terminal					Continuity
	A			B		
	Connector	Terminal		Connector	Terminal	
1	M42	output 1	8	M30	1	Existed
		input 1	40		6	
2		output 2	9		2	
		input 2	37		7	
3		output 3	6		3	
		input 3	38		10	
4		output 4	7		4	
		input 4	39		9	
5		output 5	10		5	
		input 5	36		8	



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



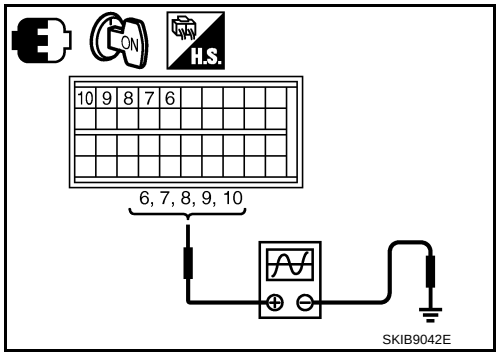
Suspect system	BCM connector	Terminal		Ground	Continuity
1	M42	output 1	8	Ground	Not existed
		input 1	40		
2		output 2	9		
		input 2	37		
3		output 3	6		
		input 3	38		
4		output 4	7		
		input 4	39		
5		output 5	10		
		input 5	36		

OK or NG

OK >> GO TO 4.
NG >> Check harness between BCM and combination switch for open or short circuit.

4. BCM OUTPUT TERMINAL INSPECTION

1. Connect BCM and combination switch connectors.
2. Turn ignition switch ON.
3. Turn lighting switch and wiper switch to OFF.
4. Set wiper dial to position 4.
5. Check BCM connector output terminal voltage waveform of suspect malfunctioning system.



Suspect system	Terminal (+) A	Terminal (+) Terminal		Terminal (-)	Voltage (Approx.)
1	M42	Output 1	8	Ground	Refer to terminal and reference value for BCM.
2		Output 2	9		
3		Output 3	6		
4		Output 4	7		
5		Output 5	10		

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

Switch Circuit Inspection

INFOID:0000000007739509

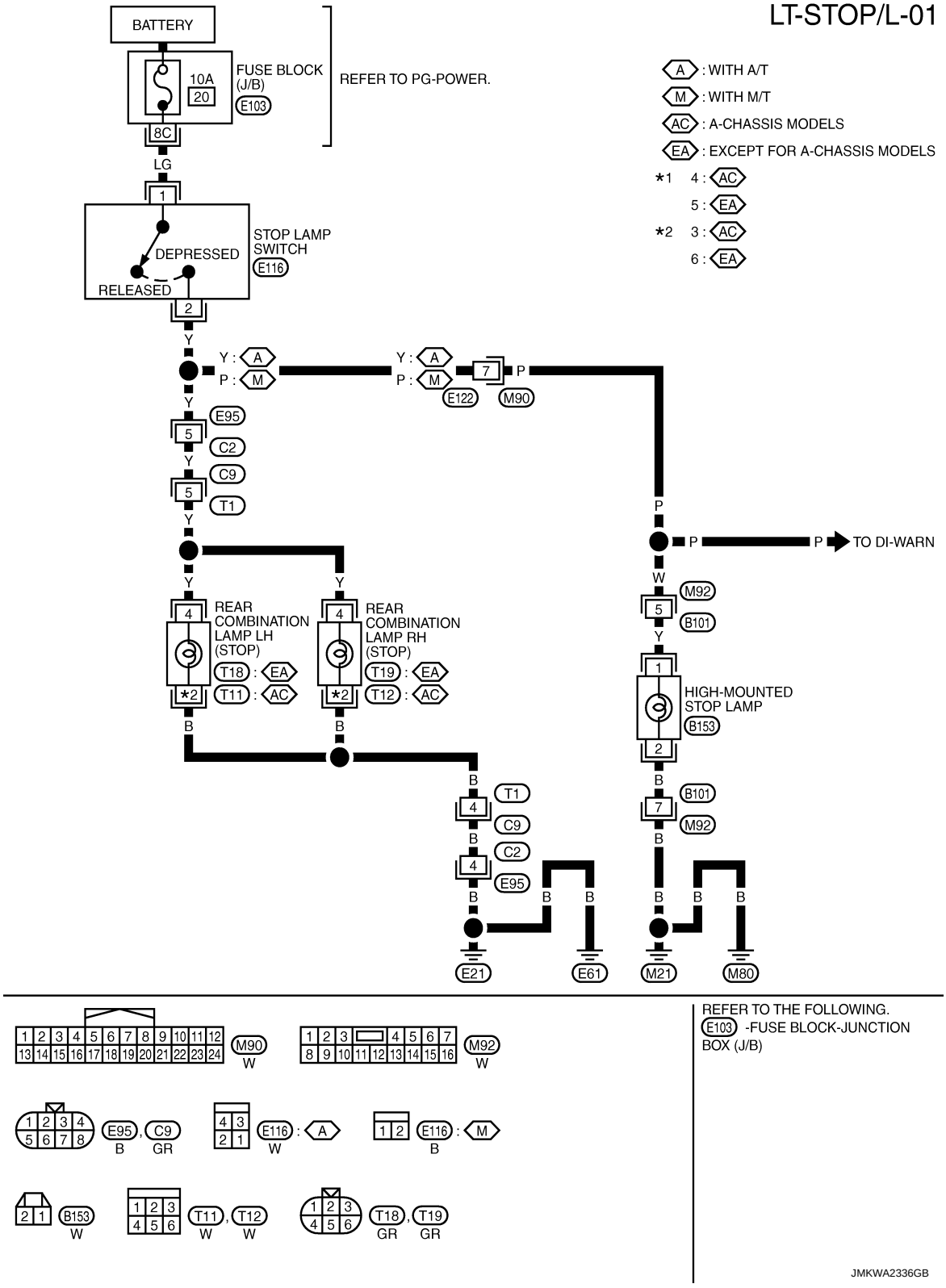
Refer to LT-24, "Combination Switch Inspection".

