SECTION BL

BODY, LOCK & SECURITY SYSTEM

CONTENTS

PRECAUTIONS

PFP:00001

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

EIS0014O

The Supplemental Restraint System such as “AIR BAG” and “SEAT BELT PRE-TENSIONER”, used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

WARNING:

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

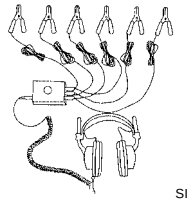
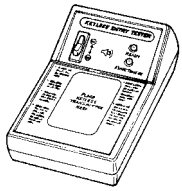
PREPARATION

PFP:00002

Special Service Tools

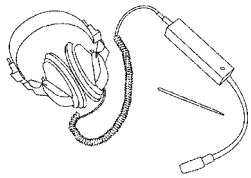
EIS0014P

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

Tool number (Kent-Moore No.) Tool name	Description
— (J-39570) Chassis ear  SIIA0993E	Locating the noise
— (J-43980) Nissan Squeak and Rattle kit  SIIA0994E	Repairing the cause of noise
— (J-43241) Remote Keyless Entry Tester  LEL946A	Used to test keyfobs

Commercial Service Tools

EIS0014Q

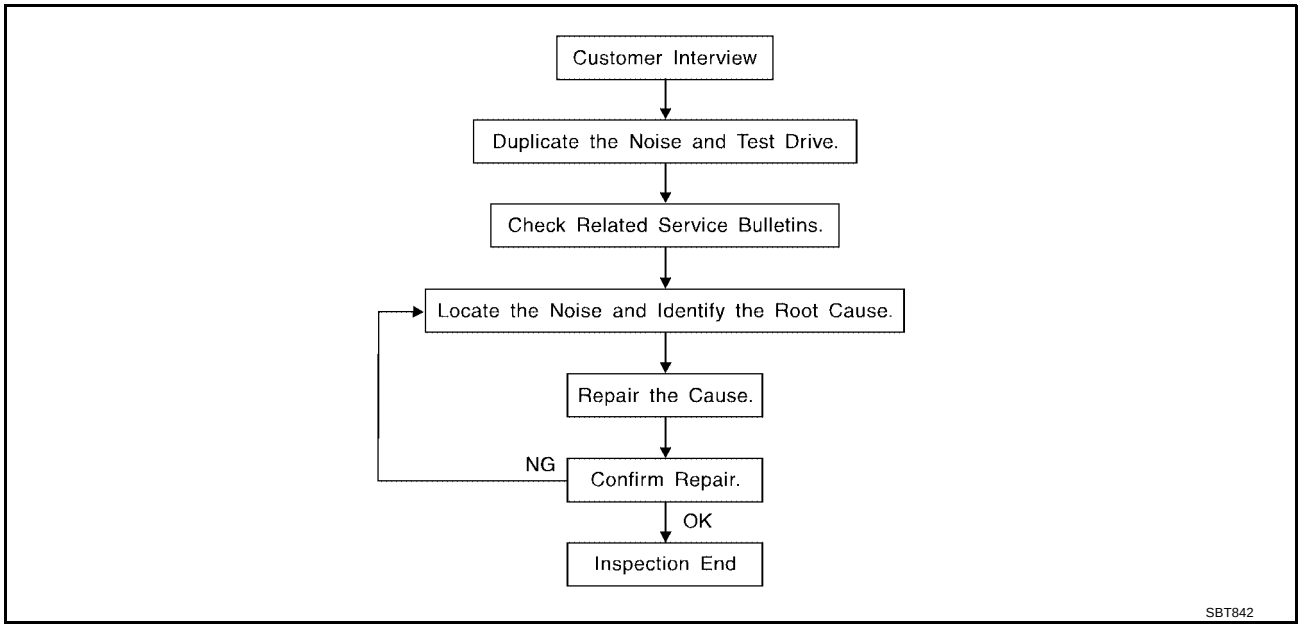
Tool name	Description
Engine ear (J-39565)  SIIA0995E	Locating the noise

SQUEAK AND RATTLE TROUBLE DIAGNOSES

PFP:00003

Work Flow

EIS0014R



CUSTOMER INTERVIEW

Interview the customer, if possible, to determine the conditions that exist when the noise occurs. Use the Diagnostic Worksheet during the interview to document the facts and conditions when the noise occurs and any customer's comments; refer to BL-10, "Diagnostic Worksheet" . This information is necessary to duplicate the conditions that exist when the noise occurs.

- The customer may not be able to provide a detailed description or the location of the noise. Attempt to obtain all the facts and conditions that exist when the noise occurs (or does not occur).
- If there is more than one noise in the vehicle, be sure to diagnose and repair the noise that the customer is concerned about. This can be accomplished by test driving the vehicle with the customer.
- After identifying the type of noise, isolate the noise in terms of its characteristics. The noise characteristics are provided so the customer, service adviser and technician are all speaking the same language when defining the noise.

– Squeak — (Like tennis shoes on a clean floor)
Squeak characteristics include the light contact/fast movement/brought on by road conditions/hard surfaces = higher pitch noise/softer surfaces = lower pitch noises/edge to surface = chirping

– Creak — (Like walking on an old wooden floor)
Creak characteristics include firm contact/slow movement/twisting with a rotational movement/pitch dependent on materials/often brought on by activity.

– Rattle — (Like shaking a baby rattle)
Rattle characteristics include the fast repeated contact/vibration or similar movement/loose parts/missing clip or fastener/incorrect clearance.

– Knock — (Like a knock on a door)
Knock characteristics include hollow sounding/sometimes repeating/often brought on by driver action.

– Tick — (Like a clock second hand)
Tick characteristics include gentle contacting of light materials/loose components/can be caused by driver action or road conditions.

– Thump — (Heavy, muffled knock noise)
Thump characteristics include softer knock/dead sound often brought on by activity.

– Buzz — (Like a bumblebee)
Buzz characteristics include high frequency rattle/firm contact.

- Often the degree of acceptable noise level will vary depending upon the person. A noise that you may judge as acceptable may be very irritating to the customer.
- Weather conditions, especially humidity and temperature, may have a great effect on noise level.

DUPLICATE THE NOISE AND TEST DRIVE

If possible, drive the vehicle with the customer until the noise is duplicated. Note any additional information on the Diagnostic Worksheet regarding the conditions or location of the noise. This information can be used to duplicate the same conditions when you confirm the repair.
If the noise can be duplicated easily during the test drive, to help identify the source of the noise, try to duplicate the noise with the vehicle stopped by doing one or all of the following:

1. Close a door.
2. Tap or push/pull around the area where the noise appears to be coming from.
3. Rev the engine.
4. Use a floor jack to recreate vehicle “twist”.
5. At idle, apply engine load (electrical load, half-clutch on M/T model, drive position on A/T model).
6. Raise the vehicle on a hoist and hit a tire with a rubber hammer.

- Drive the vehicle and attempt to duplicate the conditions the customer states exist when the noise occurs.
- If it is difficult to duplicate the noise, drive the vehicle slowly on an undulating or rough road to stress the vehicle body.

CHECK RELATED SERVICE BULLETINS

After verifying the customer concern or symptom, check ASIST for Technical Service Bulletins (TSBs) related to that concern or symptom.
If a TSB relates to the symptom, follow the procedure to repair the noise.

LOCATE THE NOISE AND IDENTIFY THE ROOT CAUSE

1. Narrow down the noise to a general area. To help pinpoint the source of the noise, use a listening tool (Chassis Ear: J-39570, Engine Ear: J-39565 and mechanics stethoscope).
2. Narrow down the noise to a more specific area and identify the cause of the noise by:
   - Removing the components in the area that you suspect the noise is coming from.
     Do not use too much force when removing clips and fasteners, otherwise clips and fasteners can be broken or lost during the repair, resulting in the creation of new noise.
   - Tapping or pushing/pulling the component that you suspect is causing the noise.
     Do not tap or push/pull the component with excessive force, otherwise the noise will be eliminated only temporarily.
   - Feeling for a vibration with your hand by touching the component(s) that you suspect is (are) causing the noise.
   - Placing a piece of paper between components that you suspect are causing the noise.
   - Looking for loose components and contact marks.

   Refer to BL-7, "Generic Squeak and Rattle Troubleshooting" .

REPAIR THE CAUSE

- If the cause is a loose component, tighten the component securely.
- If the cause is insufficient clearance between components:

– Separate components by repositioning or loosening and retightening the component, if possible.
– Insulate components with a suitable insulator such as urethane pads, foam blocks, felt cloth tape or urethane tape. A Nissan Squeak and Rattle Kit (J-43980) is available through your authorized Nissan Parts Department.

CAUTION:
Do not use excessive force as many components are constructed of plastic and may be damaged. Always check with the Parts Department for the latest parts information.

The following materials are contained in the Nissan Squeak and Rattle Kit (J-43980). Each item can be ordered separately as needed.
URETHANE PADS [1.5 mm (0.059 in) thick]
Insulates connectors, harness, etc.
76268-9E005: 100 x 135 mm (3.94 x 5.31 in)/76884-71L01: 60 x 85 mm (2.36 x 3.35 in)/76884-71L02: 15 x 25 mm (0.59 x 0.98 in)
INSULATOR (Foam blocks)
Insulates components from contact. Can be used to fill space behind a panel.

73982-9E000: 45 mm (1.77 in) thick, 50 x 50 mm (1.97 x 1.97 in)/73982-50Y00: 10 mm (0.39 in) thick, 50 x 50 mm (1.97 x 1.97 in)
INSULATOR (Light foam block)
80845-71L00: 30 mm (1.18 in) thick, 30 x 50 mm (1.18 x 1.97 in)
FELT CLOTH TAPE
Used to insulate where movement does not occur. Ideal for instrument panel applications.
68370-4B000: 15 x 25 mm (0.59 x 0.98 in) pad/68239-13E00: 5 mm (0.20 in) wide tape roll
The following materials, not found in the kit, can also be used to repair squeaks and rattles.
UHMW (TEFLON) TAPE
Insulates where slight movement is present. Ideal for instrument panel applications.
SILICONE GREASE
Used in place of UHMW tape that will be visible or not fit.
Note: Will only last a few months.
SILICONE SPRAY
Use when grease cannot be applied.
DUCT TAPE
Use to eliminate movement.

CONFIRM THE REPAIR

Confirm that the cause of a noise is repaired by test driving the vehicle. Operate the vehicle under the same conditions as when the noise originally occurred. Refer to the notes on the Diagnostic Worksheet.

Generic Squeak and Rattle Troubleshooting

EIS0014S

Refer to Table of Contents for specific component removal and installation information.

INSTRUMENT PANEL

Most incidents are caused by contact and movement between:

1. The cluster lid A and instrument panel
2. Acrylic lens and combination meter housing
3. Instrument panel to front pillar garnish
4. Instrument panel to windshield
5. Instrument panel mounting pins
6. Wiring harnesses behind the combination meter
7. A/C defroster duct and duct joint

These incidents can usually be located by tapping or moving the components to duplicate the noise or by pressing on the components while driving to stop the noise. Most of these incidents can be repaired by applying felt cloth tape or silicone spray (in hard to reach areas). Urethane pads can be used to insulate wiring harness.

CAUTION:
Do not use silicone spray to isolate a squeak or rattle. If you saturate the area with silicone, you will not be able to recheck the repair.

CENTER CONSOLE

Components to pay attention to include:

1. Shifter assembly cover to finisher
2. A/C control unit and upper/lower cluster lid C
3. Wiring harnesses behind audio and A/C control unit

The instrument panel repair and isolation procedures also apply to the center console.

DOORS

Pay attention to the:

1. Finisher and inner panel making a slapping noise
2. Inside handle escutcheon to door finisher
3. Wiring harnesses tapping
4. Door striker out of alignment causing a popping noise on starts and stops

Tapping or moving the components or pressing on them while driving to duplicate the conditions can isolate many of these incidents. You can usually insulate the areas with felt cloth tape or insulator foam blocks from the Nissan Squeak and Rattle Kit (J-43980) to repair the noise.

TRUNK

Trunk noises are often caused by a loose jack or loose items put into the trunk by the owner.
In addition look for:

1. Trunk lid bumpers out of adjustment
2. Trunk lid striker out of adjustment
3. The trunk lid torsion bars knocking together
4. A loose license plate or bracket

Most of these incidents can be repaired by adjusting, securing or insulating the item(s) or component(s) causing the noise.

SUNROOF/HEADLINER

Noises in the sunroof/headliner area can often be traced to one of the following:

1. Sunroof lid, rail, linkage or seals making a rattle or light knocking noise
2. Sun visor shaft shaking in the holder
3. Front or rear windshield touching headliner and squeaking

Again, pressing on the components to stop the noise while duplicating the conditions can isolate most of these incidents. Repairs usually consist of insulating with felt cloth tape.

SEATS

When isolating seat noises it is important to note the position the seat is in and the load placed on the seat when the noise is present. These conditions should be duplicated when verifying and isolating the cause of the noise.
Cause of seat noise include:

1. Headrest rods and holders
2. A squeak between the seat pad cushion and frame
3. The rear seat back lock and bracket

These noises can be isolated by moving or pressing on the suspected components while duplicating the conditions under which the noise occurs. Most of these incidents can be repaired by repositioning the component or applying urethane tape to the contact area.

UNDERHOOD

Some interior noises may be caused by components under the hood or on the engine wall. The noise is then transmitted into the passenger compartment.
Causes of transmitted underhood noises include:

1. Any component mounted to the engine wall
2. Components that pass through the engine wall
3. Engine wall mounts and connectors
4. Loose radiator mounting pins
5. Hood bumpers out of adjustment
6. Hood striker out of adjustment

These noises can be difficult to isolate since they cannot be reached from the interior of the vehicle. The best method is to secure, move or insulate one component at a time and test drive the vehicle. Also, engine RPM or load can be changed to isolate the noise. Repairs can usually be made by moving, adjusting, securing, or insulating the component causing the noise.

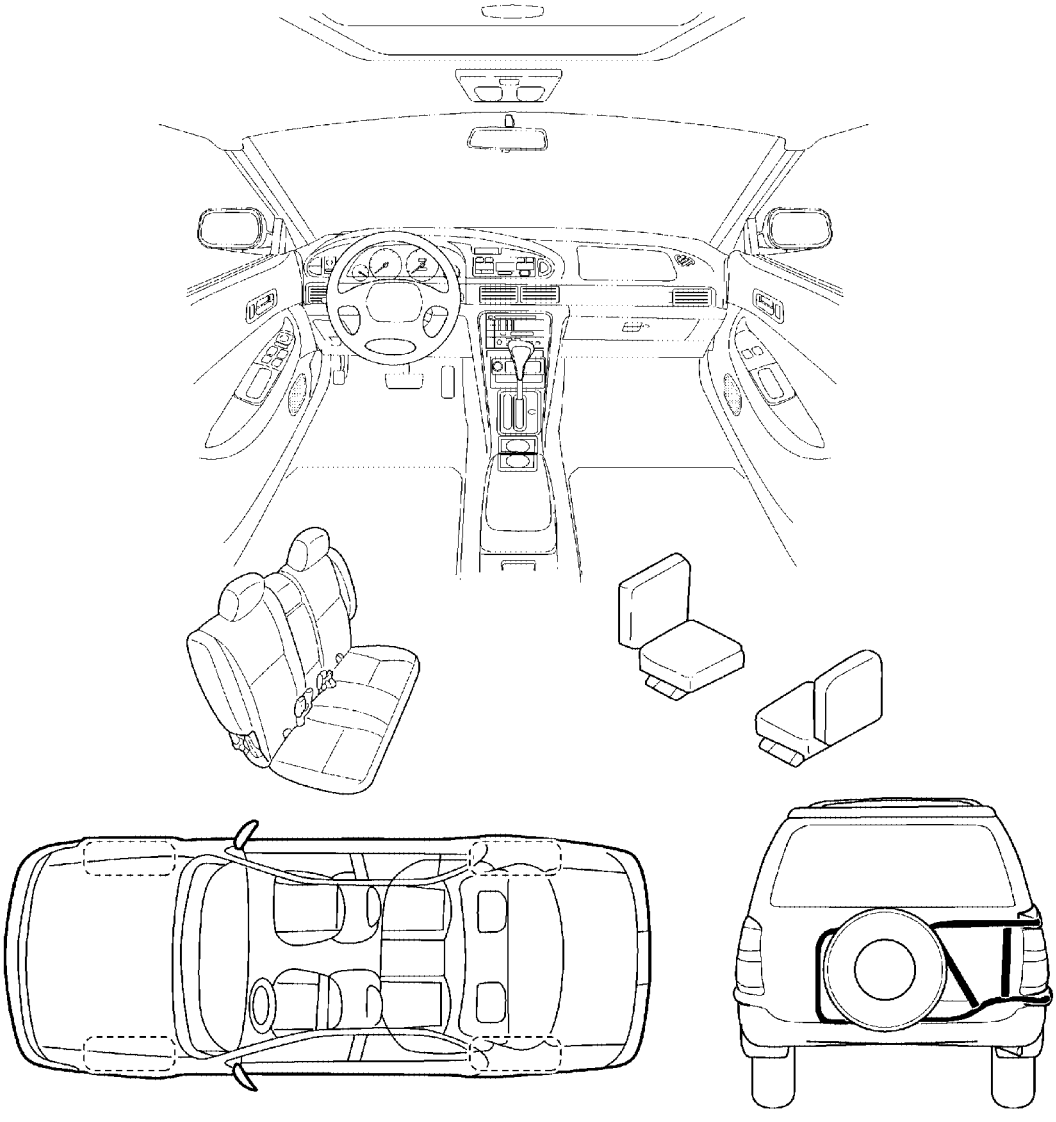
Diagnostic Worksheet

EIS0014T

SQUEAK & RATTLE DIAGNOSTIC WORKSHEET

Dear Nissan Customer:
We are concerned about your satisfaction with your Nissan vehicle. Repairing a squeak or rattle sometimes can be very difficult. To help us fix your Nissan right the first time, please take a moment to note the area of the vehicle where the squeak or rattle occurs and under what conditions. You may be asked to take a test drive with a service advisor or technician to ensure we confirm the noise you are hearing.

I. WHERE DOES THE NOISE COME FROM? (circle the area of the vehicle)
The illustrations are for reference only, and may not reflect the actual configuration of your vehicle.



Continue to the back of the worksheet and briefly describe the location of the noise or rattle. In addition, please indicate the conditions which are present when the noise occurs.

SBT843

SQUEAK & RATTLE DIAGNOSTIC WORKSHEET- page 2

Briefly describe the location where the noise occurs:

_____

_____

II. WHEN DOES IT OCCUR? (check the boxes that apply)

❑ anytime
❑ 1st time in the morning
❑ only when it is cold outside
❑ only when it is hot outside
❑ after sitting out in the sun
❑ when it is raining or wet
❑ dry or dusty conditions
❑ other: _____

III. WHEN DRIVING:

❑ through driveways
❑ over rough roads
❑ over speed bumps
❑ only at about _____ mph
❑ on acceleration
❑ coming to a stop
❑ on turns : left, right or either (circle)
❑ with passengers or cargo
❑ other: _____
❑ after driving _____ miles or _____ minutes

IV. WHAT TYPE OF NOISE?

❑ squeak (like tennis shoes on a clean floor)
❑ creak (like walking on an old wooden floor)
❑ rattle (like shaking a baby rattle)
❑ knock (like a knock on a door)
❑ tick (like a clock second hand)
❑ thump (heavy, muffled knock noise)
❑ buzz (like a bumble bee)

TO BE COMPLETED BY DEALERSHIP PERSONNEL
Test Drive Notes:

_____

_____

	YES	NO	Initials of person performing
Vehicle test driven with customer	❑	❑	_____
- Noise verified on test drive	❑	❑	
- Noise source located and repaired	❑	❑	_____
- Follow up test drive performed to confirm repair	❑	❑	_____

VIN: _____ Customer Name: _____

W.O. #: _____ Date: _____

This form must be attached to Work Order

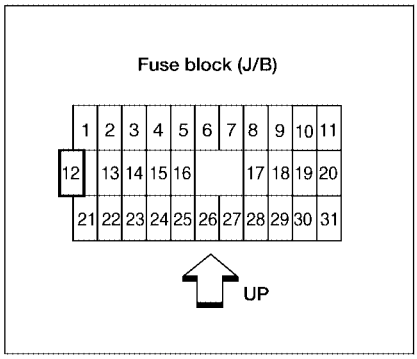
SBT844

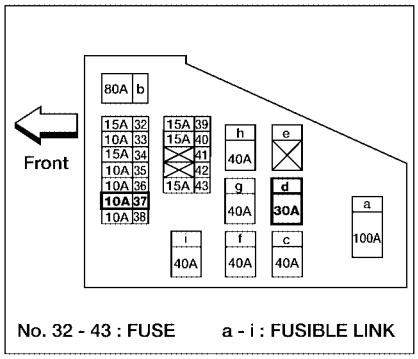
POWER DOOR LOCK

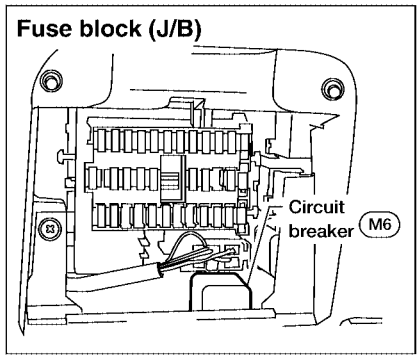
PFP:24814

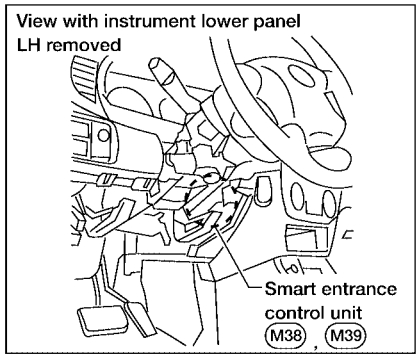
Component Parts and Harness Connector Location

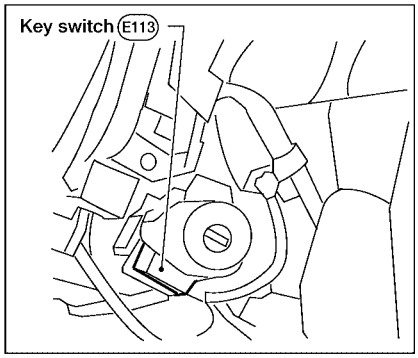
EIS0014U

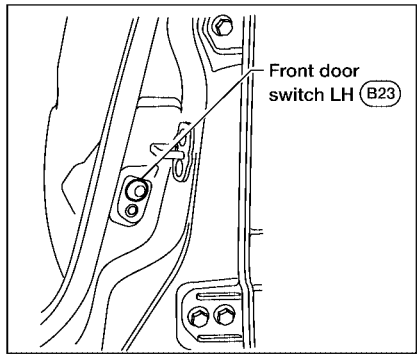


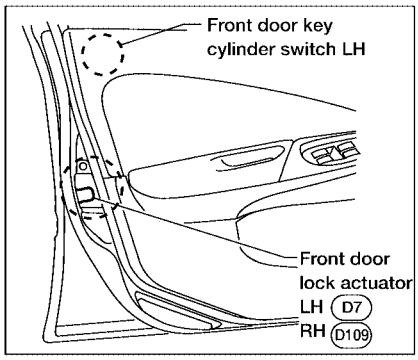


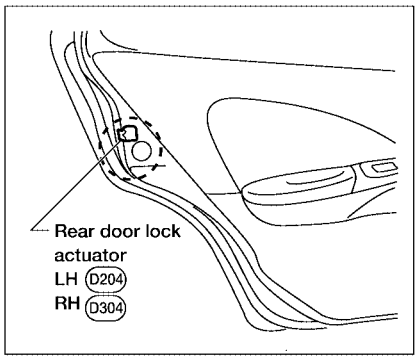


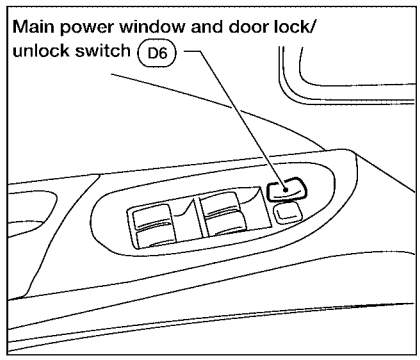


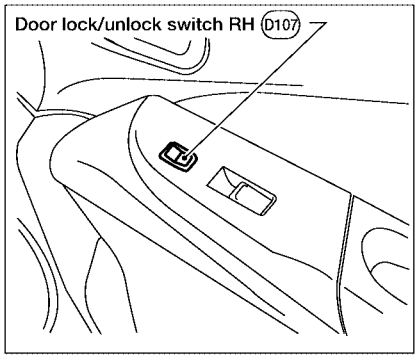












WIIA0005E

System Description

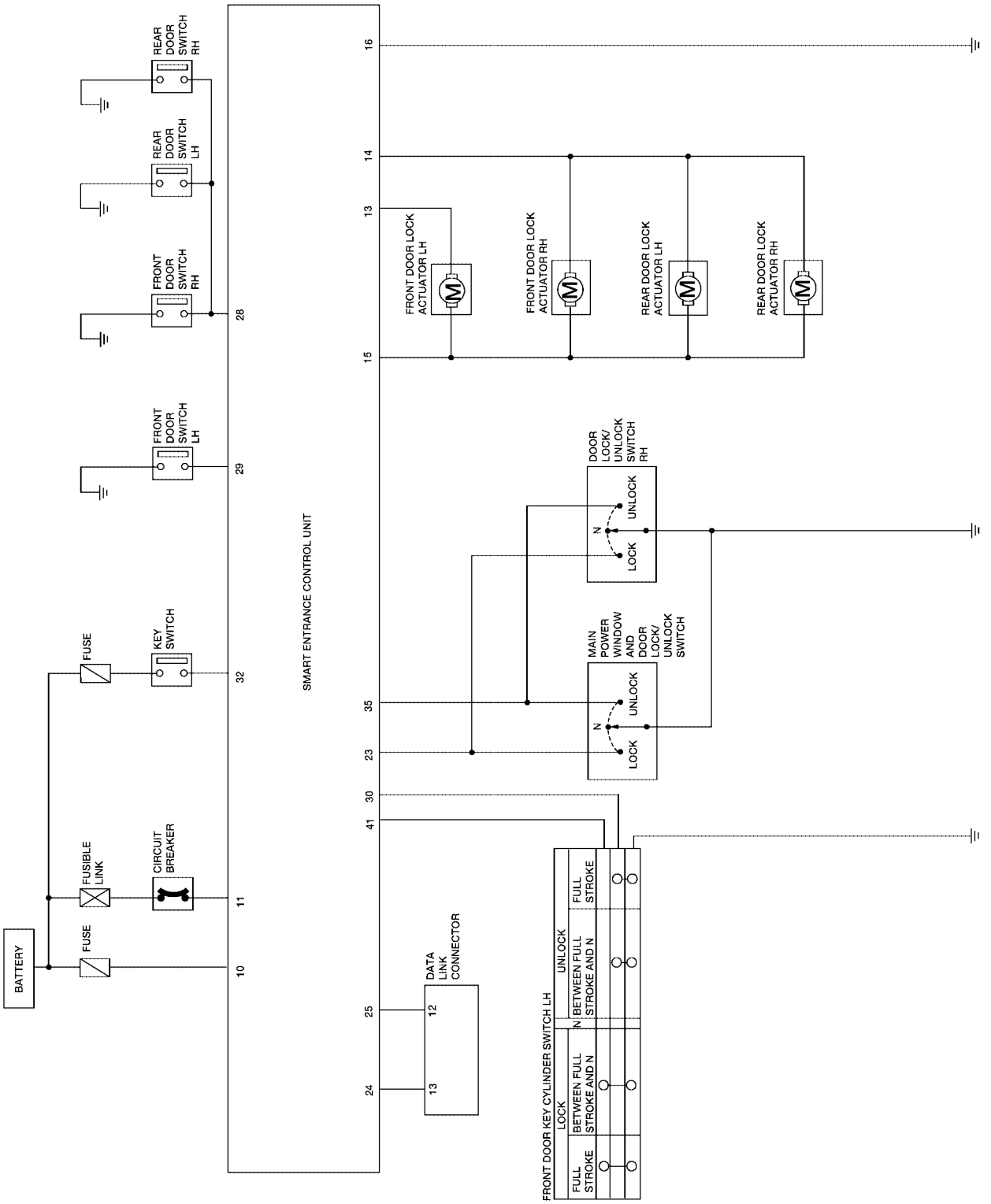
EIS0014V

OPERATION

- The lock/unlock switches (LH and RH) on door trim can lock and unlock all doors.
- With the door key inserted in the key cylinder on front LH, turning it to “LOCK”, will lock all doors; turning it to “UNLOCK” once unlocks the corresponding door; turning it to “UNLOCK” again within 5 seconds after the first unlock operation unlocks all of the other doors. (Signals from door key cylinder switch.)
- If the ignition key is in the ignition key cylinder and one or more of the doors are open, setting the lock/unlock switch (LH or RH) to “LOCK” locks the doors once but then immediately unlocks them (KEY REMINDER DOOR SYSTEM).

Schematic

EIS0014W

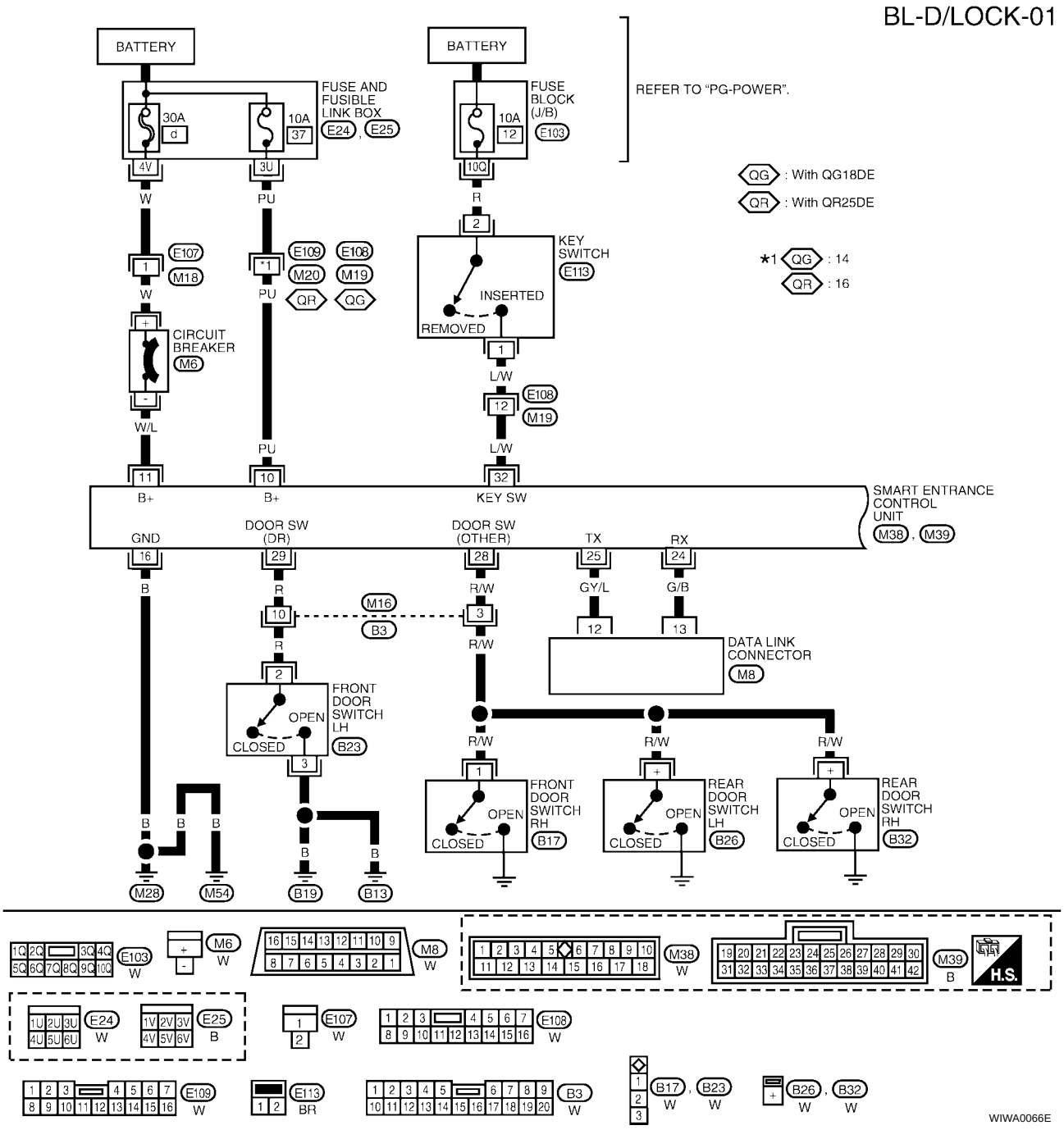


WIWA0014E

Wiring Diagram — D/LOCK —

EIS0014X

FIG. 1



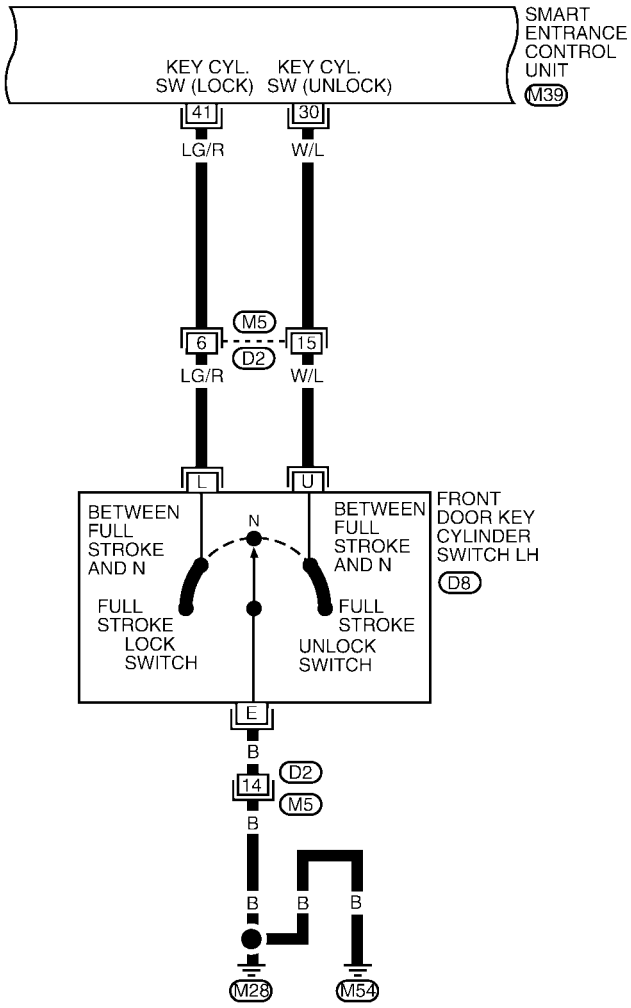
SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE MEASURED BETWEEN EACH TERMINAL AND GROUND

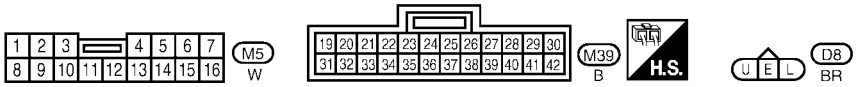
TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
10	PU	POWER SOURCE (FUSE)	—	12V
11	W/L	POWER SOURCE (CIRCUIT BREAKER)	—	12V
16	B	GROUND	—	—
28	R/W	OTHER DOOR SWITCHES	OFF (CLOSED)	5V
			ON (OPEN)	0V
29	R	FRONT DOOR SWITCH LH	OFF (CLOSED)	5V
			ON (OPEN)	0V
32	L/W	IGNITION KEY SWITCH (INSERT)	IGNITION KEY IS INSERTED	12V
			IGNITION KEY IS REMOVED	0V
33	G	IGNITION SWITCH (ON)	IGNITION KEY IS IN ON POSITION	12V
		IGNITION SWITCH (START)	IGNITION KEY IS IN START POSITION	12V

LEL606

FIG. 2

BL-D/LOCK-02





WIWA0067E

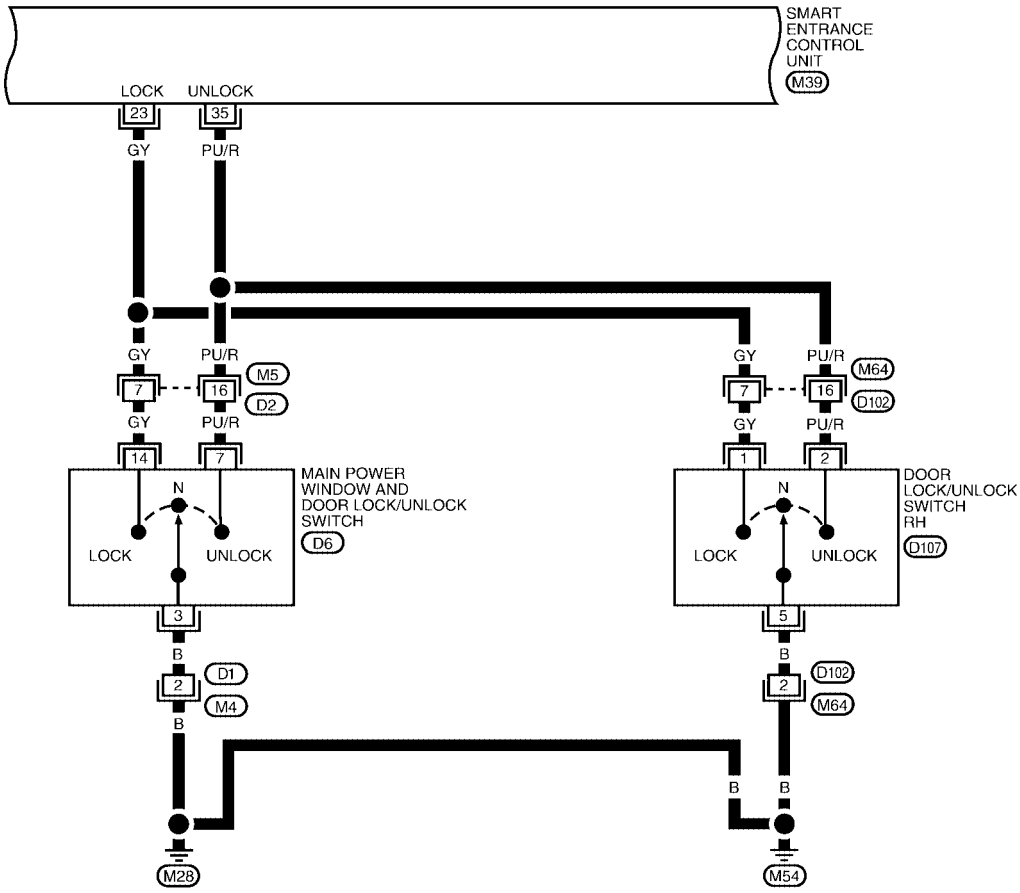
SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE MEASURED BETWEEN EACH TERMINAL AND GROUND

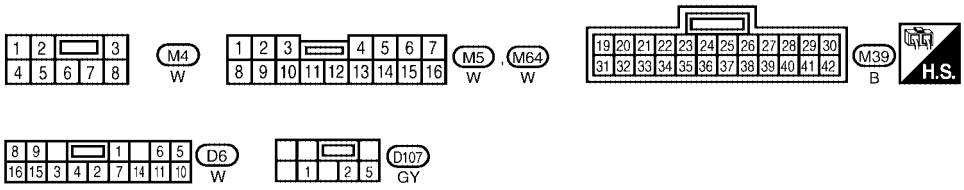
TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
30	W/L	DOOR KEY CYLINDER UNLOCK SWITCH	OFF (NEUTRAL)	5V
			ON (UNLOCKED)	0V
41	LG/R	DOOR KEY CYLINDER LOCK SWITCH	OFF (NEUTRAL)	5V
			ON (LOCKED)	0V