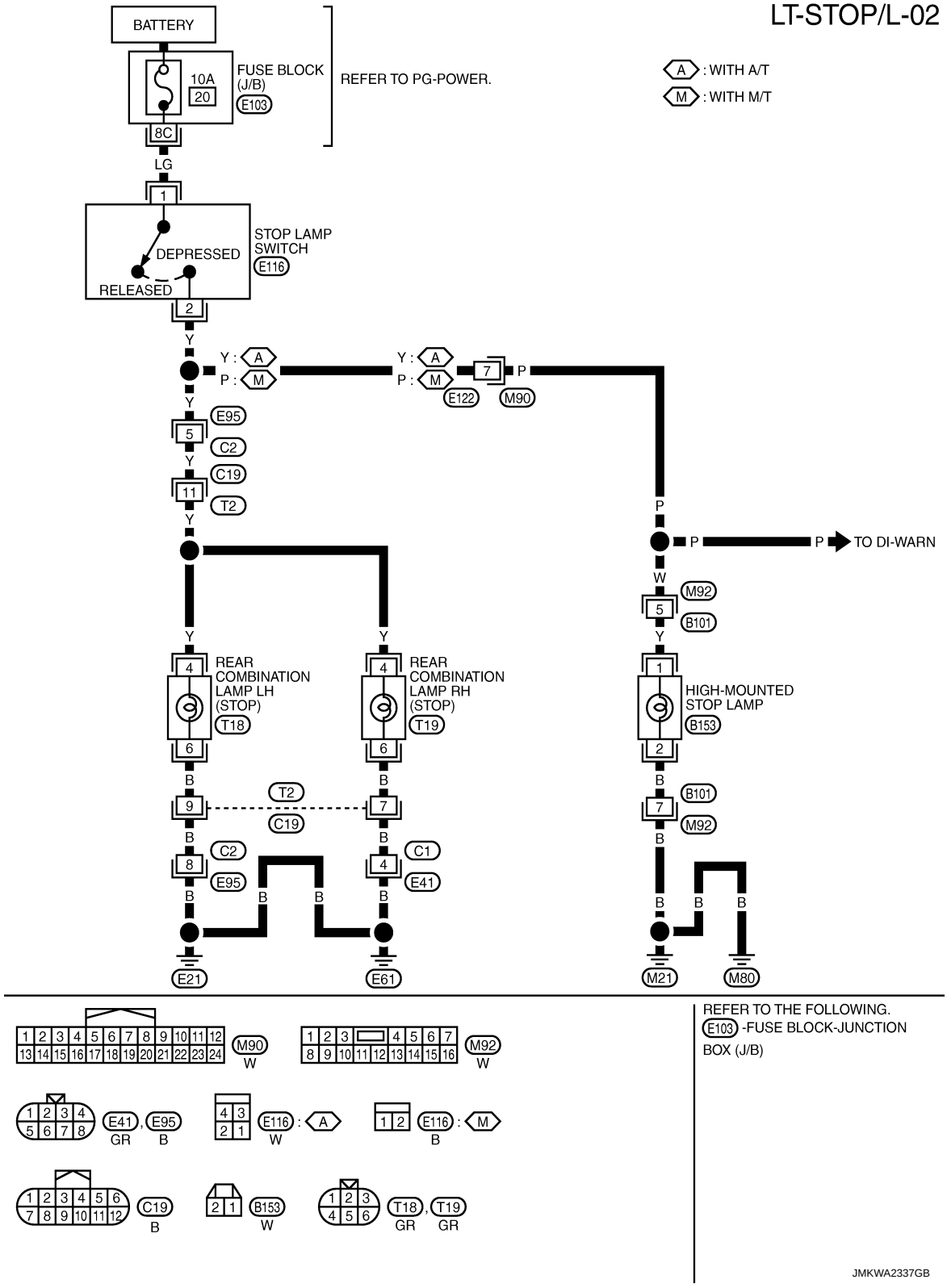
STOP LAMP

Wiring Diagram - STOP/L -

INFOID:0000000007734020

Except For South Africa



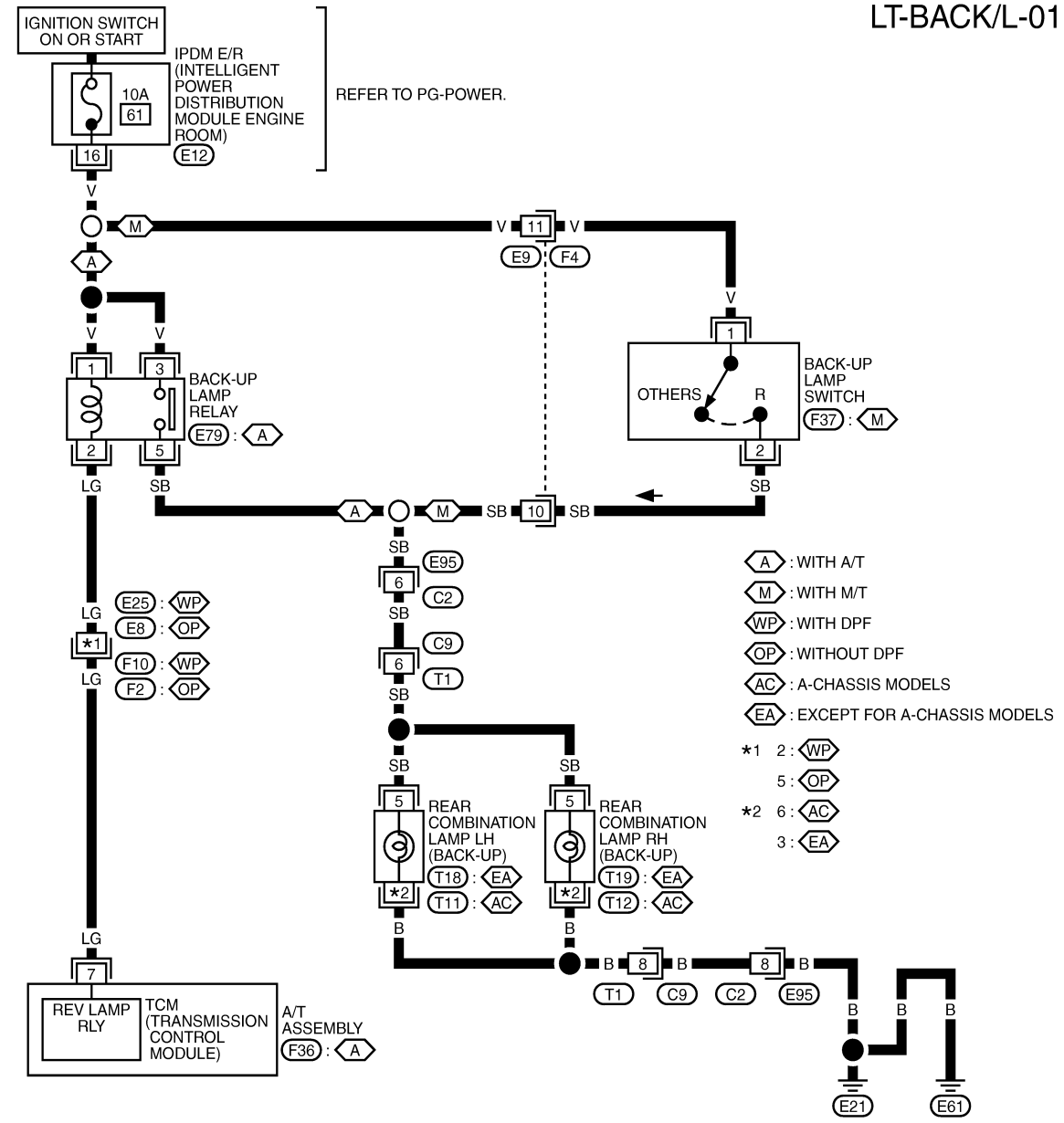

LT-STOP/L-02
BATTERY
10A
20
FUSE BLOCK
(J/B)
E103
REFER TO PG-POWER.
8C
LG
1
STOP LAMP
SWITCH
E116
DEPRESSED
RELEASED
2
Y
Y : A
P : M
Y : A
P : M
7
P
E122
M90
E95
5
C2
C19
11
T2
P
P
P
TO DI-WARN
W
M92
5
B101
REAR
COMBINATION
LAMP LH
(STOP)
T18
REAR
COMBINATION
LAMP RH
(STOP)
T19
HIGH-MOUNTED
STOP LAMP
B153
4
6
1
2
B
9
7
T2
C19
8
C2
E95
4
C1
E41
E21
E61
M21
M80
A : WITH A/T
M : WITH M/T
REFER TO THE FOLLOWING.
E103 -FUSE BLOCK-JUNCTION BOX (J/B)
M90
W
M92
W
E41
GR
E95
B
E116 : A
W
E116 : M
B
C19
B
B153
W
T18
GR
T19
GR
JMKWA2337GB

BACK-UP LAMP

Wiring Diagram - BACK/L -

INFOID:0000000007734023

Except For South Africa



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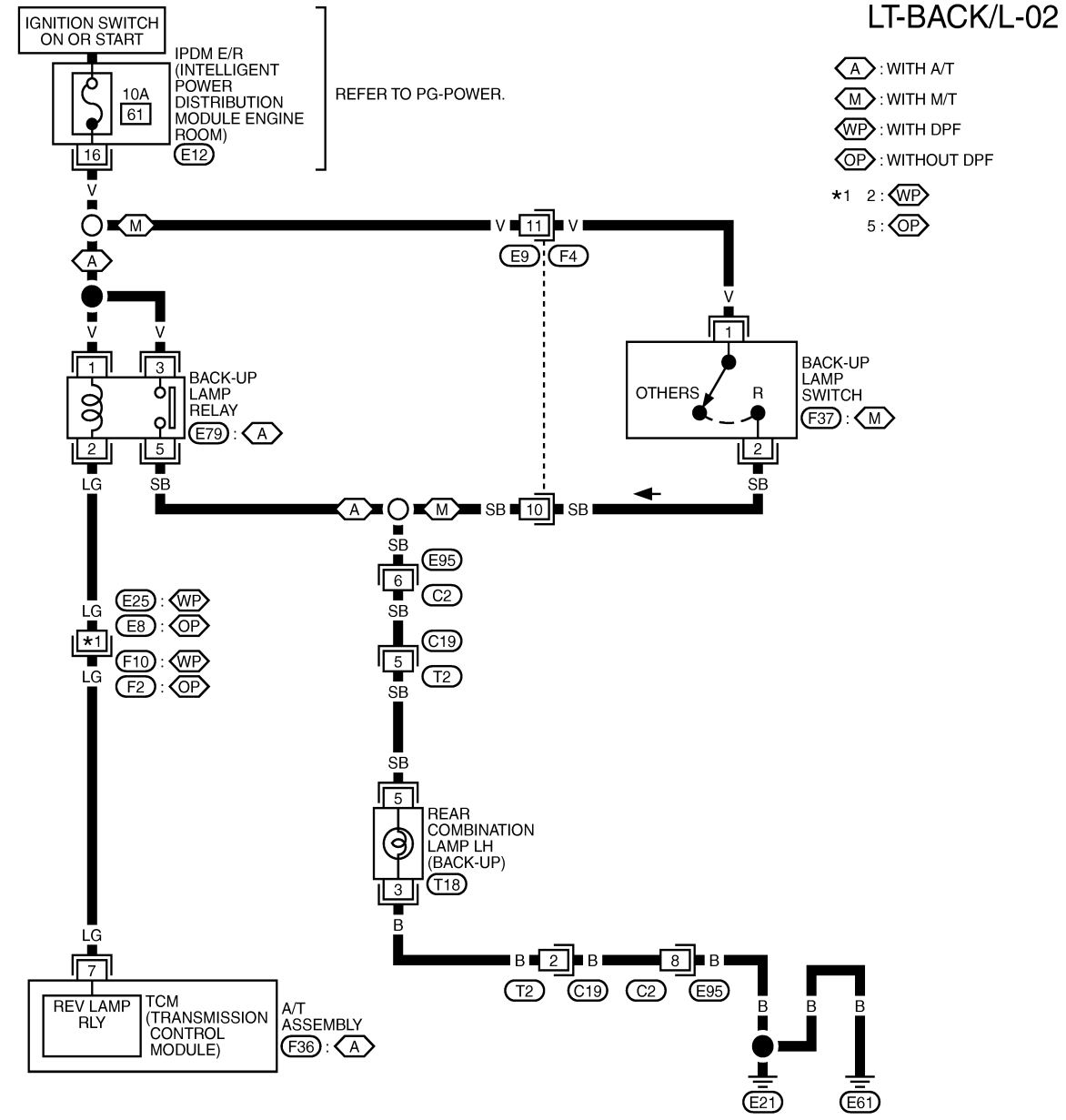

LT-BACK/L-02
IGNITION SWITCH ON OR START
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E12
10A
61
16
REFER TO PG-POWER.
A : WITH A/T
M : WITH M/T
WP : WITH DPF
OP : WITHOUT DPF
*1 2 : WP
5 : OP
BACK-UP LAMP RELAY
E79 : A
BACK-UP LAMP SWITCH
F37 : M
OTHERS
R
E9
F4
E95
C2
C19
T2
E25 : WP
E8 : OP
F10 : WP
F2 : OP
REAR COMBINATION LAMP LH (BACK-UP)
T18
REV LAMP RLY
TCM (TRANSMISSION CONTROL MODULE)
A/T ASSEMBLY
F36 : A
E21
E61
H.S.
E12 W
E79 L
E95 B
F2 W
F4 W
F10 W
F36 G
F37 GR
C19 B
T18 GR
JMKWA2339GB

PARKING, LICENSE PLATE AND TAIL LAMPS

System Description

INFOID:0000000007734027

Control of the clearance, license plate, and tail 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, the BCM (body control module) receives input signal requesting the clearance, license plate and tail lamps to illuminate. This input signal is communicated to the IPDM E/R (intelligent power distribution module engine room) via the CAN communication. The CPU (central processing unit) of the IPDM E/R controls the tail lamp relay coil. This relay, when energized, directs power to the clearance, license plate and tail lamps, which then illuminate.

OUTLINE

Power is supplied at all times
- to ignition relay (located in IPDM E/R) and
- to tail lamp relay (located in IPDM E/R), from battery directly,
- through 50A fusible link (letter G, located in fuse and fusible link box)
- to BCM terminal 57,

With the ignition switch in the ON or START position, power is supplied
- to ignition relay (located in IPDM E/R),
- through 10A fuse [No. 16, located in fuse block (J/B)]
- to BCM terminal 3.

Ground is supplied
- to BCM terminal 55
- through grounds M21and M80,
- to IPDM E/R terminals 38 and 59
- through grounds E21 and E61.

OPERATION BY LIGHTING SWITCH (EXCEPT FOR SOUTH AFRICA)

With the lighting switch in the 1ST position or 2ND position, the BCM receives input signal requesting the clearance, license plate and tail lamps to illuminate. This input signal is communicated to the IPDM E/R via the CAN communication. The CPU in the IPDM E/R controls the tail lamp relay coil, which when energized, directs power
- through IPDM E/R terminal 28
- to clearance lamp LH terminal 1,
- through IPDM E/R terminal 49
- to clearance lamp RH terminal 1,
- through IPDM E/R terminal 57
- to rear combination lamp LH and RH terminals 1 and license plate lamp LH and RH terminals 1.

Ground is supplied
- to clearance lamp LH and RH terminals 2
- through grounds E21 and E61,
- to license plate lamp LH and RH terminal 2
- through grounds E21 and E61,
- to rear combination lamp LH and RH terminal 3 (A-chassis models) or 6 (except for A-chassis models)
- through grounds E21 and E61,

With power and ground supplied, the clearance, license plate and tail lamps illuminate.

OPERATION BY LIGHTING SWITCH (FOR SOUTH AFRICA)

With the lighting switch in the 1ST position or 2ND position, the BCM receives input signal requesting the clearance, license plate and tail lamps to illuminate. This input signal is communicated to the IPDM E/R via the CAN communication. The CPU in the IPDM E/R controls the tail lamp relay coil, which when energized, directs power
- through IPDM E/R terminal 28
- to rear combination lamp LH terminal 1and license plate lamp LH terminal 1,
- through IPDM E/R terminal 49
- to clearance lamp LH and RH terminal 1,
- through IPDM E/R terminal 57
- to rear combination lamp RH terminal 1 and license plate lamp RH terminal 1.

Ground is supplied
- to clearance lamp LH and RH terminals 2
- through grounds E21 and E61,
- to license plate lamp LH and RH terminal 2

- through grounds E21, and E61,
- to rear combination lamp LH and RH terminal 6.
- through grounds E21 and E61,

With power and ground supplied, the clearance, license plate and tail lamps illuminate.

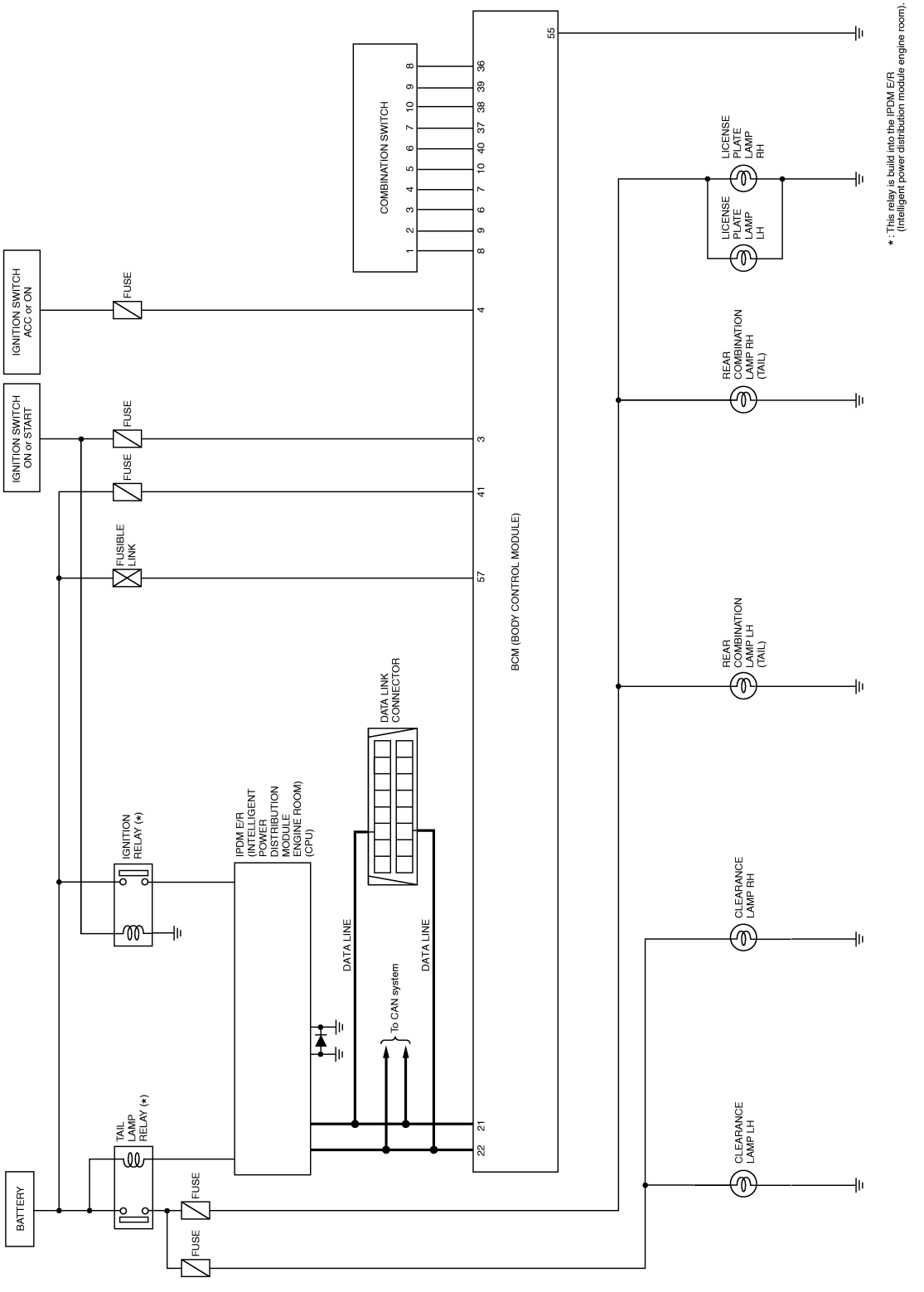
COMBINATION SWITCH READING FUNCTION

Refer to BCS-3, "System Description".