LEL607

FIG. 3

BL-D/LOCK-03





WIWA0021E

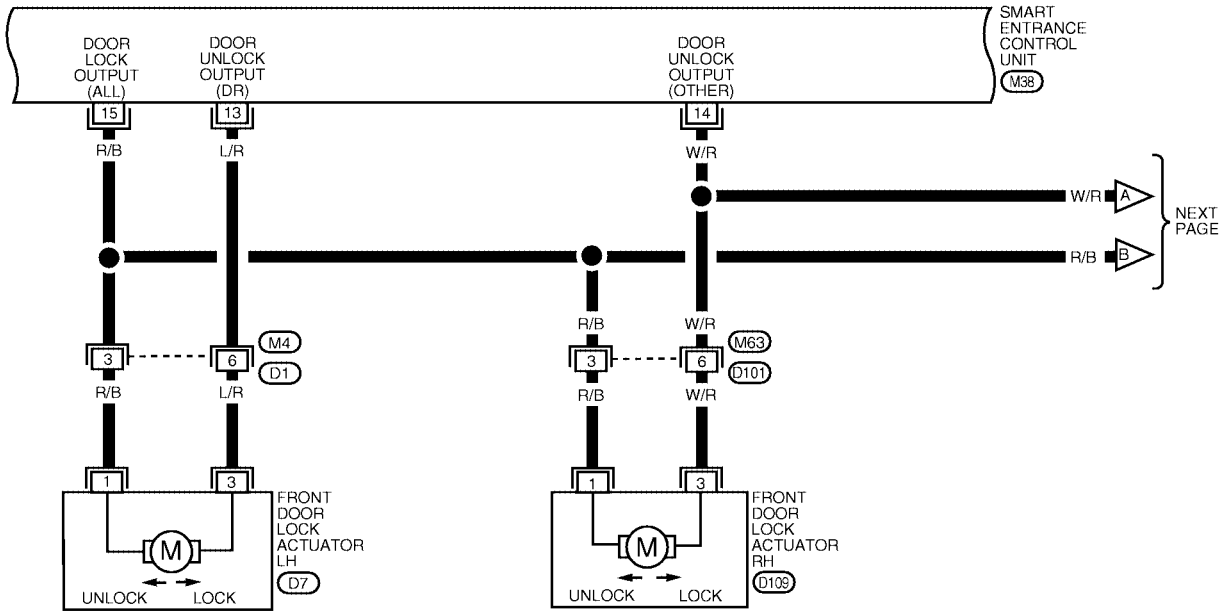
SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE MEASURED BETWEEN EACH TERMINAL AND GROUND

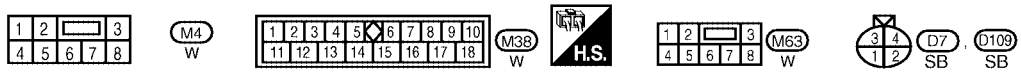
TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
23	GY	DOOR LOCK & UNLOCK SWITCHES	NEUTRAL	5V
			LOCKS	0V
35	PU/R	DOOR LOCK & UNLOCK SWITCHES	NEUTRAL	5V
			UNLOCKS	0V

LEL608

FIG. 4

BL-D/LOCK-04





WIWA0022E

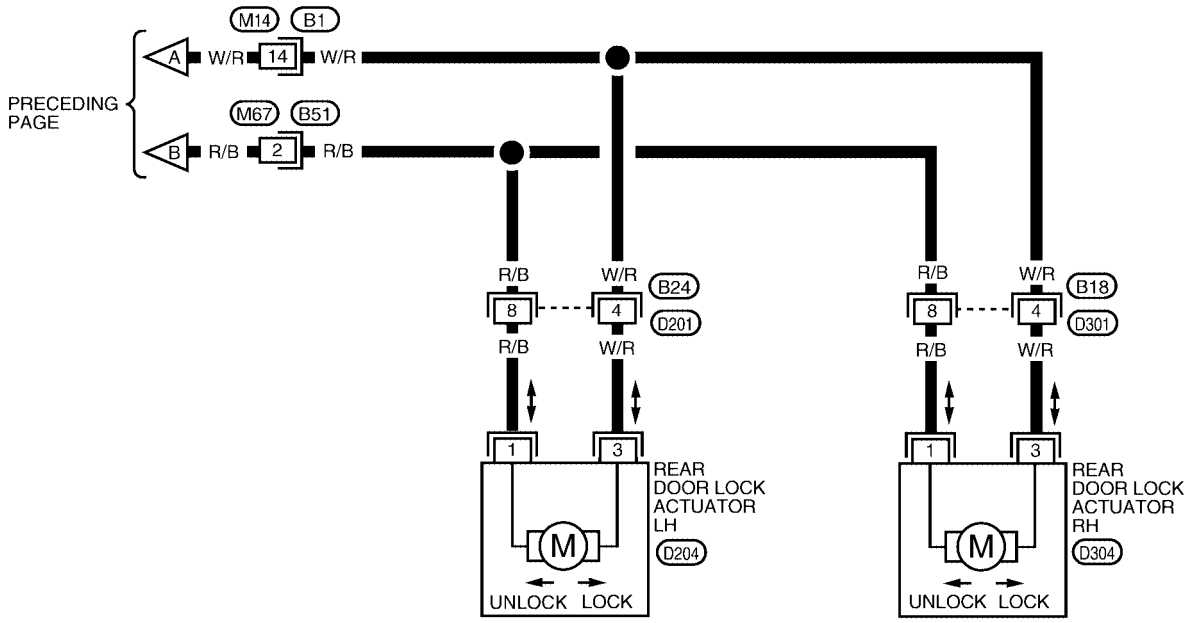
SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE MEASURED BETWEEN EACH TERMINAL AND GROUND

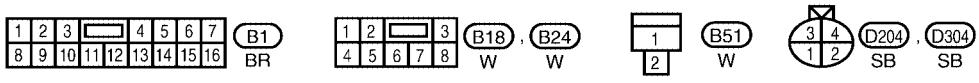
TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
13	L/R	DRIVER DOOR LOCK ACTUATOR	DOOR LOCK/ UNLOCK SWITCH (FREE)	0V
			DOOR LOCK/ UNLOCK SWITCH (UNLOCKED)	12V
14	W/R	PASSENGER AND REAR DOORS LOCK ACTUATORS	DOOR LOCK/ UNLOCK SWITCH (FREE)	0V
			DOOR LOCK/ UNLOCK SWITCH (UNLOCKED)	12V
15	R/B	DOOR LOCK ACTUATORS	DOOR LOCK/ UNLOCK SWITCH (FREE)	0V
			DOOR LOCK/ UNLOCK SWITCH (LOCKED)	12V
36	Y/G	DOOR UNLOCK SENSOR LH	DRIVER DOOR: LOCKED	5V
			DRIVER DOOR: UNLOCKED	0V

LEL609

FIG. 5

BL-D/LOCK-05





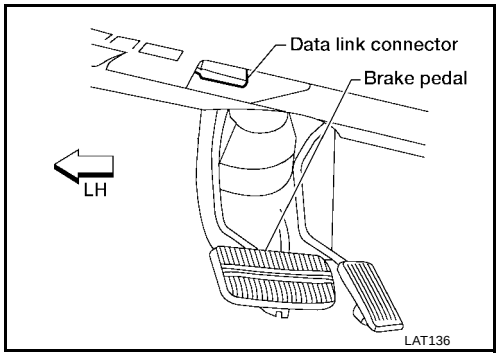
WIWA0068E

CONSULT-II Inspection Procedure

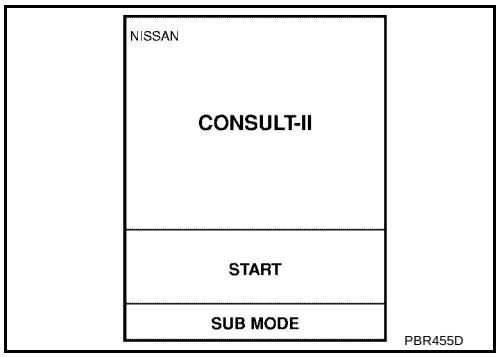
EIS0014Y

“DOOR LOCK”

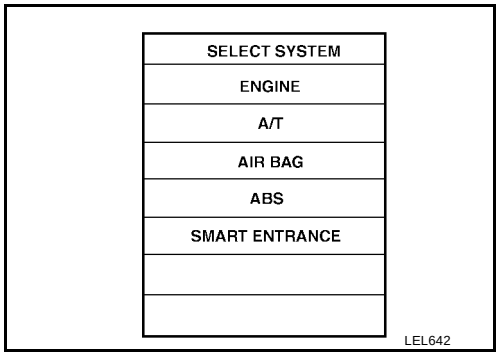
1. Turn ignition switch “OFF”.



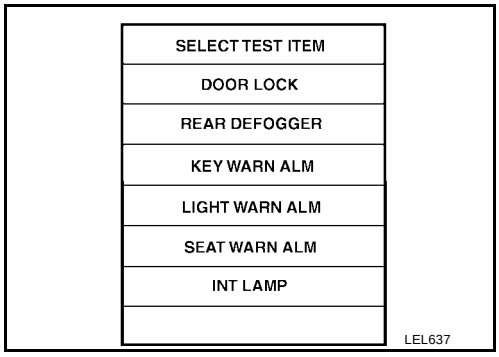
2. Connect “CONSULT-II” to the data link connector.
3. Turn ignition switch “ON”.



4. Touch “START”.
5. Touch “SMART ENTRANCE”.

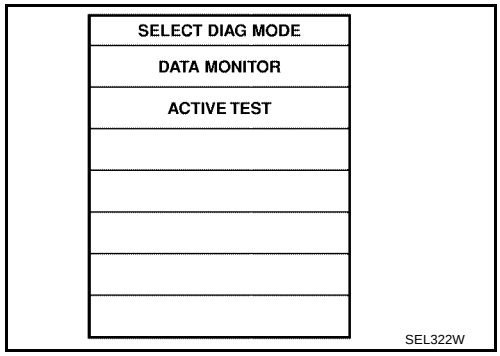


6. Touch “DOOR LOCK”.



7. Select diagnosis mode.

“DATA MONITOR” and “ACTIVE TEST” are available.



CONSULT-II Application Items

EIS0014Z

“DOOR LOCK”

Data Monitor

Monitored Item	Description
KEY ON SW	Indicates [ON/OFF] condition of key switch.
LOCK SW DR/AS	Indicates [ON/OFF] condition of lock signal from lock/unlock switch LH and RH.
UNLK SW DR/AS	Indicates [ON/OFF] condition of unlock signal from lock/unlock switch LH and RH.
KEY CYL LK SW	Indicates [ON/OFF] condition of lock signal from key cylinder.
KEY CYL UN SW	Indicates [ON/OFF] condition of unlock signal from key cylinder.
DOOR SW-ALL	Indicates [ON/OFF] condition of door switch (All).
LK BUTTON/SIG	Indicates [ON/OFF] condition of lock signal from keyfob.
UN BUTTON/SIG	Indicates [ON/OFF] condition of unlock signal from keyfob.
UN BUTTON ON	Indicates [ON/OFF] condition of second unlock signal from keyfob within 5 seconds after first unlock operation.

Active Test

Test Item	Description
ALL D/LK MTR	This test is able to check all door lock actuators lock operation. These actuators lock when “ON” on CONSULT-II screen is touched.
DR D/UN MTR	This test is able to check front door lock actuator LH unlock operation. The actuator unlocks when “ON” on CONSULT-II screen is touched.
NON DR D/UN	This test is able to check door lock actuators (except front door lock actuator LH) unlock operation. These actuators unlock when “ON” on CONSULT-II screen is touched.

Trouble Diagnoses

EIS00150

SYMPTOM CHART

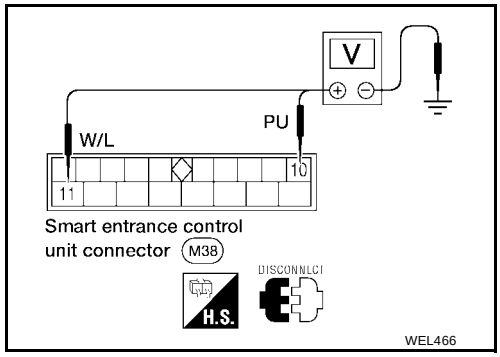
REFERENCE PAGE (BL-)	BL-23	BL-24	BL-25	BL-26	BL-28	BL-29
SYMPTOM	MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK	DOOR SWITCH CHECK	KEY SWITCH (INSERT) CHECK	DOOR LOCK/UNLOCK SWITCH CHECK	FRONT DOOR KEY CYLINDER SWITCH CHECK	DOOR LOCK ACTUATOR CHECK
Key reminder door system does not operate properly.	X	X	X			X
Specific door lock actuator does not operate.	X					X
Power door lock does not operate with door lock and unlock switch (LH and RH) on door trim.	X			X		
Power door lock does not operate with front door key cylinder operation.	X				X	

X: Applicable

MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK

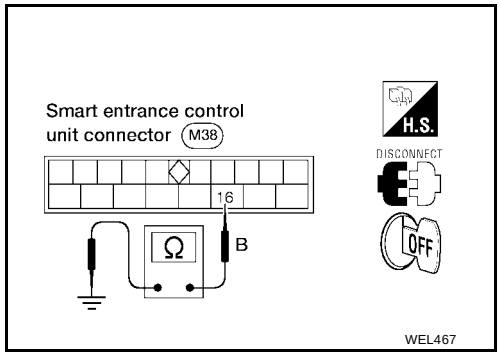
Main Power Supply Circuit Check

Terminals		Ignition switch position		
(+)	(-)	OFF	ACC	ON
10	Ground	Battery voltage	Battery voltage	Battery voltage
11				



Ground Circuit Check

Terminals	Continuity
16 - Ground	Yes

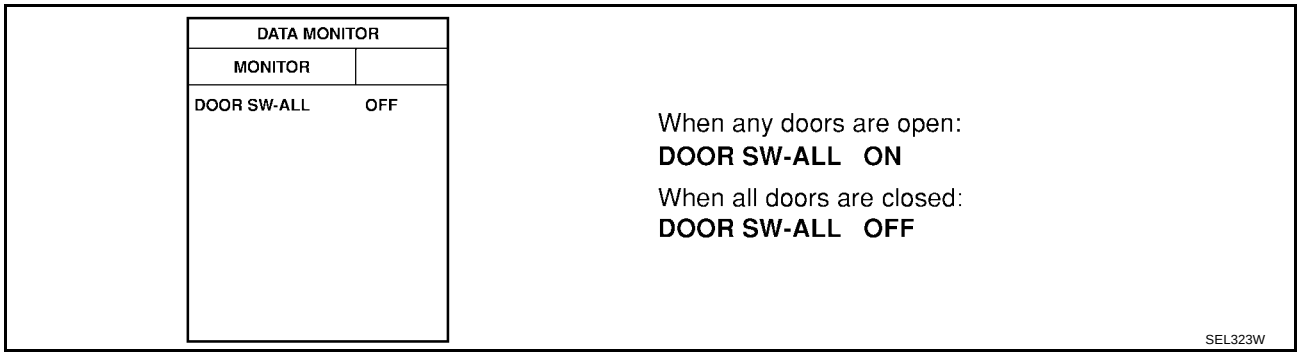


DOOR SWITCH CHECK

1. CHECK DOOR SWITCHES INPUT SIGNAL

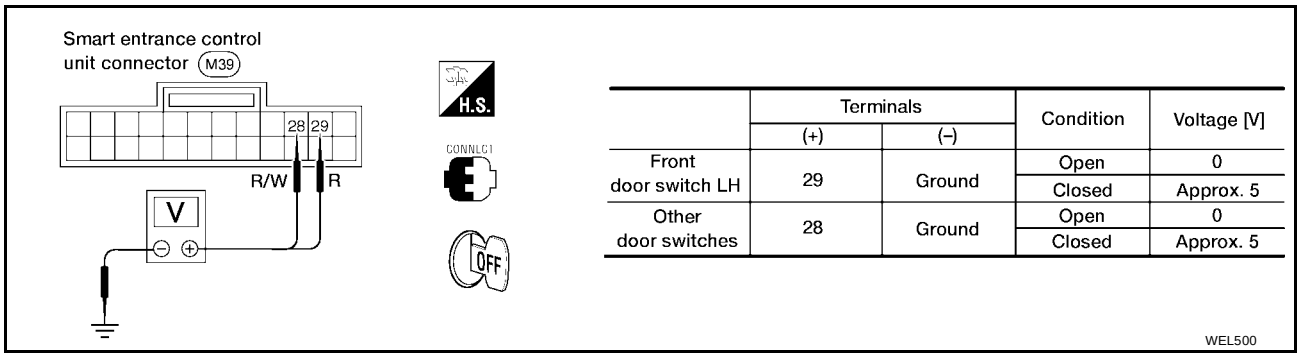
With CONSULT-II

Check door switches (“DOOR SW-ALL”) in “DATA MONITOR” mode with CONSULT-II.



Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminals 28 or 29 and ground.



	Terminals		Condition	Voltage [V]
	(+)	(−)		
Front door switch LH	29	Ground	Open	0
			Closed	Approx. 5
Other door switches	28	Ground	Open	0
			Closed	Approx. 5

Refer to BL-15, "FIG. 1" .

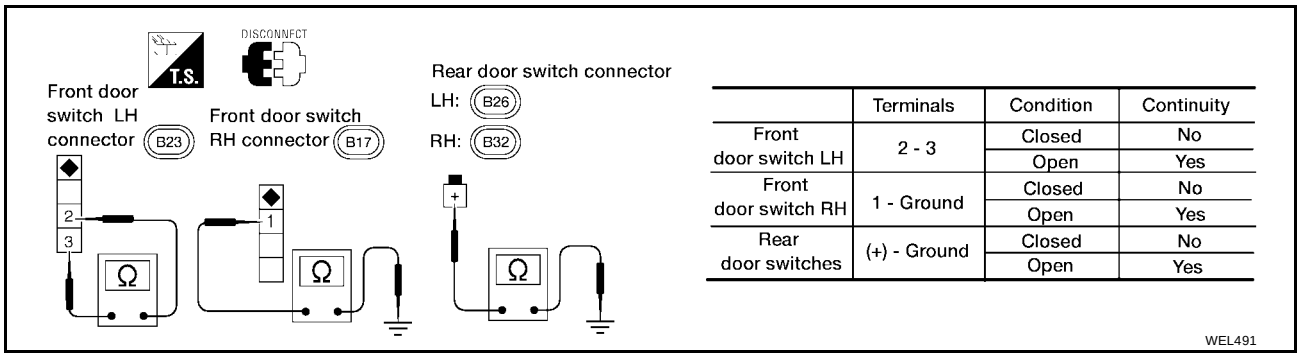
OK or NG

OK >> Door switch is OK.

NG >> GO TO 2.

2. CHECK DOOR SWITCHES

1. Disconnect door switch harness connector.
2. Check continuity between door switch connector terminals.



	Terminals	Condition	Continuity
Front door switch LH	2 - 3	Closed	No
		Open	Yes
Front door switch RH	1 - Ground	Closed	No
		Open	Yes
Rear door switches	(+) - Ground	Closed	No
		Open	Yes

OK or NG

OK >> Check the following.

- Door switch ground circuit or door switch ground condition
- Harness for open or short between smart entrance control unit and door switch

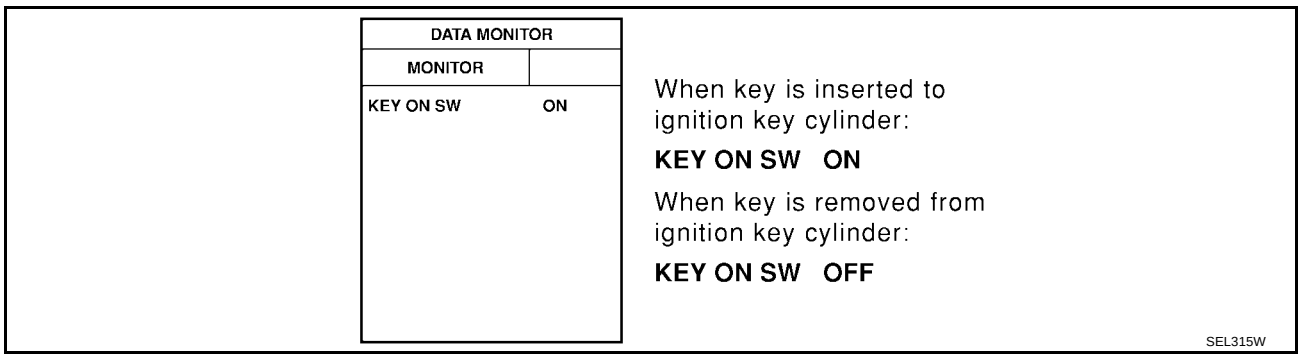
NG >> Replace door switch.

KEY SWITCH (INSERT) CHECK

1. CHECK KEY SWITCH INPUT SIGNAL

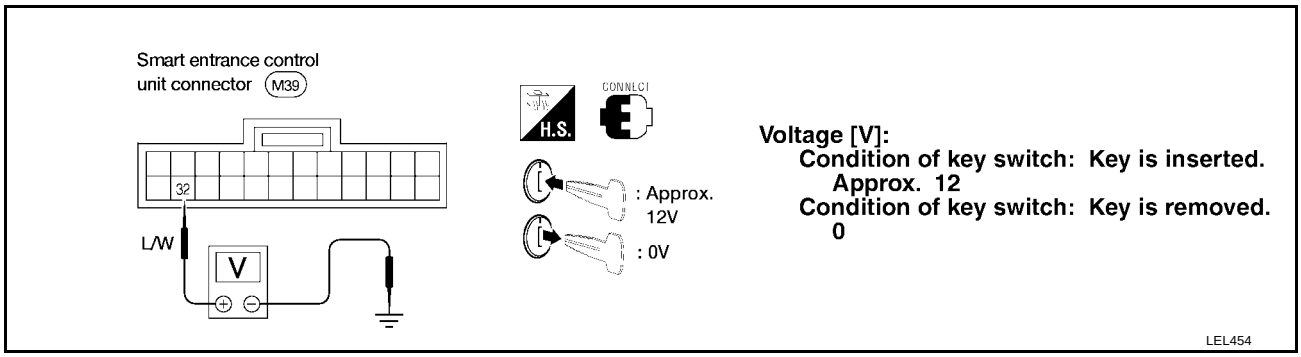
With CONSULT-II

Check key switch (“KEY ON SW”) in “DATA MONITOR” mode with CONSULT-II.



Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 32 and ground.



Refer to BL-15, "FIG. 1" .

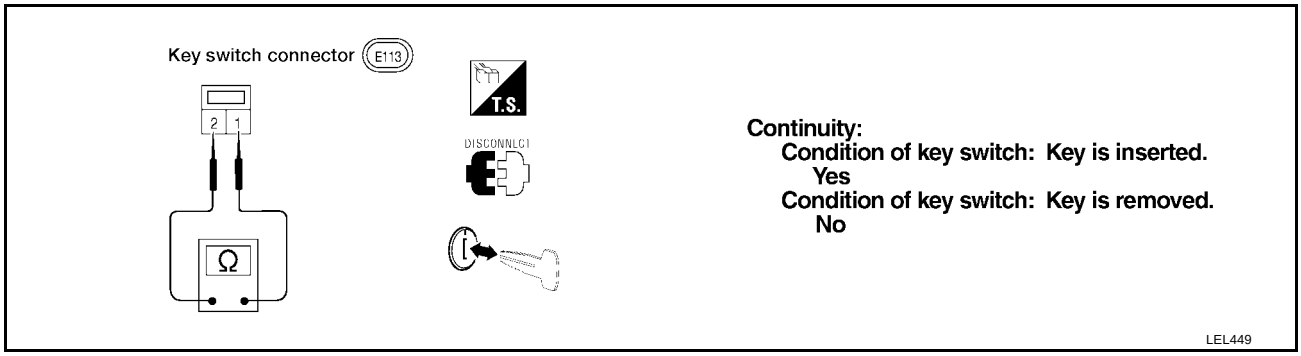
OK or NG

OK >> Key switch is OK.

NG >> GO TO 2.

2. CHECK KEY SWITCH

Check continuity between key switch connector terminals 1 and 2.



OK or NG

OK >> Check the following.

- 10A fuse [No. 12, located in fuse block (J/B)]
- Harness for open or short between key switch and fuse
- Harness for open or short between smart entrance control unit and key switch

NG >> Replace key switch.

DOOR LOCK/UNLOCK SWITCH CHECK

1. CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

With CONSULT-II

Check door lock/unlock switch (“LOCK SW DR/AS”/“UNLK SW DR/AS”) in “DATA MONITOR” mode with CONSULT-II.

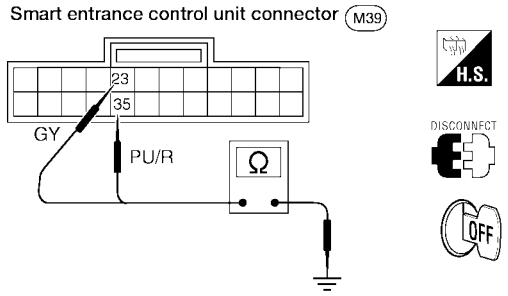
DATA MONITOR	
MONITOR	
LOCK SW DR/AS	OFF
UNLK SW DR/AS	OFF

When lock/unlock switch is turned to LOCK:
LOCK SW DR/AS ON
When lock/unlock switch is turned to UNLOCK:
UNLK SW DR/AS ON

SEL341W

Without CONSULT-II

1. Disconnect smart entrance control unit harness connector.
2. Check continuity between smart entrance control unit harness connector terminal 23 or 35 and ground.



Terminals	Door lock/unlock switch (LH or RH) condition	Continuity
23 - Ground	Lock	Yes
	N and Unlock	No
35 - Ground	Unlock	Yes
	N and Lock	No

WEL501

Refer to BL-17, "FIG. 3" .

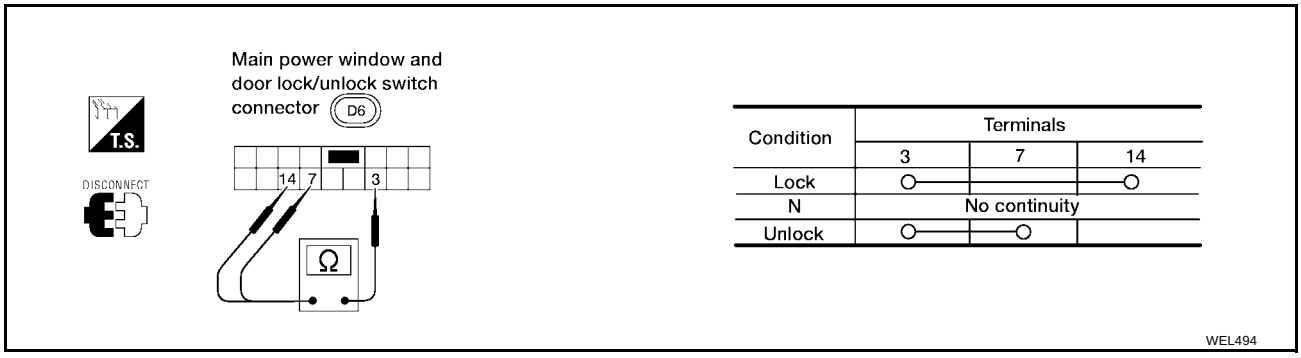
OK or NG

OK >> Door lock/unlock switch is OK.
NG >> GO TO 2.

2. CHECK DOOR LOCK/UNLOCK SWITCH

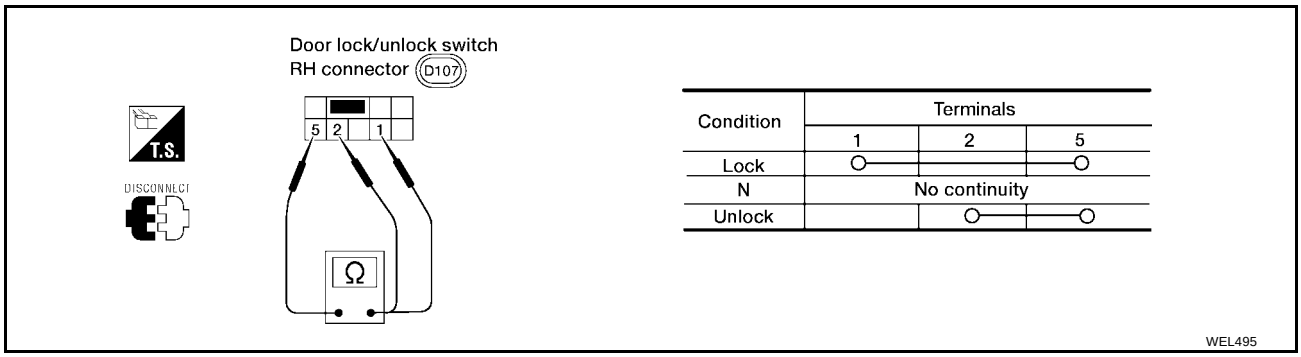
1. Disconnect door lock/unlock switch harness connector.
2. Check continuity between each door lock/unlock switch terminals.

– Main power window and door lock/unlock switch



Condition	Terminals		
	3	7	14
Lock	○		○
N	No continuity		
Unlock	○	○	

– Door lock/unlock switch RH



Condition	Terminals		
	1	2	5
Lock	○		○
N	No continuity		
Unlock		○	○

OK or NG

OK >> Check the following.
- Ground circuit for door lock/unlock switch
- Harness for open or short between door lock/unlock switch and smart entrance control unit connector

NG >> Replace door lock/unlock switch.

FRONT DOOR KEY CYLINDER SWITCH CHECK

1. CHECK FRONT DOOR KEY CYLINDER SWITCH INPUT SIGNAL (LOCK/UNLOCK SIGNAL)

With CONSULT-II

Check front door key cylinder switch (“KEY CYL LK-SW”/“KEY CYL UN-SW”) in “DATA MONITOR” mode with CONSULT-II.

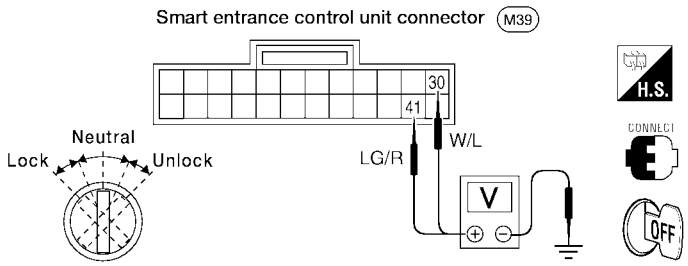
DATA MONITOR	
MONITOR	
KEY CYL LK-SW	OFF
KEY CYL UN-SW	OFF

When key inserted in front key cylinder is turned to LOCK:
KEY CYL LK-SW ON
When key inserted in front key cylinder is turned to UNLOCK:
KEY CYL UN-SW ON

SEL342W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminals 30 or 41 and ground.



Terminals (+)	Terminals (–)	Key position	Voltage [V]
41	Ground	Neutral/Unlock	Approx. 5
		Lock	0
30	Ground	Neutral/Lock	Approx. 5
		Unlock	0

WEL502

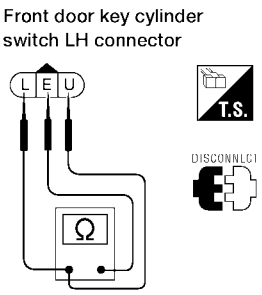
Refer to BL-16, "FIG. 2" .

OK or NG

OK >> Door key cylinder switch is OK.
NG >> GO TO 2.

2. CHECK DOOR KEY CYLINDER SWITCH

1. Disconnect door key cylinder switch harness connector.
2. Check continuity between door key cylinder switch connector D8 terminals L, E, and U, E.



Ⓔ : Ground terminal
Ⓤ : Door unlock switch terminal
Ⓛ : Door lock switch terminal

Terminals	Key position	Continuity
Ⓛ - Ⓔ	Neutral/Unlock	No
	Lock	Yes
Ⓤ - Ⓔ	Neutral/Lock	No
	Unlock	Yes

LEL101A

OK or NG

OK >> Check the following.
- Door key cylinder switch ground circuit
- Harness for open or short between smart entrance control unit and door key cylinder switch

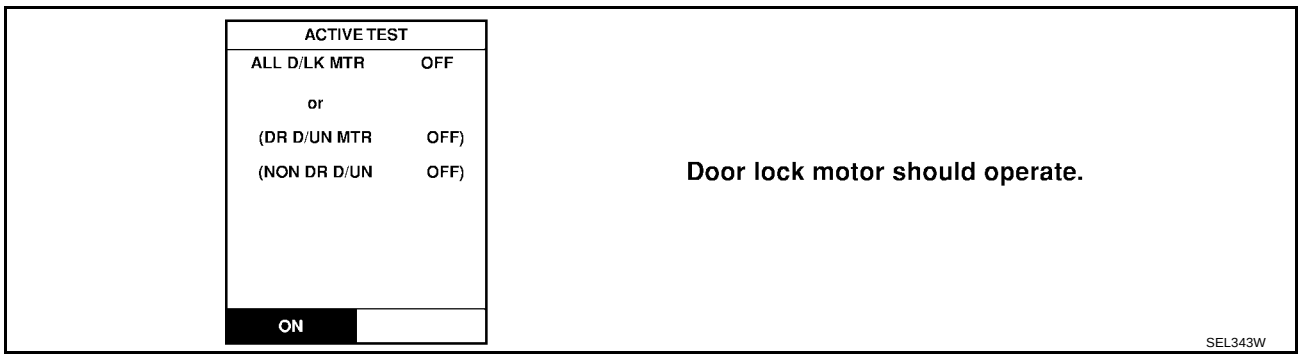
NG >> Replace door key cylinder switch.

DOOR LOCK ACTUATOR CHECK

1. CHECK DOOR LOCK ACTUATOR OPERATION

With CONSULT-II

1. Select “ACTIVE TEST” in “DOOR LOCK” with CONSULT-II.
2. Select “ALL D/LK MTR” and touch “ON”.
3. Then, select “DR D/UN MTR” and touch “ON”.
4. Select “NON DR D/UN” and touch “ON”.



NOTE:
If CONSULT-II is not available, skip this procedure and go to the next step.

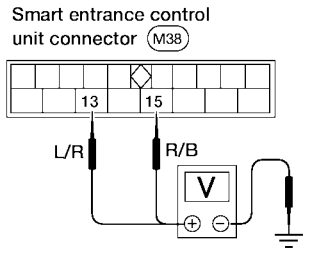
OK or NG

OK >> Door lock actuator is OK.
NG >> GO TO 2.

2. CHECK DOOR LOCK ACTUATOR CIRCUIT

Check voltage for door lock actuator.

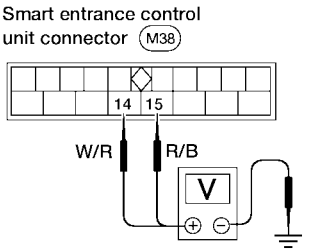
- Door lock actuator front LH



Door lock/unlock switch condition	Terminals (+)	Terminals (–)	Voltage [V]
Lock	15	Ground	Approx. 12
Unlock	13	Ground	

WEL504

- Door lock actuator front RH and rear



Door lock/unlock switch condition	Terminals (+)	Terminals (–)	Voltage [V]
Lock	15	Ground	Approx. 12
Unlock	14	Ground	

WEL505

Refer to BL-18, "FIG. 4" .

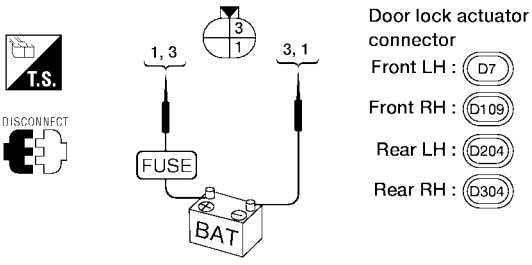
OK or NG

OK >> GO TO 3.

NG >> Replace smart entrance control unit. (Before replacing the smart entrance control unit, perform BL-26, "DOOR LOCK/UNLOCK SWITCH CHECK" .)

3. CHECK DOOR LOCK ACTUATOR

1. Disconnect door lock actuator harness connector.
2. Apply 12V direct current to door lock actuator and check operation.



Door lock actuator operation:
Terminals between (+): 1 and (-): 3
Unlocked → Locked
Terminals between (+): 3 and (-): 1
Locked → Unlocked

WEL499

OK or NG

OK >> Check harness for open or short between smart entrance control unit connector and door lock actuator.

NG >> Replace door lock actuator.

DOOR

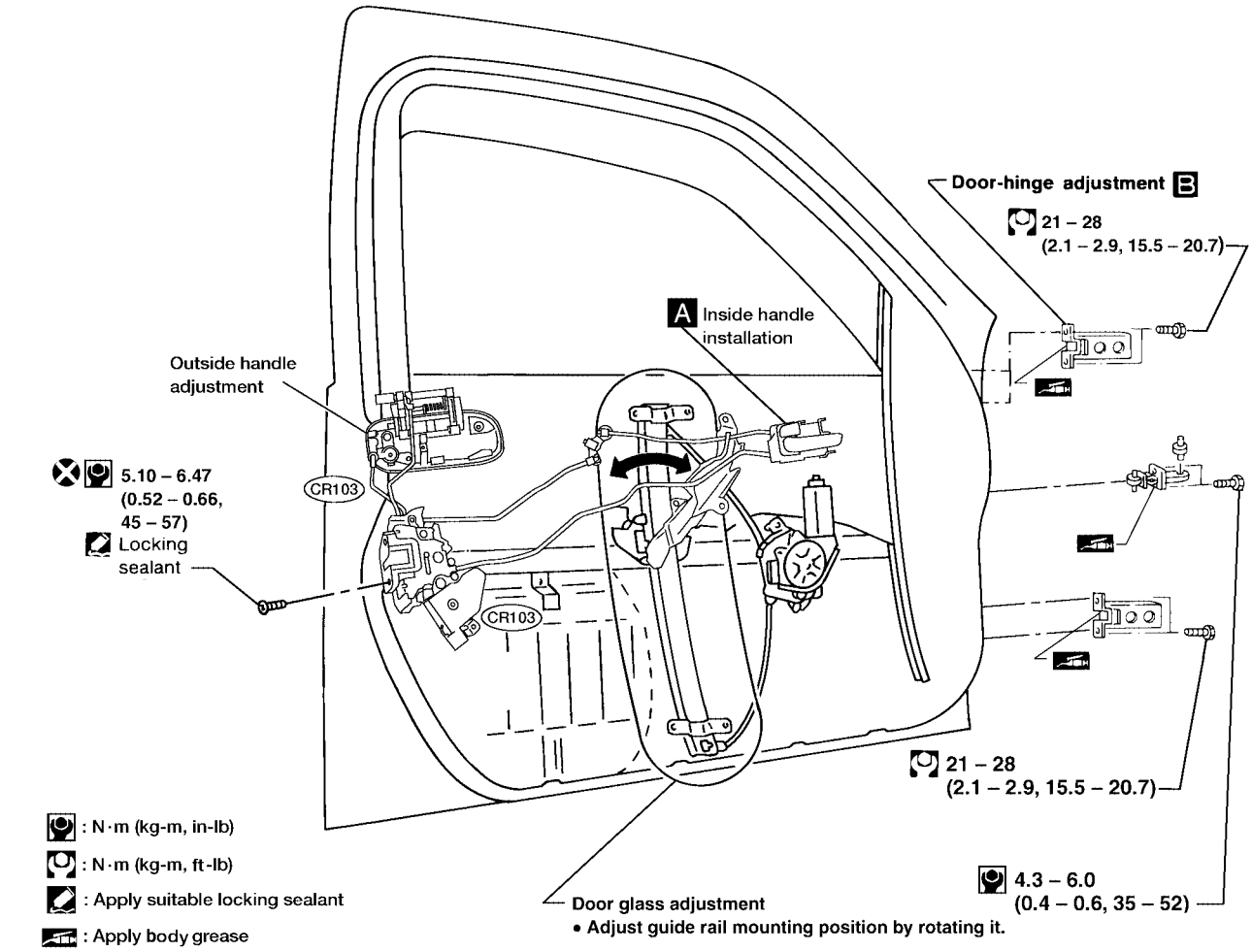
PFP:80100

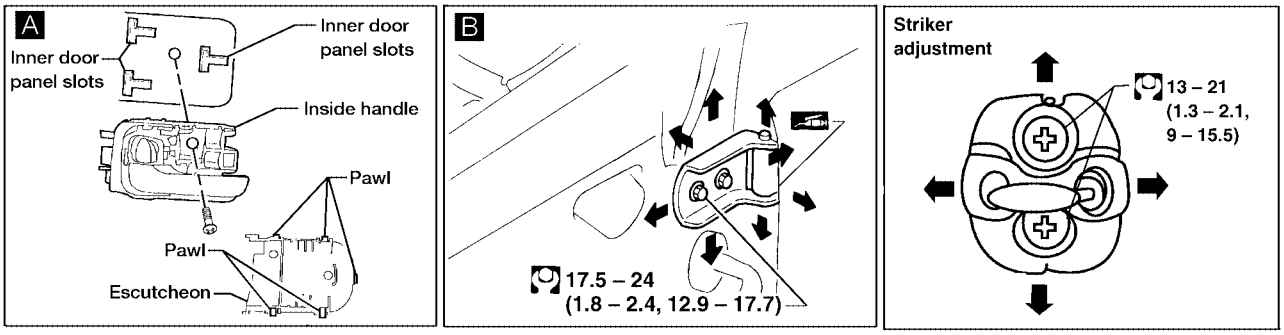
Front Door

EIS00151

- For removal of door finisher, refer to EI-31, "Removal and Installation" .
- After adjusting the door or door lock, check the door lock operation.