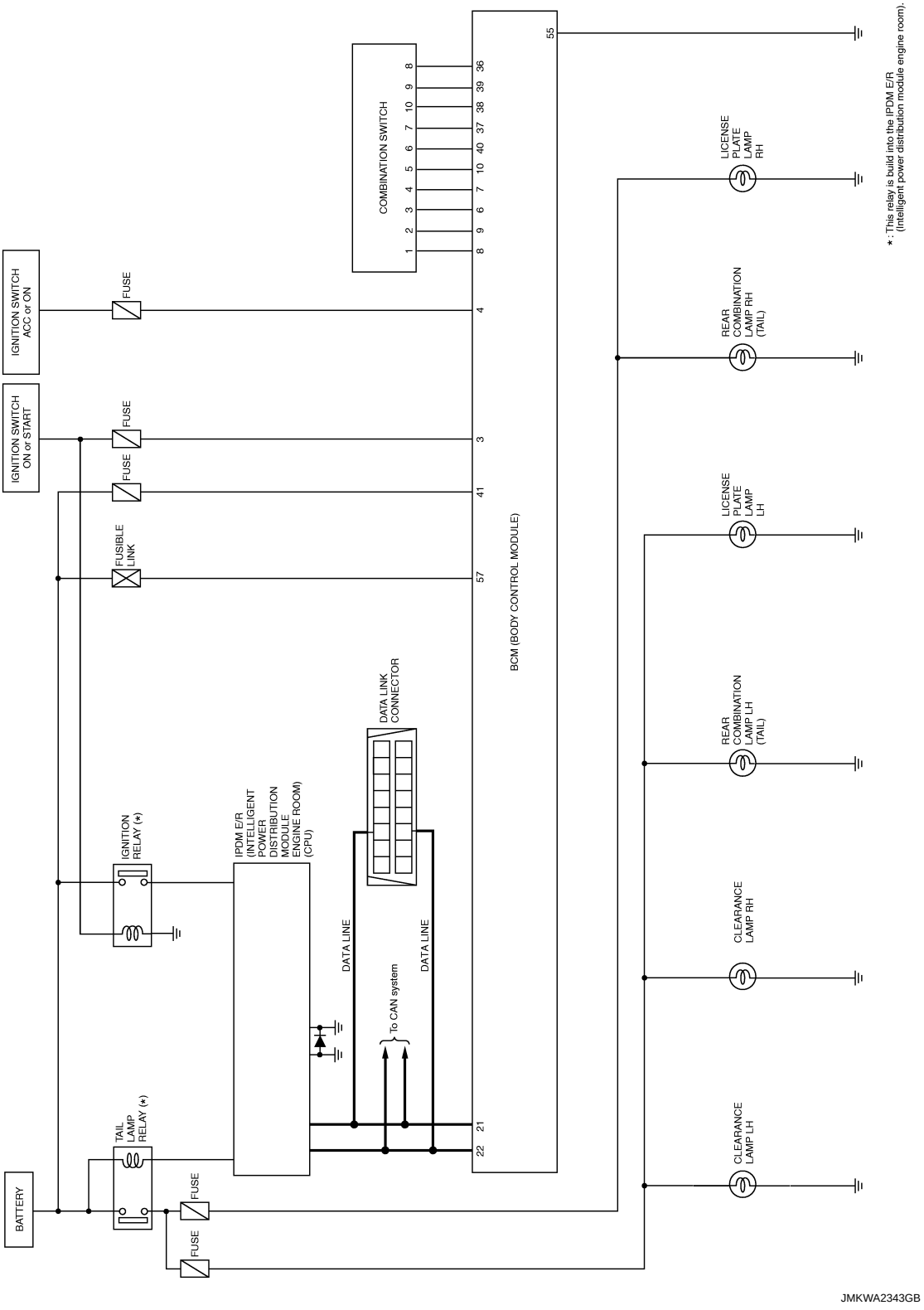
Schematic

INFOID:0000000007734029

Except For South Africa



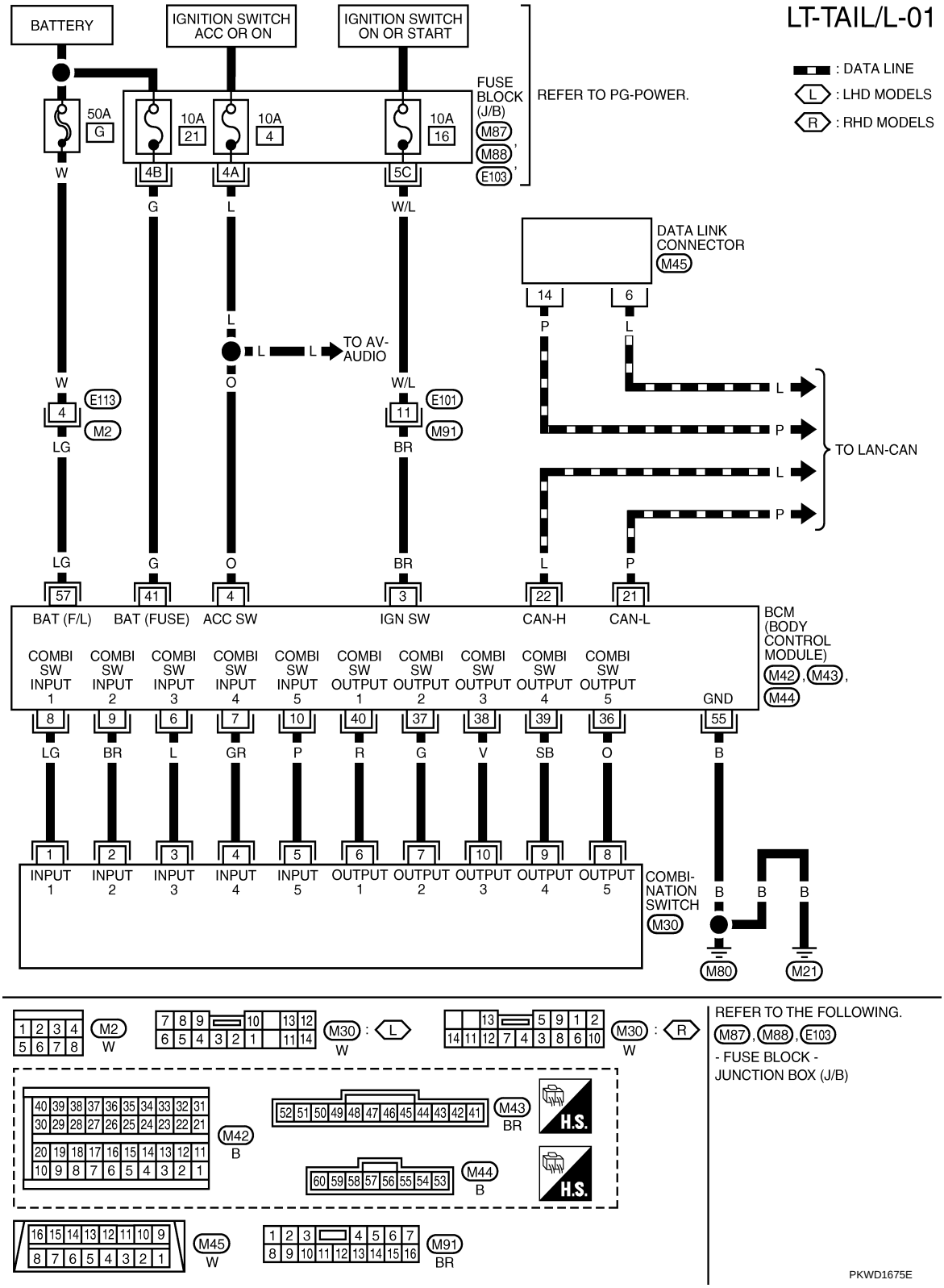
For South Africa

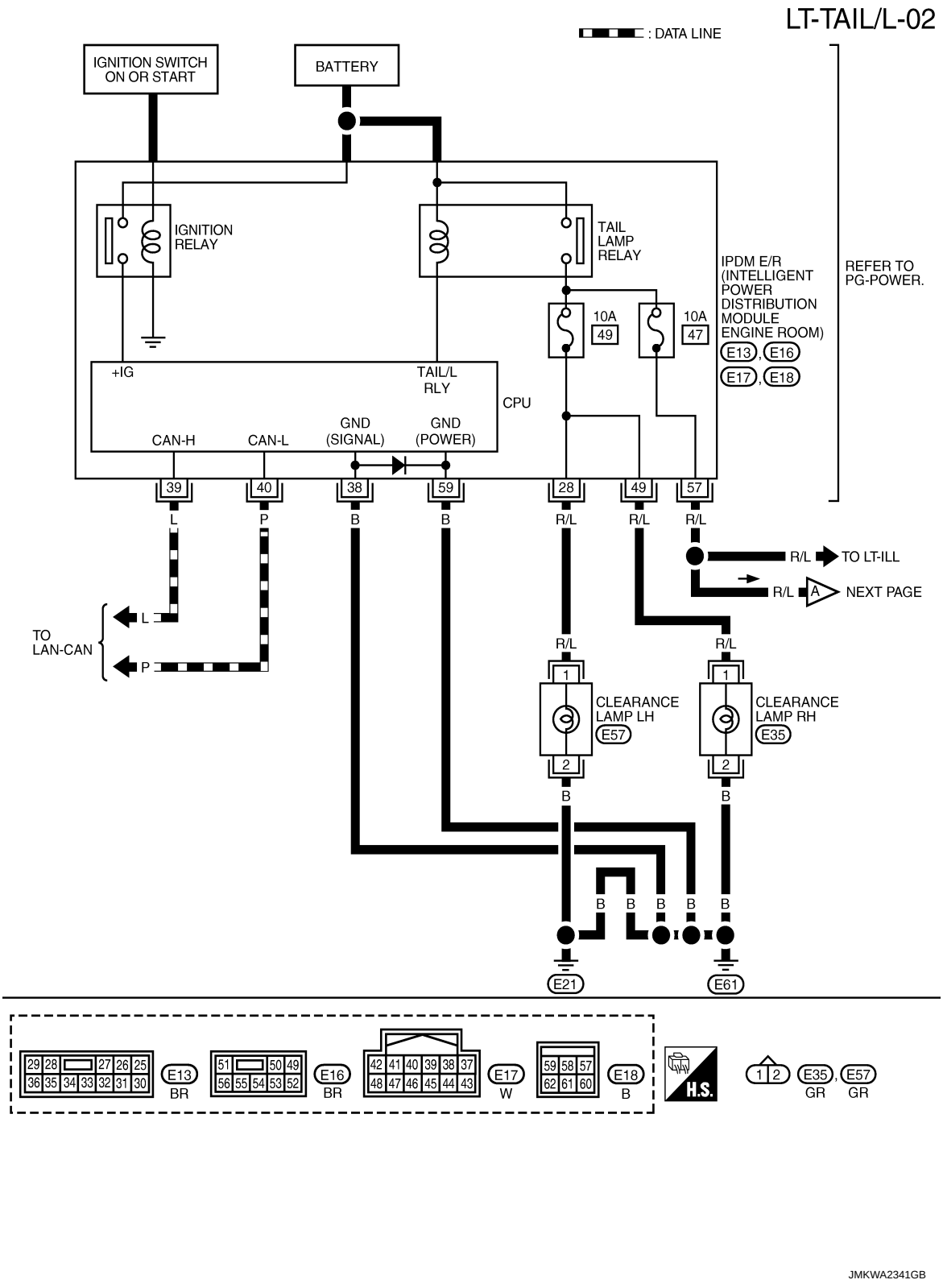


Wiring Diagram - TAIL/L -

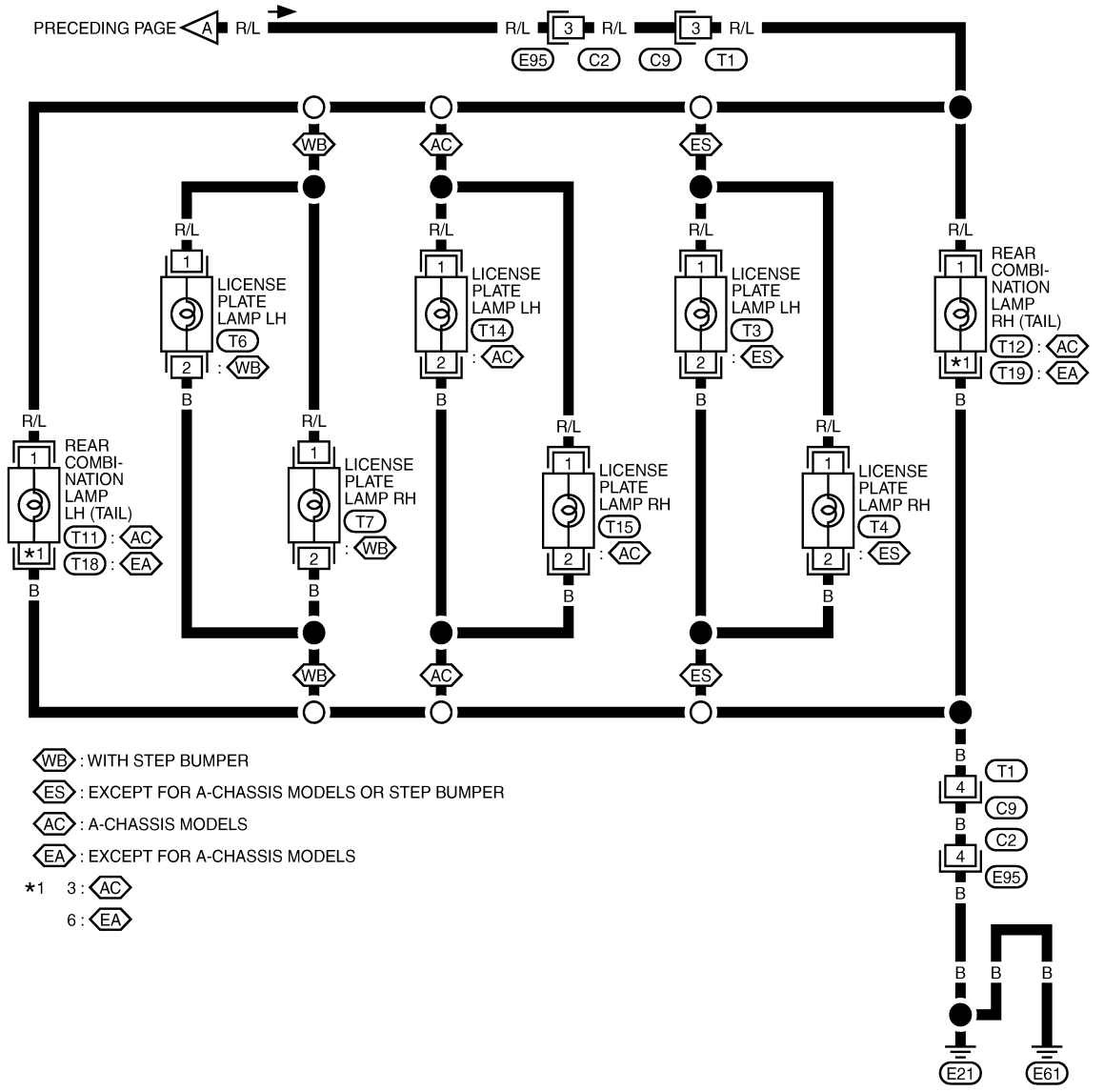
INFOID:0000000007734030

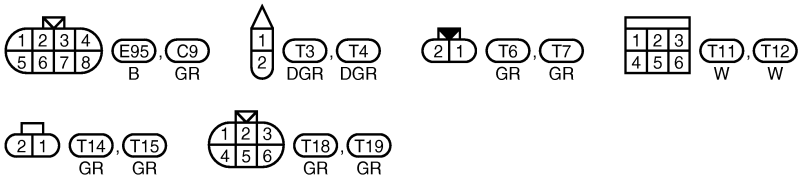
Except For South Africa




LT-TAIL/L-02
: DATA LINE
IGNITION SWITCH ON OR START
BATTERY
IGNITION RELAY
TAIL LAMP RELAY
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E13, E16
E17, E18
REFER TO PG-POWER.
10A 49
10A 47
+IG
TAIL/L RLY
CPU
CAN-H
CAN-L
GND (SIGNAL)
GND (POWER)
39
40
38
59
28
49
57
L
P
B
B
R/L
R/L
R/L
R/L TO LT-ILL
R/L A NEXT PAGE
TO LAN-CAN
L
P
R/L
R/L
1
2
CLEARANCE LAMP LH
E57
CLEARANCE LAMP RH
E35
B
B
B B B B B
E21
E61
E13 BR
E16 BR
E17 W
E18 B
H.S.
1 2
E35, E57 GR GR
JMKWA2341GB

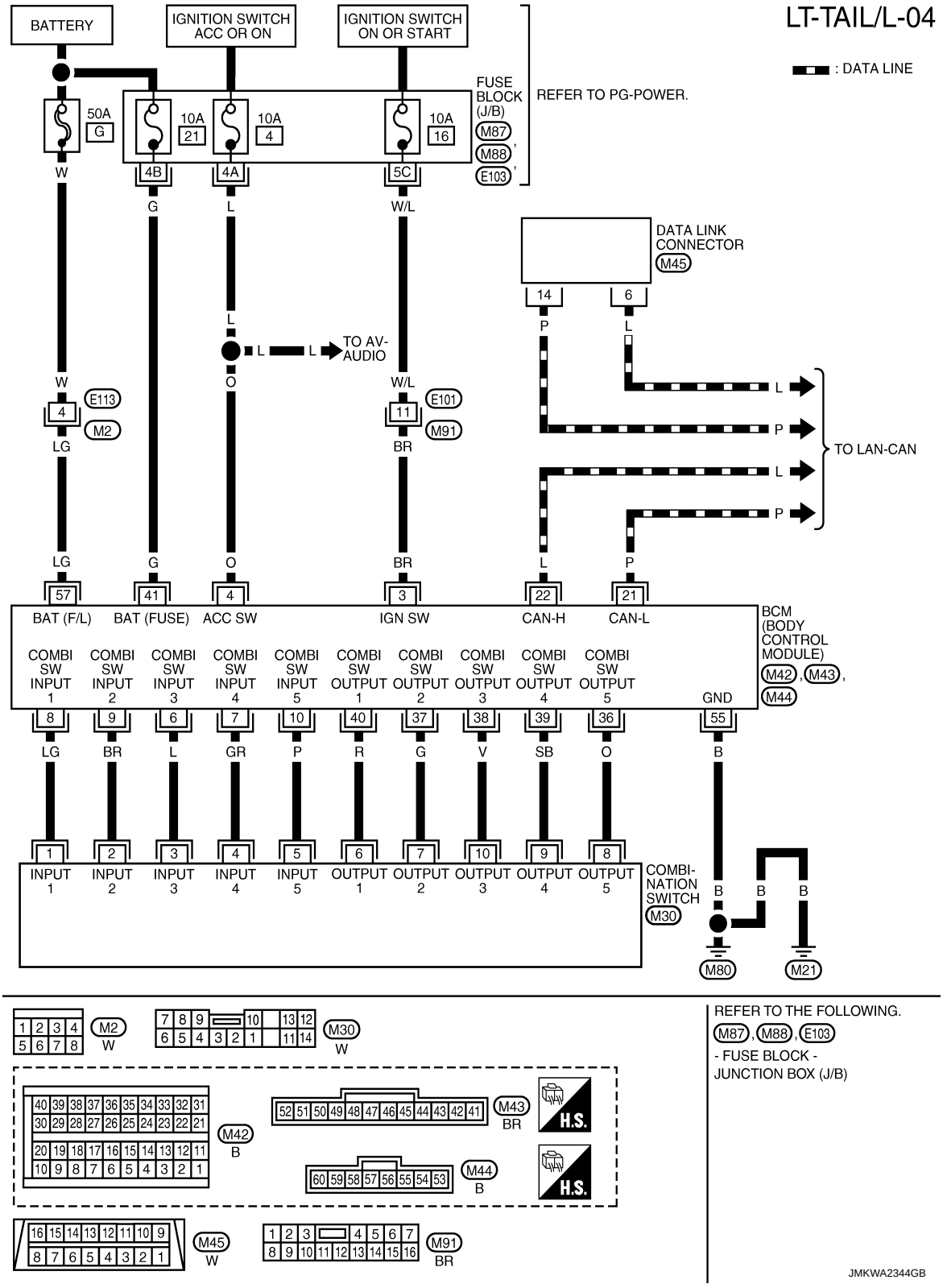
LT-TAIL/L-03

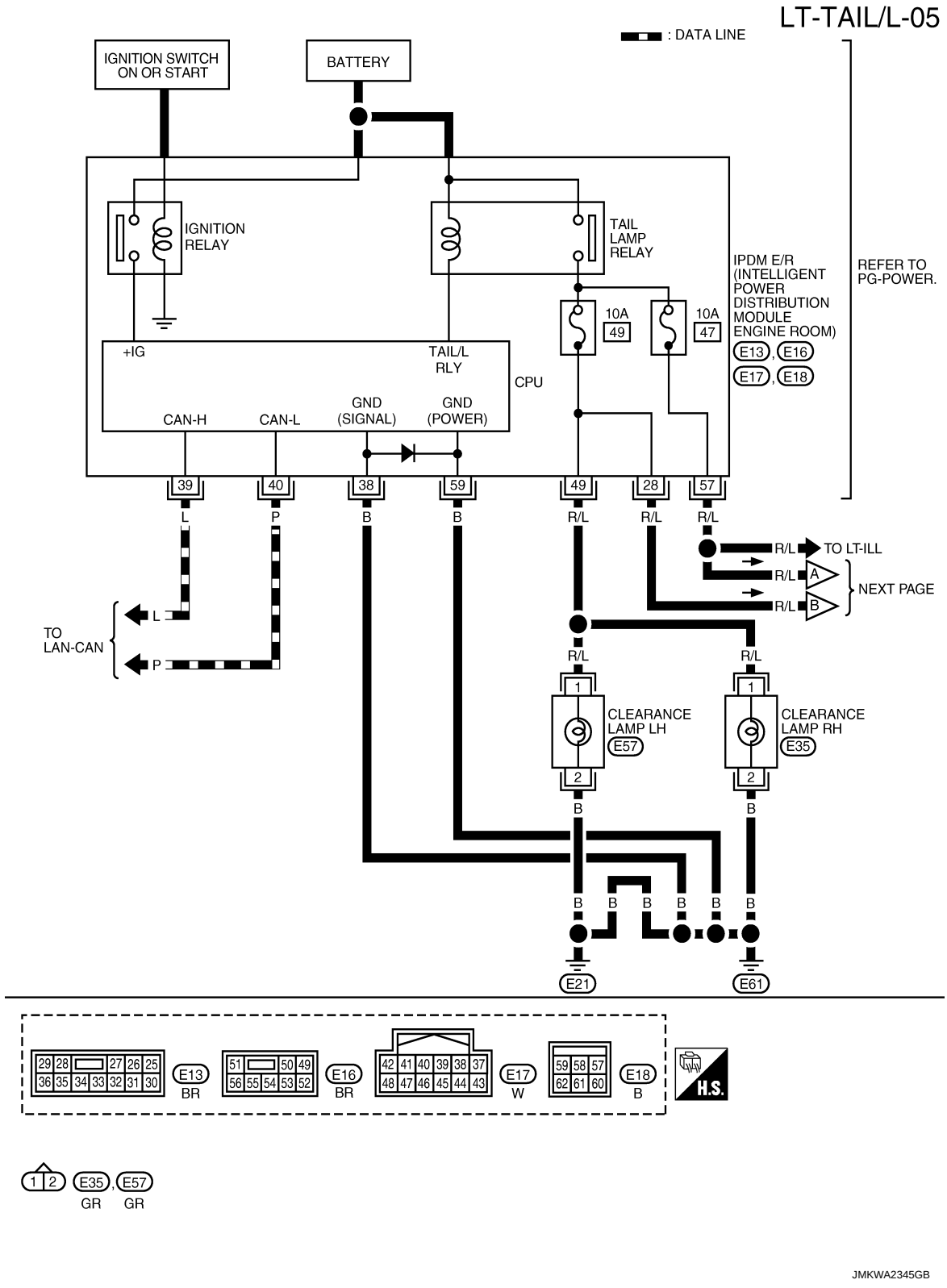


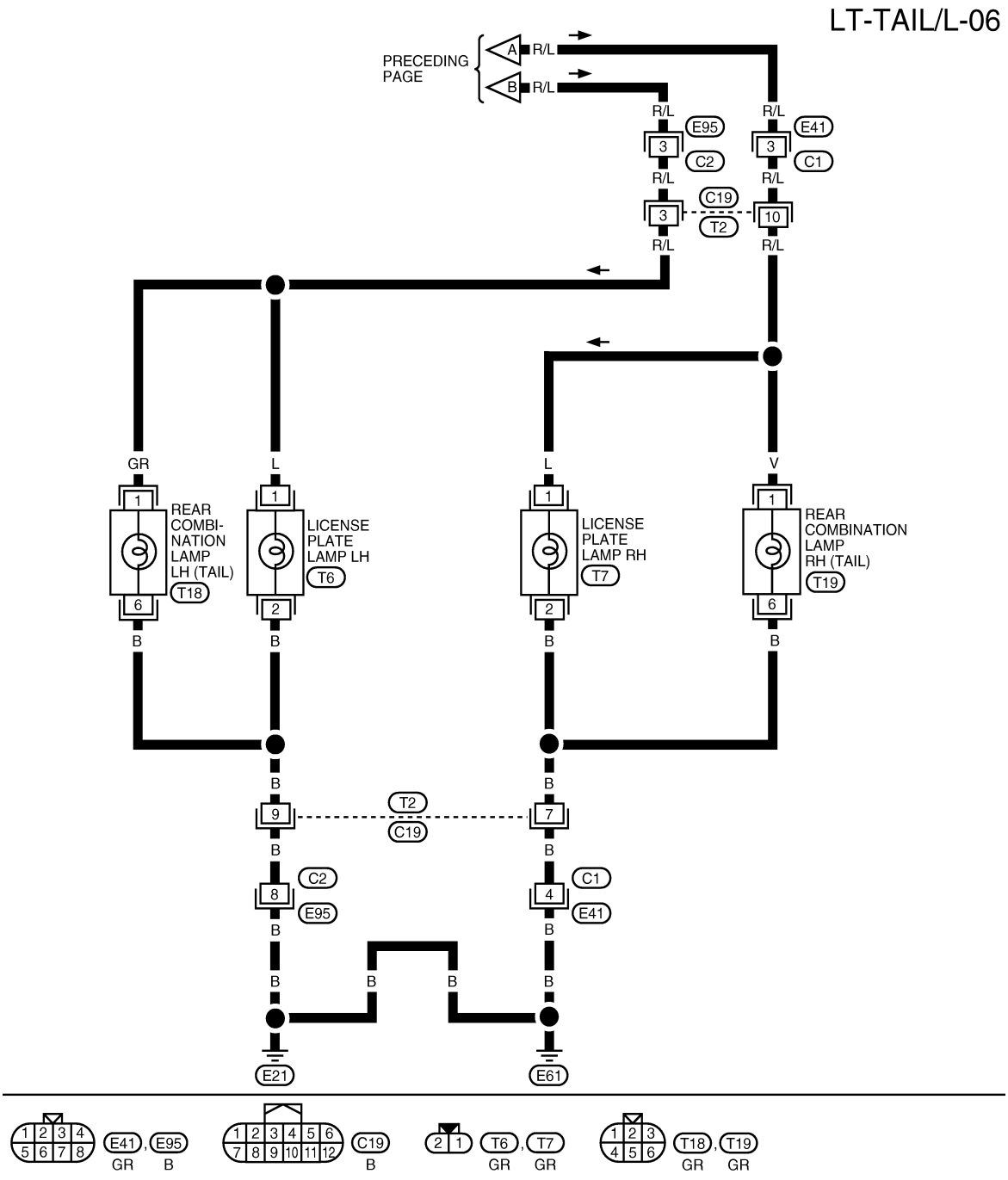


JMKWA2342GB

For South Africa




LT-TAIL/L-05
: DATA LINE
IGNITION SWITCH ON OR START
BATTERY
IGNITION RELAY
TAIL LAMP RELAY
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E13, E16
E17, E18
REFER TO PG-POWER.
10A 49
10A 47
+IG
TAIL/L RLY
CPU
CAN-H
CAN-L
GND (SIGNAL)
GND (POWER)
39
40
38
59
49
28
57
L
P
B
B
R/L
R/L
R/L
R/L TO LT-ILL
R/L A
R/L B
NEXT PAGE
TO LAN-CAN
L
P
R/L
R/L
1
2
CLEARANCE LAMP LH
E57
CLEARANCE LAMP RH
E35
B
B
B B B B B B
E21
E61
29 28 27 26 25
36 35 34 33 32 31 30
E13
BR
51 50 49
56 55 54 53 52
E16
BR
42 41 40 39 38 37
48 47 46 45 44 43
E17
W
59 58 57
62 61 60
E18
B
H.S.
1 2
E35, E57
GR GR
JMKWA2345GB



JMKWA2346GB

Terminal and Reference Value for IPDM E/R

INFOID:0000000007734032

EXSEPT FOR SOUTH AFRICA

Terminal No.	Wire color	Signal name	Measuring condition			Reference value
			Ignition switch	Operation or condition		
28	R/C	Clearance lamp LH	ON	Lighting switch 1ST position	OFF	Approx. 0 V
					ON	Battery voltage
38	B	Ground	ON	—		Approx. 0 V
39	L	CAN-H	—	—		—
40	P	CAN-L	—	—		—
49	RL	Clearance lamp RH	ON	Lighting switch 1ST position	OFF	Approx. 0 V
					ON	Battery voltage
57	RL	Rear combination lamp (RH and LH) (tail) and license plate lamp (RH and LH)	ON	Lighting switch 1ST position	OFF	Approx. 0 V
					ON	Battery voltage
59	B	Ground	ON	—		Approx. 0 V

FOR SOUTH AFRICA

Terminal No.	Wire color	Signal name	Measuring condition			Reference value
			Ignition switch	Operation or condition		
28	R/C	Rear combination lamp LH (tail) and license plate lamp LH	ON	Lighting switch 1ST position	OFF	Approx. 0 V
					ON	Battery voltage
38	B	Ground	ON	—		Approx. 0 V
39	L	CAN-H	—	—		—
40	P	CAN-L	—	—		—
49	RL	Clearance lamp LH	ON	Lighting switch 1ST position	OFF	Approx. 0 V
					ON	Battery voltage
57	RL	Rear combination lamp RH (tail) and license plate lamp RH	ON	Lighting switch 1ST position	OFF	Approx. 0 V
					ON	Battery voltage
59	B	Ground	ON	—		Approx. 0 V

How to Proceed with Trouble Diagnosis

INFOID:0000000007734033

1. Confirm the symptom or customer complaint.
2. Understand operation description and function description. Refer to LT-31, "System Description".
3. Carry out the Preliminary Check. Refer to LT-41, "Preliminary Check".
4. Check symptom and repair or replace the cause of malfunction.
5. Do the clearance, license plate and tail lamps operate normally? If YES, GO TO 6. If NO, GO TO 4.
6. INSPECTION END

Preliminary Check

INFOID:0000000007734034

CHECK POWER SUPPLY AND GROUND CIRCUIT

1.CHECK FUSES OR FUSIBLE LINK

Check for blown fuses or fusible link.

Unit	Power source	Fuse and fusible link No.
BCM	Battery	G
	Ignition switch ON or START position	16

Unit	Power source	Fuse and fusible link No.
IPDM E/R	Battery	47
		49

Refer to LT-35, "Wiring Diagram - TAIL/L -".

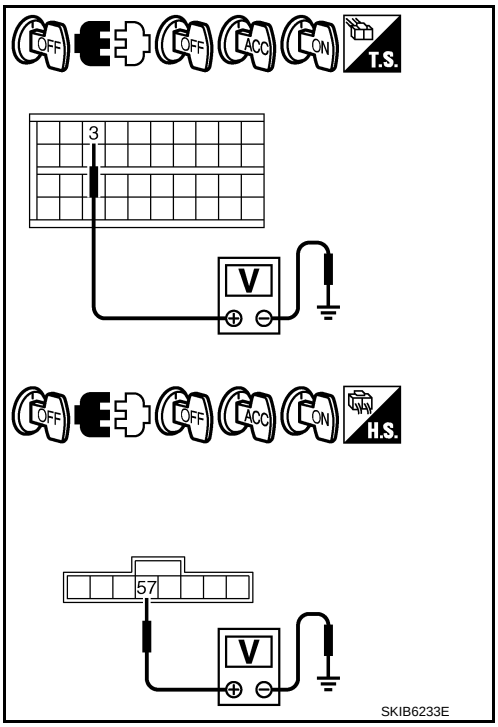
OK or NG

OK >> GO TO 2.
NG >> If fuse or fusible link is blown, be sure to eliminate cause of malfunction before installing new fuse or fusible link. Refer to LT-33, "Schematic".

2.CHECK POWER SUPPLY CIRCUIT

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

Terminal			Ignition switch position		
(+)		(-)	OFF	ACC	ON
BCM connector	Terminal				
M42	3	Ground	Approx. 0 V	Approx. 0 V	Battery voltage
M44	57		Battery voltage	Battery voltage	Battery voltage



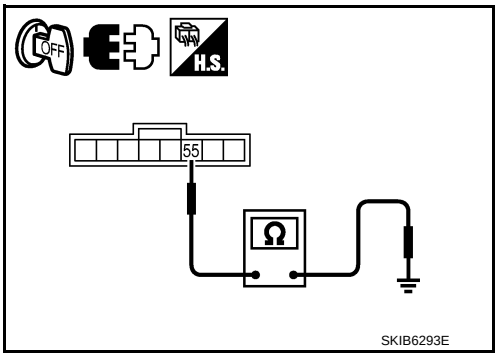
OK or NG

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

3.CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BCM connector	Terminal	Ground	Continuity
M44	55		Existed



OK or NG

OK >> INSPECTION END
NG >> Repair or replace harness.

Clearance, License Plate and Tail Lamps Do Not Illuminate

INFOID:0000000007734037

FOR SOUTH AFRICA

1.CHECK COMBINATION SWITCH INPUT SIGNAL

With CONSULT-III

1. Select “LIGHT SW 1ST” of BCM (HEAD LAMP) data monitor item.
2. With operating the lighting switch, check the monitor status.

When lighting switch is in 1ST position : LIGHT SW 1ST ON

OK or NG

OK >> GO TO 2.
NG >> Check lighting switch.

2.ACTIVE TEST

CONSULT-III ACTIVE TEST
1. Select “EXTERNAL LAMPS” of IPDM E/R active test item.
2. Touch “TAIL” screen.
3. With operating the test item, check the clearance, license plate and tail lamps operation.

Clearance, license plate and tail lamps should operate.

OK or NG

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

3.CHECK IPDM E/R

1. Select “TAIL & CLR REQ” of IPDM E/R data monitor item.
2. With operating the lighting switch is in 1ST position, check the monitor status.