SEC. 800•803•805





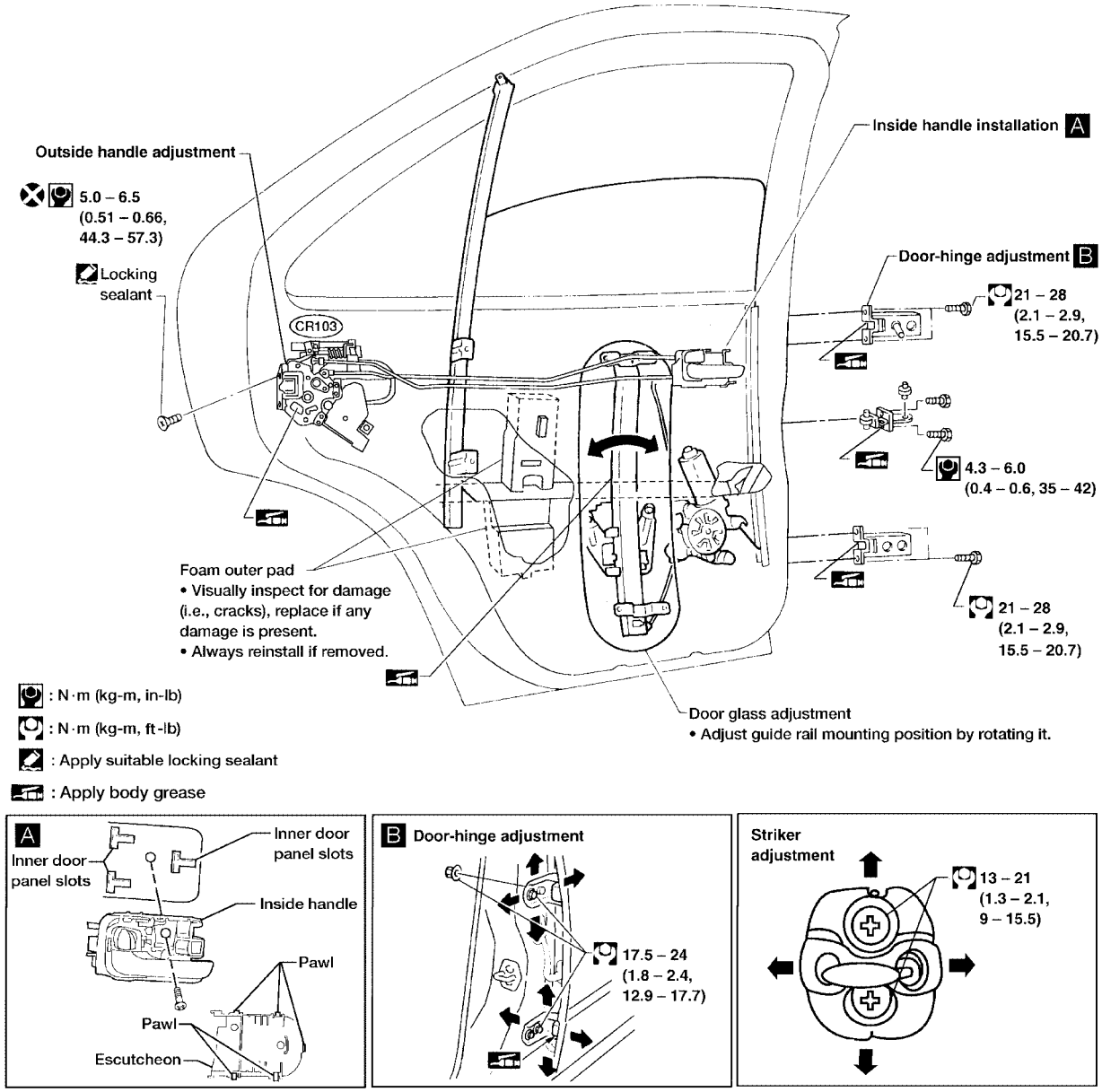
WIIA0006E

Rear Door

EIS00152

- For removal of door finisher, refer to EI-31, "Removal and Installation" .

- After adjusting the door or door lock, check the door lock operation.



WIIA0002E

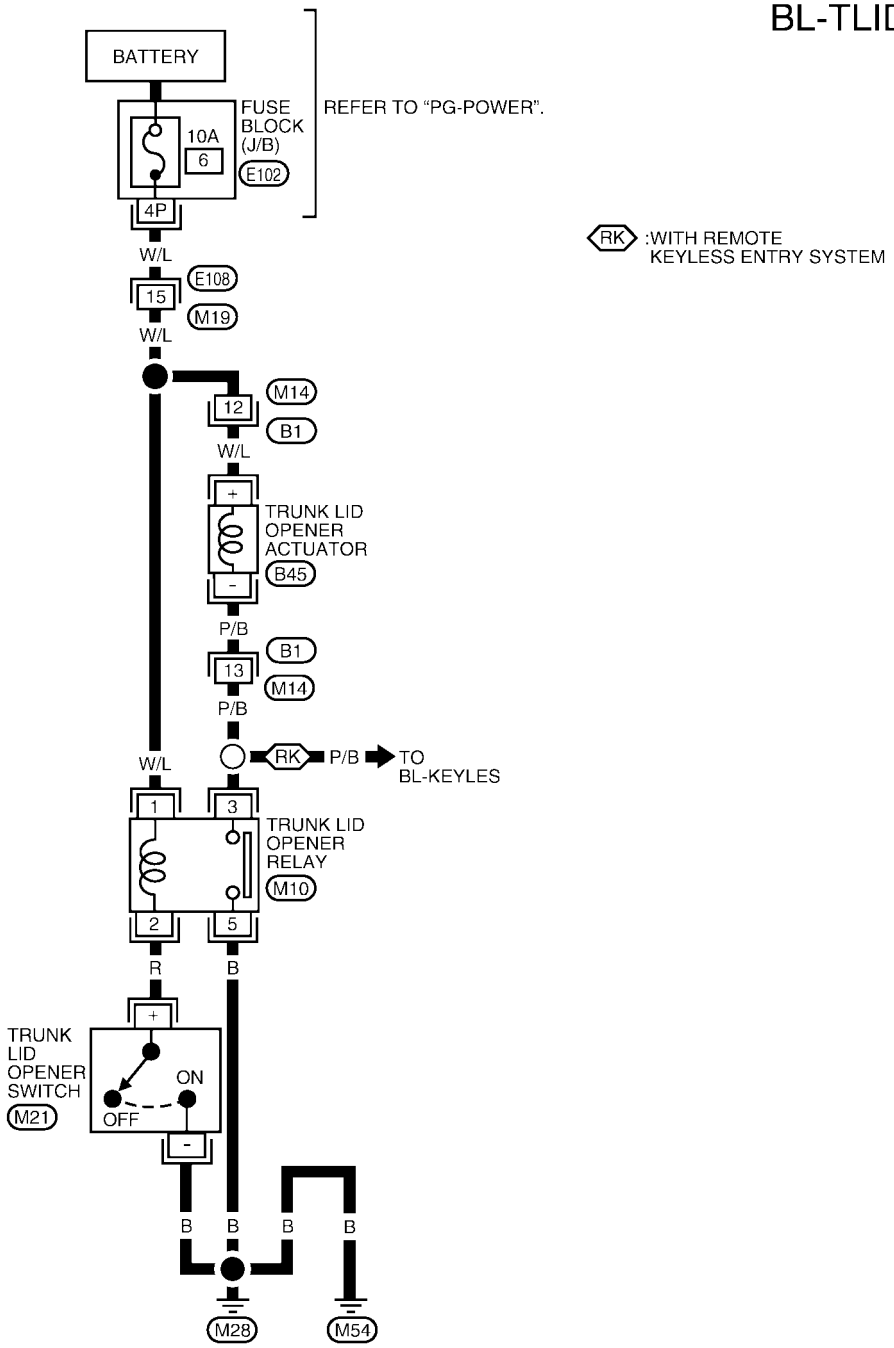
TRUNK LID OPENER

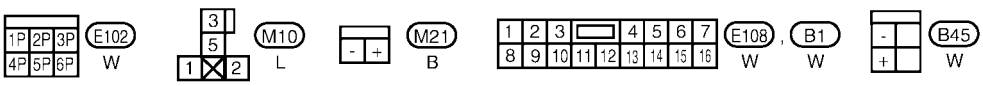
PFP:84640

Wiring Diagram — TLID —

EIS00153

BL-TLID-01





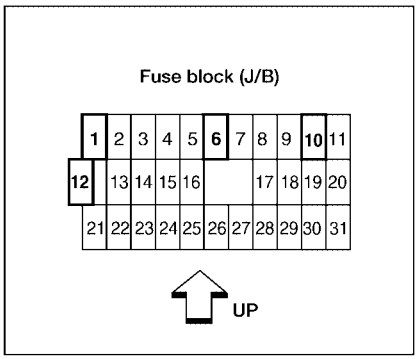
WIWA0077E

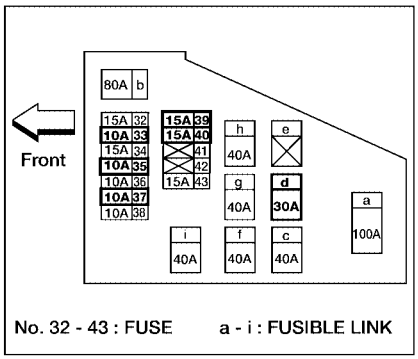
REMOTE KEYLESS ENTRY SYSTEM

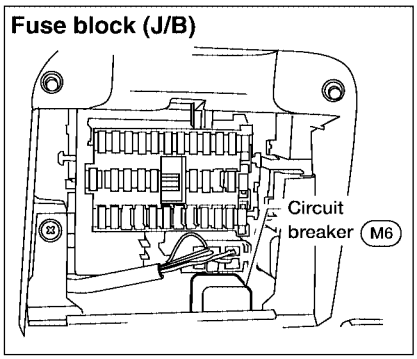
PFP:28596

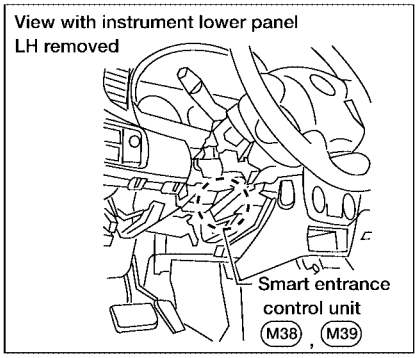
Component Parts and Harness Connector Location

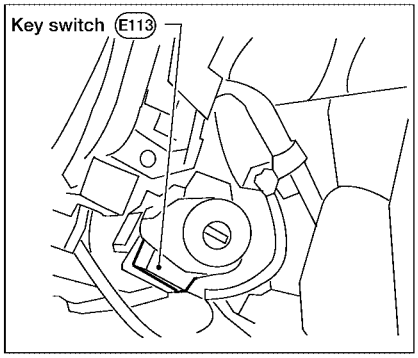
EIS00154

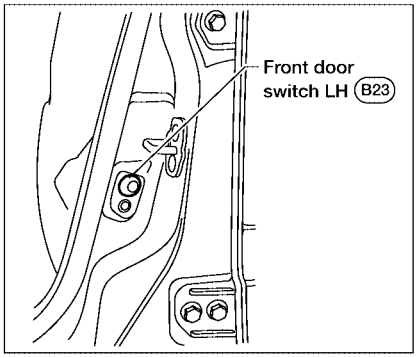


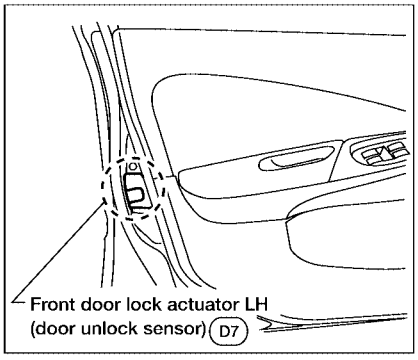


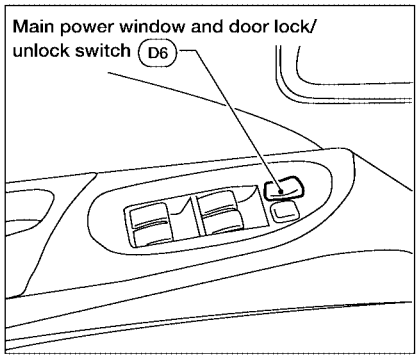


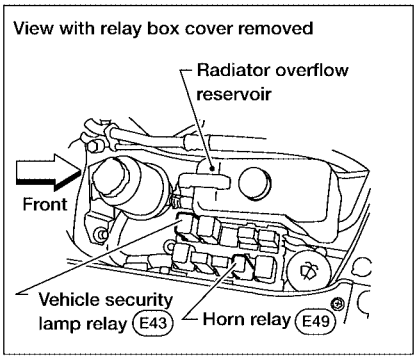


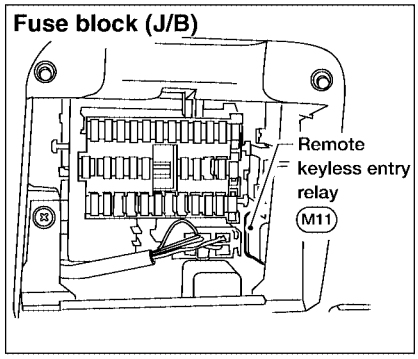












WIIA0007E

System Description

EIS00155

INPUTS

Power is supplied at all times:

- to key switch terminal 2
- through 10A fuse [No. 12, located in the fuse block (J/B)].

When the key switch is ON (ignition key is inserted in key cylinder), power is supplied:

- through key switch terminal 1
- to smart entrance control unit terminal 32.

When the front door switch LH is ON (door is OPEN), ground is supplied:

- to smart entrance control unit terminal 29
- through front door switch LH terminal 2
- to front door switch LH terminal 3
- through body grounds B13 and B19.

When the front door switch RH and rear door switches are ON (doors are OPEN), ground is supplied:

- to smart entrance control unit terminal 28
- through front door switch RH terminal 1 and rear door switches terminal +
- to front door switch RH case ground and rear door switches case grounds.

When main power window and door lock/unlock switch is LOCKED, ground is supplied:

- to smart entrance control unit terminal 23
- through main power window and door lock/unlock switch terminal 14 and
- through body grounds M28 and M54.

When main power window and door lock/unlock switch is UNLOCKED, ground is supplied:

- to smart entrance control unit terminal 35
- through main power window and door lock/unlock switch terminal 7 and
- through body grounds M28 and M54.

When front door unlock sensor LH is UNLOCKED, ground is supplied:

- to smart entrance control unit terminal 36
- through front door unlock sensor LH terminal 2
- to front door unlock sensor LH terminal 4
- through body grounds M28 and M54.

Keyfob signal is input to smart entrance control unit (the antenna of the system is combined with smart entrance control unit).
The remote keyless entry system controls operation of the:

- power door locks
- trunk lid opener
- interior lamp
- panic alarm
- hazard and horn reminder.

OPERATED PROCEDURE

Power Door Lock Operation

Smart entrance control unit receives a LOCK signal from keyfob. Smart entrance control unit locks all doors with input of LOCK signal from keyfob.
When an UNLOCK signal is sent from keyfob once, driver door will be unlocked.
Then, if an UNLOCK signal is sent from keyfob again within 5 seconds, all other doors will be unlocked.

Hazard and Horn Reminder

Power is supplied at all times:

- to remote keyless entry relay terminals 1, 3 and 6
- through 15A fuse [No. 5, located in the fuse block (J/B)], and
- to horn relay terminals 1 and 5

- through 10A fuse (No. 33, located in the fuse and fusible link box).

When smart entrance control unit receives LOCK or UNLOCK signal from keyfob, ground is supplied:

- to remote keyless entry relay terminal 2
- through smart entrance control unit terminal 7, and
- to horn relay terminal 2
- through smart entrance control unit terminal 19.

Remote keyless entry relay and horn relay are now energized, and hazard warning lamp flashes and horn sounds as a reminder.
The hazard and horn reminder has C mode (horn chirp mode) and S mode (non-horn chirp mode).

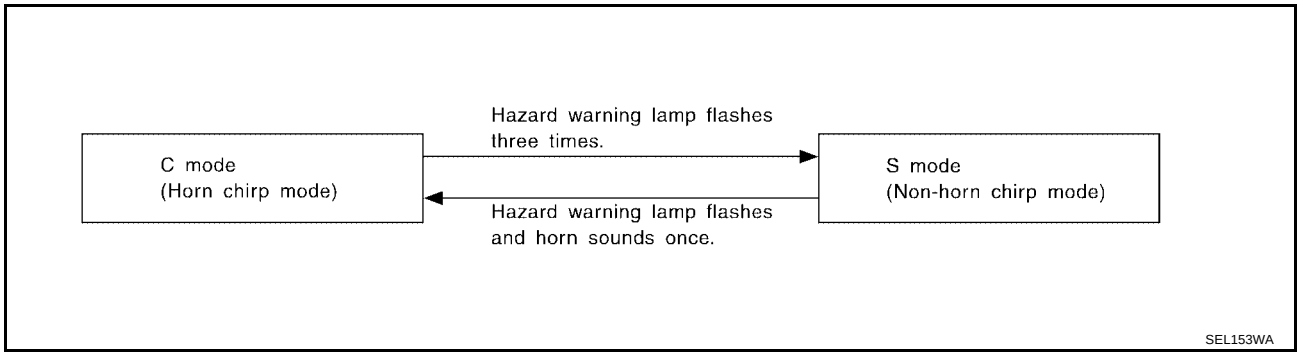
Operating function of hazard and horn reminder

	C mode (Horn chirp mode)		S mode (Non-horn chirp mode)	
	Hazard warning lamp flash	Horn sound	Hazard warning lamp flash	Horn sound
Lock	Twice	Once	Twice	—
Unlock	Once	—	—	—

How to change hazard and horn reminder mode

With CONSULT-II
Hazard and horn reminder can be changed using “WORK SUPPORT” mode in “MULTI REMOTE ENT”.

Without CONSULT-II
When LOCK and UNLOCK signals are sent from the keyfob for more than 2 seconds at the same time, the hazard and horn reminder mode is changed and hazard warning lamp flashes and horn sounds as follows:



Interior Lamp Operation

When the following input signals are both supplied:

- front door switch LH CLOSED (when driver door is closed);
- driver door LOCKED;

remote keyless entry system turns on interior lamp (for 30 seconds) with input of UNLOCK signal from keyfob.
For detailed description, refer to LT-35, "INTERIOR, MAP, VANITY AND TRUNK ROOM LAMPS" .

Panic Alarm Operation

When key switch is OFF (when ignition key is not inserted in key cylinder), remote keyless entry system turns on and off horn and headlamp intermittently with input of PANIC ALARM signal from keyfob.
The alarm automatically turns off after 25 seconds or when smart entrance control unit receives any signal from keyfob.
For detailed description, refer to BL-69, "PANIC ALARM OPERATION" .

Trunk Lid Operation

Power is supplied at all times:

- through 10A fuse [No. 6, located in the fuse block (J/B)]
- to trunk lid opener actuator terminal +.

When a TRUNK OPEN signal is sent with key OFF (ignition key removed from key cylinder) from keyfob, ground is supplied:

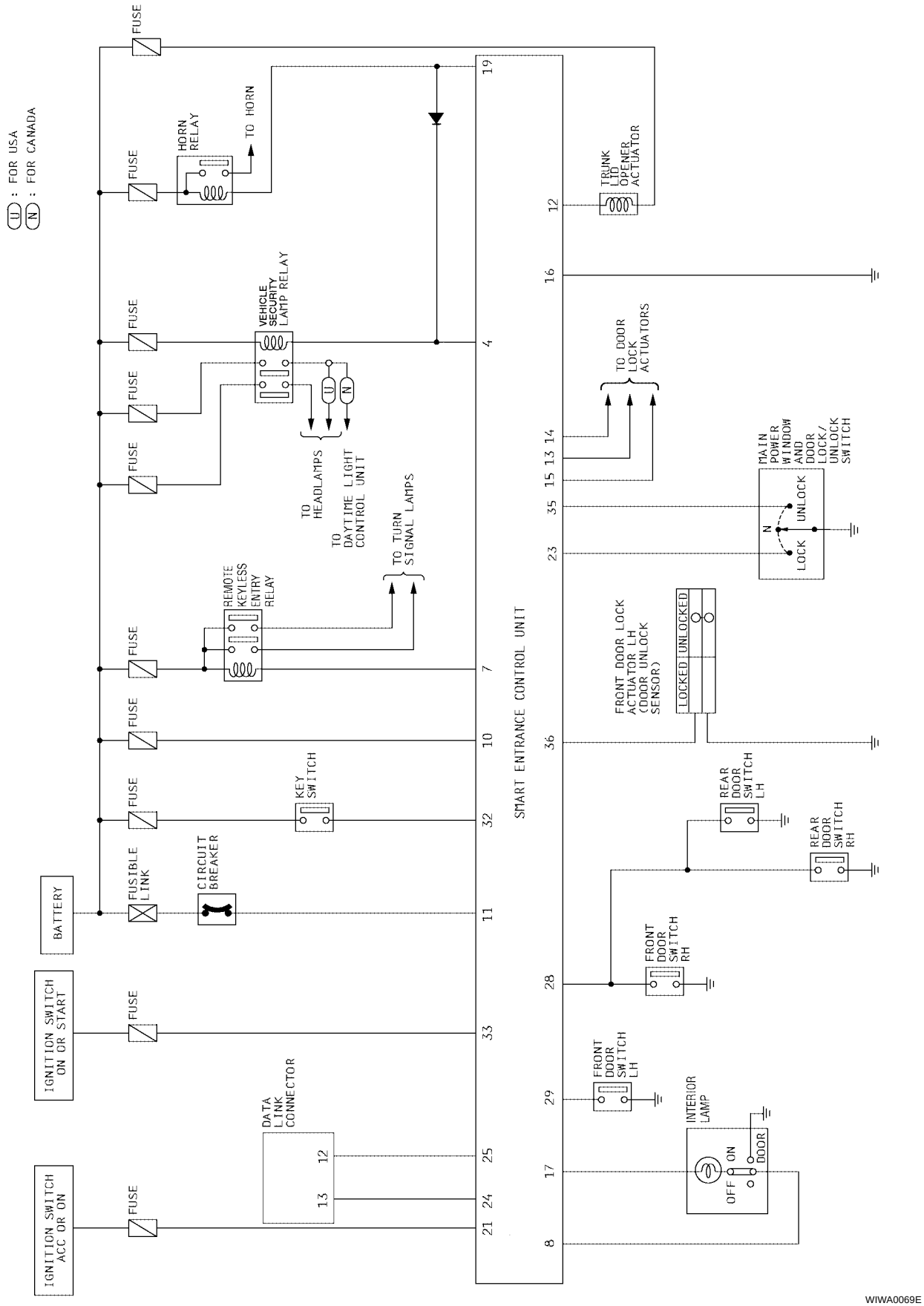
- to trunk lid opener actuator terminal -

- through smart entrance control unit terminal 12.

Then power and ground are supplied, trunk lid opener actuator opens trunk lid.

Schematic

EIS00156

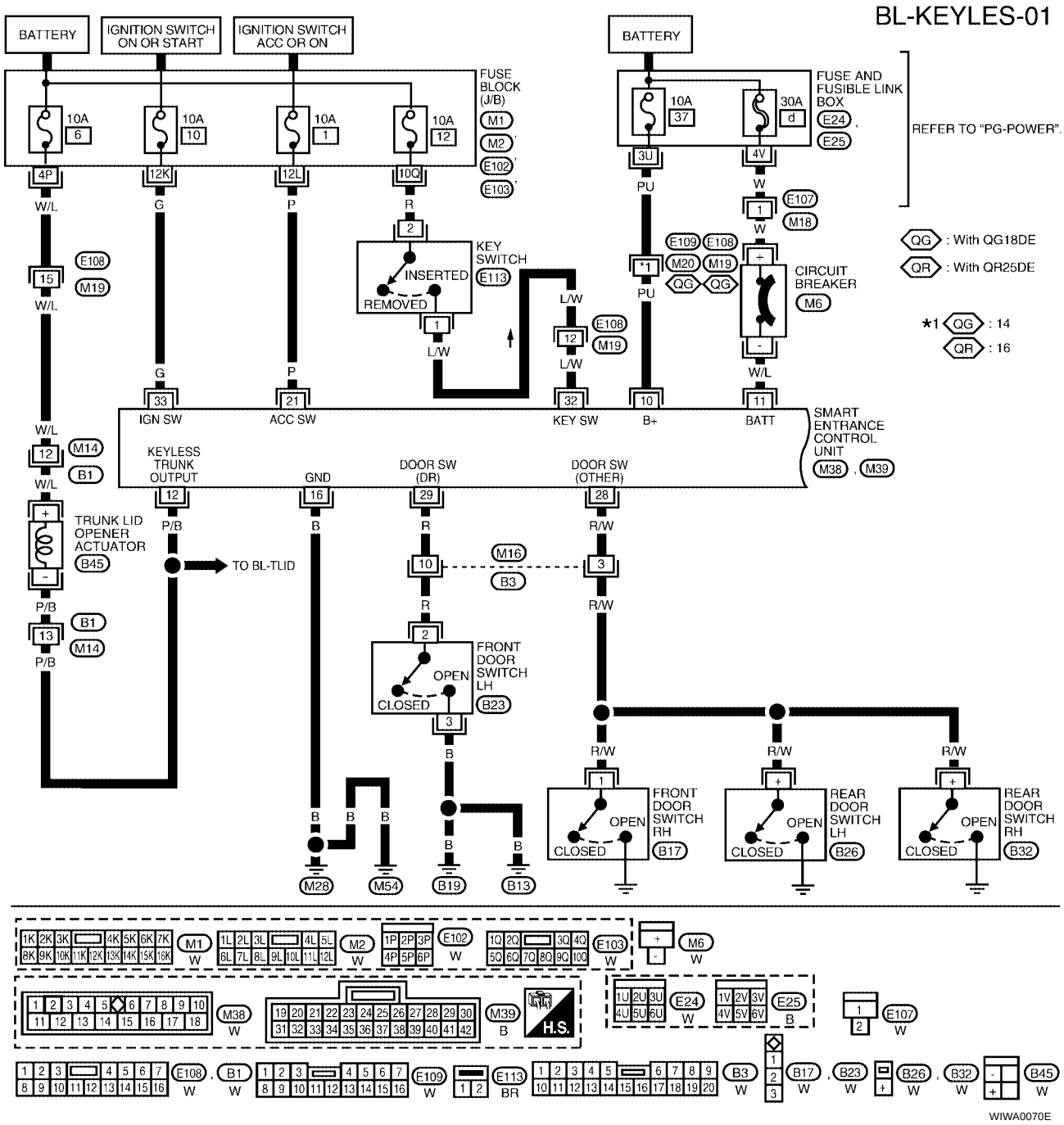


WIWA0069E

Wiring Diagram — KEYLES —

EIS00157

FIG. 1



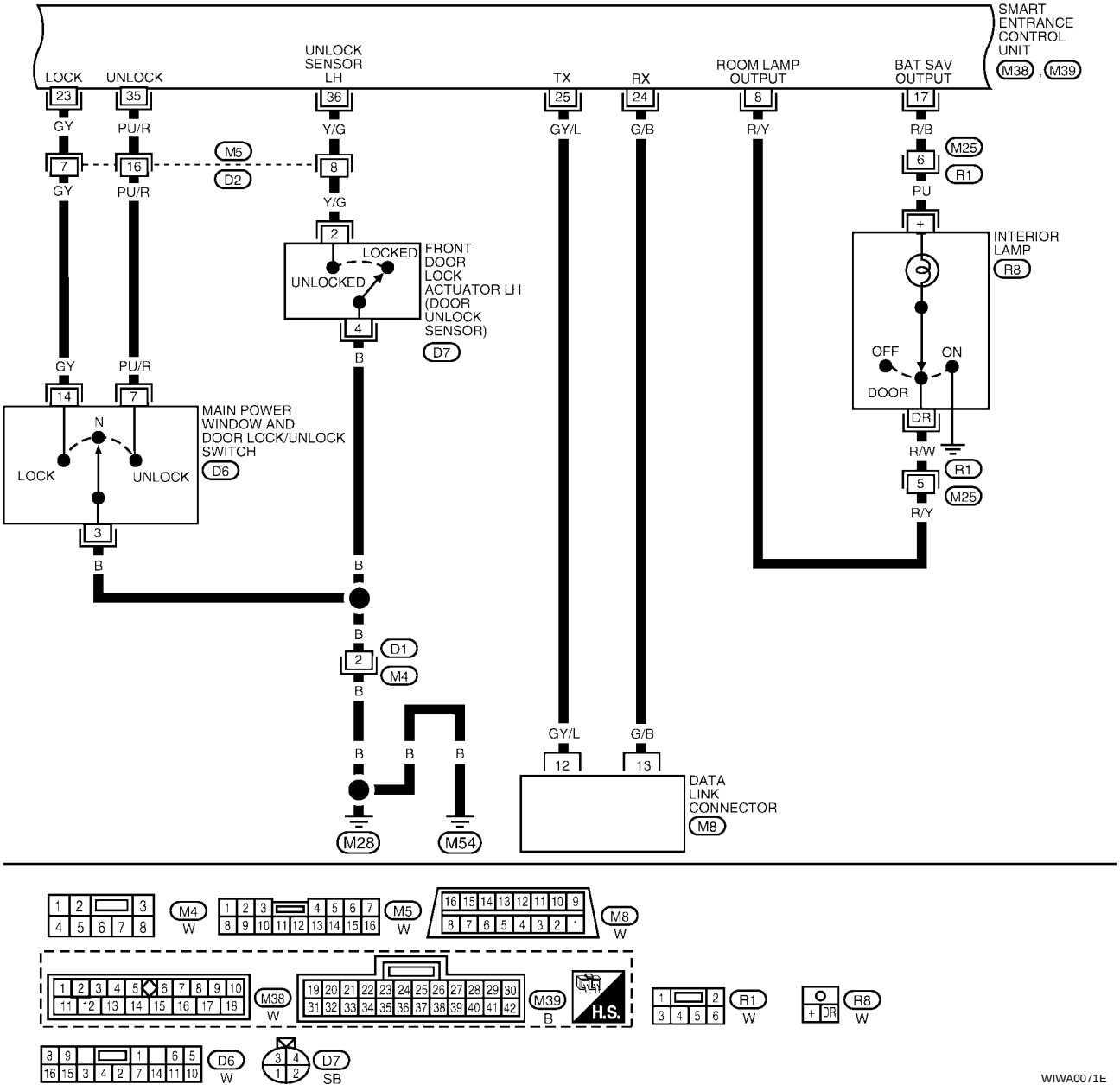
SMART ENTRANCE CONTROL UNIT AND REFERENCE VALUE MEASURED BETWEEN EACH TERMINAL AND GROUND

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
10	PU	POWER SOURCE (FUSE)	—	12V
11	W/L	POWER SOURCE (CIRCUIT BREAKER)	—	12V
12	P/B	TRUNK LID OPENER ACTUATOR	ON (OPEN)	0V
			OFF (CLOSED)	12V
16	B	GROUND	—	—
21	P	IGNITION SWITCH (ACC, ON)	ACC OR ON POSITION	12V
28	R/W	OTHER DOOR SWITCHES	OFF (CLOSED)	5V
			ON (OPEN)	0V
29	R	FRONT DOOR SWITCH LH	OFF (CLOSED)	5V
			ON (OPEN)	0V
32	L/W	IGNITION KEY SWITCH (INSERT)	IGNITION KEY IS INSERTED	12V
			IGNITION KEY IS REMOVED	0V
33	G	IGNITION SWITCH (ON)	IGNITION KEY IS IN ON POSITION	12V
		IGNITION SWITCH (START)	IGNITION KEY IS IN START POSITION	12V

LEL610

FIG. 2

BL-KEYLES-02

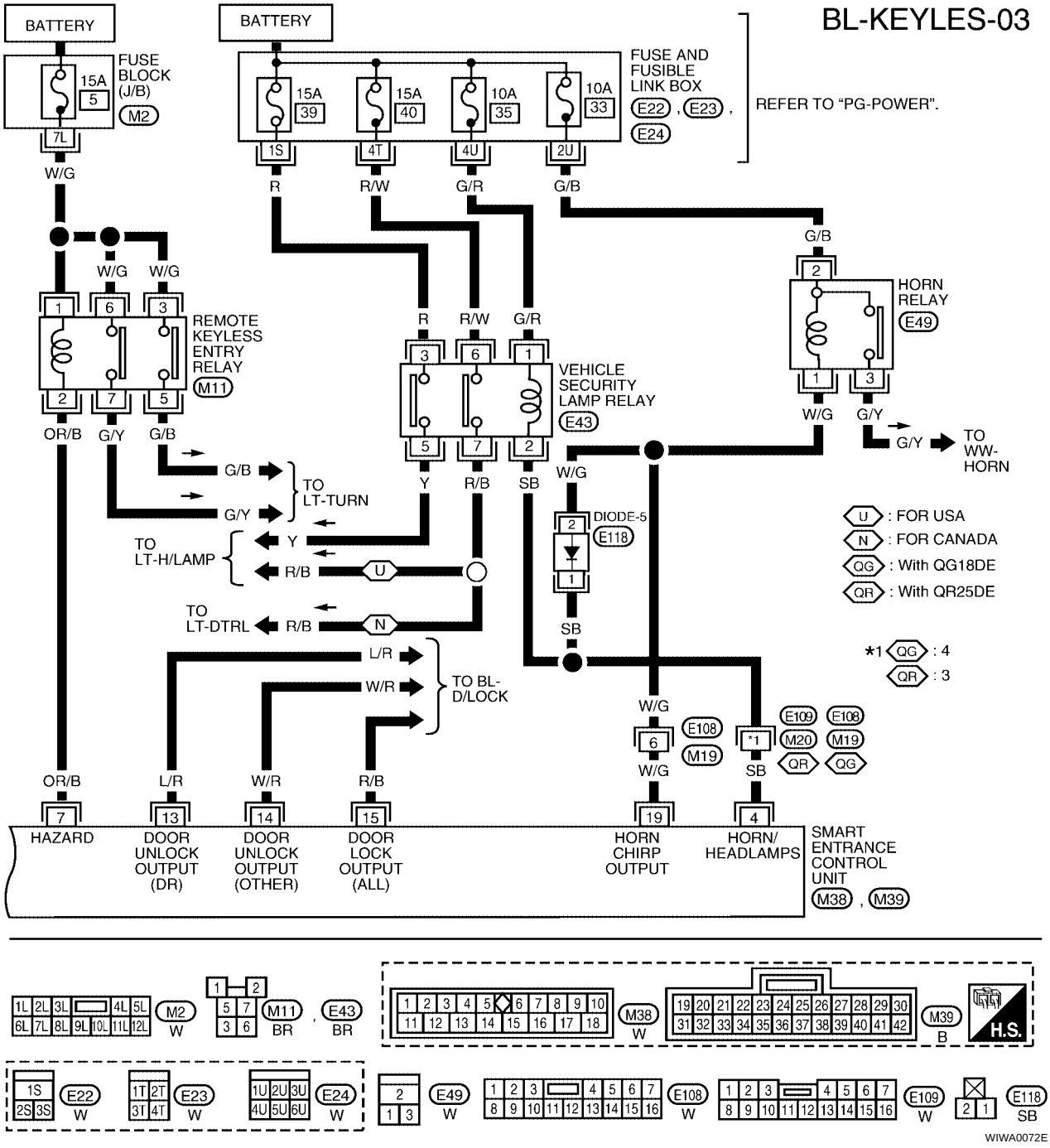


SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE MEASURED BETWEEN EACH TERMINAL AND GROUND

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
8	R/Y	INTERIOR LAMP	LAMP SWITCH IN DOOR POSITION	12V
17	R/B	BATTERY SAVER (INTERIOR LAMP)	BATTERY SAVER DOES NOT OPERATE	12V
			BATTERY SAVER OPERATES	0V
23	GY	DOOR LOCK & UNLOCK SWITCHES	NEUTRAL	5V
			LOCKS	0V
35	PU/R	DOOR LOCK & UNLOCK SWITCHES	NEUTRAL	5V
			UNLOCKS	0V
36	Y/G	DOOR UNLOCK SENSOR LH	DRIVER DOOR: LOCKED	5V
			DRIVER DOOR: UNLOCKED	0V

LEL611

FIG. 3



SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE MEASURED BETWEEN EACH TERMINAL AND GROUND

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
4	SB	VEHICLE SECURITY HORN RELAY AND VEHICLE SECURITY LAMP RELAY	WHEN PANIC ALARM IS OPERATED USING REMOTE CONTROLLER OR WHEN ALARM IS ACTIVATED	12V TO 0V
7	OR/B	MULTI-REMOTE CONTROL RELAY	WHEN DOORS ARE LOCKED USING REMOTE CONTROLLER	12V TO 0V
19	W/G	HORN RELAY	WHEN DOORS ARE LOCKED USING REMOTE CONTROLLER WITH HORN CHIRP MODE	12V TO OV

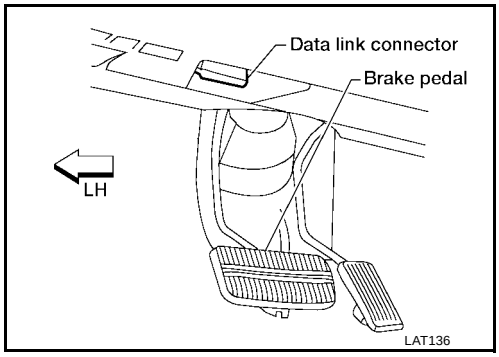
WEL104A

CONSULT-II Inspection Procedure

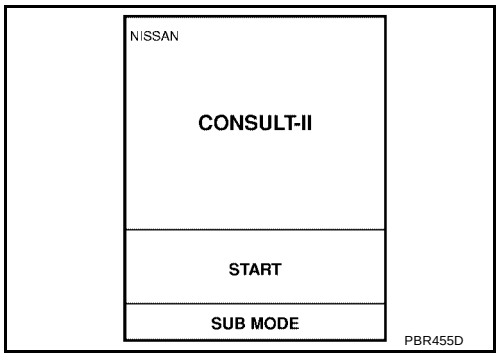
EIS00158

“MULTI REMOTE ENT”

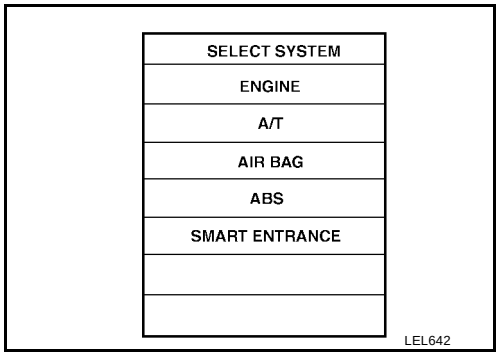
1. Turn ignition switch “OFF”.



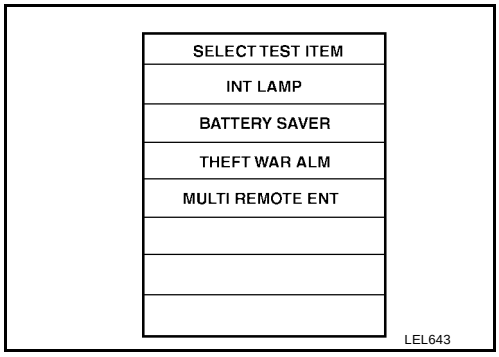
2. Connect “CONSULT-II” to the data link connector.
3. Turn ignition switch “ON”.



4. Touch “START”.
5. Touch “SMART ENTRANCE”.

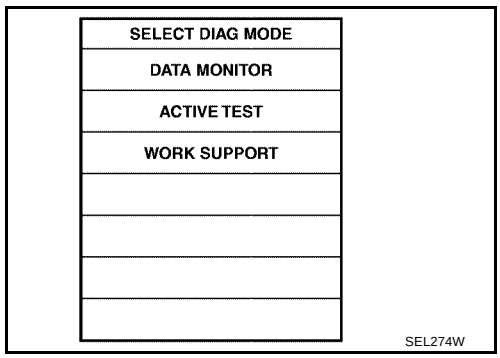


6. Touch “MULTI REMOTE ENT”.



7. Select diagnosis mode.

"DATA MONITOR", "ACTIVE TEST" and "WORK SUPPORT" are available.



CONSULT-II Application Items

EIS00159

"MULTI REMOTE ENT"

Data Monitor

Monitored Item	Description
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-ALL	Indicates [ON/OFF] condition of door switch (All).
LOCK SW DR/AS	Indicates [ON/OFF] condition of lock signal from lock/unlock switch LH and RH.
UNLK SW DR/AS	Indicates [ON/OFF] condition of unlock signal from lock/unlock switch LH and RH.
KEY CYL LK SW	Indicates [ON/OFF] condition of lock signal from key cylinder switch.
LK BUTTON/SIG	Indicates [ON/OFF] condition of lock signal from keyfob.
UN BUTTON/SIG	Indicates [ON/OFF] condition of unlock signal from keyfob.
TRUNK BTN/SIG	Indicates [ON/OFF] condition of trunk open signal from keyfob.
PANIC BTN	Indicates [ON/OFF] condition of panic signal from keyfob.
UN BUTTON ON	Indicates [ON/OFF] condition of second unlock signal from keyfob within 5 seconds after first unlock operation.
LK/UN BTN ON	Indicates [ON/OFF] condition of lock/unlock signal at the same time from keyfob.

Active Test

Test Item	Description
INT/IGN ILLUM	This test is able to check interior lamp operation. The interior lamp is turned on when "ON" on CONSULT-II screen is touched.
HAZARD	This test is able to check hazard reminder operation. The hazard lamps turn on when "ON" on CONSULT-II screen is touched.
ALARM	This test is able to check panic alarm operation. The alarm activates for 0.5 seconds after "ON" on CONSULT-II screen is touched.
MULTI REM HRN	This test is able to check horn reminder operation. The horn sounds for 0.02 seconds after "ON" on CONSULT-II screen is touched.
TRUNK OUTPUT	This test is able to check trunk lid opener actuator operation. The trunk is unlocked when "ON" on CONSULT-II screen is touched.

Work Support

Test Item	Description
REMO CONT ID CONFIR	It can be checked whether keyfob ID code is registered or not in this mode.
REMO CONT ID REGIST	Keyfob ID code can be registered.
REMO CONT ID ERASUR	Keyfob ID code can be erased.
HZRD REM SET	Hazard and horn reminder mode can be changed in this mode. The reminder mode will be changed when "MODE SET" on CONSULT-II screen is touched.

Trouble Diagnoses

EIS0015A

SYMPTOM CHART

NOTE:

- Always check keyfob battery before replacing keyfob.
- The panic alarm operation and trunk lid opener operation of remote keyless entry system do not activate with the ignition key inserted in the ignition key cylinder.
- Use Remote Keyless Entry Tester J-43241 (follow instructions on tester) to check operation of keyfob before replacing keyfob.

Symptom	Diagnoses/service procedure	Reference page (BL-)
All functions of remote keyless entry system do not operate.	1. Keyfob battery and function check Keyfob check (use Remote Keyless Entry Tester J-43241).	BL-46
	2. Power supply and ground circuit for smart entrance control unit check	BL-47
	3. Replace keyfob. Refer to ID Code Entry Procedure. NOTE: If the result of keyfob function check with CONSULT-II is OK, keyfob is not malfunctioning. Keyfob check (use Remote Keyless Entry Tester J-43241).	BL-60
The new ID of keyfob cannot be entered.	1. Keyfob battery and function check Keyfob check (use Remote Keyless Entry Tester J-43241).	BL-46
	2. Key switch (insert) check	BL-50
	3. Door switch check	BL-49
	4. Door lock/unlock switch LH check	BL-51
	5. Power supply and ground circuit for smart entrance control unit check	BL-47
	6. Replace keyfob. Refer to ID Code Entry Procedure. NOTE: If the result of keyfob function check with CONSULT-II is OK, keyfob is not malfunctioning. Keyfob check (use Remote Keyless Entry Tester J-43241).	BL-60
Door lock or unlock does not function. [If the power door lock system does not operate manually, check power door lock system. Refer to BL-22, "Trouble Diagnoses" .)	1. Keyfob battery and function check Keyfob check (use Remote Keyless Entry Tester J-43241).	BL-46
	2. Replace keyfob. Refer to ID Code Entry Procedure. NOTE: If the result of keyfob function check with CONSULT-II is OK, keyfob is not malfunctioning. Keyfob check (use Remote Keyless Entry Tester J-43241).	BL-60
Hazard and horn reminder does not activate properly when pressing lock or unlock button of keyfob.	1. Keyfob battery and function check Keyfob check (use Remote Keyless Entry Tester J-43241).	BL-46
	2. Hazard reminder check	BL-56
	3. Horn reminder check* *: Horn chirp can be activated or deactivated. First check the horn chirp setting. Refer to BL-35, "Hazard and Horn Reminder" .	BL-58
	4. Door switch check	BL-49
	5. Replace keyfob. Refer to ID Code Entry Procedure. NOTE: If the result of keyfob function check with CONSULT-II is OK, keyfob is not malfunctioning. Keyfob check (use Remote Keyless Entry Tester J-43241).	BL-60
Interior lamp illumination operations do not activate properly.	1. Interior lamp operation check	BL-59
	2. Door switch check	BL-49
	3. Front LH door unlock sensor check	BL-53

Symptom	Diagnoses/service procedure	Reference page (BL-)
Panic alarm (horn and headlamp) does not activate when panic alarm button is continuously pressed. Keyfob check (use Remote Keyless Entry Tester J-43241).	1. Keyfob battery and function check	BL-46
	2. Vehicle security operation check. Refer to BL-77, "PRELIMINARY CHECK" .	BL-77
	3. Key switch (insert) check	BL-50
	4. Replace keyfob. Refer to ID Code Entry Procedure. NOTE: If the result of keyfob function check with CONSULT-II is OK, keyfob is not malfunctioning. Keyfob check (use Remote Keyless Entry Tester J-43241).	BL-60
Trunk lid does not open when trunk opener button is continuously pressed.	1. Keyfob battery and function check	BL-46
	2. Trunk lid opener actuator check	BL-55
	3. Key switch (insert) check	BL-50
	4. Replace keyfob. Refer to ID Code Entry Procedure. NOTE: If the result of keyfob function check with CONSULT-II is OK, keyfob is not malfunctioning. Keyfob check (use Remote Keyless Entry Tester J-43241).	BL-60

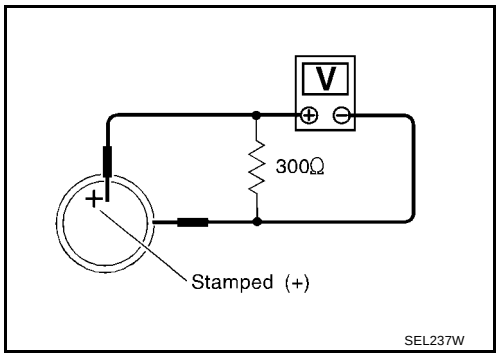
KEYFOB BATTERY AND FUNCTION CHECK

1. CHECK KEYFOB BATTERY

Remove battery (refer to BL-63, "Keyfob Battery Replacement") and measure voltage across battery positive and negative terminals, (+) and (–).

Voltage [V] : 2.5 - 3.0

NOTE:
Keyfob does not function if battery is not set correctly.



OK or NG

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

2. CHECK KEYFOB FUNCTION

With CONSULT-II

Check keyfob function (“LK BUTTON/SIG”, “UN BUTTON/SIG”, “TRUNK BTN/SIG”, “PANIC BTN”, “UN BUTTON ON” and “LK/UN BTN ON”) in “DATA MONITOR” mode with CONSULT-II. When pushing each button of keyfob, the corresponding monitor item should be turned as follows.

DATA MONITOR	
MONITOR	
LK BUTTON/SIG	ON
UN BUTTON/SIG	ON
TRUNK BTN/SIG	ON
PANIC BTN	ON
UN BUTTON ON	ON
LK/UN BTN ON	ON

WIIA0008E

Condition	Monitor item	
Pushing LOCK	LK BUTTON/SIG	ON
Pushing UNLOCK	UN BUTTON/SIG	ON
Pushing TRUNK	TRUNK BTN/SIG	ON
Pushing PANIC	PANIC BTN/SIG	ON
Pushing UNLOCK within 5 seconds after pushing UNLOCK	UN BUTTON ON	ON
Pushing LOCK and UNLOCK at the same time	LK/UN BTN ON	ON

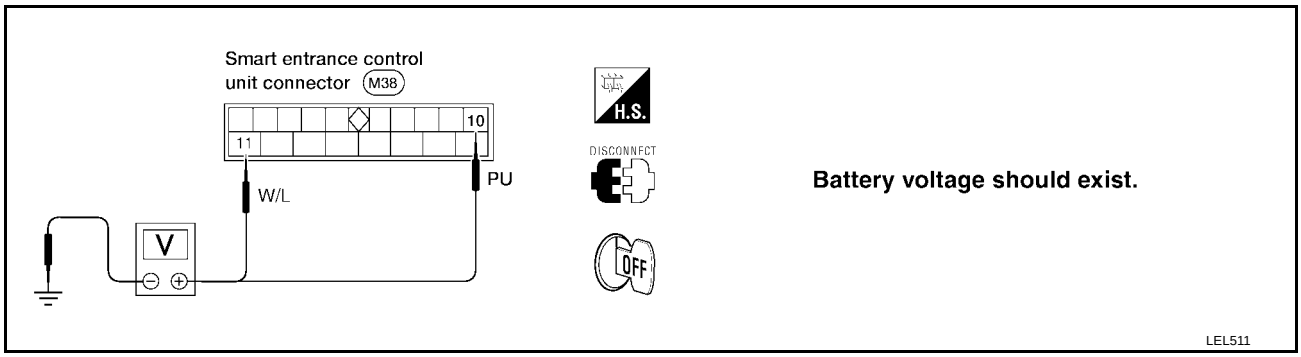
OK or NG

OK >> Keyfob is OK. Further inspection is necessary. Refer to BL-44, "SYMPTOM CHART" .
NG >> Replace keyfob. Refer to BL-60, "ID Code Entry Procedure" .

POWER SUPPLY AND GROUND CIRCUIT CHECK

1. CHECK MAIN POWER SUPPLY CIRCUIT FOR SMART ENTRANCE CONTROL UNIT

1. Disconnect smart entrance control unit harness connector.
2. Check voltage between smart entrance control unit harness connector terminals 10, 11 and ground.



Refer to BL-39, "FIG. 1" .

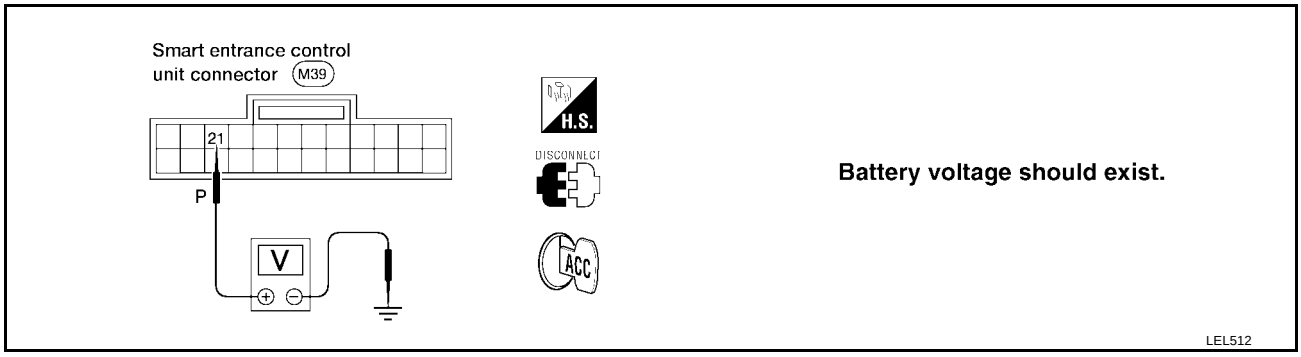
OK or NG

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

- 30A fusible link (letter **d** , located in fuse and fusible link box)
- 10A fuse (No. 37, located in fuse and fusible link box)
- M6 circuit breaker
- Harness for open or short between smart entrance control unit and fuse

2. CHECK IGNITION SWITCH “ACC” CIRCUIT

1. Disconnect smart entrance control unit harness connector.
2. Check voltage between smart entrance control unit harness connector terminal 21 and ground while ignition switch is “ACC”.



Refer to BL-39, "FIG. 1" .

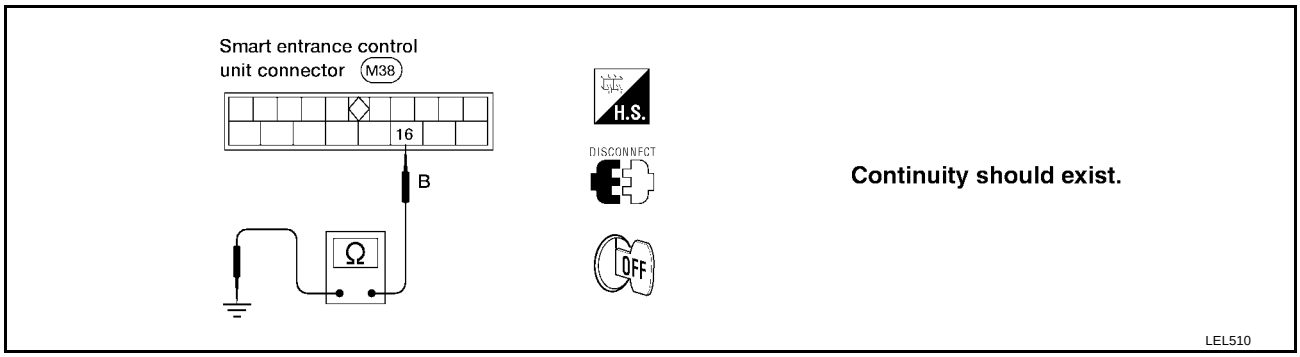
OK or NG

OK >> GO TO 3.
NG >> Check the following.

- 10A fuse [No. 1, located in fuse block (J/B)]
- Harness for open or short between smart entrance control unit and fuse

3. CHECK GROUND CIRCUIT FOR SMART ENTRANCE CONTROL UNIT

Check continuity between smart entrance control unit harness connector terminal 16 and ground.



Refer to BL-39, "FIG. 1" .

OK or NG

OK >> Power supply and ground circuits are OK.
NG >> Check ground harness.

DOOR SWITCH CHECK

1. CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT-II

Check door switches (“DOOR SW-ALL”) in “DATA MONITOR” mode with CONSULT-II.

DATA MONITOR	
MONITOR	
DOOR SW-ALL	OFF

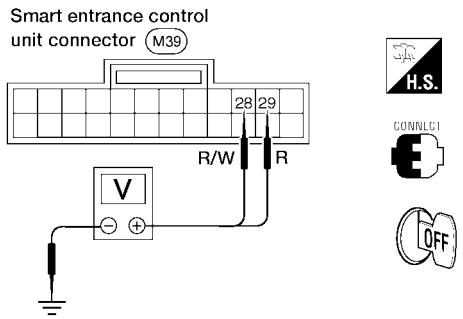
When any doors are open:
DOOR SW-ALL ON

When all doors are closed:
DOOR SW-ALL OFF

SEL323W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminals 28 or 29 and ground.



	Terminals		Condition	Voltage [V]
	(+)	(−)		
Front door switch LH	29	Ground	Open	0
			Closed	Approx. 5
Other door switches	28	Ground	Open	0
			Closed	Approx. 5

WEL500

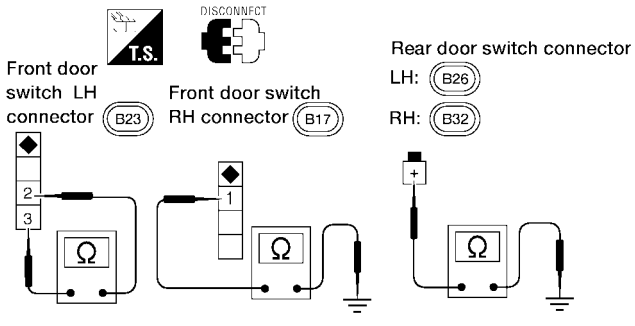
Refer to BL-39, "FIG. 1" .

OK or NG

OK >> Door switch is OK.
NG >> GO TO 2.

2. CHECK DOOR SWITCH

1. Disconnect door switch harness connector.
2. Check continuity between door switch terminals.



	Terminals	Condition	Continuity
Front door switch LH	2 - 3	Closed	No
		Open	Yes
Front door switch RH	1 - Ground	Closed	No
		Open	Yes
Rear door switches	(+) - Ground	Closed	No
		Open	Yes

WEL491

OK or NG

OK >> Check the following.
- Door switch ground circuit or door switch ground condition
- Harness for open or short between smart entrance control unit and door switch

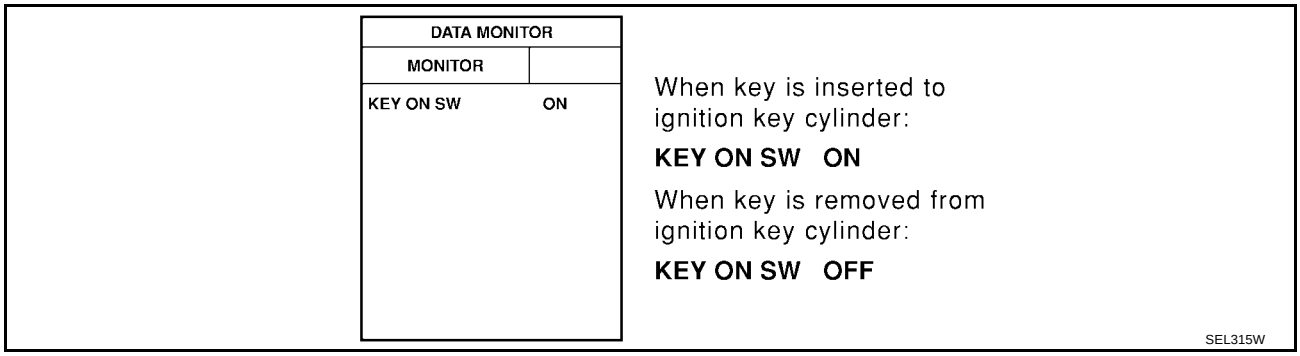
NG >> Replace door switch.

KEY SWITCH (INSERT) CHECK

1. CHECK KEY SWITCH INPUT SIGNAL

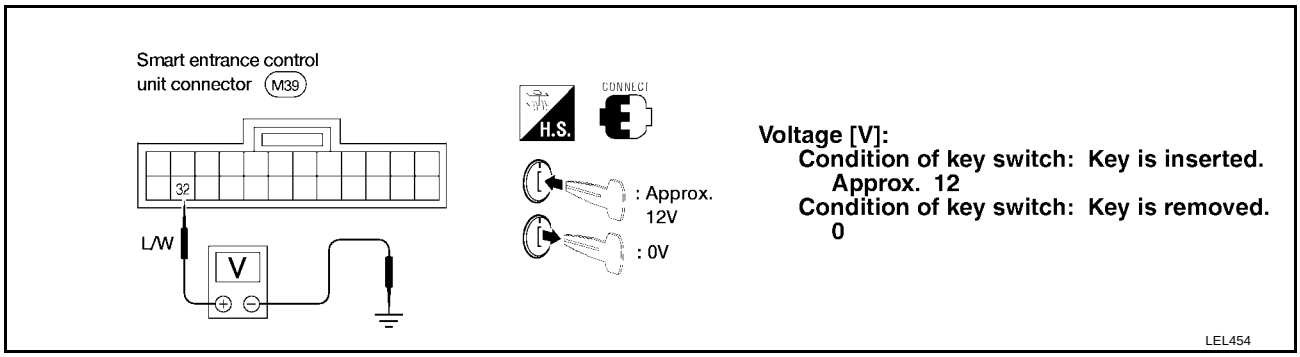
With CONSULT-II

Check key switch (“KEY ON SW”) in “DATA MONITOR” mode with CONSULT-II.



Without CONSULT-II

Check voltage between control unit terminal 32 and ground.



Refer to BL-39, "FIG. 1" .

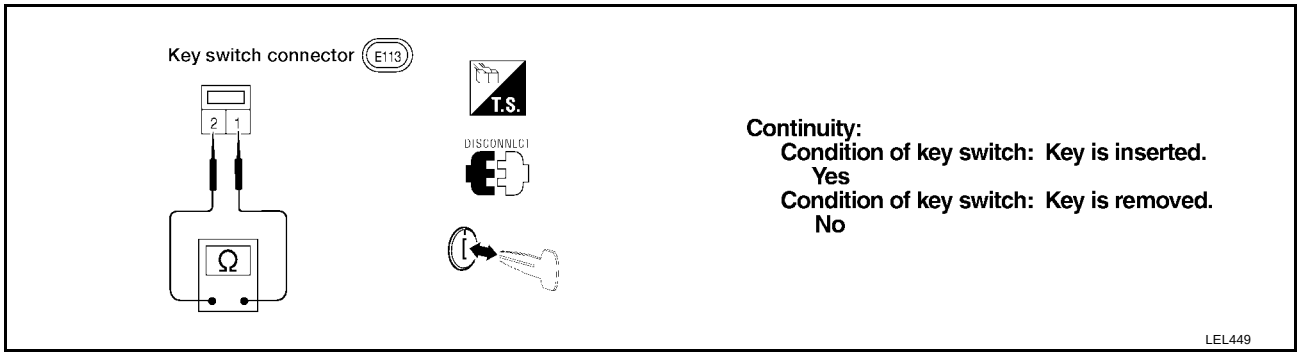
OK or NG

OK >> Key switch is OK.

NG >> GO TO 2.

2. CHECK KEY SWITCH

Check continuity between key switch terminals 1 and 2.



OK or NG

OK >> Check the following.

- 10A fuse [No. 12, located in fuse block (J/B)]
- Harness for open or short between key switch and fuse
- Harness for open or short between smart entrance control unit and key switch

NG >> Replace key switch.

DOOR LOCK/UNLOCK SWITCH LH CHECK

1. CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

With CONSULT-II

Check door lock/unlock switch (“LOCK SW DR/AS”/“UNLK SW DR/AS”) in “DATA MONITOR” mode with CONSULT-II.

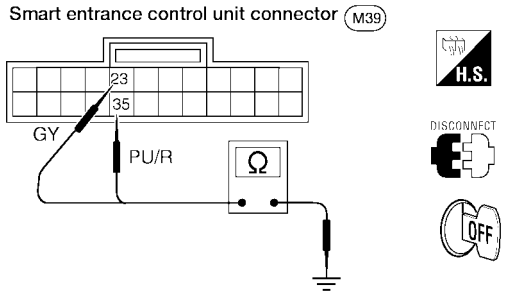
DATA MONITOR	
MONITOR	
LOCK SW DR/AS	OFF
UNLK SW DR/AS	OFF

When lock/unlock switch is turned to LOCK:
LOCK SW DR/AS ON
When lock/unlock switch is turned to UNLOCK:
UNLK SW DR/AS ON

SEL341W

Without CONSULT-II

1. Disconnect smart entrance control unit harness connector.
2. Check continuity between smart entrance control unit harness connector terminal 23 or 35 and ground.



Terminals	Door lock/unlock switch (LH or RH) condition	Continuity
23 - Ground	Lock	Yes
	N and Unlock	No
35 - Ground	Unlock	Yes
	N and Lock	No

WEL501

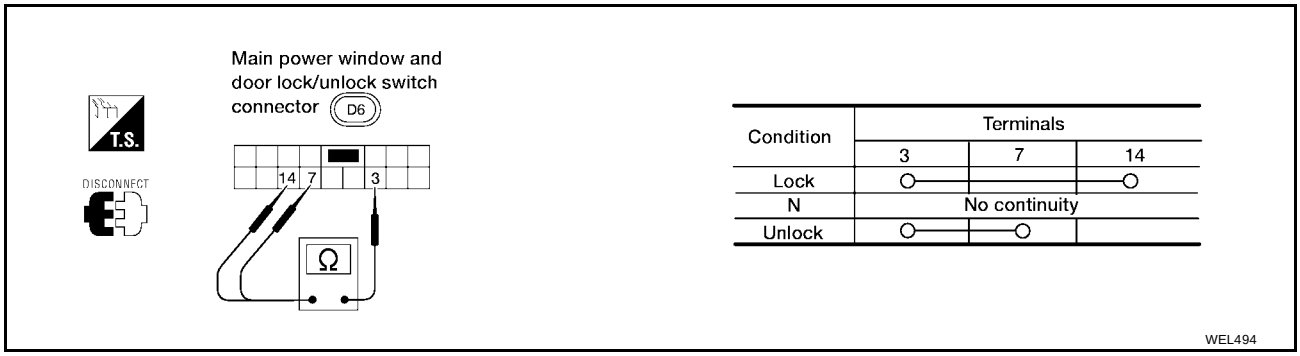
Refer to BL-40, "FIG. 2" .

OK or NG

OK >> Door lock/unlock switch is OK.
NG >> GO TO 2.

2. CHECK DOOR LOCK/UNLOCK SWITCH

1. Disconnect door lock/unlock switch harness connector.
2. Check continuity between door lock/unlock switch LH terminals.



Condition	Terminals		
	3	7	14
Lock	○		○
N	No continuity		
Unlock	○	○	

OK or NG

OK >> Check the following.
- Ground circuit for door lock/unlock switch
- Harness for open or short between door lock/unlock switch and smart entrance control unit connector

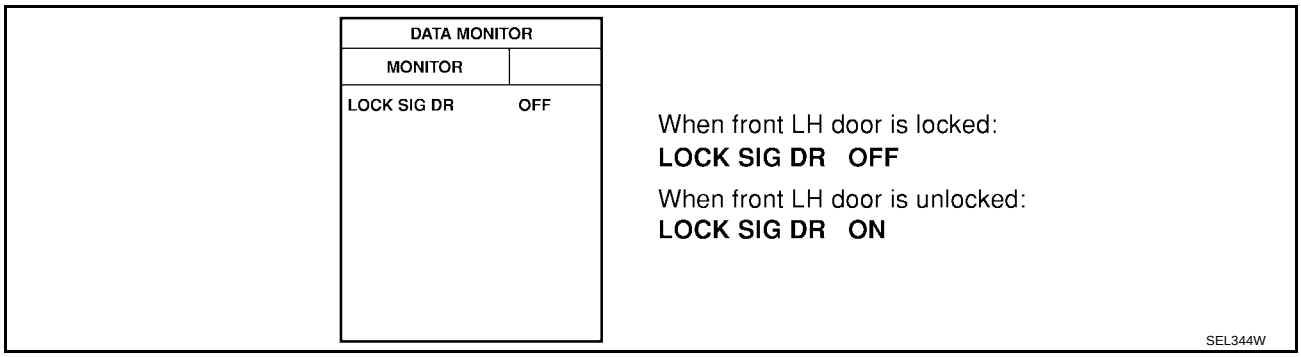
NG >> Replace door lock/unlock switch.

FRONT LH DOOR UNLOCK SENSOR CHECK

1. CHECK FRONT LH DOOR UNLOCK SENSOR INPUT SIGNAL

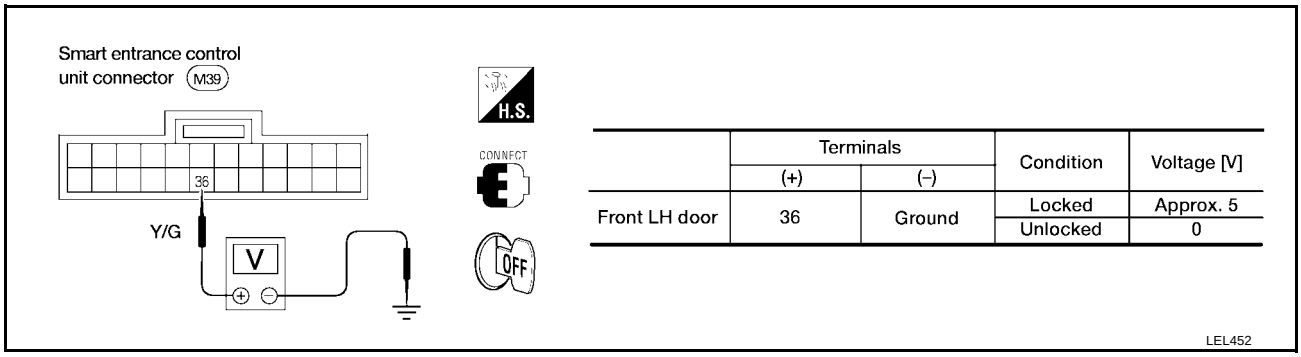
With CONSULT-II

1. Select “DATA MONITOR” mode in “INT LAMP” with CONSULT-II.
2. Check front LH door unlock sensor (“LOCK SIG DR”) in “DATA MONITOR” mode.



Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 36 and ground.



	Terminals (+)	Terminals (–)	Condition	Voltage [V]
Front LH door	36	Ground	Locked	Approx. 5
			Unlocked	0

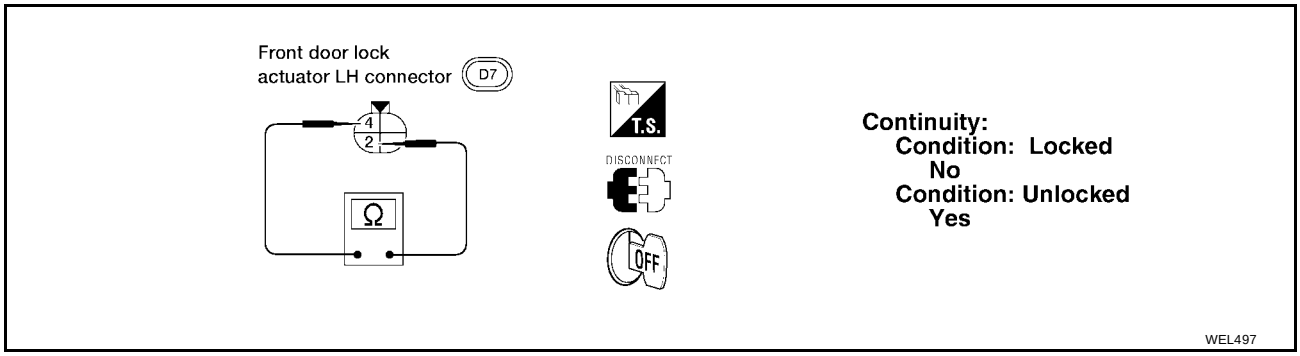
Refer to BL-40, "FIG. 2" .

OK or NG

OK >> Door unlock sensor is OK.
NG >> GO TO 2.

2. CHECK FRONT LH DOOR UNLOCK SENSOR

1. Disconnect front LH door unlock sensor harness connector.
2. Check continuity between door unlock sensor terminals.



OK or NG

OK >> Check the following.
- Door unlock sensor ground circuit
- Harness for open or short between smart entrance control unit and door unlock sensor

NG >> Replace door unlock sensor.

TRUNK LID OPENER ACTUATOR CHECK

1. CHECK TRUNK LID OPENER

Check trunk lid opener operation with trunk lid opener switch.
NOTE: First check trunk lid opener cancel lever position.

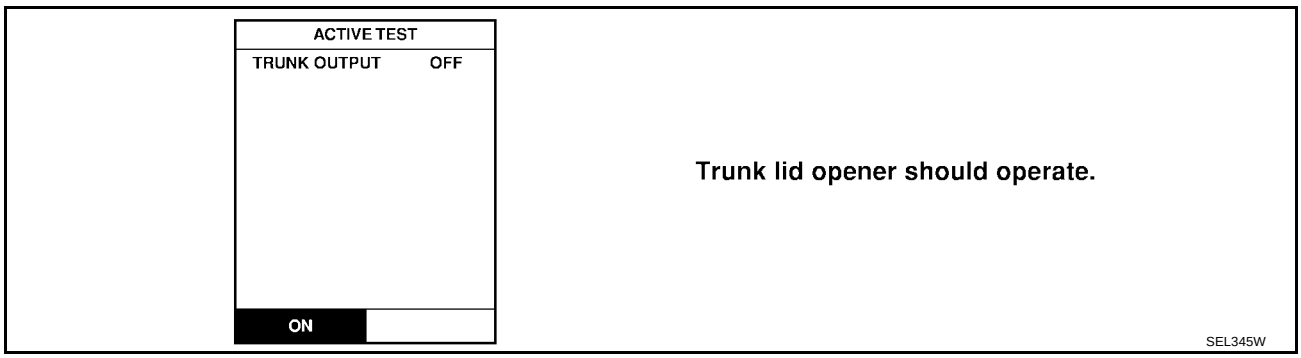
Does trunk lid open?

Yes >> GO TO 2.
No >> Check trunk lid opener actuator and the circuit.

2. CHECK TRUNK LID OPENER ACTUATOR OPERATION

With CONSULT-II

1. Select “ACTIVE TEST” in “MULTI REMOTE ENT” with CONSULT-II.
2. Select “TRUNK OUTPUT” and touch “ON”.



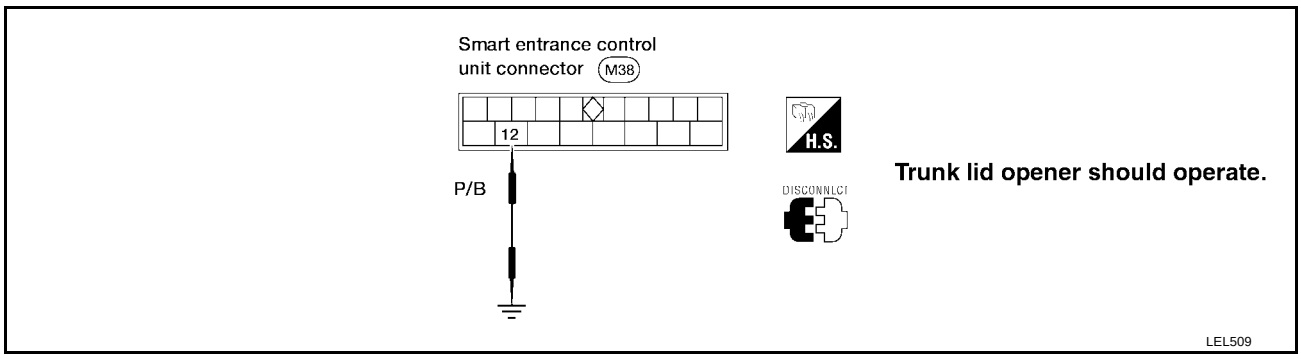
NOTE: If CONSULT-II is not available, skip this procedure and go to the next step.

OK or NG

OK >> Trunk lid opener actuator circuit is OK.
NG >> GO TO 3.

3. CHECK TRUNK LID OPENER ACTUATOR CIRCUIT

1. Disconnect smart entrance control unit harness connector.
2. Apply ground to smart entrance control unit harness connector terminal 12.



Refer to BL-39, "FIG. 1" .

Does trunk lid open?

Yes >> Replace smart entrance control unit.
No >> Check harness for open or short between smart entrance control unit and trunk lid opener actuator.

HAZARD REMINDER CHECK

1. CHECK HAZARD INDICATOR

Check if hazard indicator flashes with hazard switch.

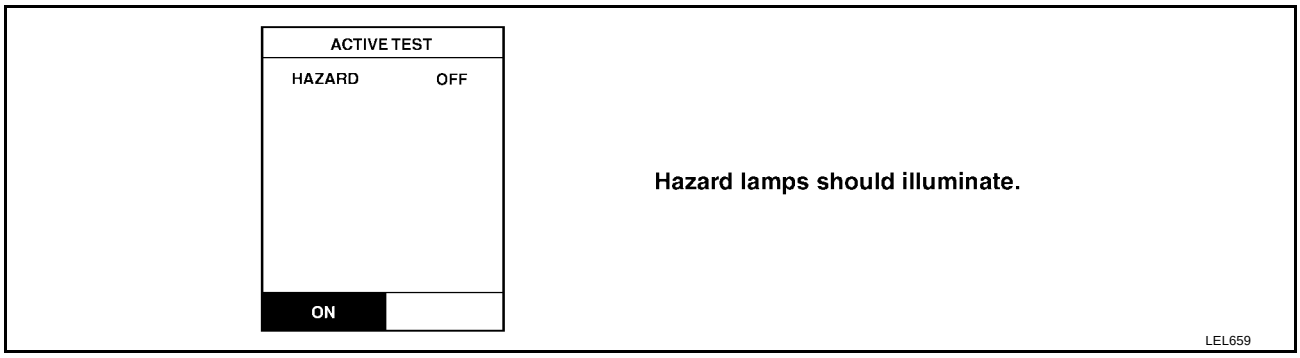
Does hazard indicator operate?

Yes >> GO TO 2.
No >> Check hazard indicator circuit.

2. CHECK HAZARD REMINDER OPERATION

With CONSULT-II

1. Select “ACTIVE TEST” in “MULTI REMOTE ENT” with CONSULT-II.
2. Select “HAZARD” and touch “ON”.



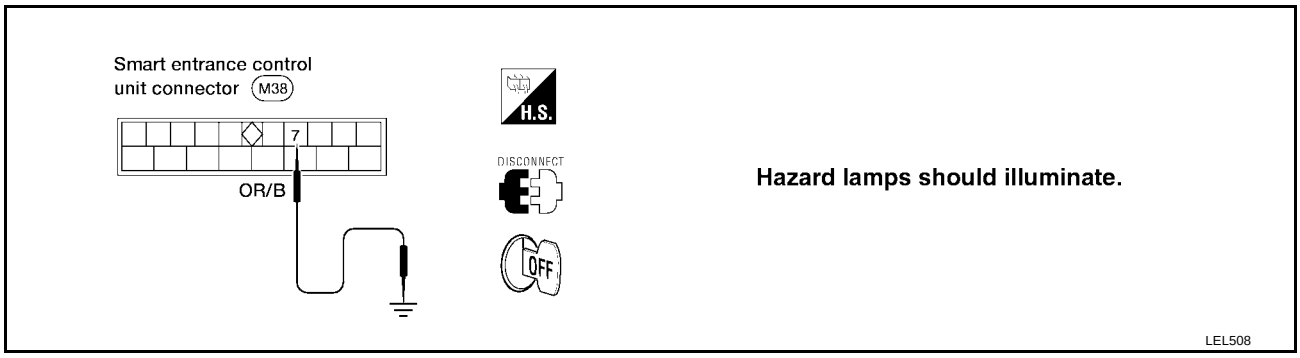
NOTE: If CONSULT-II is not available, skip this procedure and go to the next step.

OK or NG

OK >> Hazard reminder operation is OK.
NG >> GO TO 3.

3. CHECK HAZARD REMINDER OPERATION

1. Disconnect smart entrance control unit harness connector.
2. Apply ground to smart entrance control unit harness connector terminal 7.



Refer to BL-41, "FIG. 3" .

OK or NG

OK >> Replace smart entrance control unit.
NG >> GO TO 4.

4. CHECK REMOTE KEYLESS ENTRY RELAY

Check remote keyless entry relay.

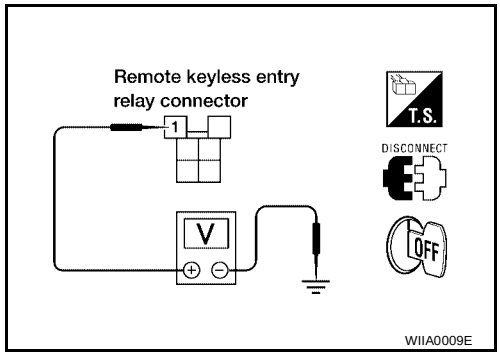
OK or NG

OK >> GO TO 5.
NG >> Replace remote keyless entry relay.