When lighting switch is in 1ST position : TAIL & CLR REQ ON

OK or NG

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

4.CHECK INPUT SIGNAL

CONSULT-III ACTIVE TEST
1. Turn ignition switch OFF.
2. Disconnect connectors of clearance lamps, license plate lamps and rear combination lamps.
3. Turn ignition switch ON.
4. Select “EXTERNAL LAMPS” of IPDM E/R active test item.
5. Touch “TAIL” screen.
6. With operating the test item, check voltage between ground and each lamp harness connector (clearance lamp, license plate lamp and rear combination lamp).

Terminal				Voltage
(+)			(-)	
Clearance lamp connector		Terminal		
RH	E35	1	Ground	Battery voltage
LH	E57			

Terminal				Voltage
(+)			(-)	
License plate lamp connector		Terminal		
RH	T7	1	Ground	Battery voltage
LH	T6			

Terminal			Voltage
(+)		(-)	
Rear combination lamp connector	Terminal		

RH	T19	1	Ground	Battery voltage
LH	T18			

OK or NG

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

5. CHECK CLEARANCE, 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 clearance lamp (RH and LH) harness connector.

IPDM E/R			Clearance lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E16	49	E35	1	Existed
LH			E57		

4. Check continuity between IPDM E/R harness connector and license plate lamp (RH and LH) harness connector.

Circuit	IPDM E/R		License plate lamp		Continuity
	Connector	Terminal	Connector	Terminal	
RH	E18	57	T7	1	Existed
LH	E13	28	T6		

5. Check continuity between IPDM E/R harness connector and rear combination lamp (RH and LH) harness connector.

Circuit	IPDM E/R		Rear combination lamp		Continuity
	Connector	Terminal	Connector	Terminal	
RH	E18	57	T19	1	Existed
LH	E13	28	T18		

OK or NG

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

6. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between clearance lamp (RH and LH) harness connector and ground.

Clearance lamp connector		Terminal	Ground	Continuity
RH	E35	2		Existed
LH	E57			

3. Check continuity between license plate lamp (RH and LH) harness connector and ground.

License plate lamp connector		Terminal	Ground	Continuity
RH	T7	2		Existed
LH	T6			

4. Check continuity between rear combination lamp (RH and LH) harness connector and ground.

Rear combination lamp connector		Terminal	Ground	Continuity
RH	T19	6		Existed
LH	T18			

OK or NG

OK >> Check connector for connection, bend and loose fit. If it is normal, check bulbs.
NG >> Repair or replace harness.

EXCEPT FOR SOUTH AFRICA

1.CHECK COMBINATION SWITCH INPUT SIGNAL

With CONSULT-III

1. Select “LIGHT SW 1ST” of BCM (HEAD LAMP) data monitor item.
2. With operating the lighting switch, check the monitor status.

When lighting switch is in 1ST position : LIGHT SW 1ST ON

OK or NG

OK >> GO TO 2.
NG >> Check lighting switch.

2.ACTIVE TEST

CONSULT-III ACTIVE TEST

1. Select “EXTERNAL LAMPS” of IPDM E/R active test item.
2. Touch “TAIL” screen.
3. With operating the test item, check the clearance, license plate and tail lamps operation.

Clearance, license plate and tail lamps should operate.

OK or NG

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

3.CHECK IPDM E/R

1. Select “TAIL & CLR REQ” of IPDM E/R data monitor item.
2. With operating the lighting switch is in 1ST position, check the monitor status.

When lighting switch is in 1ST position : TAIL & CLR REQ ON

OK or NG

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

4.CHECK INPUT SIGNAL

CONSULT-III ACTIVE TEST

1. Turn ignition switch OFF.
2. Disconnect connectors of clearance lamps, license plate lamps and rear combination lamps.
3. Turn ignition switch ON.
4. Select “EXTERNAL LAMPS” of IPDM E/R active test item.
5. Touch “TAIL” screen.
6. With operating the test item, check voltage between ground and each lamp harness connector (clearance lamp, license plate lamp and rear combination lamp).

Terminal				Voltage
(+)			(-)	
Clearance lamp connector		Terminal		
RH	E35	1	Ground	Battery voltage
LH	E57			

Except for A-chassis models or step bumper

Terminal				Voltage
(+)			(-)	
License plate lamp connector		Terminal		
RH	T4	1	Ground	Battery voltage
LH	T3			

A-chassis models

Terminal				Voltage
(+)			(-)	
License plate lamp connector		Terminal		
RH	T15	1	Ground	Battery voltage
LH	T14			

With step bumper

Terminal				Voltage
(+)			(-)	
License plate lamp connector		Terminal		
RH	T7	1	Ground	Battery voltage
LH	T6			

A-chassis models

Terminal				Voltage
(+)			(-)	
Rear combination lamp connector		Terminal		
RH	T12	1	Ground	Battery voltage
LH	T11			

Except for A-chassis models

Terminal				Voltage
(+)			(-)	
Rear combination lamp connector		Terminal		
RH	T19	1	Ground	Battery voltage
LH	T18			

OK or NG

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

5. CHECK CLEARANCE, 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 clearance lamp RH harness connector.

IPDM E/R		Clearance lamp RH		Continuity
Connector	Terminal	Connector	Terminal	
E16	49	E35	1	Existed

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

IPDM E/R		Clearance lamp LH		Continuity
Connector	Terminal	Connector	Terminal	
E13	28	E57	1	Existed

5. Check continuity between IPDM E/R harness connector and license plate lamp (RH and LH) harness connector.

Except for A-chassis models or step bumper

Circuit	IPDM E/R		License plate lamp		Continuity
	Connector	Terminal	Connector	Terminal	
RH	E18	57	T3	1	Existed
LH			T4		

A-chassis models

Circuit	IPDM E/R		License plate lamp		Continuity
	Connector	Terminal	Connector	Terminal	
RH	E18	57	T15	1	Existed
LH			T14		

With step bumper

Circuit	IPDM E/R		License plate lamp		Continuity
	Connector	Terminal	Connector	Terminal	
RH	E18	57	T7	1	Existed
LH			T6		

6. Check continuity between IPDM E/R harness connector and rear combination lamp (RH and LH) harness connector.

A-chassis models

Circuit	IPDM E/R		Rear combination lamp		Continuity
	Connector	Terminal	Connector	Terminal	
RH	E18	57	T12	1	Existed
LH			T11		

Except for A-chassis models

Circuit	IPDM E/R		Rear combination lamp		Continuity
	Connector	Terminal	Connector	Terminal	
RH	E18	57	T19	1	Existed
LH			T18		

OK or NG

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

6. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.

2. Check continuity between clearance lamp (RH and LH) harness connector and ground.

Clearance lamp connector		Terminal		Continuity
RH	E35	2	Ground	Existed
LH	E57			

3. Check continuity between license plate lamp (RH and LH) harness connector and ground.

Except for A-chassis models or step bumper

License plate lamp connector		Terminal		Continuity
RH	T4	2	Ground	Existed
LH	T3			

A-chassis models

License plate lamp connector		Terminal		Continuity
RH	T15	2	Ground	Existed
LH	T14			

With step bumper

License plate lamp connector		Terminal		Continuity
RH	T7	2	Ground	Existed
LH	T6			

4. Check continuity between rear combination lamp (RH and LH) harness connector and ground.

A-chassis models

Rear combination lamp connector		Terminal		Continuity
RH	T12	3	Ground	Existed
LH	T11			

Except for A-chassis models

Rear combination lamp connector		Terminal		Continuity
RH	T19	6	Ground	Existed
LH	T18			

OK or NG

OK >> Check connector for connection, bend and loose fit. If it is normal, check bulbs.
NG >> Repair or replace harness.

Clearance, License Plate and Tail Lamps Do Not Turn OFF (After Approx. 10 Minutes)

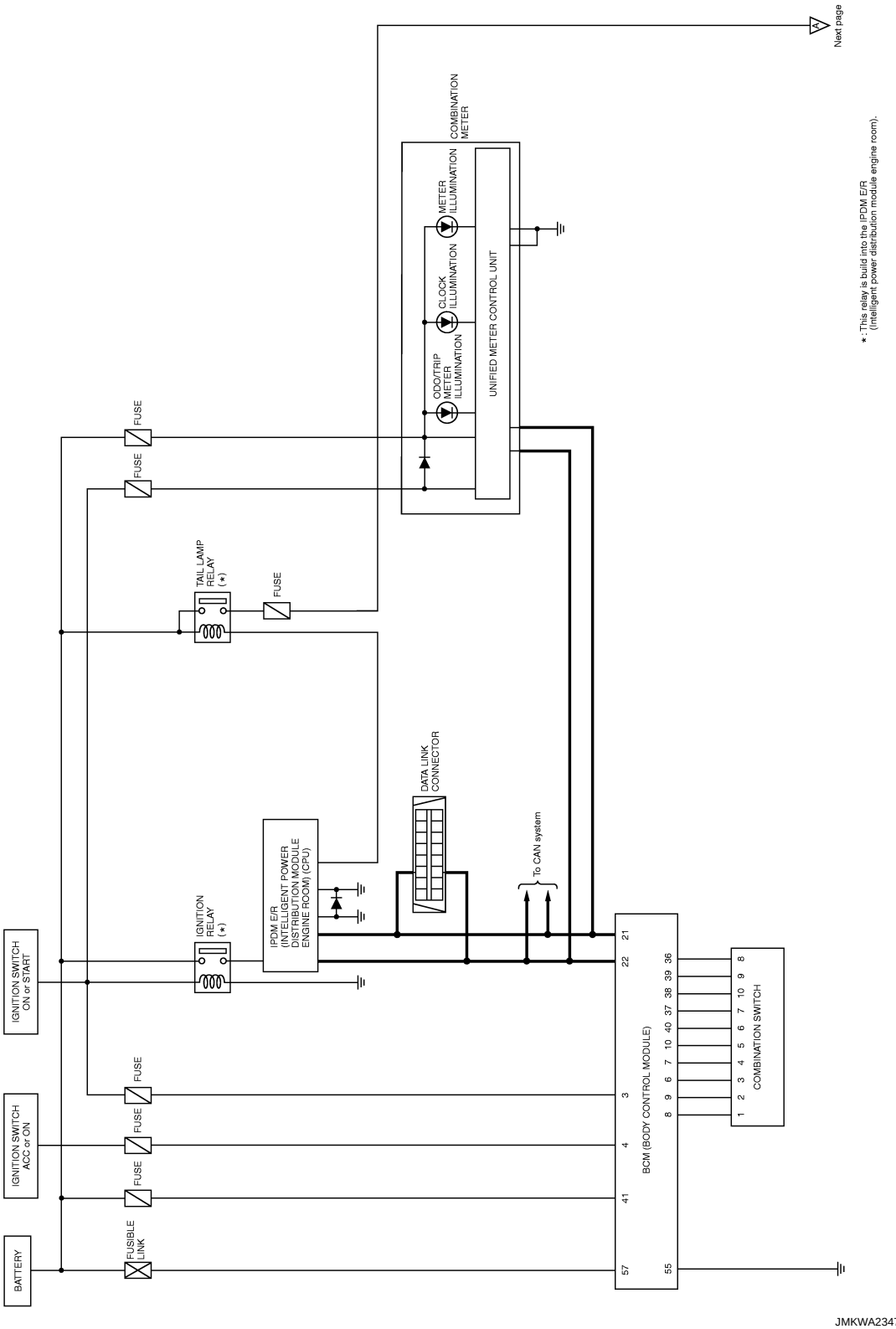
INFOID:0000000007734038

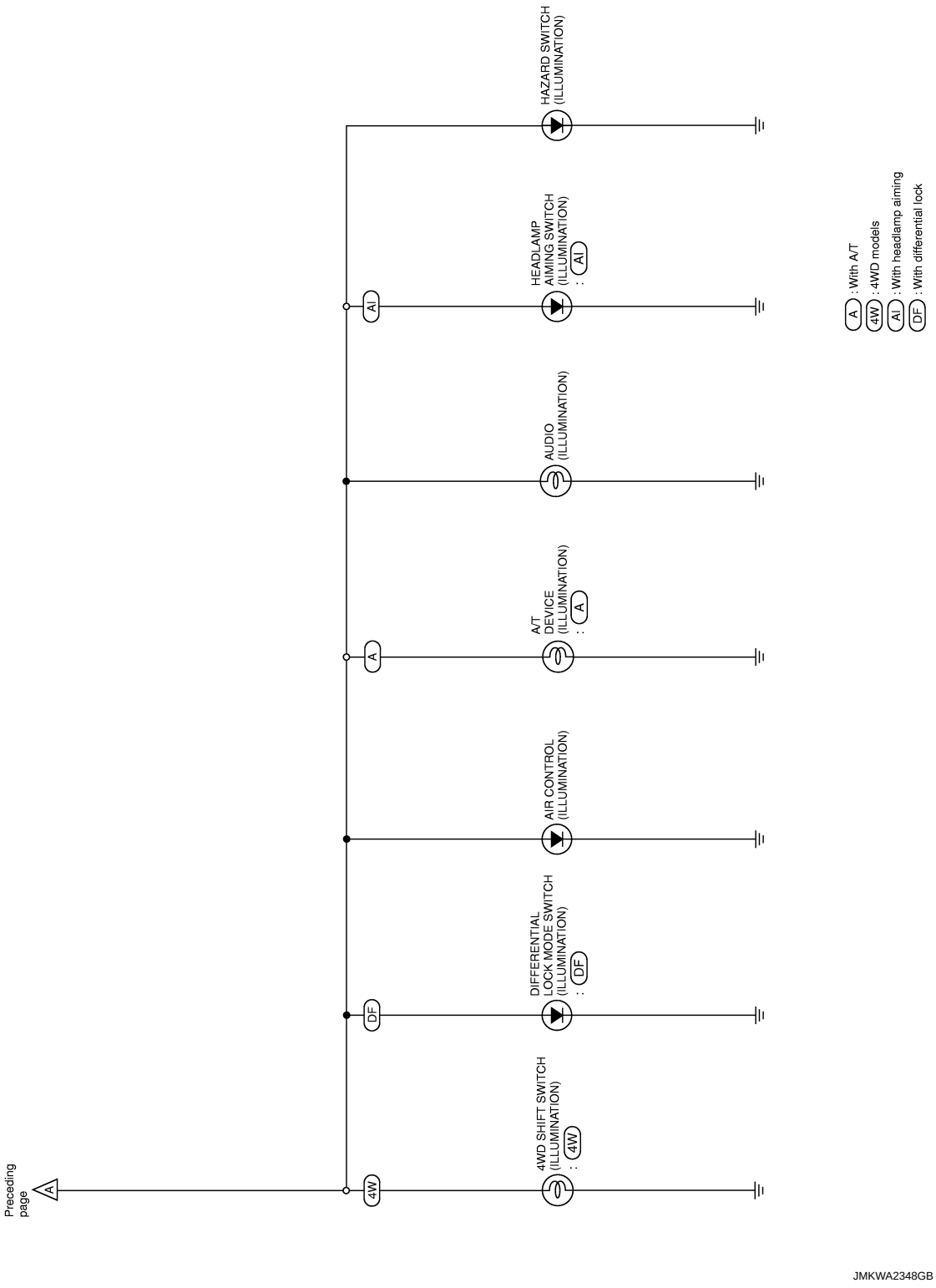
- This symptom indicates the malfunction of ignition relay in IPDM E/R.
- Select “LIGHT SW 1ST” of BCM (HEAD LAMP) data monitor item. If “LIGHT SW 1ST” is OFF when lighting switch is OFF, replace IPDM E/R.

ILLUMINATION

Schematic

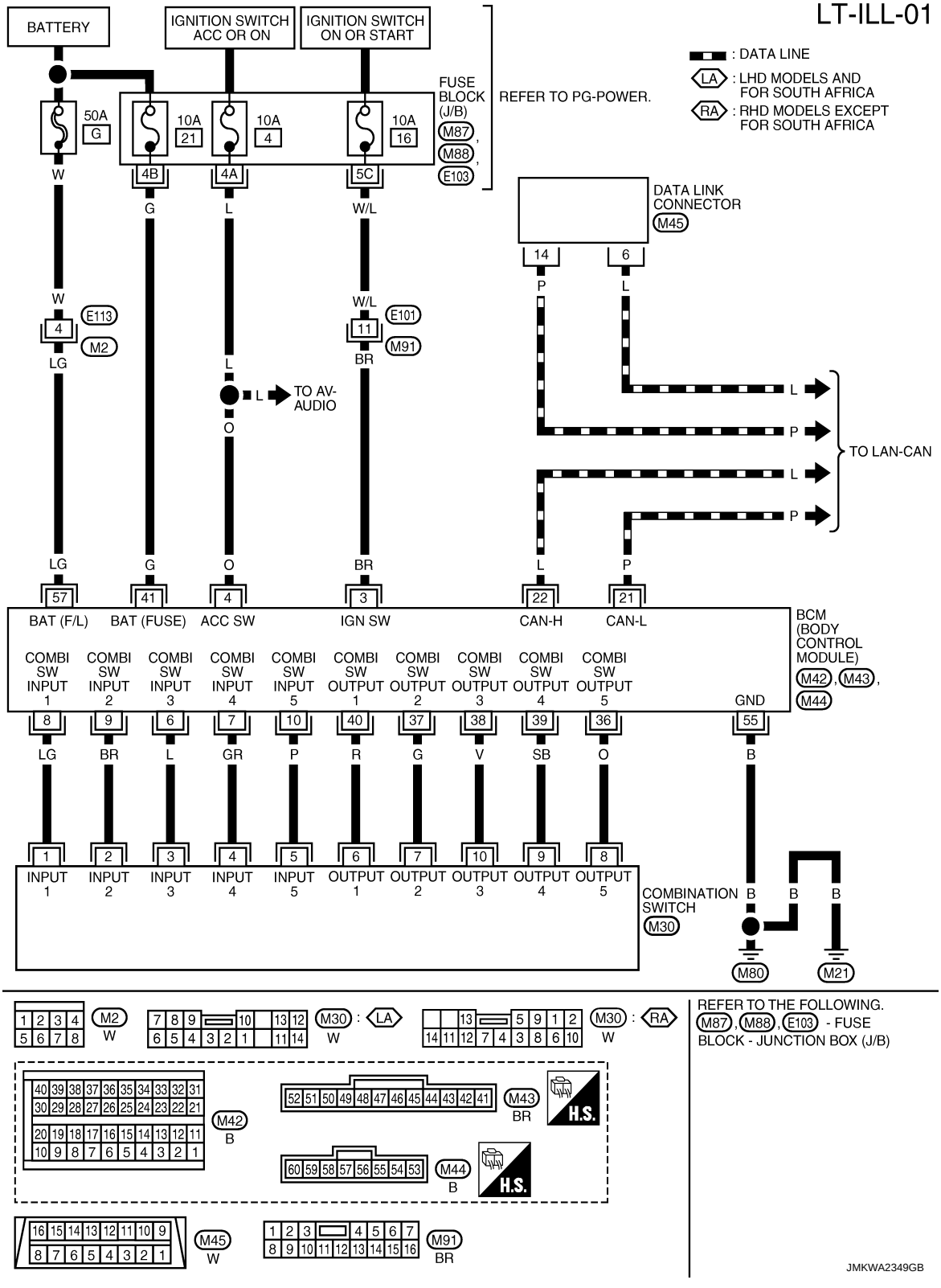
INFOID:0000000007740131

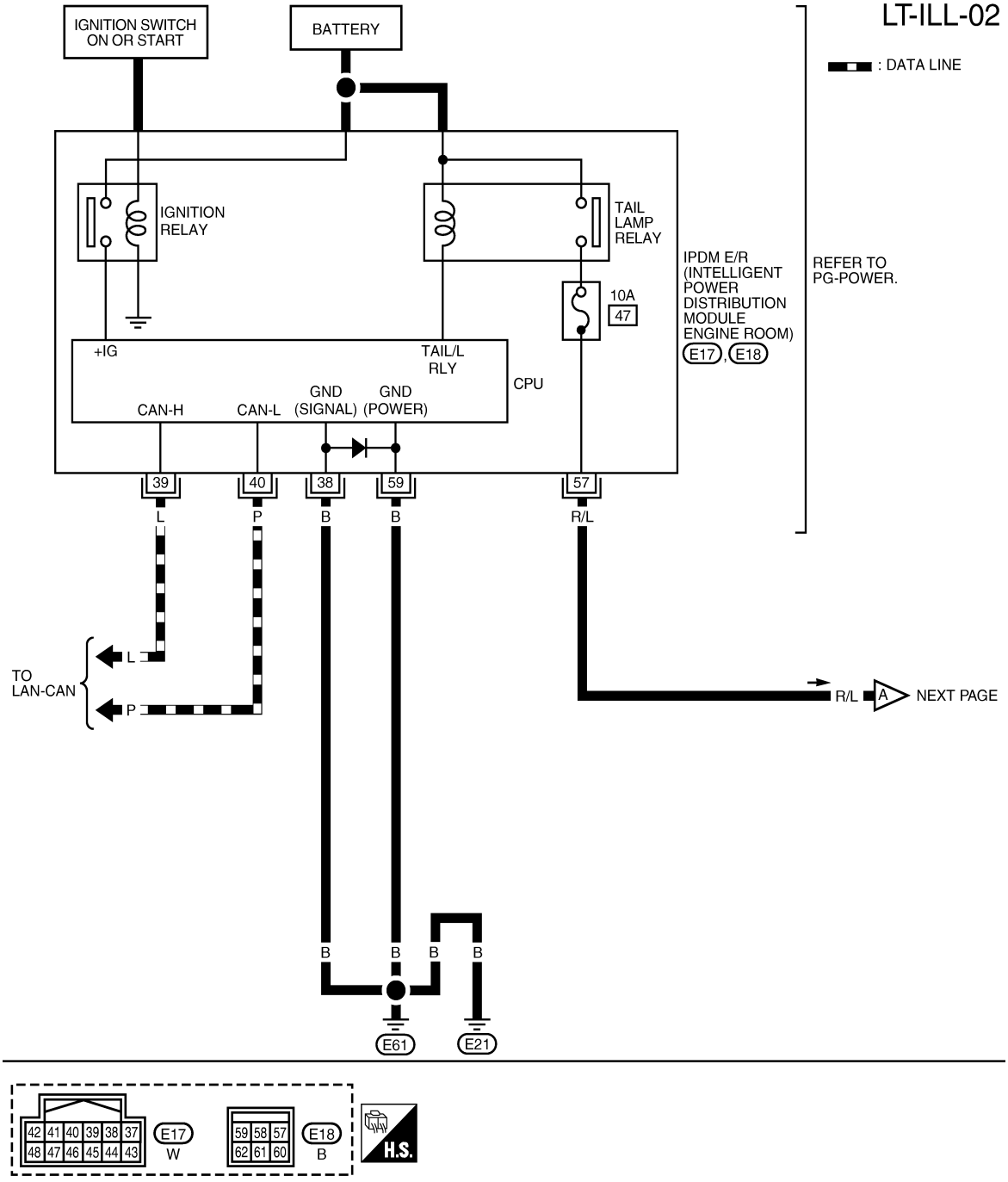



HAZARD SWITCH (ILLUMINATION)
HEADLAMP AIMING SWITCH (ILLUMINATION) : AI
AUDIO (ILLUMINATION)
A/T DEVICE (ILLUMINATION) : A
AIR CONTROL (ILLUMINATION)
DIFFERENTIAL LOCK MODE SWITCH (ILLUMINATION) : DF
4WD SHIFT SWITCH (ILLUMINATION) : 4W
AI
A
DF
4W
Preceding page
A : With A/T
4W : 4WD models
AI : With headlamp aiming
DF : With differential lock
JMKWA2348GB