5. CHECK POWER SUPPLY FOR REMOTE KEYLESS ENTRY RELAY

1. Disconnect remote keyless entry relay harness connector.
2. Check voltage between remote keyless entry relay harness connector M11 terminal 1 (W/G) and ground.

Battery voltage should exist.



OK or NG

OK >> GO TO 6.

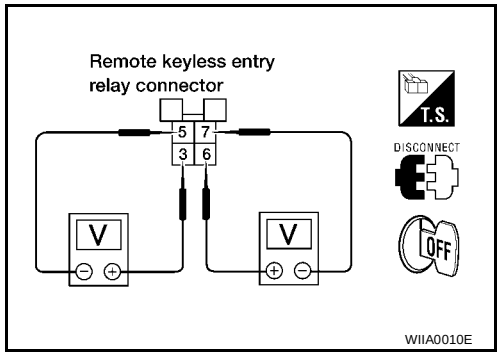
NG >> Check the following.

- 15A fuse [No. 5, located in fuse block (J/B)]
- Harness for open or short between remote keyless entry relay and fuse

6. CHECK REMOTE KEYLESS ENTRY RELAY CIRCUIT

1. Disconnect remote keyless entry relay harness connector.
2. Check voltage between remote keyless entry relay harness connector M11 terminals 3 (W/G) and 5 (G/B).
3. Check voltage between remote keyless entry relay harness connector M11 terminals 6 (W/G) and 7 (G/Y).

Battery voltage should exist.



OK or NG

OK >> Check harness for open or short between smart entrance control unit and remote keyless entry relay.

NG >> Check the following.

- Harness for open or short between remote keyless entry relay and fuse
- Harness for open or short between remote keyless entry relay and turn signal lamps

HORN REMINDER CHECK

1. CHECK HORN

Check if horn sounds with horn switch.

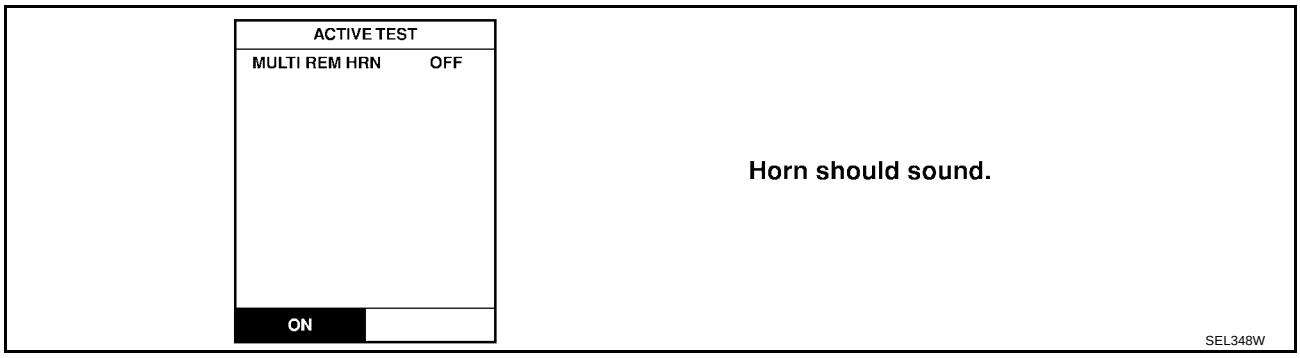
Does horn operate?

Yes >> GO TO 2.
No >> Check horn circuit.

2. CHECK HORN REMINDER OPERATION

With CONSULT-II

1. Select “ACTIVE TEST” in “MULTI REMOTE ENT” with CONSULT-II.
2. Select “MULTI REM HRN” and touch “ON”.



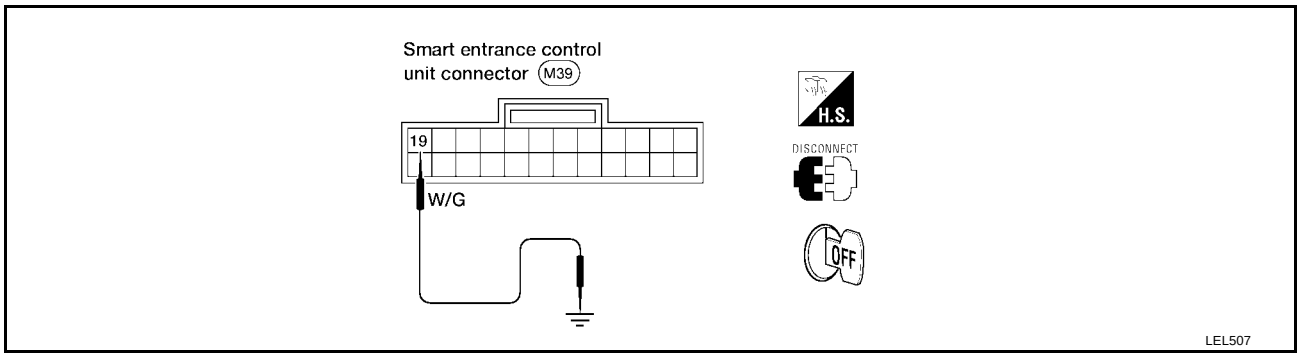
NOTE: If CONSULT-II is not available, skip this procedure and go to the next step.

OK or NG

OK >> Horn reminder operation is OK.
NG >> GO TO 3.

3. CHECK HORN REMINDER OPERATION

1. Disconnect smart entrance control unit harness connector.
2. Apply ground to smart entrance control unit harness connector terminal 19.



Refer to BL-41, "FIG. 3" .

Does horn sound?

Yes >> Replace smart entrance control unit.
No >> Check harness for open or short between smart entrance control unit and horn relay.

INTERIOR LAMP OPERATION CHECK

1. CHECK INTERIOR LAMP

Check if the interior lamp switch is in the “ON” position and the lamp illuminates.

Does interior lamp illuminate?

Yes >> GO TO 2.

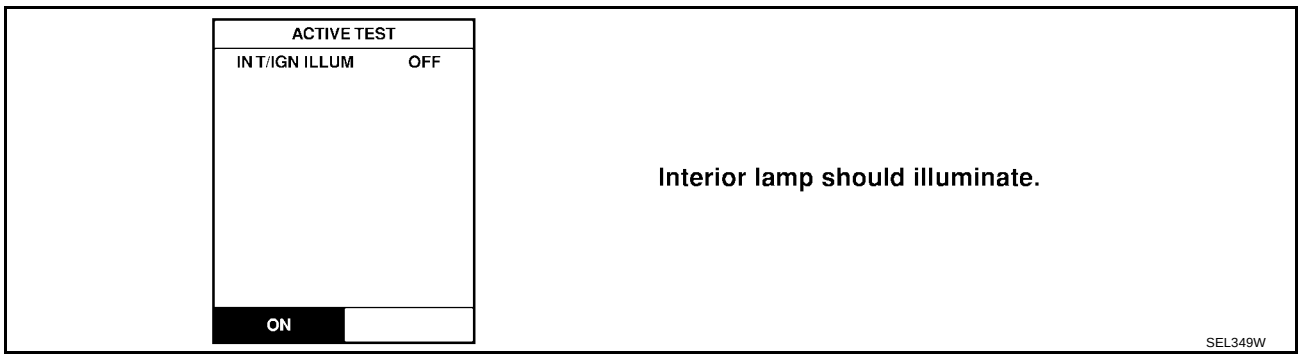
No >> Check the following.

- Harness for open or short between smart entrance control unit and interior lamp
- Interior lamp

2. CHECK INTERIOR LAMP OPERATION

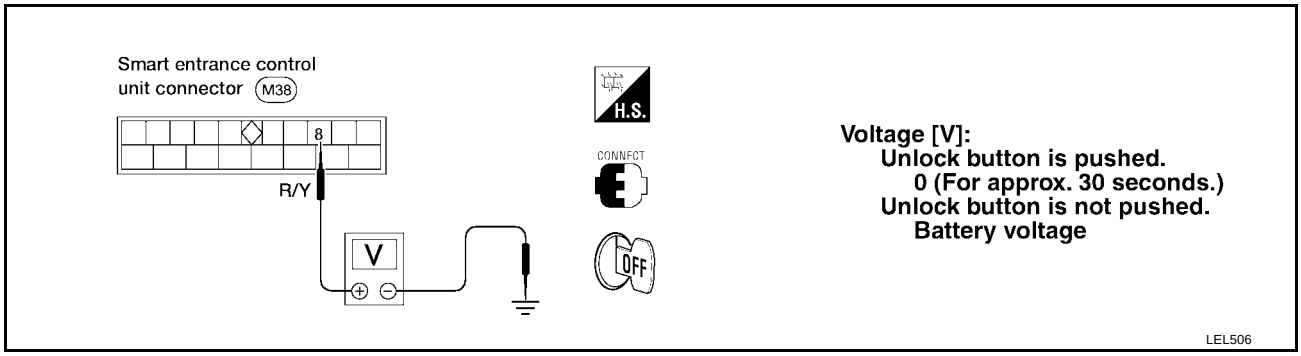
With CONSULT-II

1. Select “ACTIVE TEST” in “MULTI REMOTE ENT” with CONSULT-II.
2. Select “INT/IGN ILLUM” and touch “ON”.



Without CONSULT-II

Push unlock button of keyfob with all doors closed, and check voltage between smart entrance control unit harness connector terminal 8 and ground.



Refer to BL-40, "FIG. 2" .

OK or NG

OK >> System is OK.

NG >> Check harness open or short between smart entrance control unit and interior lamp.

ID Code Entry Procedure

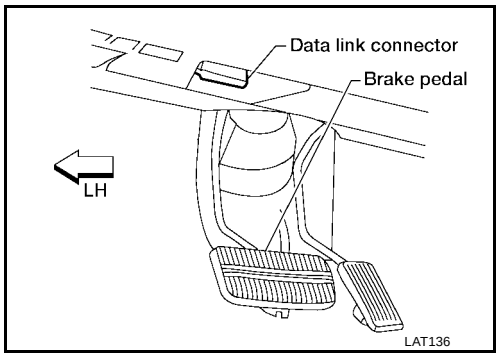
EIS0015B

KEYFOB ID SET UP WITH CONSULT-II

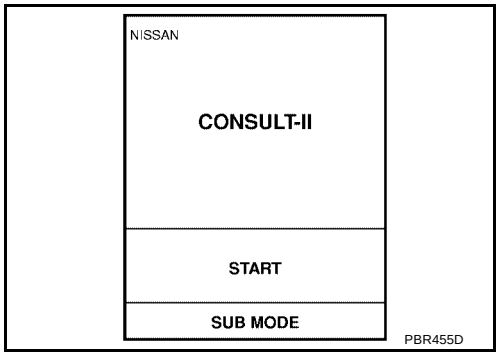
NOTE:

If a keyfob is lost, the ID code of the lost keyfob must be erased to prevent unauthorized use. When the ID code of a lost keyfob is not known, all keyfob ID codes should be erased. After all ID codes are erased, the ID codes of all remaining and/or new keyfobs must be re-registered.

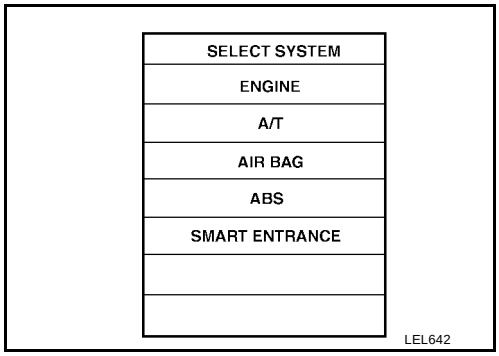
1. Turn ignition switch “OFF”.



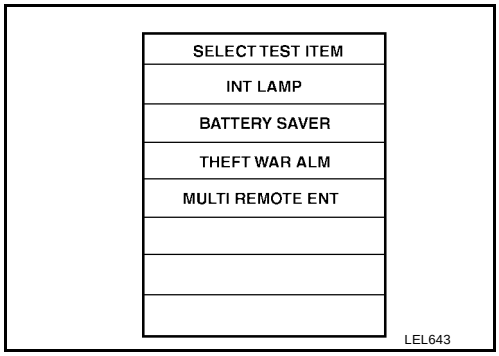
2. Connect “CONSULT-II” to the data link connector.
3. Turn ignition switch “ON”.



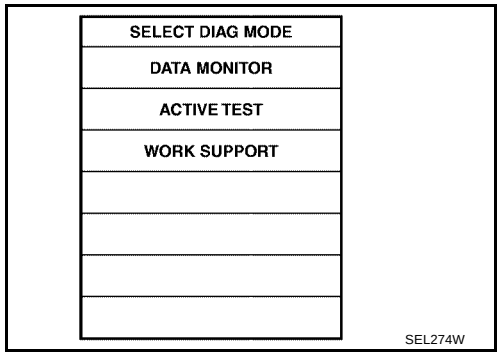
4. Touch “START”.
5. Touch “SMART ENTRANCE”.



6. Touch “MULTI REMOTE ENT”.



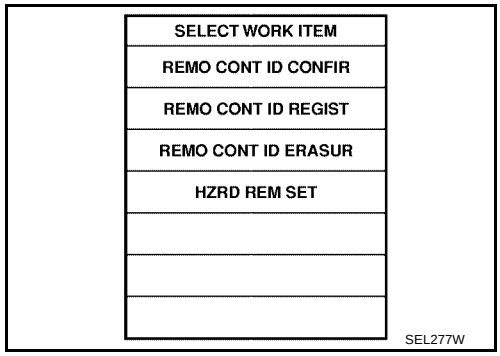
7. Touch “WORK SUPPORT”.



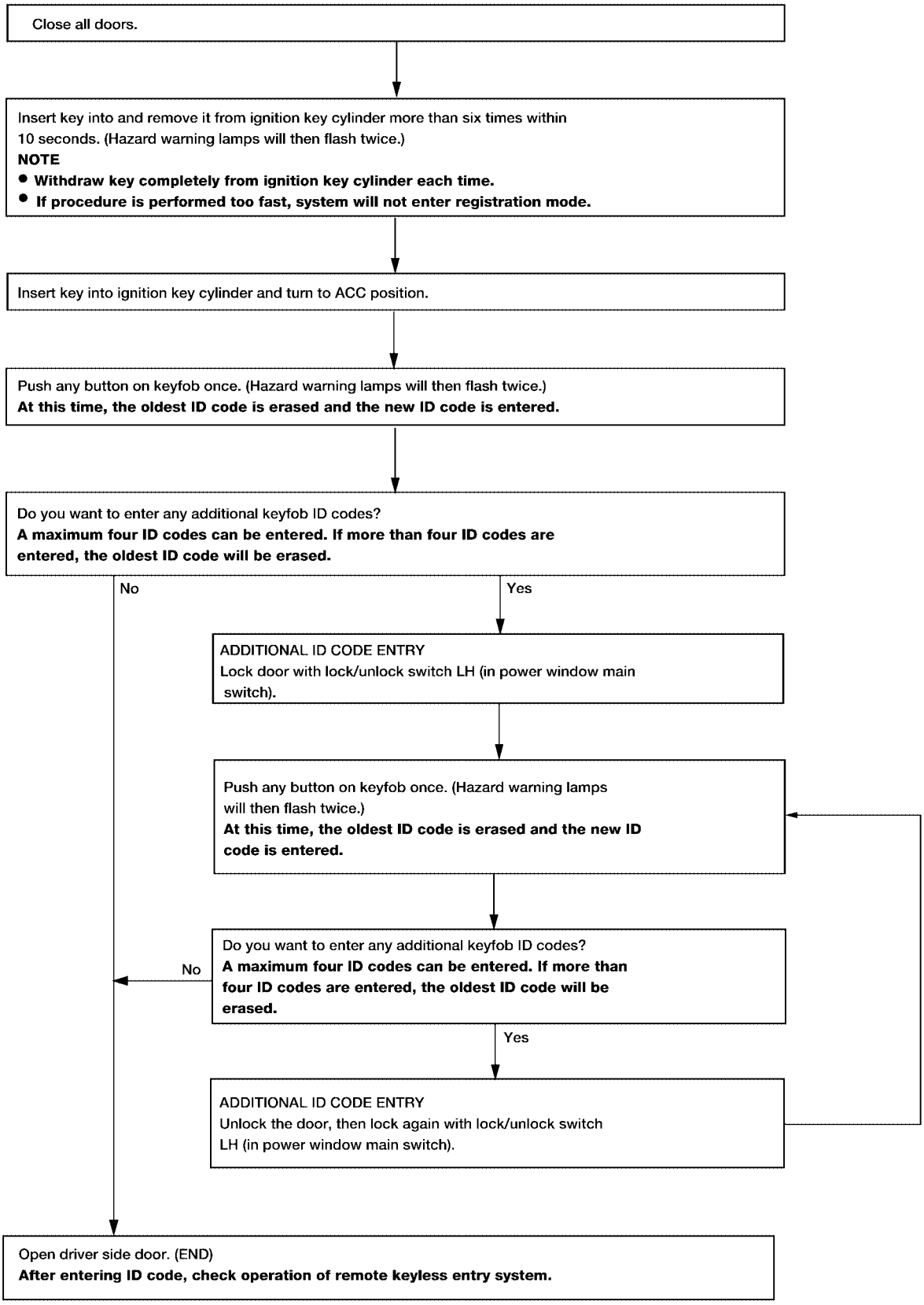
8. The items are shown that can be set up.
   - “REMO CONT ID CONFIR”
     Use this mode to confirm if a keyfob ID code is registered or not.
   - “REMO CONT ID REGIST”
     Use this mode to register a keyfob ID code.

   NOTE:
   Register the ID code when keyfob or smart entrance control unit is replaced, or when additional keyfob is required.

   - “REMO CONT ID ERASUR”
     Use this mode to erase a keyfob ID code.
   - “HZRD REM SET”
     Use this mode to activate or deactivate the hazard and horn reminder.



KEYFOB ID SET UP WITHOUT CONSULT-II



WIIA0011E

NOTE:

- If a keyfob is lost, the ID code of the lost keyfob must be erased to prevent unauthorized use. A specific ID code can be erased with CONSULT-II. However, when the ID code of a lost keyfob is not known, all keyfob ID codes should be erased. After all ID codes are erased, the ID codes of all remaining and/or new keyfobs must be re-registered.
  To erase all ID codes in memory, register one ID code (keyfob) four times. After all ID codes are erased, the ID codes of all remaining and/or new keyfobs must be re-registered.
- When registering an additional keyfob, the existing ID codes in memory may or may not be erased. If four ID codes are stored in memory, when an additional code is registered, only the oldest code is erased. If less than four ID codes are stored in memory, when an additional ID code is registered, the new ID code is added and no ID codes are erased.
- If you need to activate more than two additional new keyfobs, repeat the procedure “Additional ID code entry” for each new keyfob.
- Entry of maximum four ID codes is allowed. When more than four ID codes are entered, the oldest ID code will be erased.
- Even if same ID code that is already in the memory is input, the same ID code can be entered. The code is counted as an additional code.

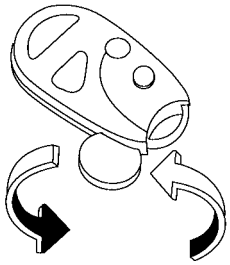
Keyfob Battery Replacement

EIS0015C

NOTE:

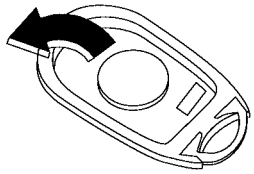
- Be careful not to touch the circuit board or the battery terminal.
- The keyfob is water-resistant. However, if it does get wet, immediately wipe it dry.

1.



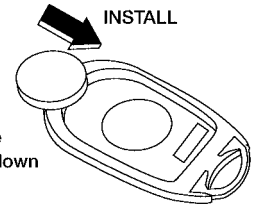
Open the lid using a coin.

2.



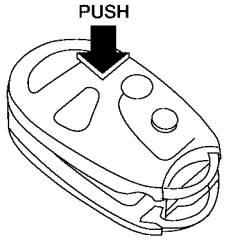
Remove the battery.

3.



Insert the new battery.

4.



Close the lid securely.
Push the keyfob button two or three times to check its operation.

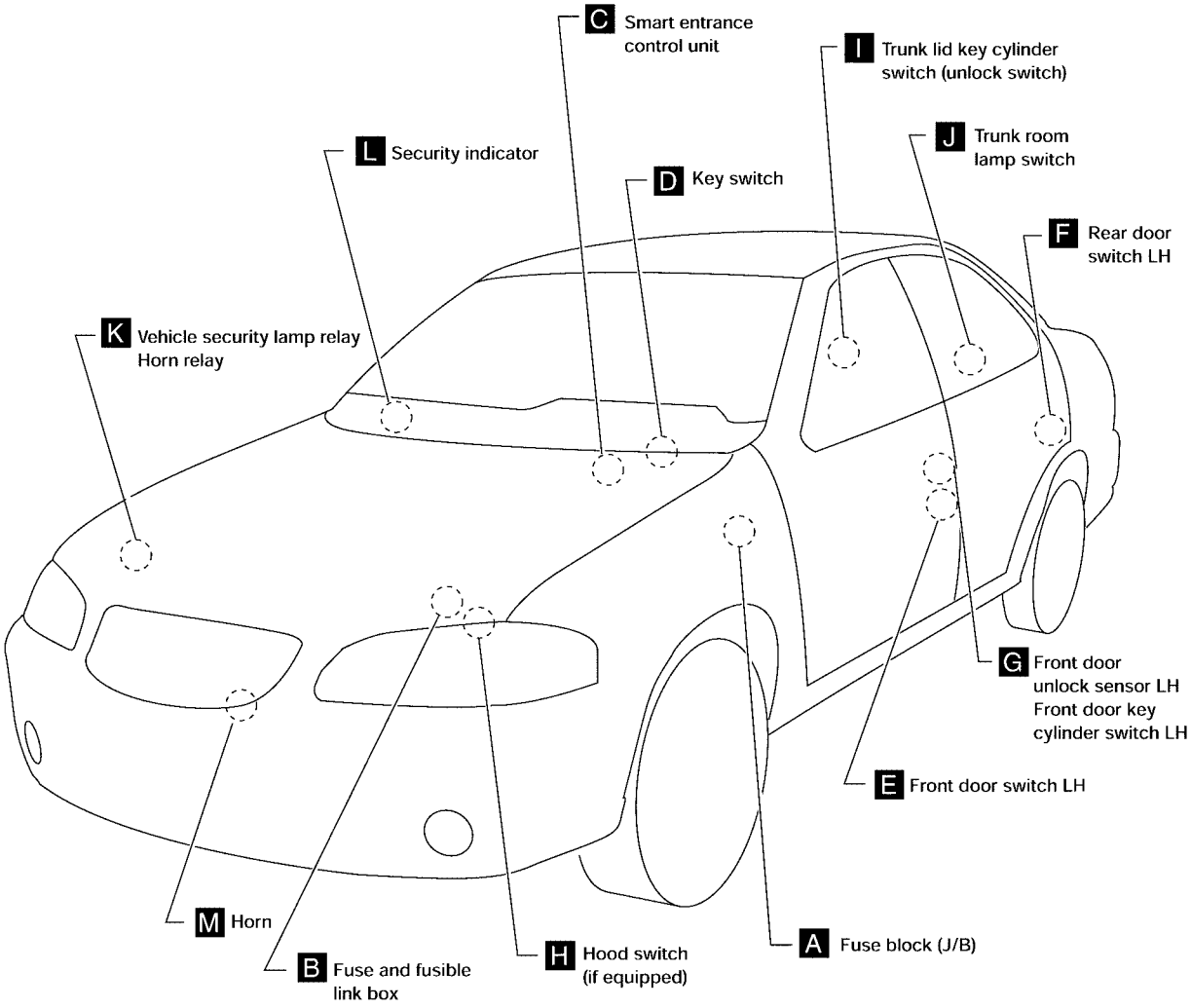
WIIA0012E

VEHICLE SECURITY (THEFT WARNING) SYSTEM

PFP:00100

Component Parts and Harness Connector Location

EIS0015D



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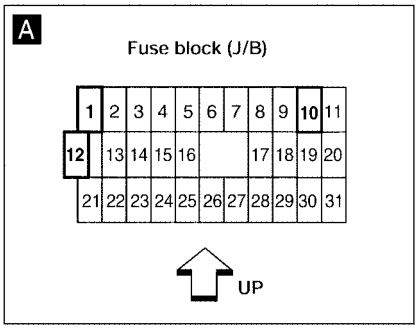
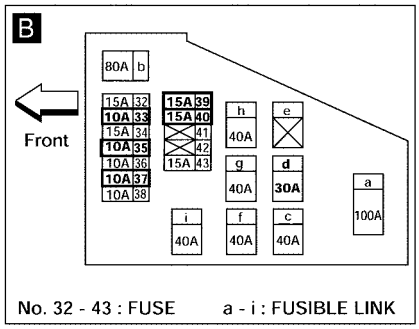
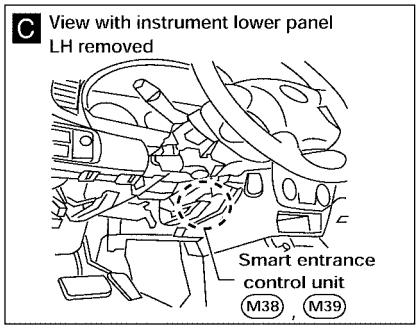
A



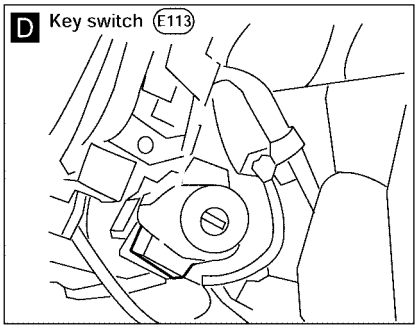
B



C



D



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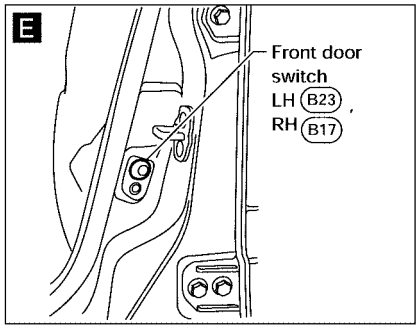

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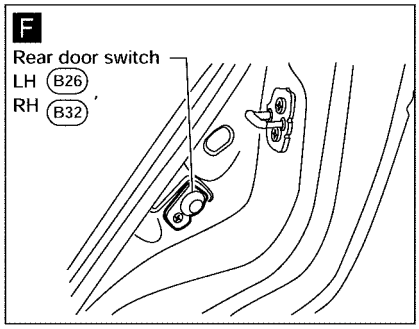
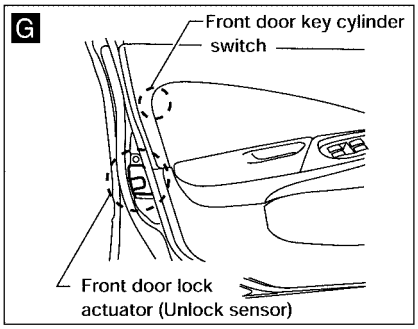
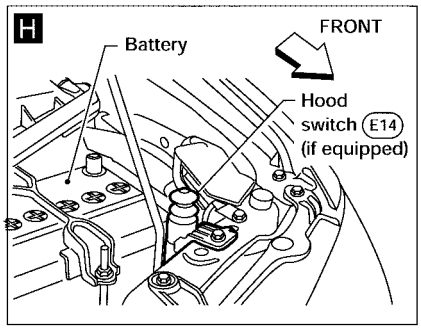


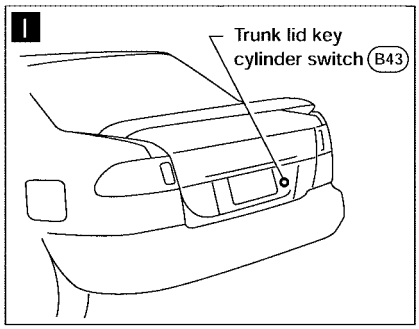
G



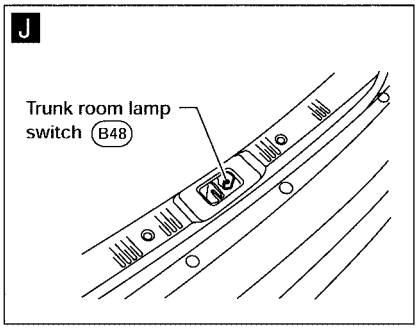
H



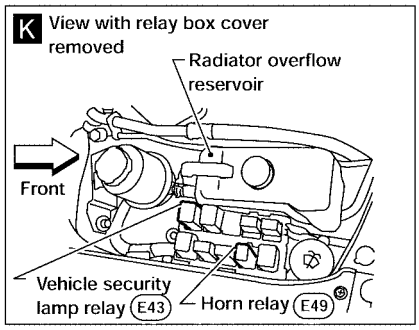
I



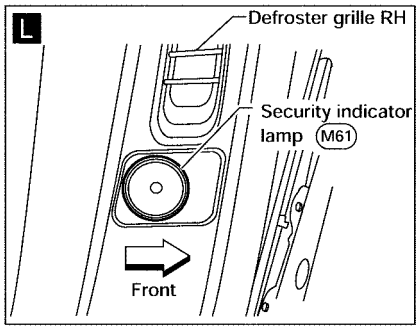
J



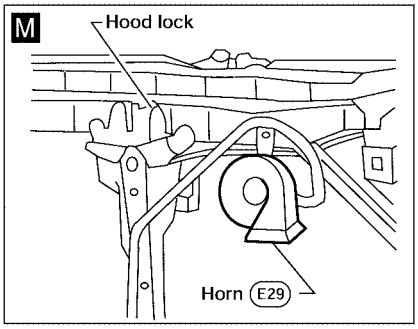
K



L



M



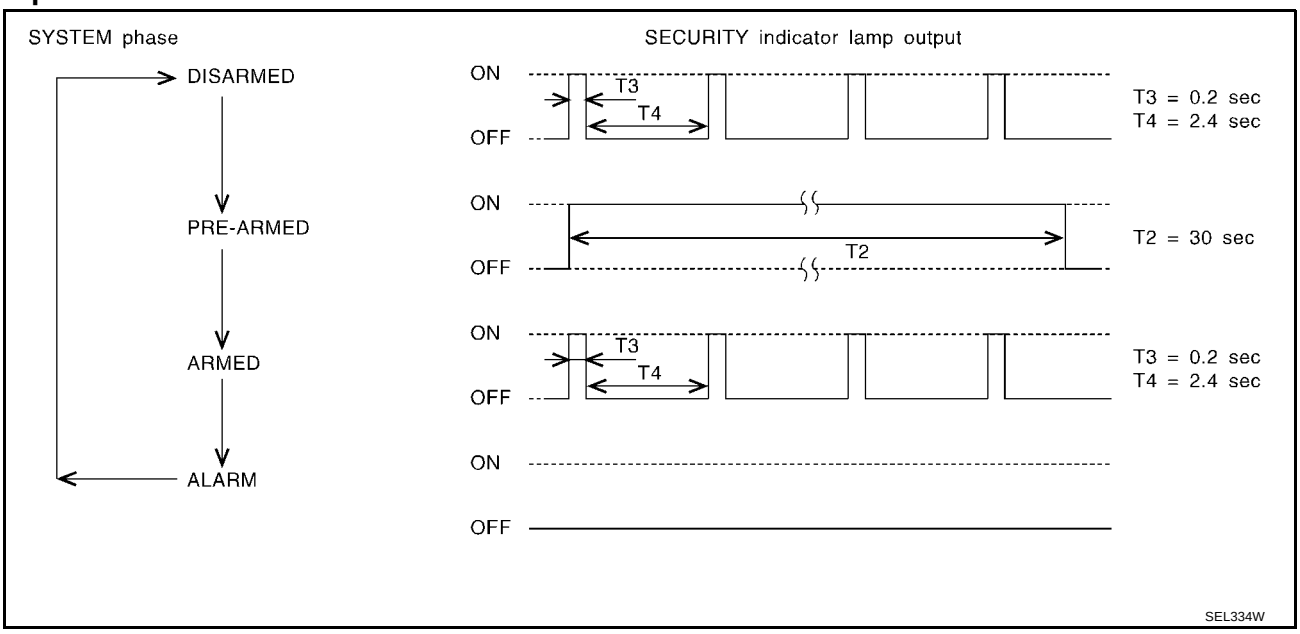
LIIA0595E

System Description

EIS0015E

DESCRIPTION

1. Operation Flow



2. Setting The Vehicle Security System

Initial condition

1. Ignition switch is in OFF position.

Disarmed phase

When the vehicle security system is in the disarmed phase, the security indicator lamp blinks every 2.6 seconds.

Pre-armed phase and armed phase

When the following operation 1 or 2 is performed, the vehicle security system turns into the “pre-armed” phase. (The security indicator lamp illuminates.)

1. Smart entrance control unit receives LOCK signal from key cylinder switch or keyfob after hood, trunk lid and all doors are closed.
2. Hood (if equipped with hood switch), trunk lid and all doors are closed after front doors are locked by key, lock/unlock switch or keyfob.

After about 30 seconds, the system automatically shifts into the “armed” phase (the system is set). (The security indicator lamp blinks every 2.6 seconds.)

3. Canceling The Set Vehicle Security System

When the following 1 or 2 operation is performed, the armed phase is canceled.

1. Unlock the doors with the key or keyfob.
2. Open the trunk lid with the key or keyfob.

4. Activating The Alarm Operation of The Vehicle Security System

Make sure the system is in the armed phase. (The security indicator lamp blinks every 2.6 seconds.)
When the following operation 1 or 2 is performed, the system sounds the horns and flashes the headlamps for about 50 seconds.

1. Engine hood (if equipped with hood switch), trunk lid or any door is opened during armed phase.
2. Disconnecting and connecting the battery connector before canceling armed phase.

POWER SUPPLY AND GROUND

Power is supplied at all times:

- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to security indicator lamp terminal 1 and
- to key switch terminal 2.

Power is supplied at all times:

- through 10A fuse (No. 37, located in the fuse and fusible link box)
- to smart entrance control unit terminal 10.

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

- through 10A fuse [No. 10, located in the fuse block (J/B)]
- to smart entrance control unit terminal 33.

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

- through 10A fuse [No. 1, located in the fuse block (J/B)]
- to smart entrance control unit terminal 21.

Ground is supplied:

- to smart entrance control unit terminal 16
- through body grounds M28 and M54.

INITIAL CONDITION TO ACTIVATE THE SYSTEM

The operation of the vehicle security system is controlled by the doors, hood (if equipped with hood switch) and trunk lid.

Pattern A

To activate the vehicle security system, the smart entrance control unit must receive signals indicating the doors, hood (if equipped with hood switch) and trunk lid are closed.
When a door is open, smart entrance control unit terminal 28 or 29 receives a ground signal from each door switch.
On vehicles equipped with hood switch, when the hood is open, smart entrance control unit terminal 27 receives a ground signal:

- from terminal + of the hood switch
- to terminal - of the hood switch
- through body grounds E7 and E37.

When the trunk lid is open, smart entrance control unit terminal 38 receives a ground signal:

- from terminal + of the trunk room lamp switch
- to terminal - of the trunk room lamp switch
- through body grounds B13 and B19.

When smart entrance control unit receives LOCK signal from key cylinder switch or keyfob and none of the described conditions exist, the vehicle security system will automatically shift to armed mode.

Pattern B

To activate the vehicle security system, the smart entrance control unit must receive signal indicating any door [including hood (if equipped with hood switch) and trunk lid] is opened.
When the front doors are locked with key, lock/unlock switch or keyfob and then all doors are closed, the vehicle security system will automatically shift to armed mode.

VEHICLE SECURITY SYSTEM ACTIVATION

Pattern A

With all doors closed (including hood and trunk lid), if the key is used to lock doors, smart entrance control unit terminal 41 receives a ground signal:

- from terminal L of the front door key cylinder switch LH
- to terminal E of the front door key cylinder switch LH
- through body grounds M28 and M54.

If this signal, or lock signal from keyfob is received by the smart entrance control unit, the vehicle security system will activate automatically.

NOTE:
Vehicle security system can be set even though all doors are not locked.

Pattern B

With any door open, if lock/unlock switch is used to lock doors, smart entrance control unit terminal 23 receives a ground signal:

- from terminal 14 of main power window and door lock/unlock switch

- to terminal 3 of main power window and door lock/unlock switch, or
- from terminal 1 of door lock/unlock switch RH
- to terminal 5 of door lock/unlock switch RH
- through body grounds M28 and M54.

With any door open, if the key is used to lock doors, smart entrance control unit terminal 41 receives a ground signal:

- from terminal L of the front door key cylinder switch LH
- to terminal E of the front door key cylinder switch LH
- through body grounds M28 and M54.

If these signals and lock signal from keyfob are received by the smart entrance control unit and ground signals of terminals 36 and 37 are interrupted (both front doors locked), the vehicle security system will activate automatically.

NOTE:
Vehicle security system can be set even though the rear door is not locked.
Once the vehicle security system has been activated, smart entrance control unit terminal 31 supplies ground to terminal 2 of the security indicator lamp.
The security indicator lamp will illuminate for approximately 30 seconds and then blink every 2.6 seconds.
Now the vehicle security system is in armed phase.

VEHICLE SECURITY SYSTEM ALARM OPERATION

The vehicle security system is triggered by:

- opening a door
- opening the hood (if equipped with hood switch) or the trunk lid
- detection of battery disconnect and connect.

Once the vehicle security system is in armed phase, if the smart entrance control unit receives a ground signal at terminal 28 or 29 (door switch), 38 (trunk room lamp switch) or 27 [hood switch (if equipped)], the vehicle security system will be triggered. The headlamps flash and the horn sounds intermittently.
Power is supplied at all times:

- through 15A fuse (No. 39, located in fuse and fusible link box)
- to vehicle security lamp relay terminal 3,
- through 15A fuse (No. 40, located in fuse and fusible link box)
- to vehicle security lamp relay terminal 6,
- through 10A fuse (No, 35 located in fuse and fusible link box)
- to vehicle security lamp relay terminal 1
- through 10A fuse (No. 33, located in fuse and fusible link box)
- to horn relay terminals 1 and 5.

When the vehicle security system is triggered, ground is supplied intermittently:

- from smart entrance control unit terminal 4
- to horn relay terminal 2 and
- to vehicle security lamp relay terminal 2.

The headlamps flash and the horn sounds intermittently.
The alarm automatically turns off after about 50 seconds but will reactivate if the vehicle is tampered with again.

VEHICLE SECURITY SYSTEM DEACTIVATION

To deactivate the vehicle security system, a door or trunk lid must be unlocked with the key or keyfob.
When the key is used to unlock the door, smart entrance control unit terminal 30 receives a ground signal:

- from terminal U of front door key cylinder switch LH
- to terminal E of front door key cylinder switch LH
- through body grounds M28 and M54.

When the key is used to open the trunk lid, smart entrance control unit terminal 42 receives a ground signal:

- from terminal + of the trunk lid key cylinder switch (unlock switch)
- to terminal - of the trunk lid key cylinder switch (unlock switch)

- through body grounds B13 and B19.

When the smart entrance control unit receives either one of these signals or unlock signal from keyfob, the vehicle security system is deactivated. (Disarmed phase)

PANIC ALARM OPERATION

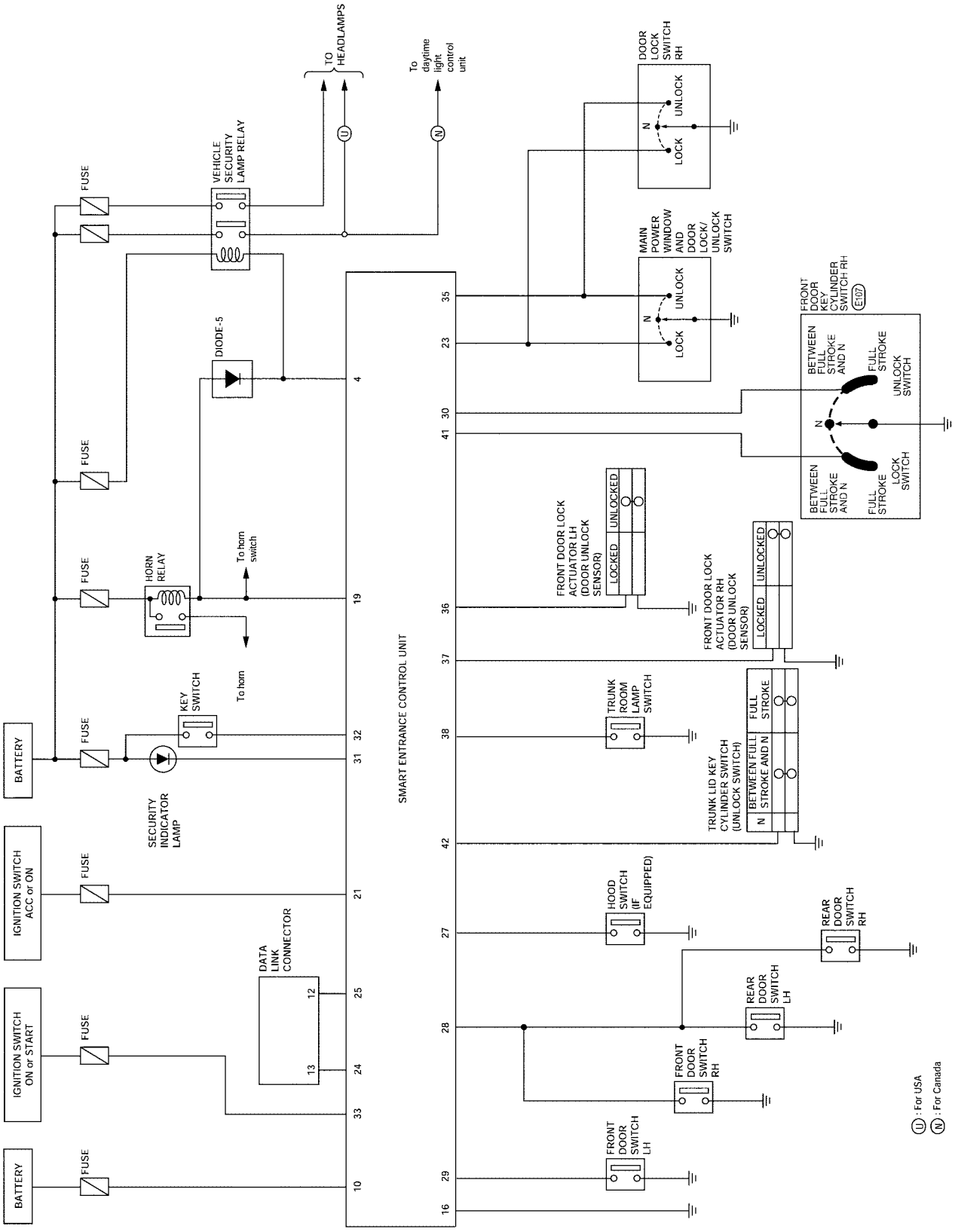
When the remote keyless entry system (panic alarm) is triggered, ground is supplied intermittently:

- from smart entrance control unit terminal 4
- to vehicle security lamp relay terminal 2 and
- to horn relay terminal 2.

The headlamp flashes and the horn sounds intermittently.
The alarm automatically turns off after 25 seconds or when smart entrance control unit receives any signal from keyfob.

Schematic

EIS0015F

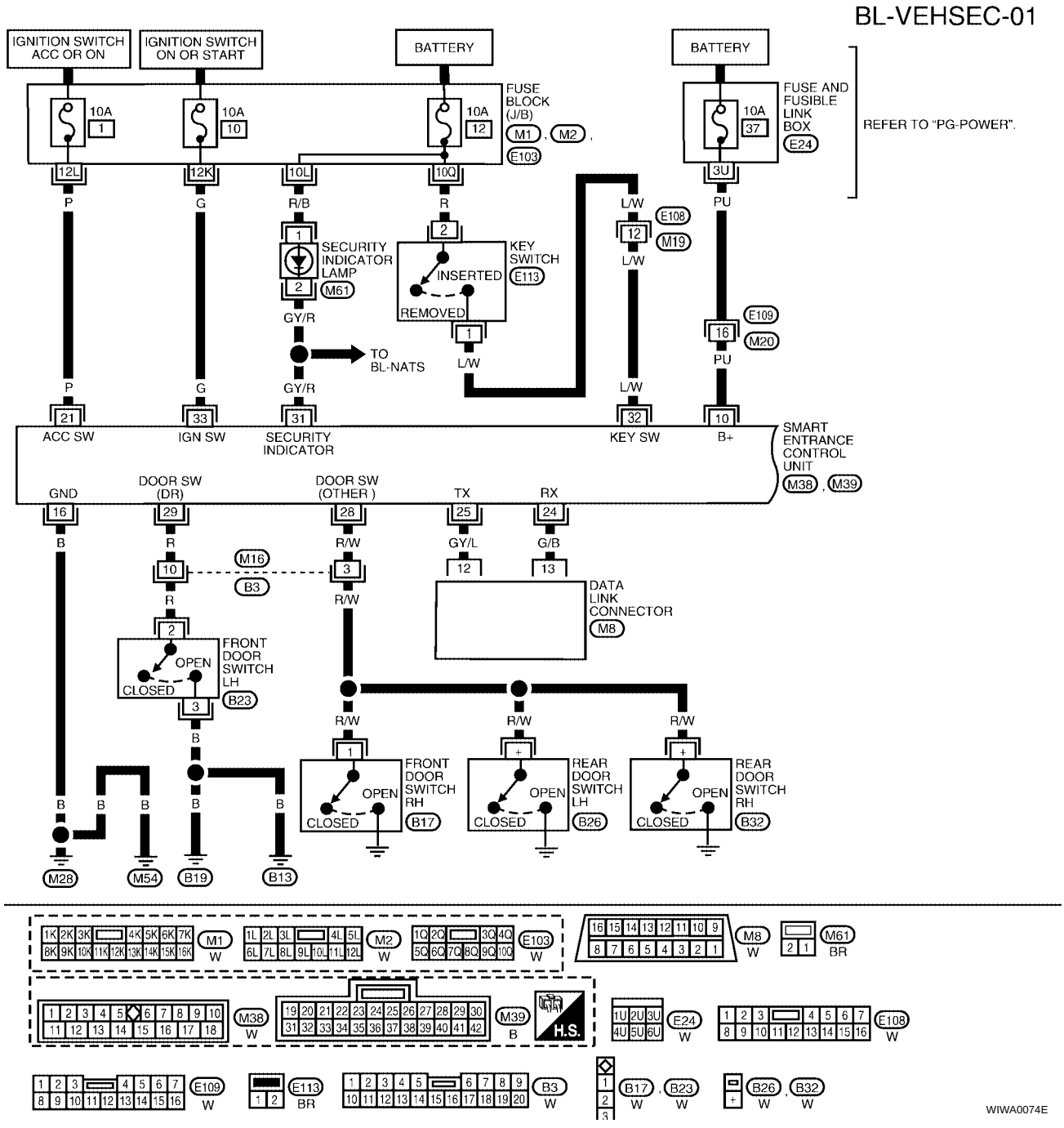


LIWA0120E

Wiring Diagram — VEHSEC —

EIS0015G

FIG. 1



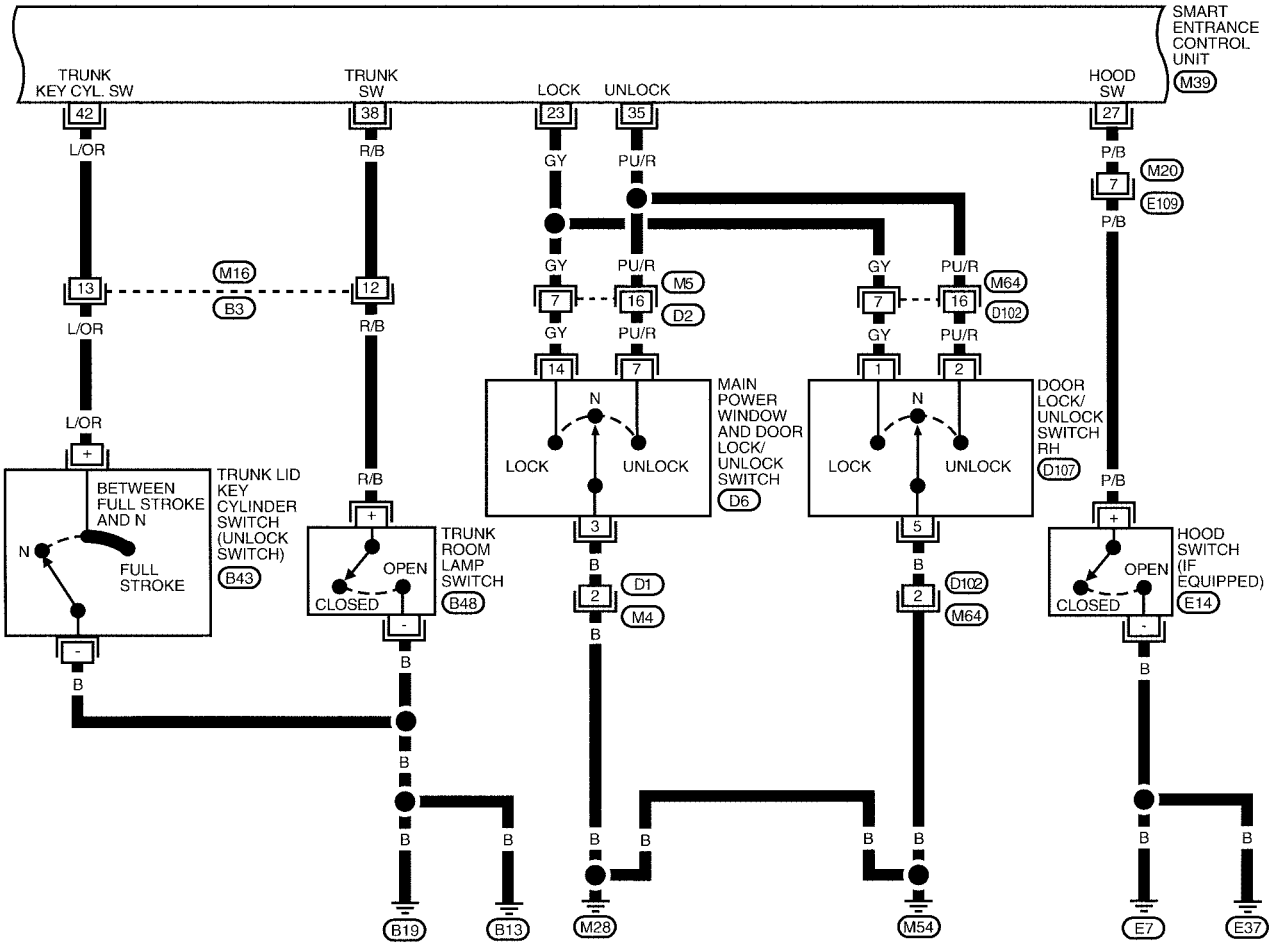
SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE MEASURED BETWEEN EACH TERMINAL AND GROUND

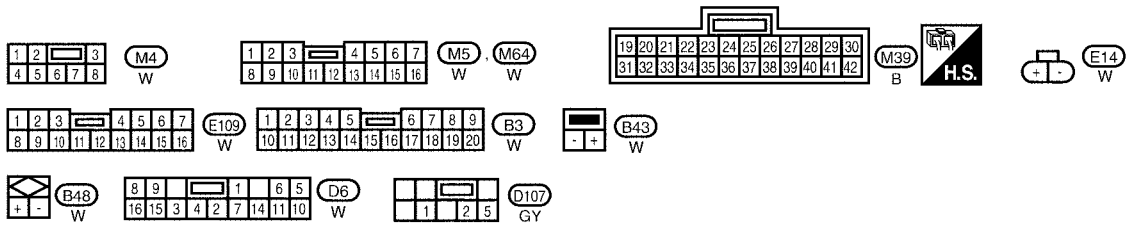
TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
10	PU	POWER SOURCE (FUSE)	—	12V
16	B	GROUND	-------	-------
21	P	IGNITION SWITCH (ACC, ON)	ACC OK ON POSITION	12V
28	R/W	OTHER DOOR SWITCHES	OFF (CLOSED)	5V
			ON (OPEN)	0V
29	R	FRONT DOOR SWITCH LH	OFF (CLOSED)	5V
			ON (OPEN)	0V
32	L/W	IGNITION KEY SWITCH (INSERT)	IGNITION KEY IS INSERTED	12V
			IGNITION KEY IS REMOVED	0V
31	GY/R	VEHICLE SECURITY INDICATOR	GOES OFF	12V
			ILLUMINATES	0V
33	G	IGNITION SWITCH (ON)	IGNITION KEY IS IN ON POSITION	12V
		IGNITION SWITCH (START)	IGNITION KEY IS IN START POSITION	12V

WEL109A

FIG. 2

BL-VEHSEC-02





LIWA0121E

SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE MEASURED BETWEEN EACH TERMINAL AND GROUND

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
23	GY	DOOR LOCK & UNLOCK SWITCHES	NEUTRAL	5V
			LOCKS	0V
27	P/B	HOOD SWITCH (IF EQUIPPED)	ON (OPEN)	0V
			OFF(CLOSED)	5V
35	PU/R	DOOR LOCK & UNLOCK SWITCHES	NEUTRAL	5V
			UNLOCKS	0V
38	R/B	TRUNK ROOM LAMP SWITCH	ON (OPEN)	0V
			OFF (CLOSED)	12V
42	L/OR	TRUNK LID KEY CYLINDER SWITCH	OFF (NEUTRAL)	5V
			ON (UNLOCK)	0V

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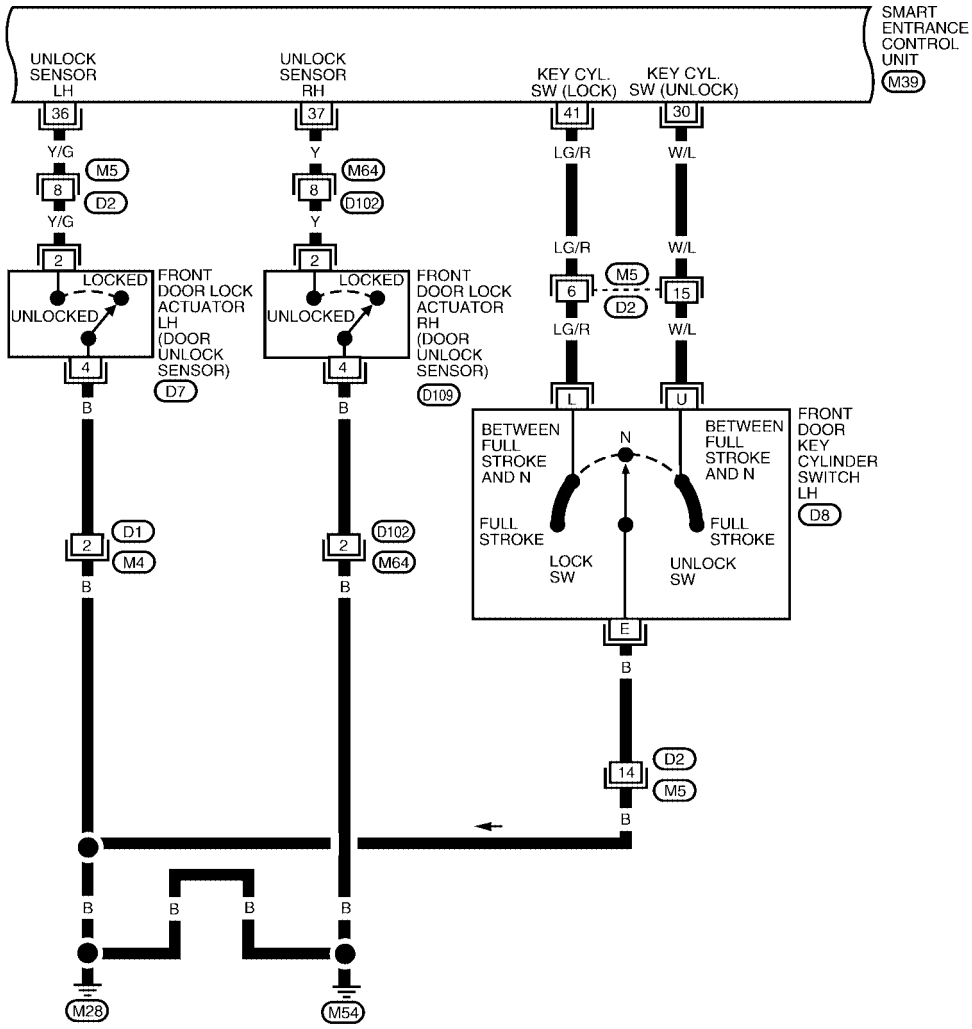
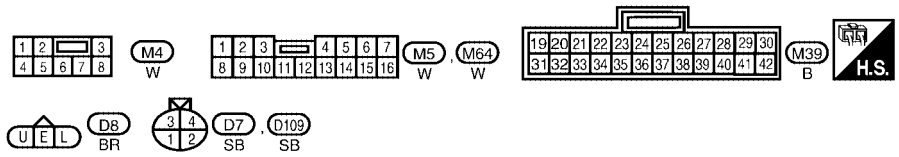
FIG. 3

BL-VEHSEC- 03





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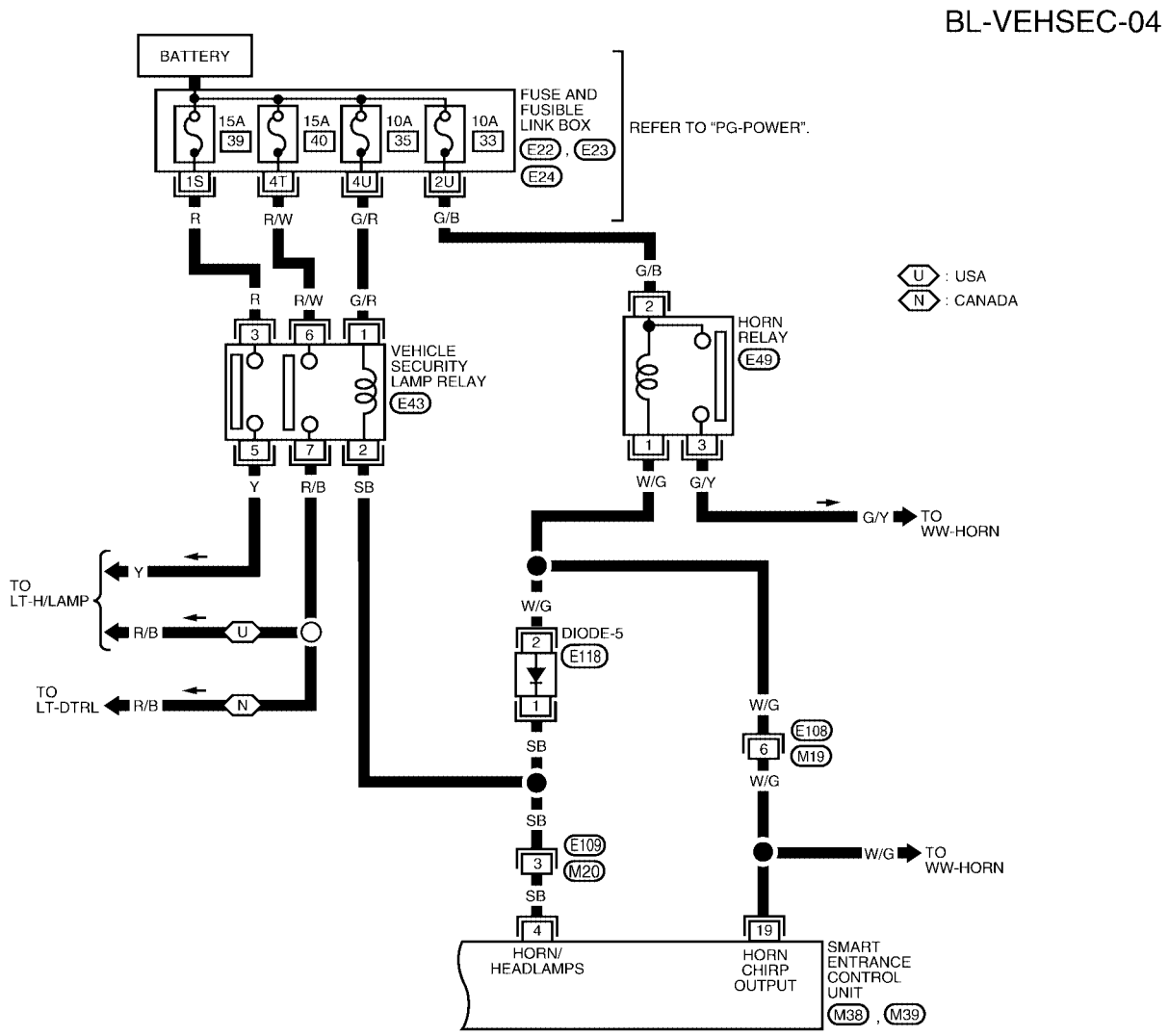
SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE MEASURED BETWEEN EACH TERMINAL AND GROUND

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
30	W/L	DOOR KEY CYLINDER UNLOCK SWITCH	OFF (NEUTRAL)	5V
			ON (UNLOCKED)	0V
36	Y/G	DOOR UNLOCK SENSOR LH	DRIVER DOOR: LOCKED	5V
			DRIVER DOOR: UNLOCKED	0V
37	Y	DOOR UNLOCK SENSOR RH	PASSENGER DOOR: LOCKED	5V
			PASSENGER DOOR: UNLOCKED	0V
41	LG/R	DOOR KEY CYLINDER LOCK SWITCH	OFF (NEUTRAL)	5V
			ON (LOCKED)	0V

LEL615

FIG. 4



SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE MEASURED BETWEEN EACH TERMINAL AND GROUND

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
4	SB	VEHICLE SECURITY HORN RELAY AND VEHICLE SECURITY WARNING LAMP RELAY	WHEN PANIC ALARM IS OPERATED USING REMOTE CONTROLLER OR WHEN ALARM IS ACTIVATED	12V TO 0V

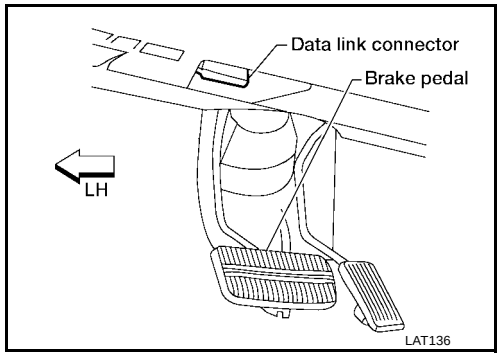
WEL114A

CONSULT-II Inspection Procedure

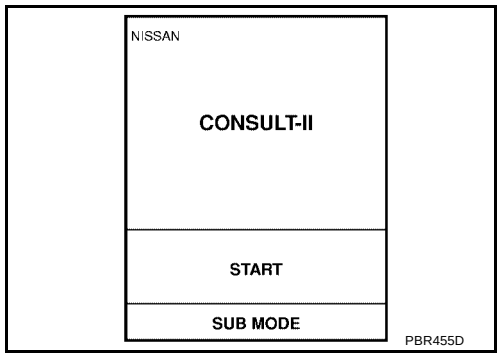
EIS0015H

“THEFT WAR ALM”

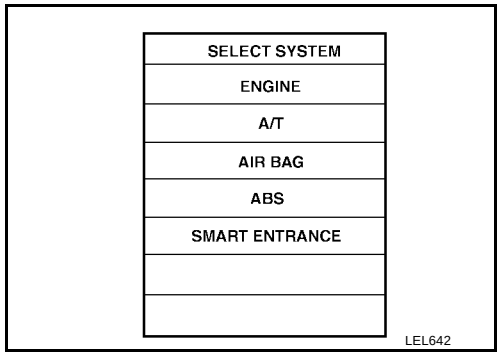
1. Turn ignition switch “OFF”.



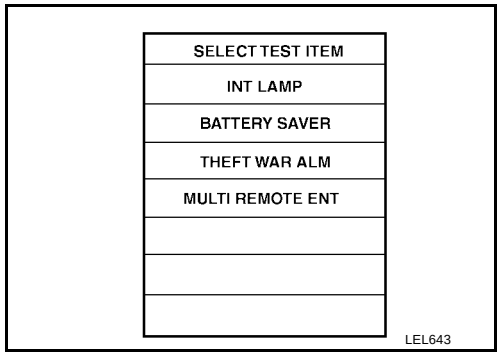
2. Connect “CONSULT-II” to the data link connector.
3. Turn ignition switch “ON”.



4. Touch “START”.
5. Touch “SMART ENTRANCE”.

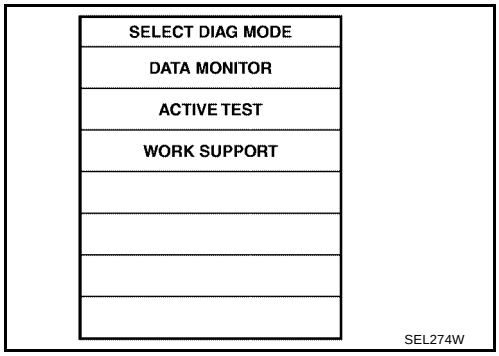


6. Touch “THEFT WAR ALM”.



7. Select diagnosis mode.

"DATA MONITOR", "ACTIVE TEST" and "WORK SUPPORT" are available.



CONSULT-II Application Item

EIS0015I

"THEFT WAR ALM"

Data Monitor

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
KEY CYL LK SW	Indicates [ON/OFF] condition of lock signal from key cylinder switch.
KEY CYL UN SW	Indicates [ON/OFF] condition of unlock signal from key cylinder switch.
DOOR SW-ALL	Indicates [ON/OFF] condition of door switch (All).
LOCK SIG DR	Indicates [ON/OFF] condition of front door unlock sensor LH.
LOCK SIG AS	Indicates [ON/OFF] condition of front door unlock sensor RH.
TRUNK SW	Indicates [ON/OFF] condition of trunk switch.
TRUNK KEY SW	Indicates [ON/OFF] condition of trunk key cylinder switch.
HOOD SWITCH (if equipped)	Indicates [ON/OFF] condition of hood switch.
LOCK SW DR/AS	Indicates [ON/OFF] condition of lock signal from door lock/unlock switch LH and RH.
UNLK SW DR/AS	Indicates [ON/OFF] condition of unlock signal from door lock/unlock switch LH and RH.
LK BUTTON/SIG	Indicates [ON/OFF] condition of lock signal from keyfob.
UN BUTTON/SIG	Indicates [ON/OFF] condition of unlock signal from keyfob.
TRUNK BTN/SIG	Indicates [ON/OFF] condition of trunk open signal from keyfob.

Active Test

Test Item	Description
THEFT IND	This test is able to check security indicator lamp operation. The lamp will be turned on when "ON" on CONSULT-II screen is touched.
THEFT WAR ALM	This test is able to check theft warning alarm operation. The alarm will be activated for 0.5 seconds after "ON" on CONSULT-II screen is touched.

Work Support

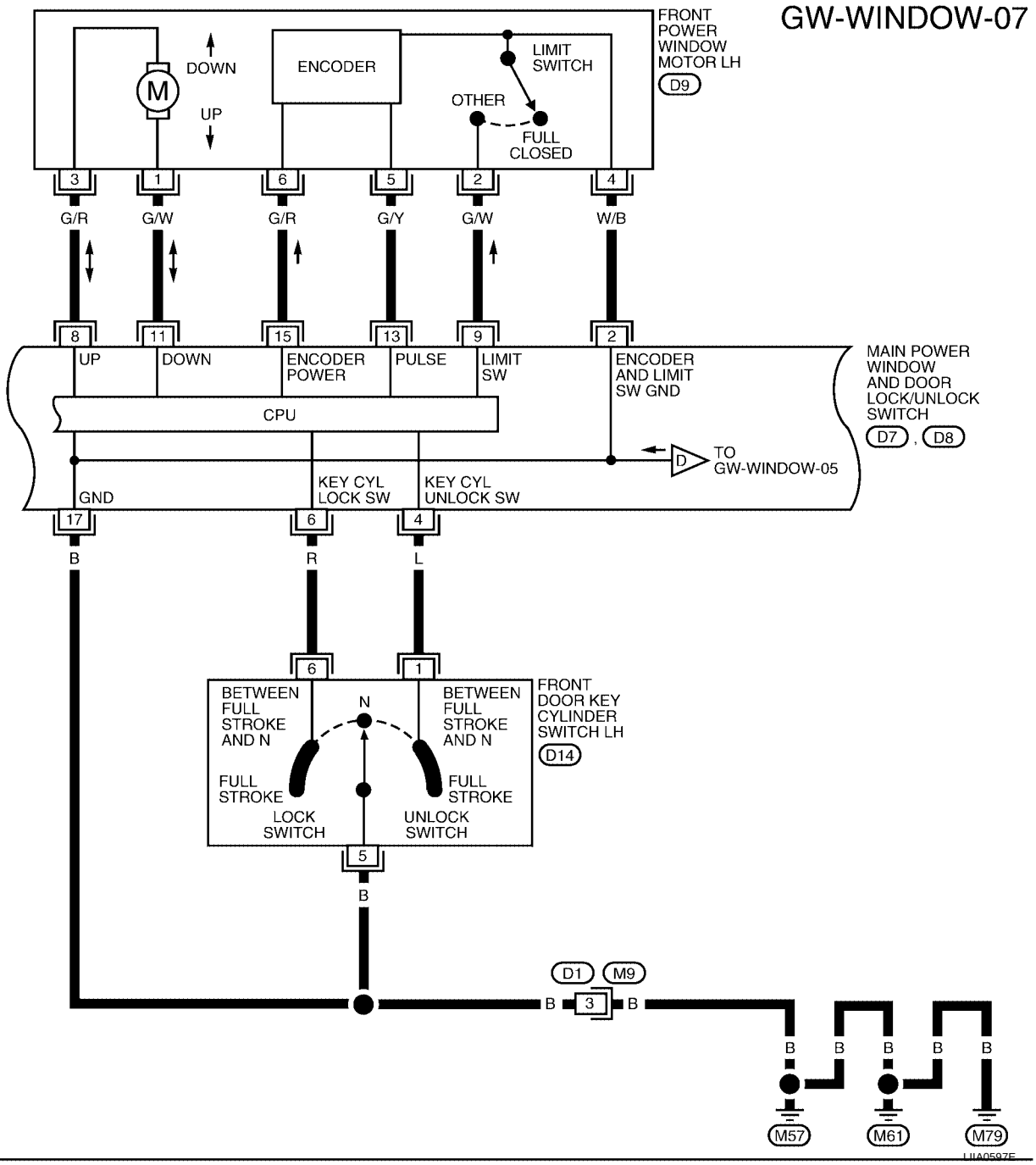
Test Item	Description
THEFT ALM TRG	The switch which triggered theft warning alarm is recorded. This mode is able to confirm and erase the record of theft warning alarm. The trigger data can be erased by touching "CLEAR" on CONSULT-II screen.

Trouble Diagnoses

EIS0015J

PRELIMINARY CHECK

The system operation is canceled by turning ignition switch to “ACC” at any step between START and ARMED in the following flow chart.



For details of “Pattern A” and “Pattern B” vehicle security system settings, refer to BL-67, "INITIAL CONDITION TO ACTIVATE THE SYSTEM" .

*: Refer to BL-95, "NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM — NATS)" .

After performing preliminary check, go to symptom chart on next page.

SYMPTOM CHART

REFERENCE PAGE (BL-)			BL-77	BL-79	BL-80	BL-85	BL-87	BL-88	BL-89	BL-90	BL-92	BL-34
SYMPTOM			PRELIMINARY CHECK	POWER SUPPLY AND GROUND CIRCUIT CHECK	DOOR, HOOD AND TRUNK ROOM LAMP SWITCH CHECK	SECURITY INDICATOR LAMP CHECK	FRONT DOOR UNLOCK SENSOR CHECK	DOOR KEY CYLINDER SWITCH CHECK	TRUNK LID KEY CYLINDER SWITCH CHECK	DOOR LOCK/UNLOCK SWITCH CHECK	VEHICLE SECURITY HORN AND HEADLAMP ALARM CHECK	Check "REMOTE KEYLESS ENTRY SYSTEM" system.
1	Security indicator lamp does not illuminate for 30 seconds.		X	X		X						
	Vehicle security system cannot be set by	All items	X	X	X		X					
		Door outside key	X					X				
		Lock/unlock switch	X							X		
		Keyfob	X									X
2	*1 Vehicle security system does not alarm when ...	One of the doors is opened	X		X							
3	Vehicle security alarm does not activate.	Horn or headlamp alarm	X		X						X	
4	Vehicle security system cannot be canceled by	Door outside key	X					X				
		Trunk lid key	X						X			
		Keyfob	X									X

X: Applicable

*1: Make sure the system is in the armed phase.

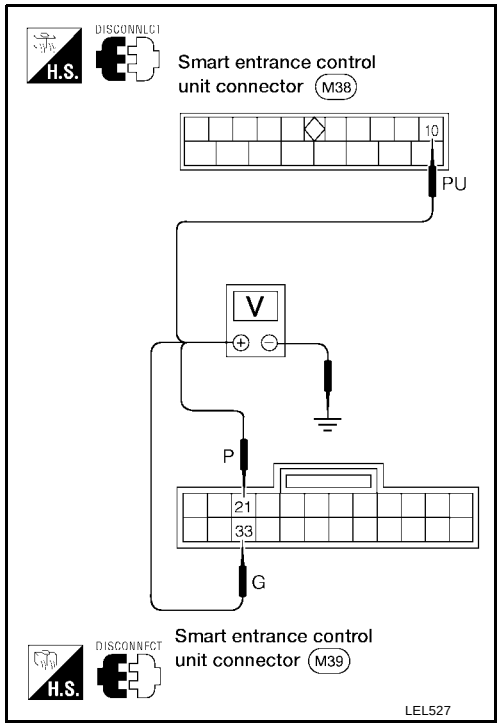
Before starting trouble diagnoses above, perform BL-77, "PRELIMINARY CHECK" .

Symptom numbers in the symptom chart correspond with those of preliminary check.

POWER SUPPLY AND GROUND CIRCUIT CHECK

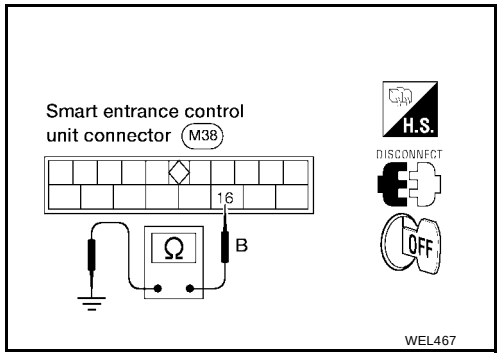
Power Supply Circuit Check

Terminals		Ignition switch position		
(+)	(-)	OFF	ACC	ON
10	Ground	Battery voltage	Battery voltage	Battery voltage
21	Ground	0V	Battery voltage	Battery voltage
33	Ground	0V	0V	Battery voltage



Ground Circuit Check

Terminals	Continuity
16 - Ground	Yes



DOOR, HOOD AND TRUNK ROOM LAMP SWITCH CHECK

Door Switch Check

1. CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT-II

Check door switches (“DOOR SW-ALL”) in “DATA MONITOR” mode with CONSULT-II.

DATA MONITOR	
MONITOR	
DOOR SW-ALL	OFF

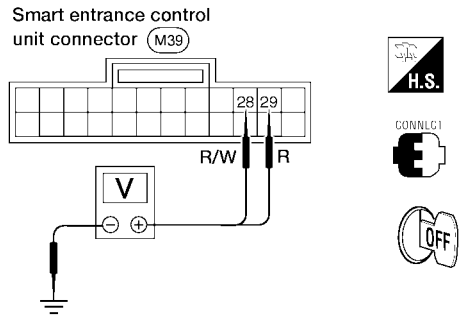
When any doors are open:
DOOR SW-ALL ON

When all doors are closed:
DOOR SW-ALL OFF

SEL323W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminals 28 or 29 and ground.



	Terminals		Condition	Voltage [V]
	(+)	(–)		
Front door switch LH	29	Ground	Open	0
			Closed	Approx. 5
Other door switches	28	Ground	Open	0
			Closed	Approx. 5

WEL500

Refer to BL-71, "FIG. 1" .

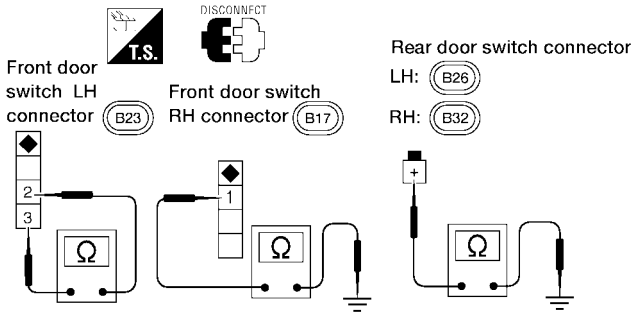
OK or NG

OK >> Door switch is OK. Check hood switch (if equipped), refer to BL-82, "Hood Switch Check (if equipped)" or check trunk room lamp switch, refer to BL-84, "Trunk Room Lamp Switch Check" .

NG >> GO TO 2.

2. CHECK DOOR SWITCH

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



	Terminals	Condition	Continuity
Front door switch LH	2 - 3	Closed	No
		Open	Yes
Front door switch RH	1 - Ground	Closed	No
		Open	Yes
Rear door switches	(+) - Ground	Closed	No
		Open	Yes

WEL491

OK or NG

OK >> Check the following.
- Door switch ground circuit (Front, rear door) or door switch ground condition
- Harness for open or short between smart entrance control unit and door switch

NG >> Replace door switch.

Hood Switch Check (if equipped)

1. CHECK HOOD SWITCH FITTING CONDITION

Check condition and installation of hood switch.

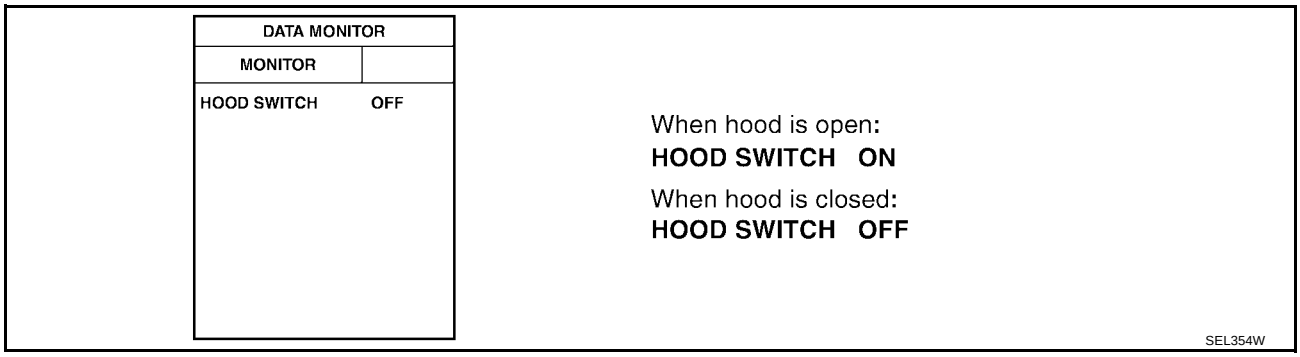
OK or NG

OK >> GO TO 2.
NG >> Adjust installation of hood switch or hood.