Wiring Diagram - ILL -

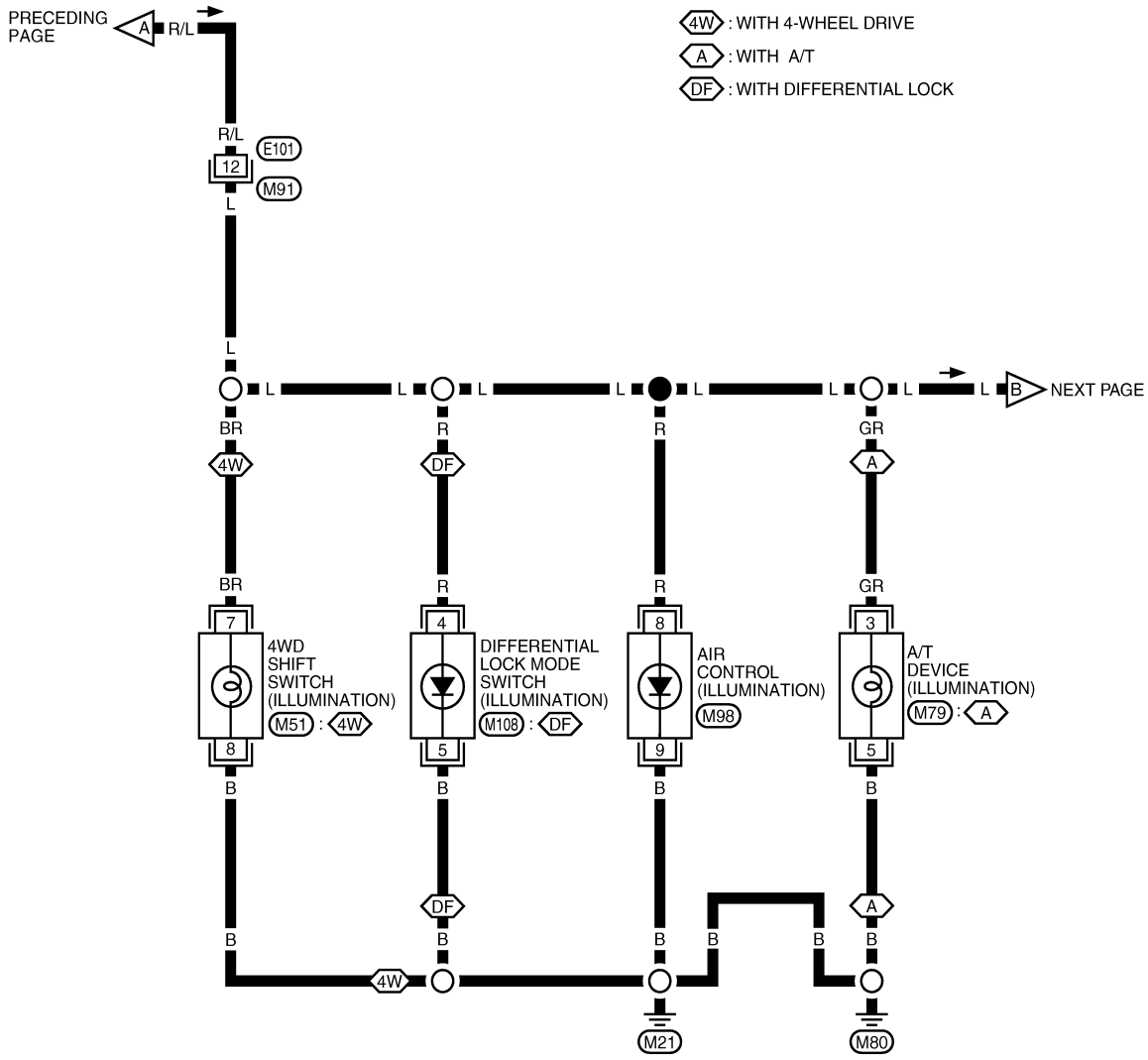
INFOID:0000000007740132

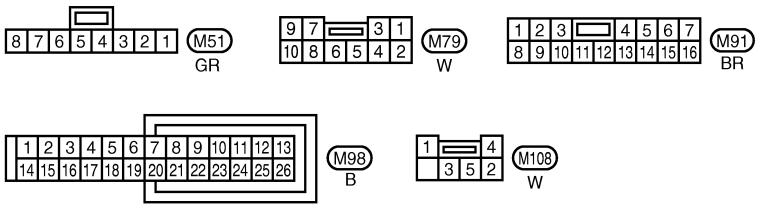




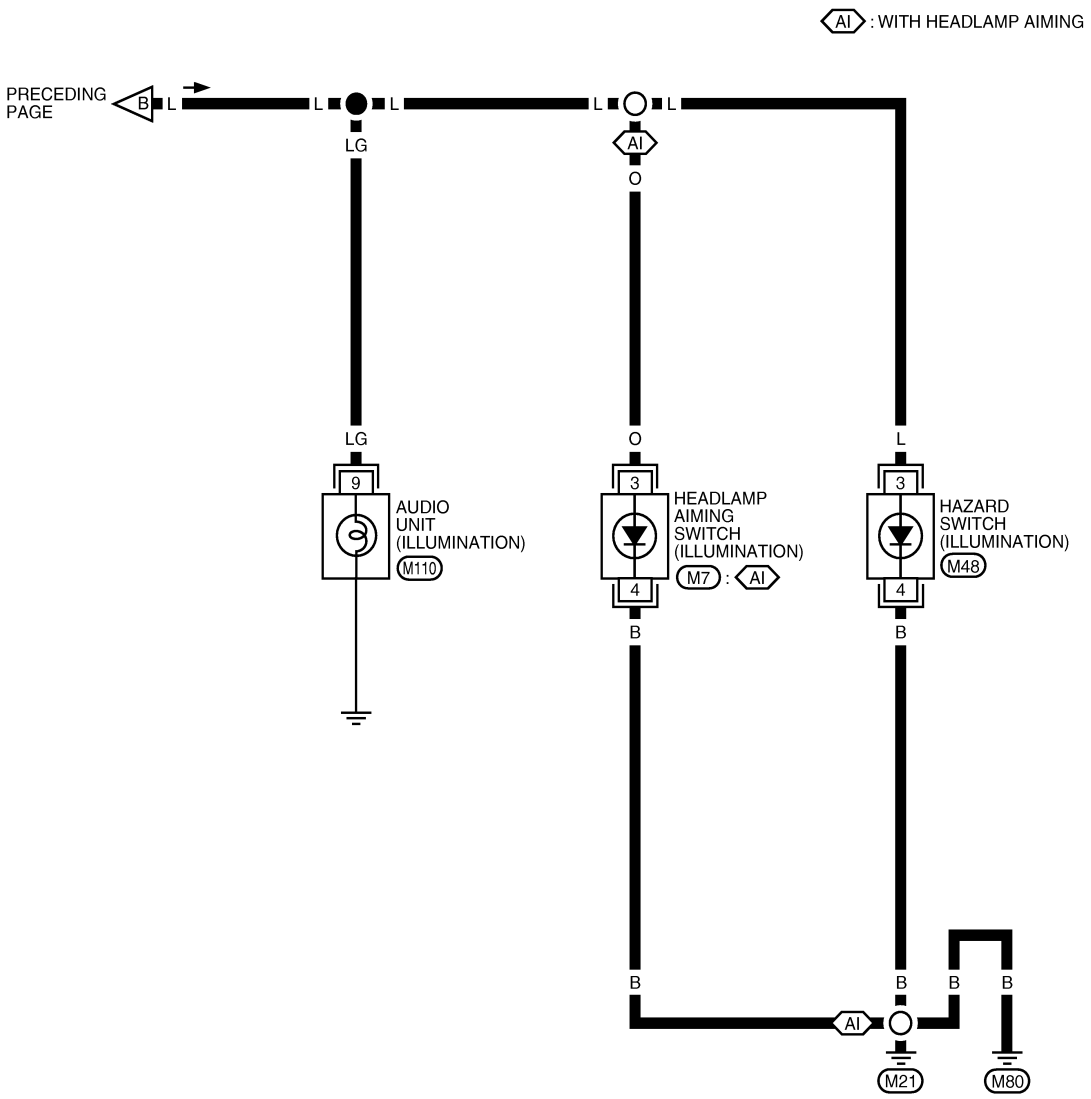
JMKWA2350GB

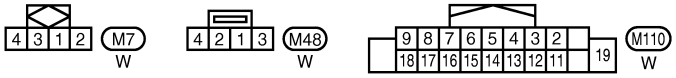
LT-ILL-03





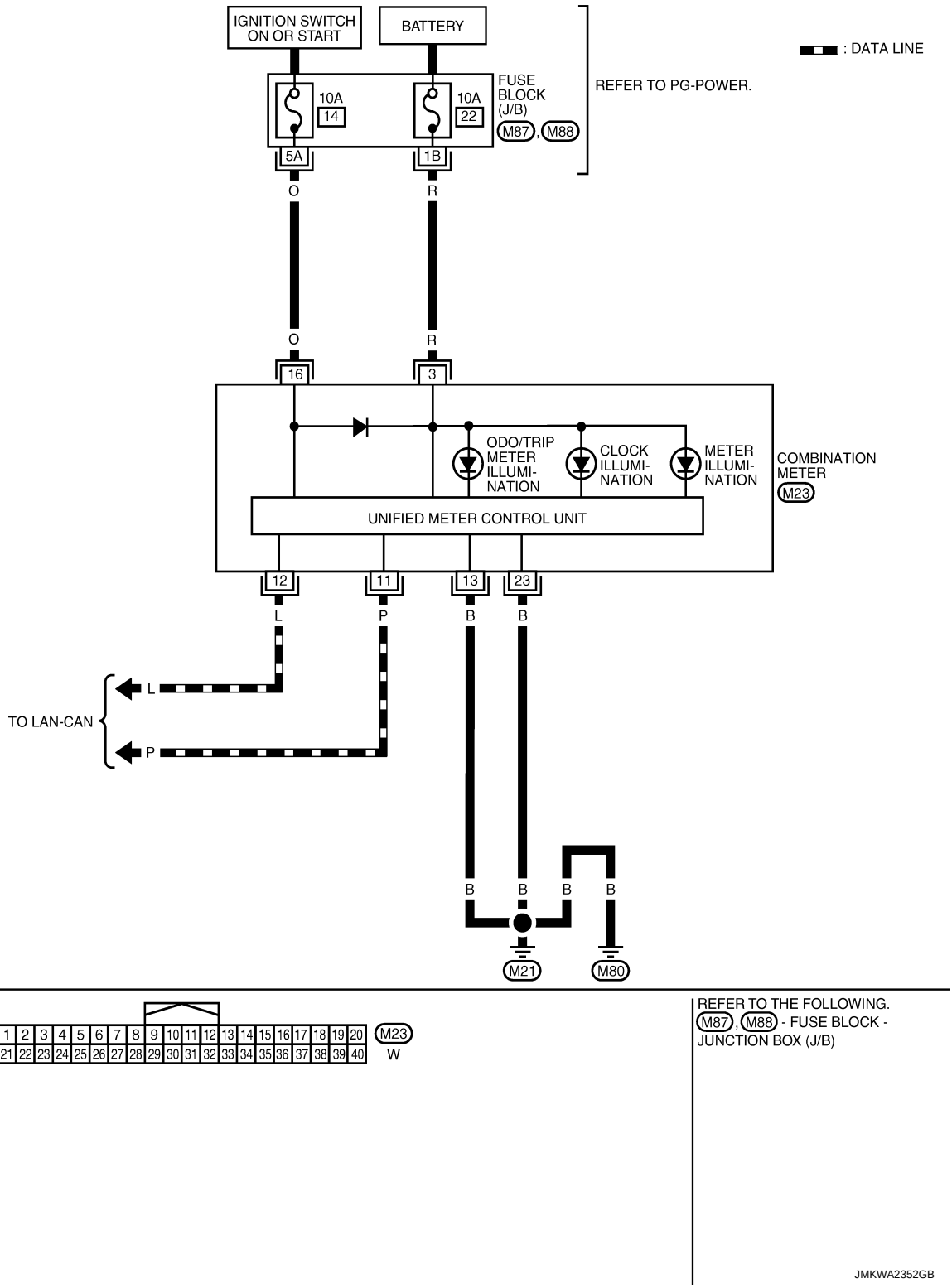
JMKWA2351GB


AI : WITH HEADLAMP AIMING
PRECEDING PAGE
B
L
LG
AI
O
9
AUDIO UNIT (ILLUMINATION)
M110
3
4
HEADLAMP AIMING SWITCH (ILLUMINATION)
M7 : AI
HAZARD SWITCH (ILLUMINATION)
M48
M21
M80


M7
W
M48
W
M110
W

PKWD1696E

LT-ILL-05


IGNITION SWITCH ON OR START
BATTERY
: DATA LINE
FUSE BLOCK (J/B) M87, M88
10A 14
10A 22
5A
1B
REFER TO PG-POWER.
O
R
16
3
ODO/TRIP METER ILLUMI-NATION
CLOCK ILLUMI-NATION
METER ILLUMI-NATION
COMBINATION METER M23
UNIFIED METER CONTROL UNIT
12
11
13
23
L
P
B
B
TO LAN-CAN
L
P
B
B
B
B
M21
M80
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
M23
W
REFER TO THE FOLLOWING.
M87, M88 - FUSE BLOCK - JUNCTION BOX (J/B)
JMKWA2352GB