2. CHECK HOOD SWITCH INPUT SIGNAL

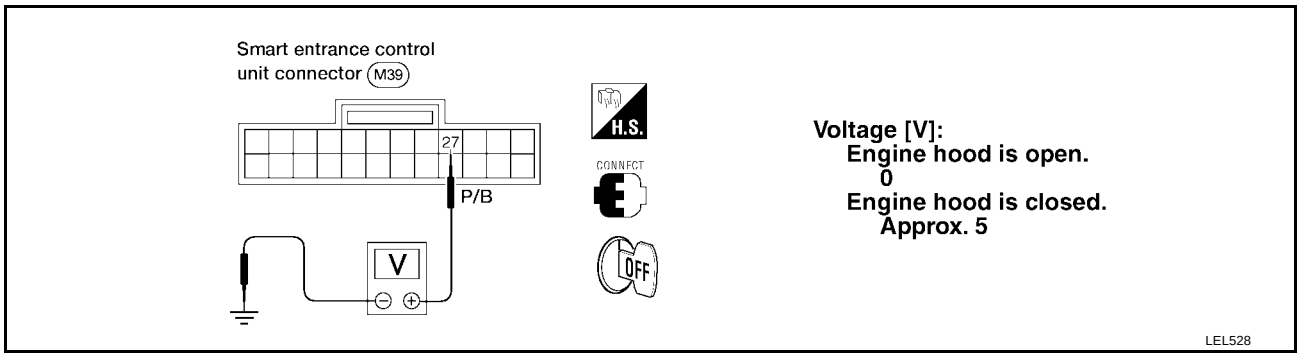
With CONSULT-II

Check hood switch (“HOOD SWITCH”) in “DATA MONITOR” mode with CONSULT-II.



Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 27 and ground.



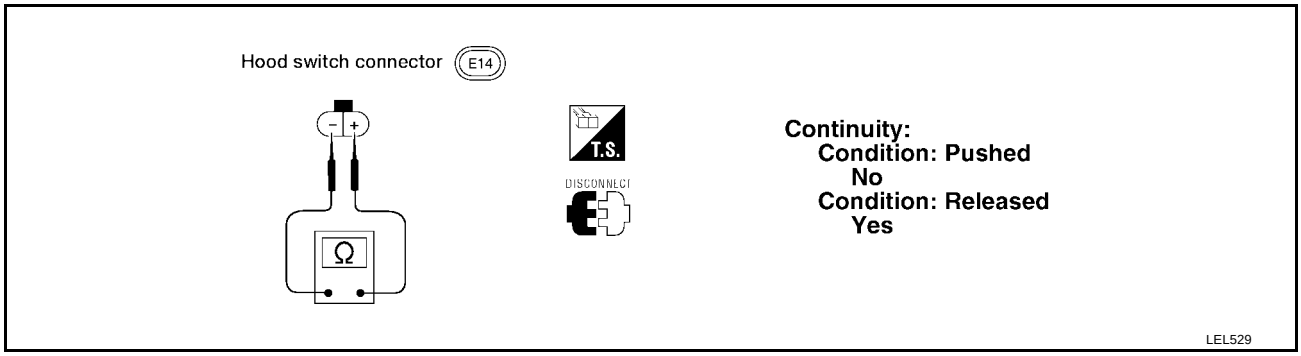
Refer to BL-72, "FIG. 2" .

OK or NG

OK >> Hood switch is OK, and go to trunk room lamp switch check.
NG >> GO TO 3.

3. CHECK HOOD SWITCH

1. Disconnect hood switch connector.
2. Check continuity between hood switch terminals + and –.



OK or NG

OK >> Check the following.
- Hood switch ground circuit
- Harness for open or short between smart entrance control unit and hood switch

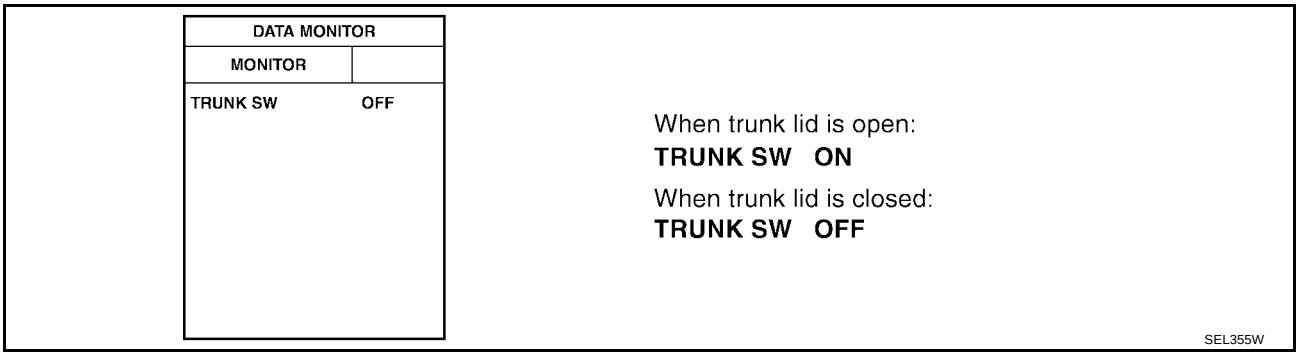
NG >> Replace hood switch.

Trunk Room Lamp Switch Check

1. CHECK TRUNK ROOM LAMP SWITCH INPUT SIGNAL

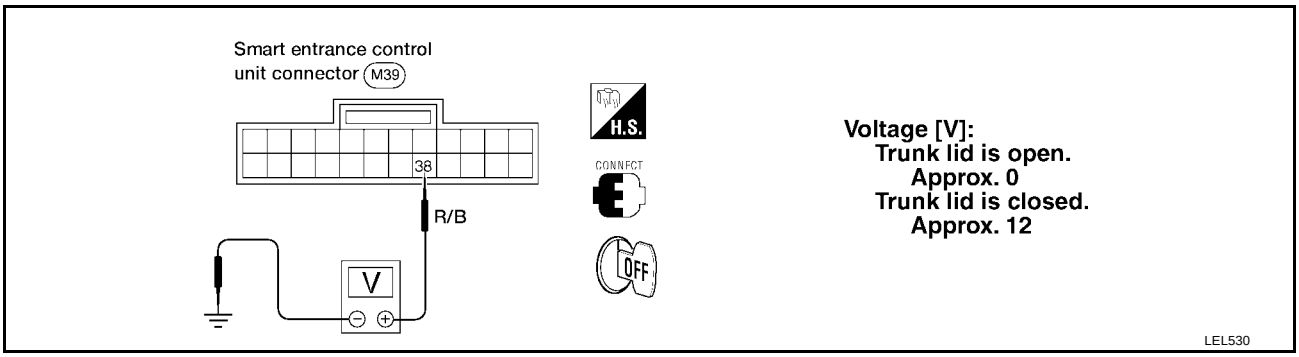
With CONSULT-II

Check trunk room lamp switch (“TRUNK SW”), in “DATA MONITOR” mode with CONSULT-II.



Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 38 and ground.



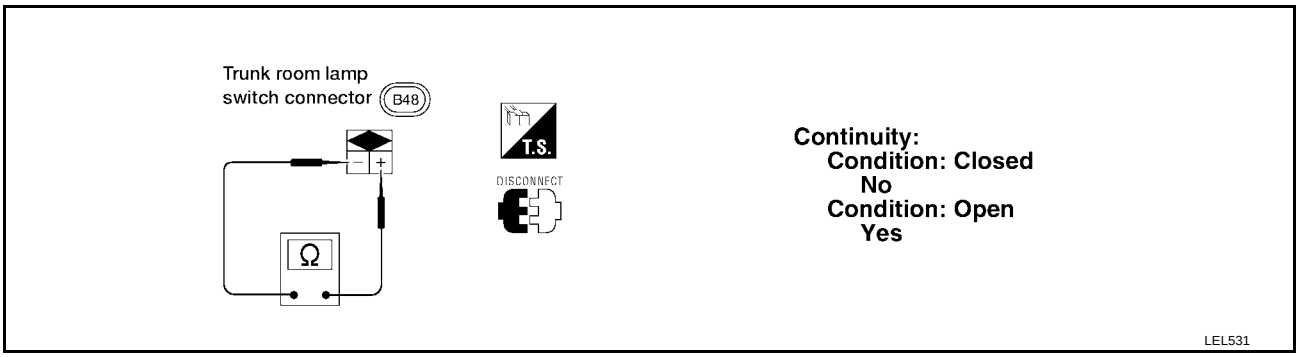
Refer to BL-72, "FIG. 2" .

OK or NG

OK >> Trunk room lamp switch is OK.
NG >> GO TO 2.

2. CHECK TRUNK ROOM LAMP SWITCH

1. Disconnect trunk room lamp switch connector.
2. Check continuity between trunk room lamp switch terminals + and –.



OK or NG

OK >> Check the following.
- Trunk room lamp switch ground circuit
- Harness for open or short between smart entrance control unit and trunk room lamp switch

NG >> Replace trunk room lamp switch.

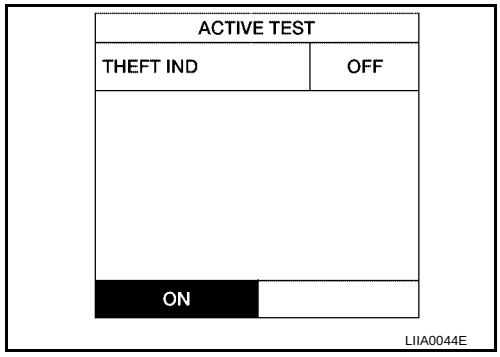
SECURITY INDICATOR LAMP CHECK

1. CHECK INDICATOR LAMP OPERATION

With CONSULT-II

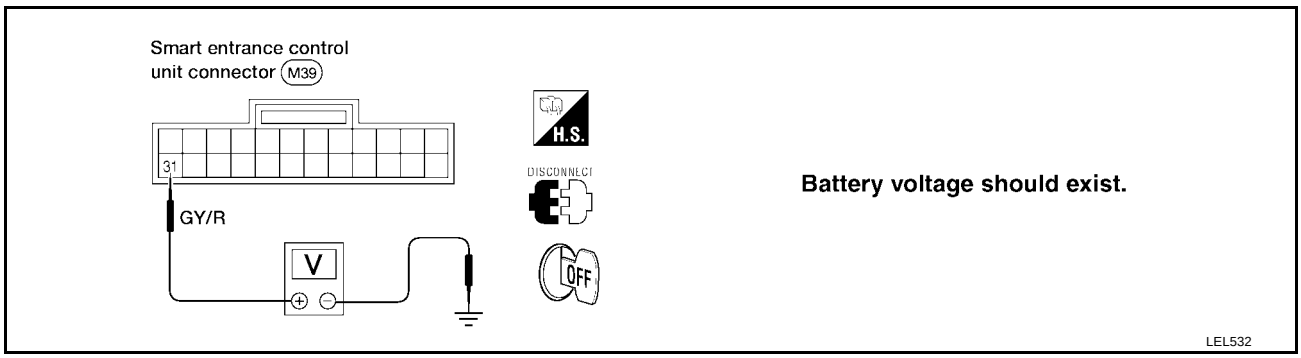
1. Select “ACTIVE TEST” in “THEFT WAR ALM” with CONSULT-II.
2. Select “THEFT IND” and touch “ON”.

Security indicator lamp should illuminate.



Without CONSULT-II

1. Disconnect smart entrance control unit harness connector.
2. Check voltage between smart entrance control unit harness connector terminal 31 and ground.



Refer to BL-71, "FIG. 1" .

OK or NG

OK >> Security indicator lamp is OK.
NG >> GO TO 2.

2. CHECK SECURITY INDICATOR LAMP

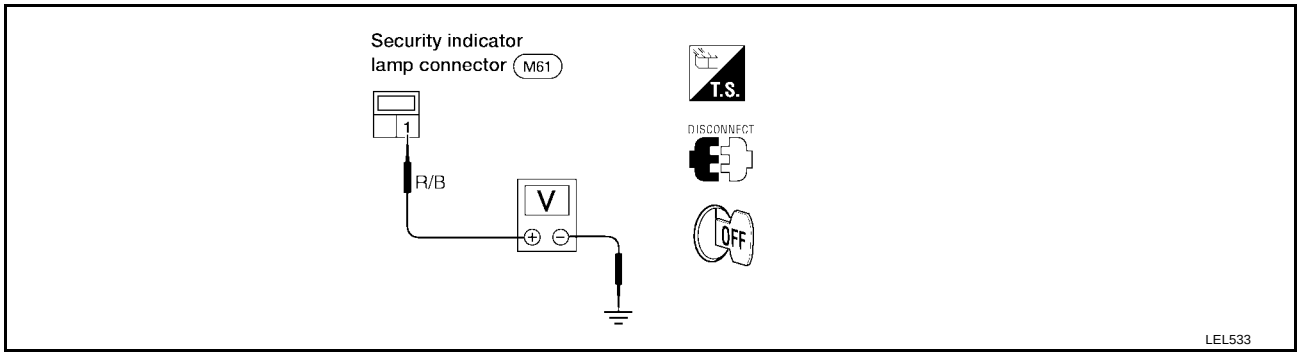
Refer to BL-71, "FIG. 1" .

OK or NG

OK >> GO TO 3.
NG >> Replace security indicator lamp.

3. CHECK POWER SUPPLY CIRCUIT FOR SECURITY INDICATOR LAMP

1. Disconnect security indicator lamp connector.
2. Check voltage between security indicator lamp terminal 1 and ground.



Does battery voltage exist?

Yes >> Check harness for open or short between security indicator lamp and smart entrance control unit.
No >> Check the following.

- 10A fuse [No. 12, located in fuse block (J/B)]
- Harness for open or short between security indicator lamp and fuse

FRONT DOOR UNLOCK SENSOR CHECK

1. CHECK FRONT DOOR UNLOCK SENSOR INPUT SIGNAL

With CONSULT-II

Check front unlock sensor (“LOCK SIG DR”, “LOCK SIG AS”) in “DATA MONITOR” with CONSULT-II.

DATA MONITOR	
MONITOR	
LOCK SIG DR	OFF
LOCK SIG AS	OFF

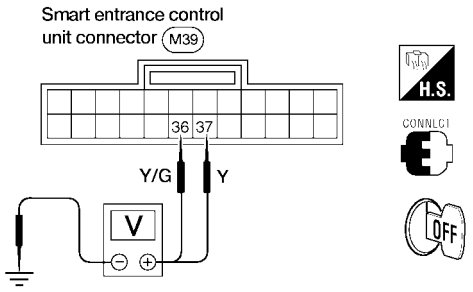
When door is locked:
LOCK SIG DR OFF
LOCK SIG AS OFF

When door is unlocked:
LOCK SIG DR ON
LOCK SIG AS ON

SEL357W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 36 or 37 and ground.



	Terminals		Condition	Voltage [V]
	(+)	(–)		
Front door LH	36	Ground	Locked	Approx. 5
			Unlocked	0
Front door RH	37	Ground	Locked	Approx. 5
			Unlocked	0

LEL534

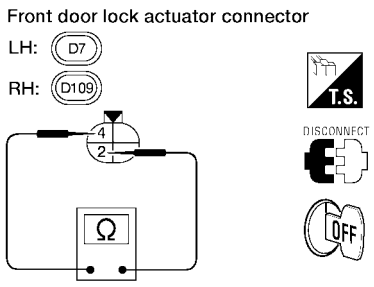
Refer to BL-73, "FIG. 3" .

OK or NG

OK >> Door unlock sensor is OK.
NG >> GO TO 2.

2. CHECK FRONT DOOR UNLOCK SENSOR

1. Disconnect door lock actuator connector.
2. Check continuity between door lock actuator terminals.



Continuity:
Condition: Locked
No
Condition: Unlocked
Yes

LEL535

OK or NG

OK >> Check the following.
- Door unlock sensor ground circuit
- Harness for open or short between smart entrance control unit and door unlock sensor

NG >> Replace door lock actuator.

DOOR KEY CYLINDER SWITCH CHECK

1. CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL (LOCK/UNLOCK SIGNAL)

With CONSULT-II

Check front door key cylinder switch (“KEY CYL LK-SW”/“KEY CYL UN-SW”) in “DATA MONITOR” mode with CONSULT-II.

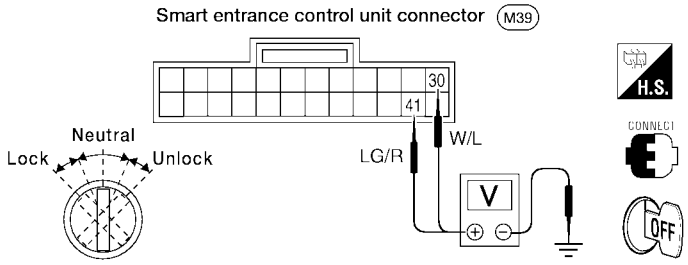
DATA MONITOR	
MONITOR	
KEY CYL LK-SW	OFF
KEY CYL UN-SW	OFF

When key inserted in front key cylinder is turned to LOCK:
KEY CYL LK-SW ON
When key inserted in front key cylinder is turned to UNLOCK:
KEY CYL UN-SW ON

SEL342W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 30 or 41 and ground.



Terminals (+)	Terminals (–)	Key position	Voltage [V]
41	Ground	Neutral/Unlock	Approx. 5
		Lock	0
30	Ground	Neutral/Lock	Approx. 5
		Unlock	0

WEL502

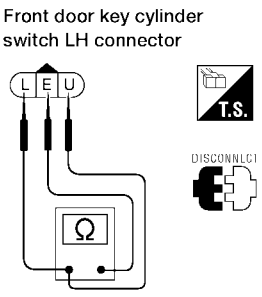
Refer to BL-73, "FIG. 3" .

OK or NG

OK >> Door key cylinder switch is OK.
NG >> GO TO 2.

2. CHECK DOOR KEY CYLINDER SWITCH

1. Disconnect door key cylinder switch connector.
2. Check continuity between door key cylinder switch connector D8 terminals.



Ⓔ : Ground terminal
Ⓤ : Door unlock switch terminal
Ⓛ : Door lock switch terminal

Terminals	Key position	Continuity
Ⓛ - Ⓔ	Neutral/Unlock	No
	Lock	Yes
Ⓤ - Ⓔ	Neutral/Lock	No
	Unlock	Yes

LEL101A

OK or NG

OK >> Check the following.
- Door key cylinder switch ground circuit
- Harness for open or short between smart entrance control unit and door key cylinder switch

NG >> Replace door key cylinder switch.

TRUNK LID KEY CYLINDER SWITCH CHECK

1. CHECK TRUNK LID KEY CYLINDER SWITCH INPUT SIGNAL (UNLOCK SIGNAL)

With CONSULT-II

Check trunk lid key cylinder switch (“TRUNK KEY SW”) in “DATA MONITOR” mode with CONSULT-II.

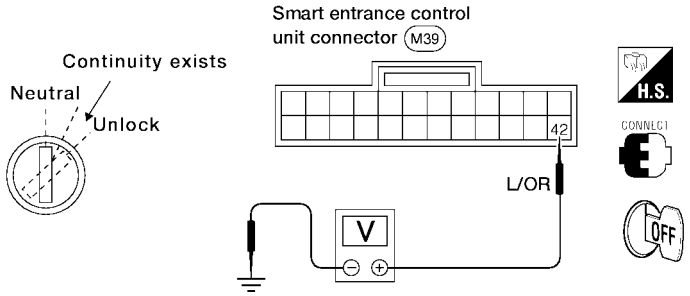
DATA MONITOR	
MONITOR	
TRUNK KEY SW	OFF

When key in key cylinder is at Neutral position:
TRUNK KEY SW OFF
When key in key cylinder is at Unlock position:
TRUNK KEY SW ON

SEL358W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector terminal 42 and ground.



Terminals		Key position	Voltage [V]
(+)	(–)		
42	Ground	Neutral	Approx. 5
		Unlock	0

LEL536

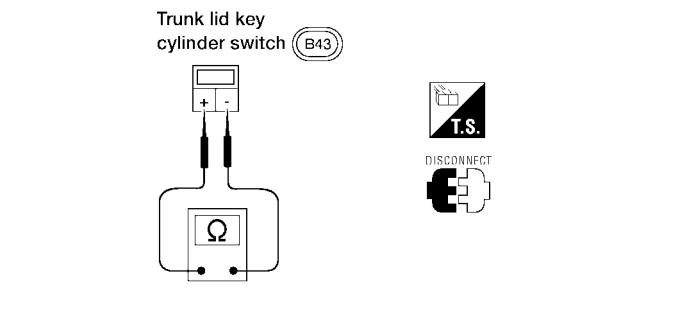
Refer to BL-72, "FIG. 2" .

OK or NG

OK >> Trunk lid key cylinder switch is OK.
NG >> GO TO 2.

2. CHECK TRUNK LID KEY CYLINDER SWITCH

1. Disconnect trunk lid key cylinder switch connector.
2. Check continuity between trunk lid key cylinder switch terminals.



Key position	Continuity
Neutral	No
Unlock	Yes

LEL537

OK or NG

OK >> Check the following.
- Trunk lid key cylinder switch ground circuit
- Harness for open or short between smart entrance control unit and trunk lid key cylinder switch

NG >> Replace trunk lid key cylinder switch.

DOOR LOCK/UNLOCK SWITCH CHECK

1. CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL

With CONSULT-II

Check door lock/unlock switch (“LOCK SW DR/AS”/“UNLK SW DR/AS”) in “DATA MONITOR” mode with CONSULT-II.

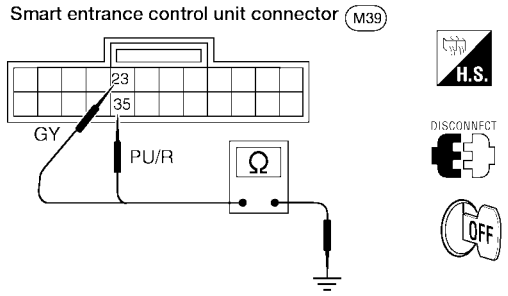
DATA MONITOR	
MONITOR	
LOCK SW DR/AS	OFF
UNLK SW DR/AS	OFF

When lock/unlock switch is turned to LOCK:
LOCK SW DR/AS ON
When lock/unlock switch is turned to UNLOCK:
UNLK SW DR/AS ON

SEL341W

Without CONSULT-II

1. Disconnect smart entrance control unit harness connector.
2. Check continuity between smart entrance control unit harness connector terminal 23 or 35 and ground.



Terminals	Door lock/unlock switch (LH or RH) condition	Continuity
23 - Ground	Lock	Yes
	N and Unlock	No
35 - Ground	Unlock	Yes
	N and Lock	No

WEL501

Refer to BL-72, "FIG. 2" .

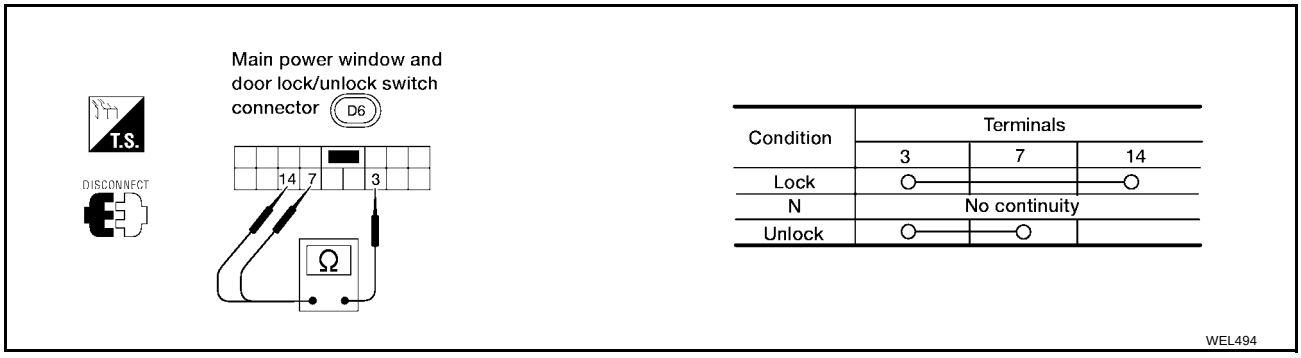
OK or NG

OK >> Door lock/unlock switch is OK.
NG >> GO TO 2.

2. CHECK DOOR LOCK/UNLOCK SWITCH

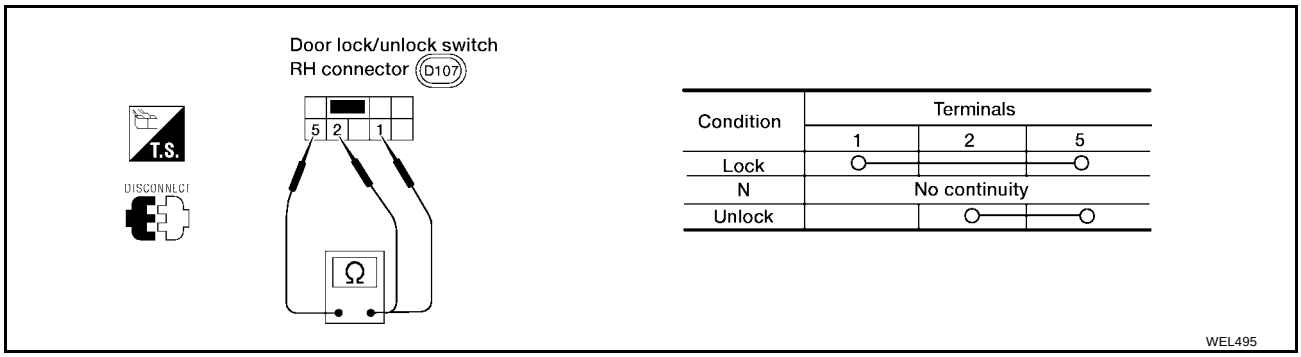
1. Disconnect door lock/unlock switch harness connector.
2. Check continuity between each door lock/unlock switch terminal.

– Main power window and door lock/unlock switch



Condition	Terminals		
	3	7	14
Lock	○		○
N	No continuity		
Unlock	○	○	

– Door lock/unlock switch RH



Condition	Terminals		
	1	2	5
Lock	○		○
N	No continuity		
Unlock		○	○

OK or NG

OK >> Check the following.
- Ground circuit for door lock/unlock switch
- Harness for open or short between door lock/unlock switch and smart entrance control unit

NG >> Replace door lock/unlock switch.

HORN AND HEADLAMP ALARM CHECK

1. CHECK BASE HORN SYSTEM OPERATION

Operate vehicle horn.

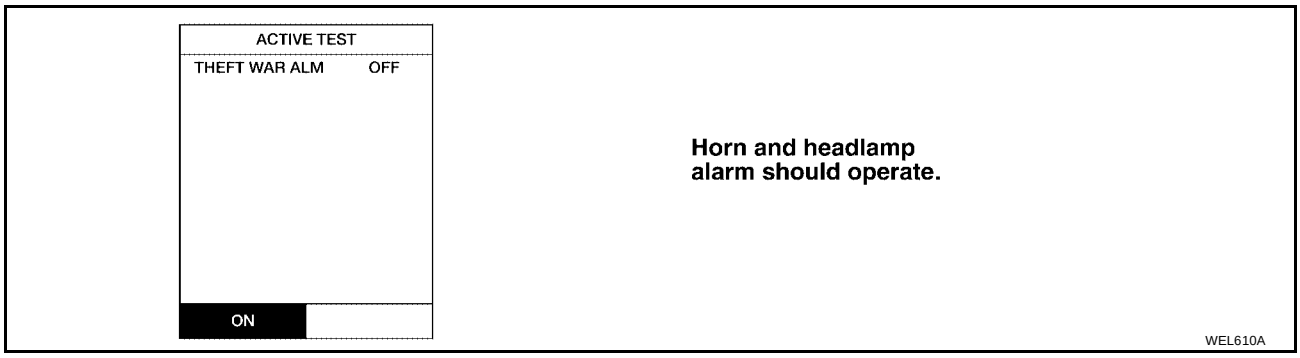
OK or NG

OK >> GO TO 2.
NG >> Check base horn system. Refer to WW-9, "Wiring Diagram — HORN —" .

2. CHECK HORN AND HEADLAMP ALARM OPERATION

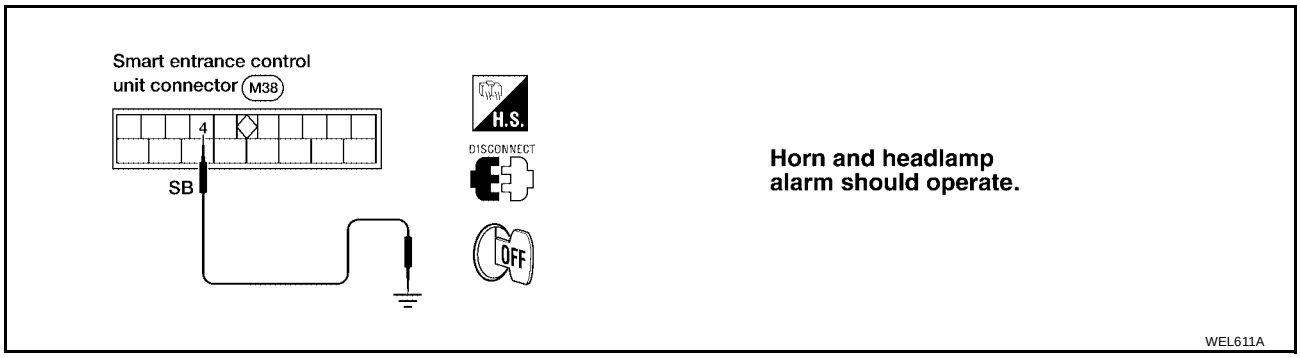
With CONSULT-II

1. Select “ACTIVE TEST” in “THEFT WAR ALM” with CONSULT-II.
2. Select “THEFT WAR ALM” and touch “ON”.



Without CONSULT-II

1. Disconnect smart entrance control unit harness connector.
2. Apply ground to smart entrance control unit harness connector terminal 4.



Refer to BL-74, "FIG. 4" .

OK or NG

OK >> Horn and headlamp alarm is OK.
NG >> GO TO 3.

3. CHECK VEHICLE SECURITY LAMP RELAY

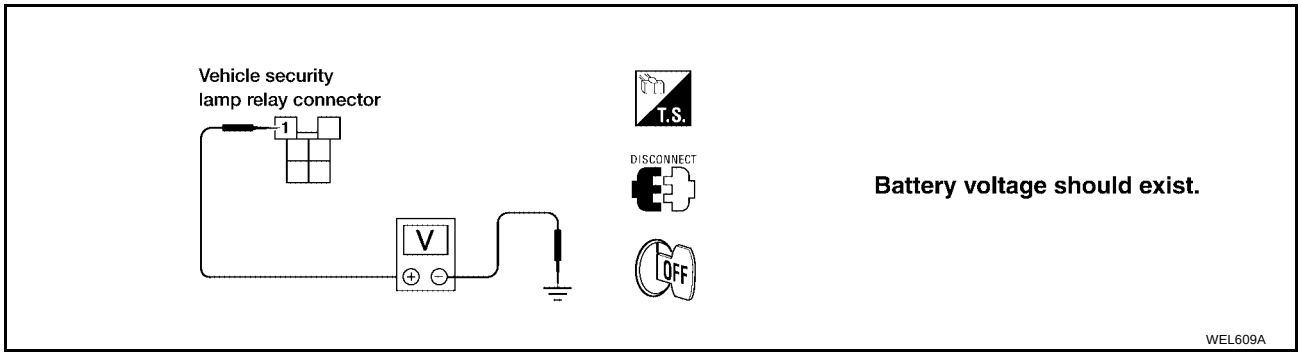
Check vehicle security lamp relay. Refer to BL-94, "VEHICLE SECURITY LAMP RELAY" .

OK or NG

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

4. CHECK POWER SUPPLY FOR VEHICLE SECURITY LAMP RELAY

1. Disconnect vehicle security lamp relay connector.
2. Check voltage between vehicle security lamp relay connector E43 terminal 1 (G/R) and ground.



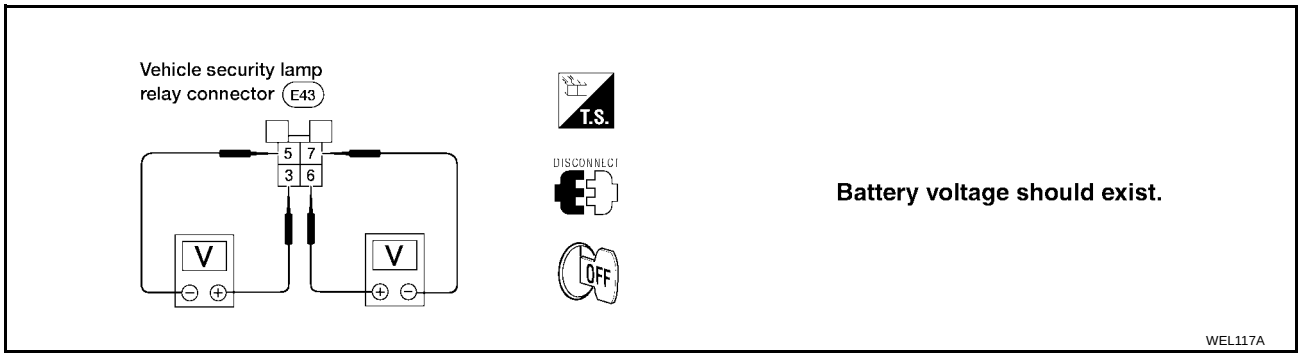
Does battery voltage exist?

Yes >> GO TO 5.
No >> Check the following.

- 10A fuse (No. 35 located in the fuse and fusible link box)
- Harness for open or short between relay and fuse

5. CHECK VEHICLE SECURITY LAMP RELAY CIRCUIT

1. Check voltage between terminals of vehicle security lamp relay connector E43.



OK or NG

OK >> Check the following.

- Harness for open between smart entrance control unit terminal 4 and relay
- Harness for open or short between smart entrance control unit terminal 4 and horn relay
- Diode-4 for open
- Replace smart entrance control unit

NG >> Check the following.

- Harness for open or short between vehicle security lamp relay and fuses
- Harness for open or short between vehicle security lamp relay and headlamp system

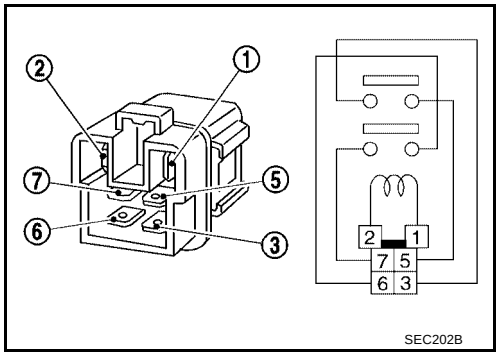
Electrical Components Inspection

EIS0015K

VEHICLE SECURITY LAMP RELAY

Check continuity between terminals 3 and 5, 6 and 7.

Condition	Continuity
12V direct current supply between terminals 1 and 2	Yes
No current supply	No

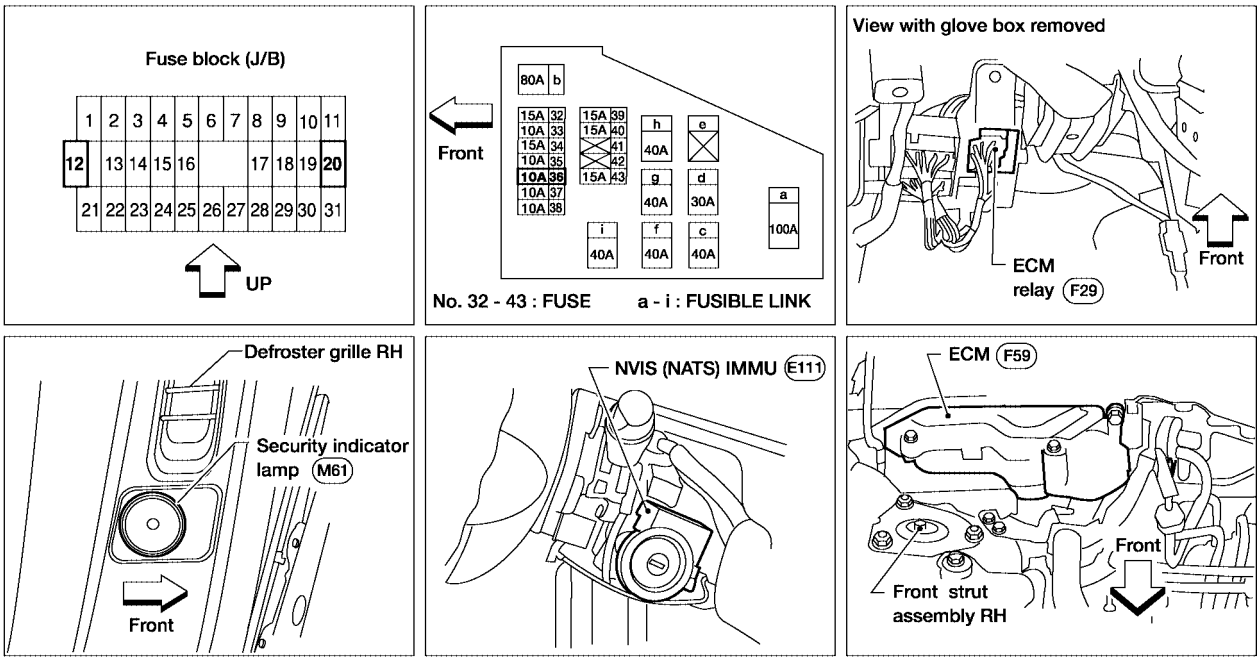


NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM — NATS)

PFP:25386

Component Parts and Harness Connector Location

EIS0015L



WIIA0195E

NOTE:
If the customer reports a “No Start” condition, request ALL KEYS be brought to Dealer in case of NATS malfunction.

System Description

EIS0015M

NVIS (Nissan Vehicle Immobilizer System—NATS) has the following immobilizer functions:

- Since only NVIS (NATS) ignition keys, whose ID nos. have been registered into the ECM and IMMU of NVIS (NATS), allow the engine to run, operation of a stolen vehicle without a NVIS (NATS) registered key is prevented by NVIS (NATS).
  That is to say, NVIS (NATS) will immobilize the engine if someone tries to start it without the registered key of NVIS (NATS).
- All of the originally supplied ignition key IDs have been NVIS (NATS) registered.
  If requested by the vehicle owner, a maximum of five key IDs can be registered into the NVIS (NATS) components.
- The security indicator lamp blinks when the ignition switch is in “OFF” or “ACC” position. Therefore, NVIS (NATS) warns outsiders that the vehicle is equipped with the system.
- When NVIS (NATS) detects trouble, the security indicator lamp lights up while ignition key is in the “ON” position.
- NVIS (NATS) trouble diagnoses, system initialization and additional registration for other NVIS (NATS) ignition key IDs must be carried out using CONSULT-II hardware and CONSULT-II NVIS (NATS) software. Regarding the procedures for NVIS (NATS) initialization and NVIS (NATS) ignition key ID registration, refer to CONSULT-II OPERATION MANUAL IVIS/NVIS.
- **When servicing a malfunction of the NVIS (indicated by lighting up of Security Indicator Lamp) or registering another NVIS ignition key ID no., it is necessary to re-register original key identification.**

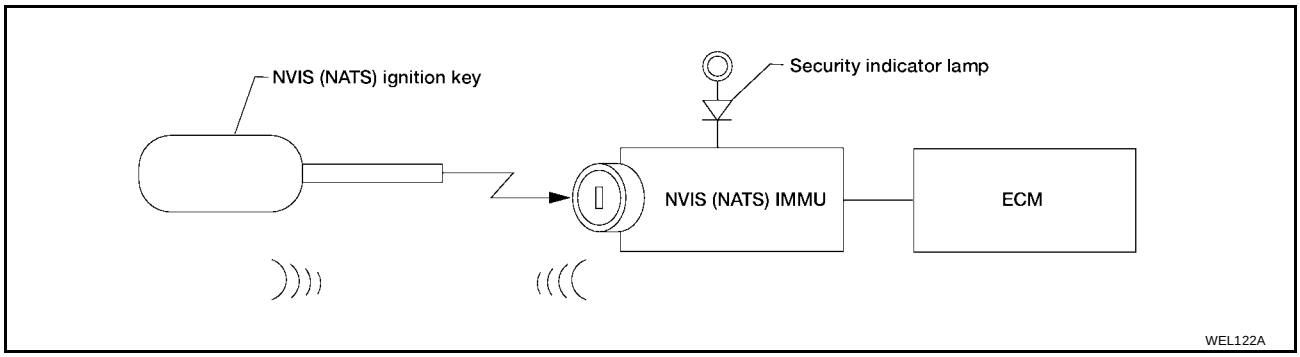
Therefore, be sure to receive ALL KEYS from vehicle owner.

System Composition

EIS0015N

The immobilizer function of the NVIS (NATS) consists of the following:

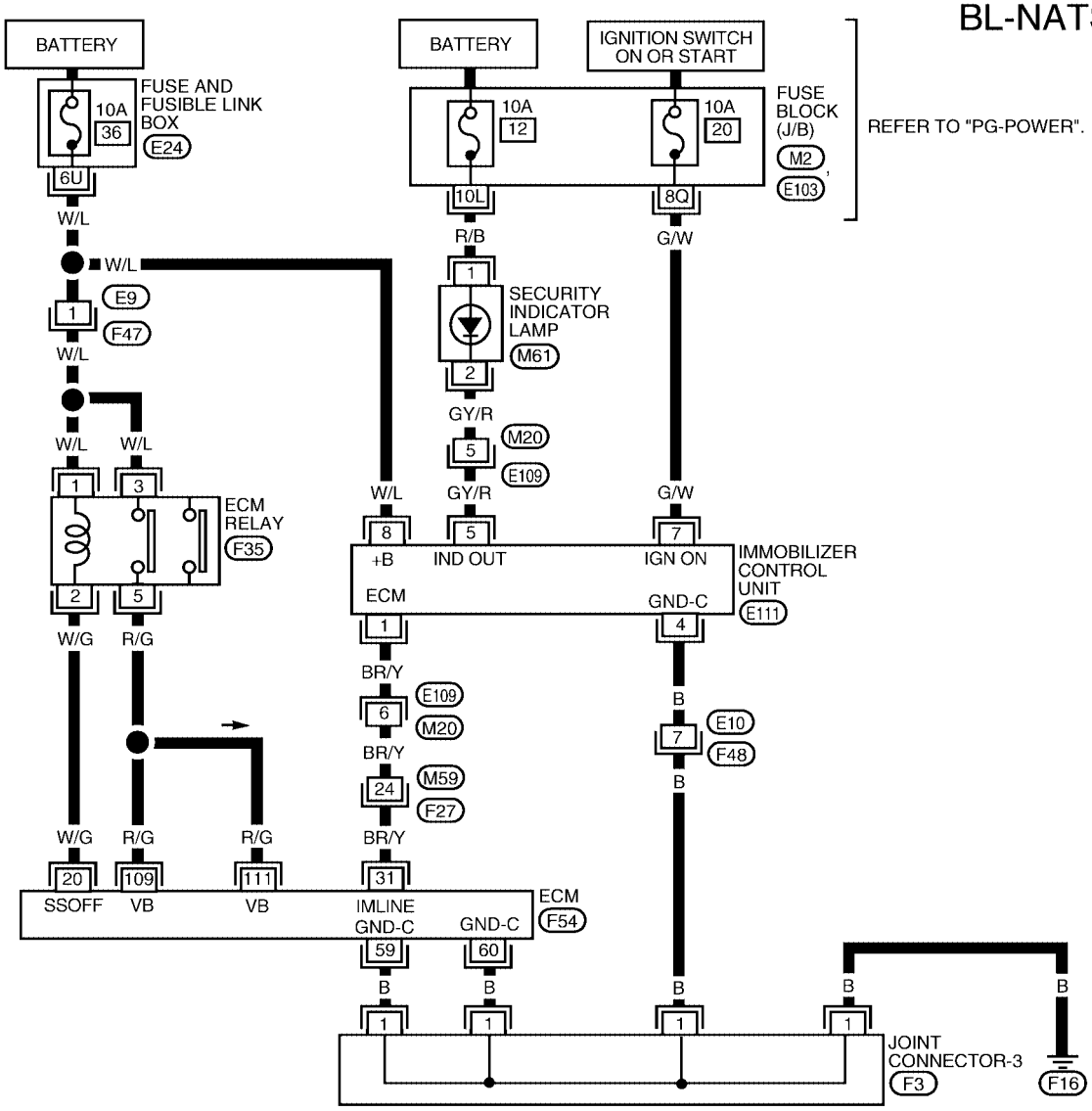
- NVIS (NATS) ignition key
- NVIS (NATS) immobilizer control unit (IMMU) located in the ignition key cylinder
- ECM
- Security indicator lamp

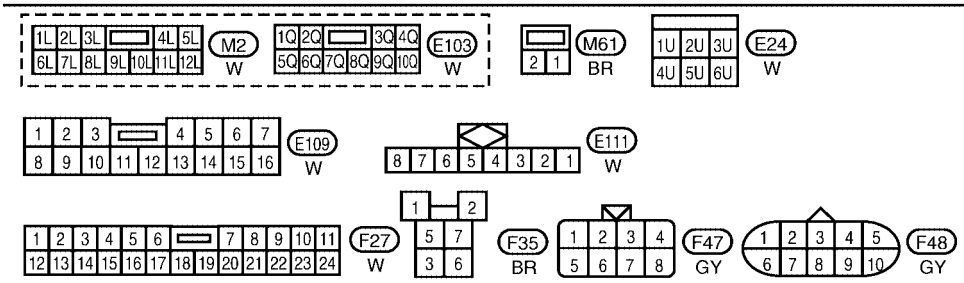


Wiring Diagram — NATS —

EIS0015P

BL-NATS-01





REFER TO THE FOLLOWING.
F3 - JOINT CONNECTOR
F54 - ELECTRICAL UNITS

WIWA0078E

IMMOBILIZER CONTROL UNIT TERMINALS AND REFERENCE VALUE MEASURED BETWEEN EACH TERMINAL AND GROUND

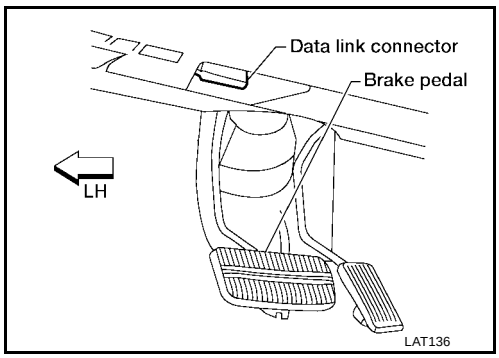
TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
4	B	GROUND	—	—
5	GY/R	VEHICLE SECURITY INDICATOR	GOES OFF	12V
			ILLUMINATES	0V
7	G/W	IGNITION SWITCH (ON)	IGNITION KEY IS IN ON POSITION	12V
		IGNITION SWITCH (START)	IGNITION KEY IS IN START POSITION	12V
8	W/L	POWER SOURCE (FUSE)	—	12V

CONSULT-II

EIS0015Q

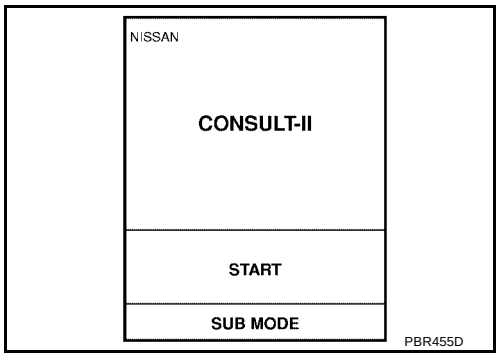
CONSULT-II INSPECTION PROCEDURE

1. Turn ignition switch OFF.

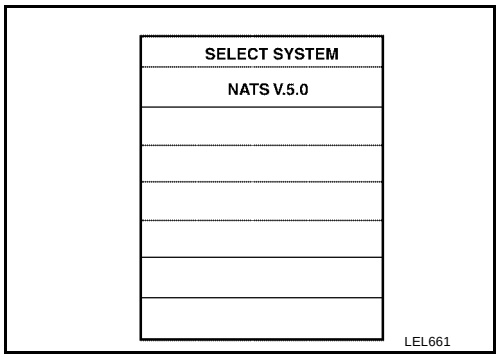


2. Connect “CONSULT-II” to data link connector.
3. Insert NVIS (NATS) program card into CONSULT-II.

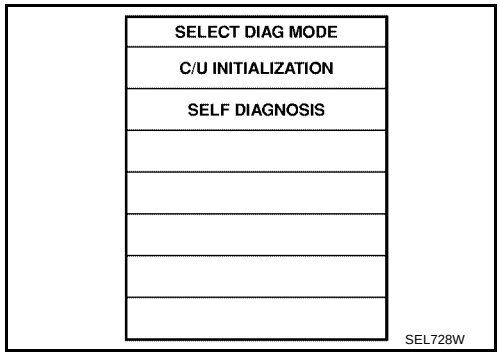
Program card : NATS (AEN02C)



4. Turn ignition switch ON.
5. Touch “START”.
6. Select “NATS V.5.0”.



7. Perform each diagnostic test mode according to each service procedure.



For further information, see the "CONSULT-II OPERATION MANUAL IVIS/NVIS".

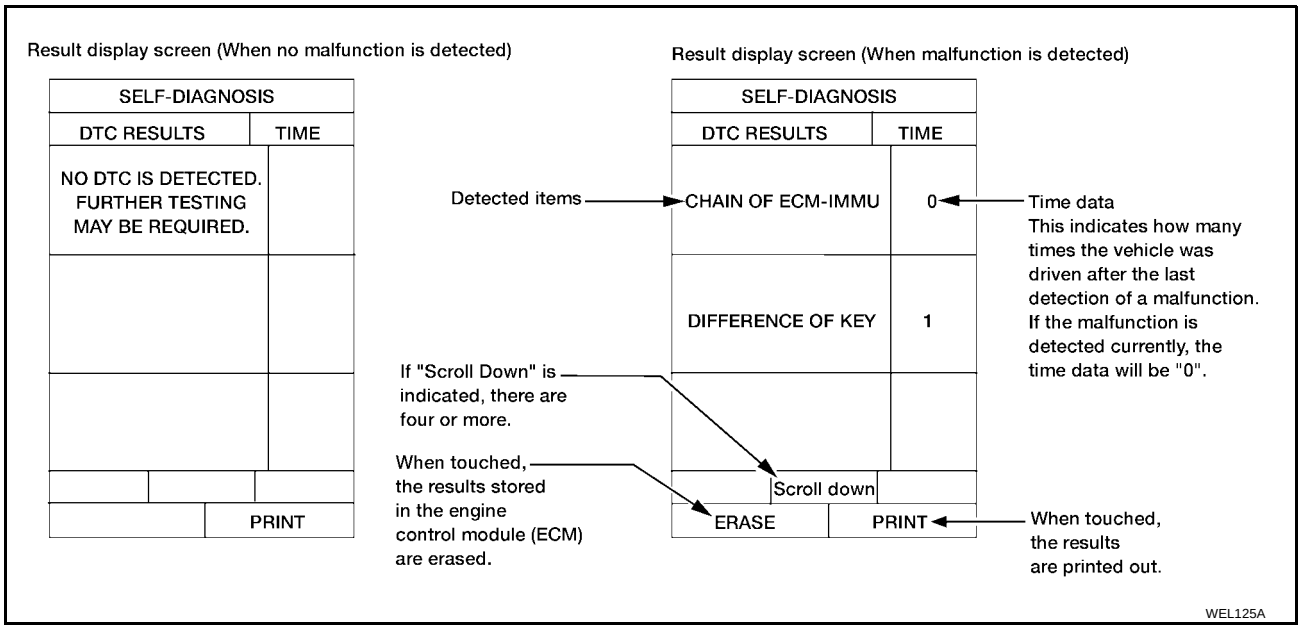
CONSULT-II DIAGNOSTIC TEST MODE FUNCTION

CONSULT-II DIAGNOSTIC TEST MODE	Description
C/U INITIALIZATION	When replacing any of the following three components, C/U initialization is necessary. [NVIS (NATS) ignition key/IMMU/ECM]
SELF DIAGNOSIS	Detected items (screen terms) are as shown in the chart below.

NOTE:

- When any initialization is performed, all IDs previously registered will be erased and all NVIS (NATS) ignition keys must be registered again.
- The engine cannot be started with an unregistered key. In this case, the system may show "DIFFERENCE OF KEY" or "LOCK MODE" as a self-diagnostic result on the CONSULT-II screen.
- In rare cases, "CHAIN OF ECM-IMMU" might be stored as a self-diagnostic result during key registration procedure, even if the system is not malfunctioning.

HOW TO READ SELF-DIAGNOSTIC RESULTS



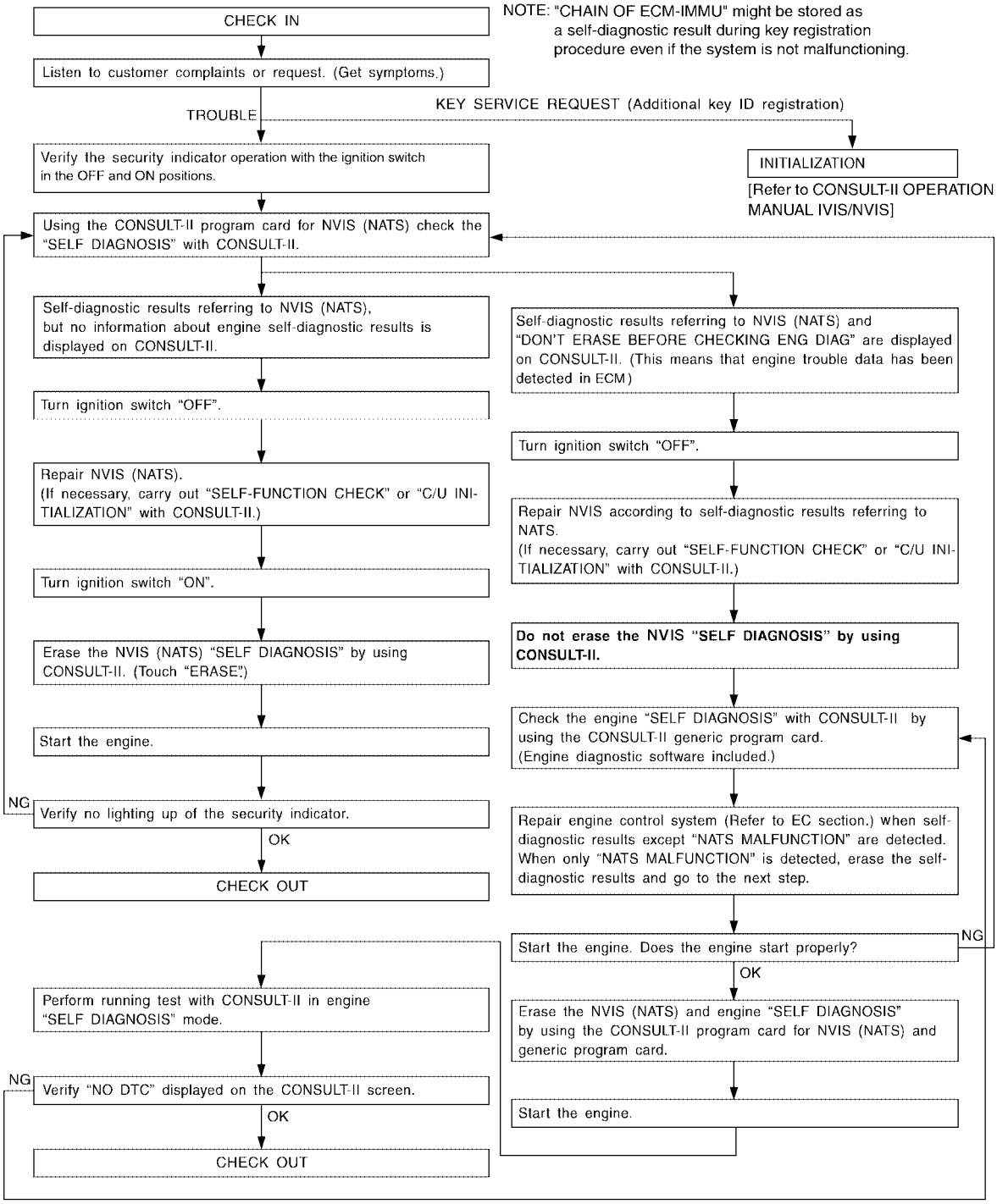
NVIS (NATS) SELF-DIAGNOSTIC RESULTS ITEM CHART

Detected items (NATS program card screen terms)	P No. Code (Self-diagnostic result of "ENGINE"	Malfunction is detected when	Reference page
ECM INT CIRC-IMMU	NATS MALFUNCTION P1613	The malfunction of ECM internal circuit of IMMU communication line is detected.	BL-103
CHAIN OF ECM-IMMU	NATS MALFUNCTION P1612	Communication impossible between ECM and IMMU (In rare cases, "CHAIN OF ECM-IMMU" might be stored during key registration procedure, even if the system is not malfunctioning.)	BL-104
DIFFERENCE OF KEY	NATS MALFUNCTION P1615	IMMU can receive the key ID signal but the result of ID verification between key ID and IMMU is NG.	BL-108
CHAIN OF IMMU-KEY	NATS MALFUNCTION P1614	IMMU cannot receive the key ID signal.	BL-109
ID DISCORD, IMM-ECM	NATS MALFUNCTION P1611	The result of ID verification between IMMU and ECM is NG. System initialization is required.	BL-110
LOCK MODE	NATS MALFUNCTION P1610	When the starting operation is carried out five or more times consecutively under the following conditions, NVIS (NATS) will shift the mode to one which prevents the engine from being started. ● Unregistered ignition key is used. ● IMMU or ECM is malfunctioning.	BL-113
DON'T ERASE BEFORE CHECKING ENG DIAG	—	Any engine trouble codes except NVIS (NATS) trouble codes have been detected in ECM.	BL-101

Trouble Diagnoses

EIS0015R

WORK FLOW



WEL126A

SYMPTOM MATRIX CHART 1 (SELF-DIAGNOSIS RELATED ITEM)

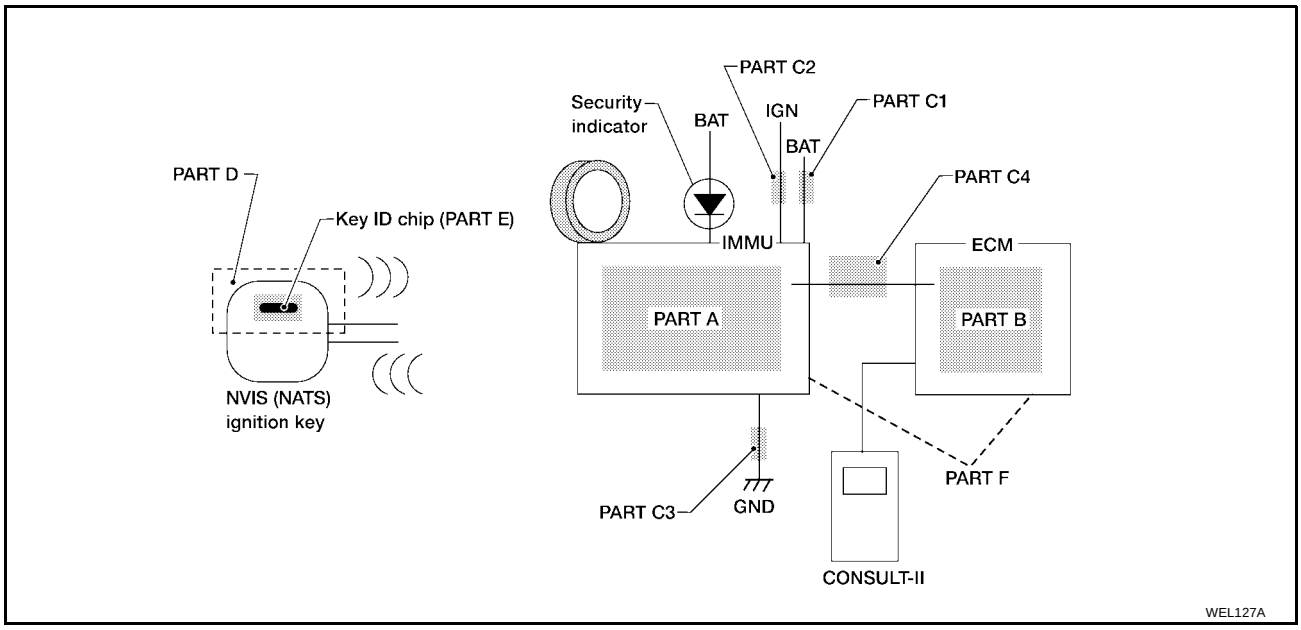
SYMPTOM	Displayed “SELF-DIAG RESULTS” on CONSULT-II screen.	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)	REFERENCE PART NO. OF ILLUSTRATION ON NEXT PAGE
	ECM INT CIRC-IMMU	PROCEDURE 1 BL-103	ECM	B
● Security indicator lighting up* ● Engine hard to start			In rare cases, "CHAIN OF ECM-IMMU" might be stored during key registration procedure, even if the system is not malfunctioning.	—
	CHAIN OF ECM-IMMU	PROCEDURE 2 BL-104	Open circuit in battery voltage line of IMMU circuit	C1
			Open circuit in ignition line of IMMU circuit	C2
			Open circuit in ground line of IMMU circuit	C3
			Open circuit in communication line between IMMU and ECM	C4
			Short circuit between IMMU and ECM communication line and battery voltage line	C4
			Short circuit between IMMU and ECM communication line and ground line	C4
			ECM	B
			IMMU	A
	DIFFERENCE OF KEY	PROCEDURE 3 BL-108	Unregistered key	D
			IMMU	A
	CHAIN OF IMMU-KEY	PROCEDURE 4 BL-109	Malfunction of key ID chip	E
			IMMU	A
	ID DISCORD, IMM-ECM	PROCEDURE 5 BL-110	System initialization has not yet been completed.	F
			ECM	F
	LOCK MODE	PROCEDURE 7 BL-113	LOCK MODE	D
● MIL staying ON ● Security indicator lighting up*	DON'T ERASE BEFORE CHECKING ENG DIAG	WORK FLOW BL-101	Engine trouble data and NVIS (NATS) trouble data have been detected in ECM	—

*: When NVIS (NATS) detects trouble, the security indicator lights up while ignition key is in the “ON” position.

SYMPTOM MATRIX CHART 2 (NON SELF-DIAGNOSIS RELATED ITEM)

SYMPTOM	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)
Security indicator lamp does not light up.	PROCEDURE 6 BL-111	Security indicator lamp
		Open circuit between fuse and IMMU
		Continuation of initialization mode
		IMMU

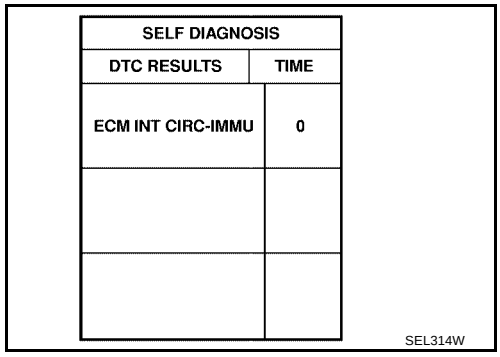
DIAGNOSTIC SYSTEM DIAGRAM



DIAGNOSTIC PROCEDURE 1

Self-diagnostic results:
“ECM INT CIRC-IMMU” displayed on CONSULT-II screen

1. Confirm SELF-DIAGNOSTIC RESULTS “ECM INT CIRC-IMMU” displayed on CONSULT-II screen. Ref. part No. B.
2. Replace ECM.
3. Perform initialization with CONSULT-II.
   For initialization, refer to “CONSULT-II OPERATION MANUAL IVIS/NVIS”.



DIAGNOSTIC PROCEDURE 2

Self-diagnostic results:
“CHAIN OF ECM-IMMU” displayed on CONSULT-II screen

1. CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm SELF-DIAGNOSTIC RESULTS “CHAIN OF ECM-IMMU” displayed on CONSULT-II screen.

NOTE:
In rare cases, “CHAIN OF ECM-IMMU” might be stored during key registration procedure, even if the system is not malfunctioning.

Is CONSULT-II screen displayed as shown?

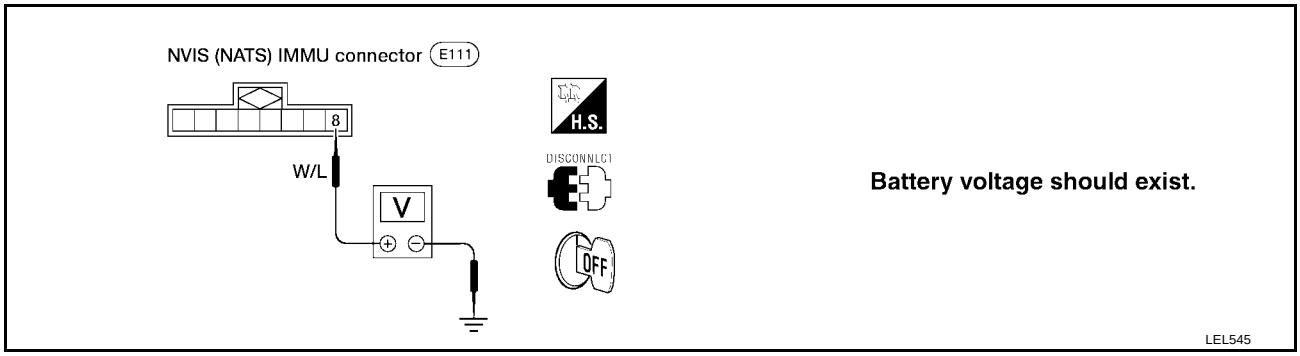
Yes >> GO TO 2.
No >> GO TO BL-102, "SYMPTOM MATRIX CHART 1 (SELF-DIAGNOSIS RELATED ITEM)" .

SELF DIAGNOSIS	
DTC RESULTS	TIME
CHAIN OF ECM-IMMU	0

SEL292W

2. CHECK POWER SUPPLY CIRCUIT FOR NVIS (NATS) IMMU

1. Disconnect NVIS (NATS) IMMU connector.
2. Check voltage between terminal 8 of NVIS (NATS) IMMU and ground with CONSULT-II or tester.



OK or NG

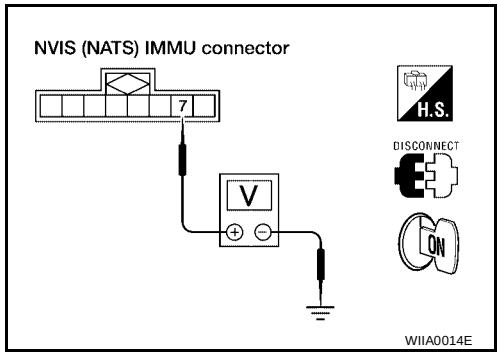
OK >> GO TO 3.
NG >> Check the following

- 10A fuse (No. 36, located in the fuse and fusible link box)
- Harness for open or short between fuse and NVIS (NATS) IMMU connector
  Ref. Part No. C1

3. CHECK IGN SW. ON SIGNAL

1. Turn ignition switch ON.
2. Check voltage between NVIS (NATS) IMMU harness connector E111 terminal 7 (BR) (QG18DE) or (G/W) (QR25DE) and ground with CONSULT-II or tester.

Battery voltage should exist.



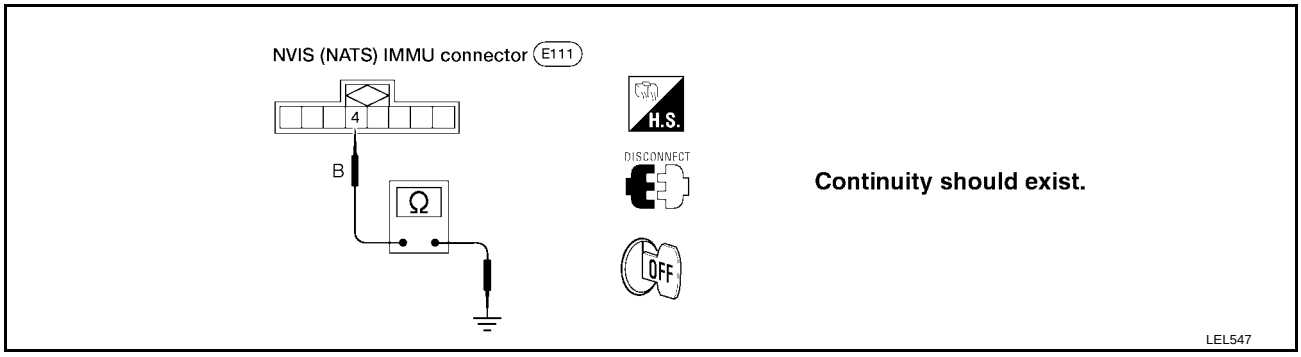
OK or NG

OK >> GO TO 4.
NG >> Check the following

- 10A fuse [No. 20, located in the fuse block (J/B)]
- Harness for open or short between fuse and NVIS (NATS) IMMU connector
  Ref. part No. C2

4. CHECK GROUND CIRCUIT FOR NVIS (NATS) IMMU

1. Turn ignition switch OFF.
2. Check harness continuity between NVIS (NATS) IMMU terminal 4 and ground.



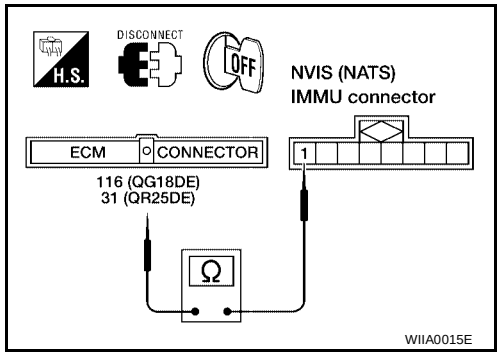
OK or NG

OK >> GO TO 5.
NG >> Repair harness. **Ref. part No. C3**

5. CHECK COMMUNICATION LINE OPEN CIRCUIT

1. Disconnect ECM connector.
2. Check harness continuity between ECM harness connector F22 (QG18DE) or F54 (QR25DE) terminal 116 (QG18DE) or 31 (QR25DE) (BR/Y) and NVIS (NATS) IMMU connector E111 terminal 1 (BR/Y).

Continuity should exist.



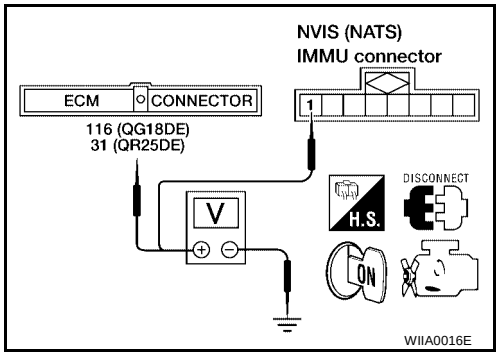
OK or NG

OK >> GO TO 6.
NG >>
- Repair harness or connector.
- **Ref. part No. C4**

6. CHECK COMMUNICATION LINE BATTERY SHORT CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between ECM harness connector F22 (QG18DE) or F54 (QR25DE) terminal 116 (QG18DE) or 31 (QR25DE) (BR/Y) or NVIS (NATS) IMMU harness connector E111 terminal 1 (BR/Y) and ground.

Voltage : 0V



OK or NG

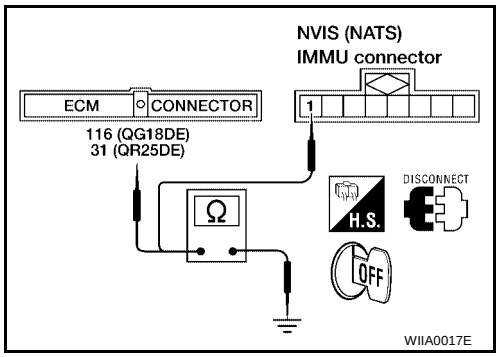
OK >> GO TO 7.

NG >>
- Communication line is short-circuited with battery voltage line or ignition switch ON line.
- Repair harness or connectors.
- **Ref. part No. C4**

7. CHECK COMMUNICATION LINE GROUND SHORT CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between ECM harness connector F22 (QG18DE) or F54 (QR25DE) terminal 116 (QG18DE) or 31 (QR25DE) (BR/Y) or NVIS (NATS) IMMU connector E111 terminal 1 (BR/Y) and ground.

Continuity should not exist.



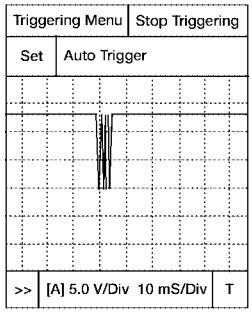
OK or NG

OK >> GO TO 8.

NG >>
- Communication line is short-circuited with ground line.
- Repair harness or connectors.
- **Ref. part No. C4**

8. SIGNAL FROM ECM TO NVIS (NATS) IMMU CHECK

1. Check the signal between ECM terminal 116 and ground with CONSULT-II or oscilloscope when ignition switch is turned “ON”.
2. Make sure signals which are shown in the figure below can be detected during 750 msec. just after ignition switch is turned “ON”.



LEL641

OK or NG

OK >>
- NVIS (NATS) IMMU is malfunctioning.
- Replace NVIS (NATS) IMMU. **Ref. part No. A**
- Perform initialization with CONSULT-II.
- For the operation of initialization, refer to “CONSULT-II OPERATION MANUAL IVIS/NVIS”.

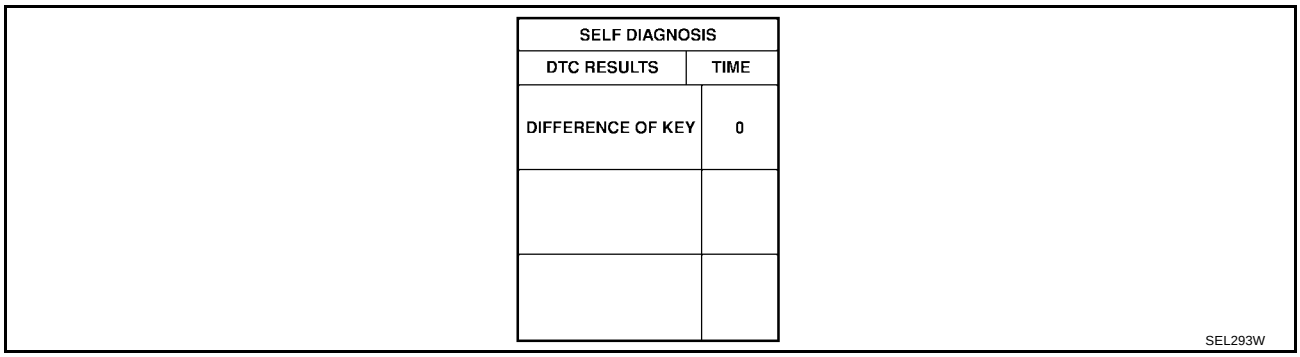
NG >>
- ECM is malfunctioning.
- Replace ECM. **Ref. part No. B**
- Perform initialization with CONSULT-II.
- For the operation of initialization, refer to “CONSULT-II OPERATION MANUAL IVIS/NVIS”.

DIAGNOSTIC PROCEDURE 3

Self-diagnostic results:
“DIFFERENCE OF KEY” displayed on CONSULT-II screen

1. CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm SELF-DIAGNOSTIC RESULTS “DIFFERENCE OF KEY” displayed on CONSULT-II screen.

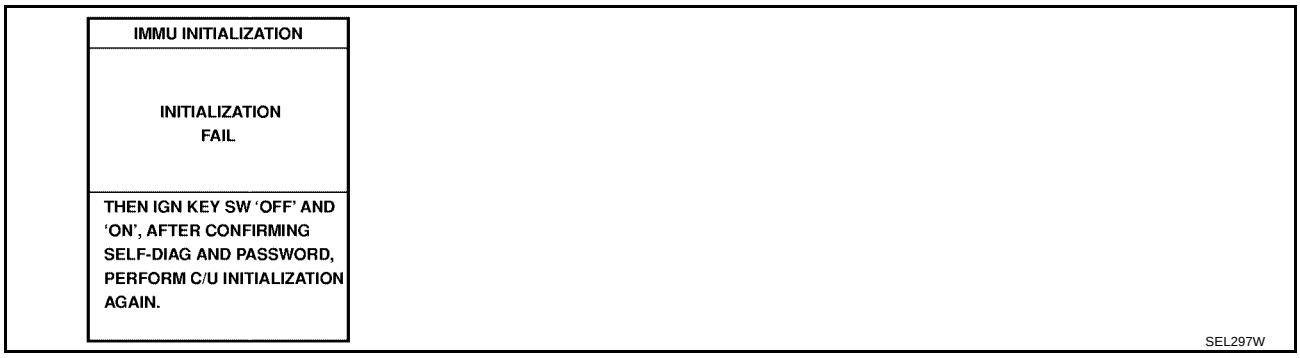


Is CONSULT-II screen displayed as above?

Yes >> GO TO 2.
No >> GO TO SYMPTOM MATRIX CHART 1.

2. PERFORM INITIALIZATION WITH CONSULT-II

Perform initialization with CONSULT-II. Re-register all NVIS (NATS) ignition key IDs.
For initialization, refer to “CONSULT-II OPERATION MANUAL IVIS/NVIS”.



NOTE:
If the initialization is not completed or fails, CONSULT-II shows above message on the screen.

Can the system be initialized?

Yes >>
- Start engine. (END)
- (Ignition key ID was unregistered. **Ref. part No. D**)

No >>
- NVIS (NATS) IMMU is malfunctioning.
- Replace NVIS (NATS) IMMU. **Ref. part No. A**
- Perform initialization with CONSULT-II.
- For initialization, refer to “CONSULT-II OPERATION MANUAL IVIS/NVIS”.

DIAGNOSTIC PROCEDURE 4

Self-diagnostic results:
“CHAIN OF IMMU-KEY” displayed on CONSULT-II screen

1. CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm SELF-DIAGNOSTIC RESULTS “CHAIN OF IMMU-KEY” displayed on CONSULT-II screen.

SELF DIAGNOSIS	
DTC RESULTS	TIME
CHAIN OF IMMU-KEY	0

SEL294W

Is CONSULT-II screen displayed as above?

Yes >> GO TO 2.
No >> GO TO BL-102, "SYMPTOM MATRIX CHART 1 (SELF-DIAGNOSIS RELATED ITEM)" .

2. CHECK NVIS (NATS) IGNITION KEY ID CHIP

Start engine with another registered NVIS (NATS) ignition key.
Does the engine start?

Yes >>
- Ignition key ID chip is malfunctioning.
- Replace the ignition key.
- **Ref. part No. E**
- Perform initialization with CONSULT-II.
- For initialization, refer to “CONSULT-II OPERATION MANUAL IVIS/NVIS”.

No >> GO TO 3.

3. CHECK NVIS (NATS) IMMU INSTALLATION

Check NVIS (NATS) IMMU installation.
Refer to BL-114, "How to Replace NVIS (NATS) IMMU" .

OK or NG

OK >>
- NVIS (NATS) IMMU is malfunctioning.
- Replace NVIS (NATS) IMMU. **Ref. part No. A**
- Perform initialization with CONSULT-II.
- For initialization, refer to “CONSULT-II OPERATION MANUAL IVIS/NVIS”.

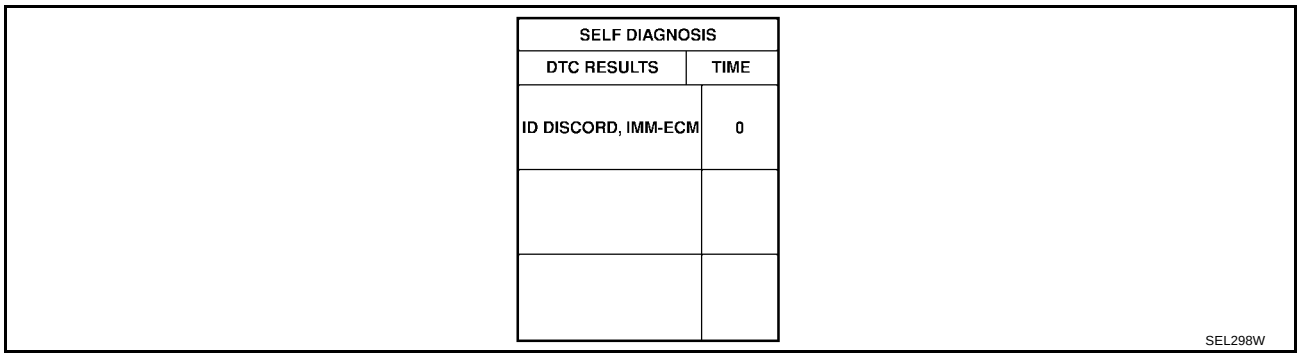
NG >> Reinstall NVIS (NATS) IMMU correctly.

DIAGNOSTIC PROCEDURE 5

Self-diagnostic results:
“ID DISCORD, IMM-ECM” displayed on CONSULT-II screen

1. CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm SELF-DIAGNOSTIC RESULTS “ID DISCORD, IMM-ECM” displayed on CONSULT-II screen.



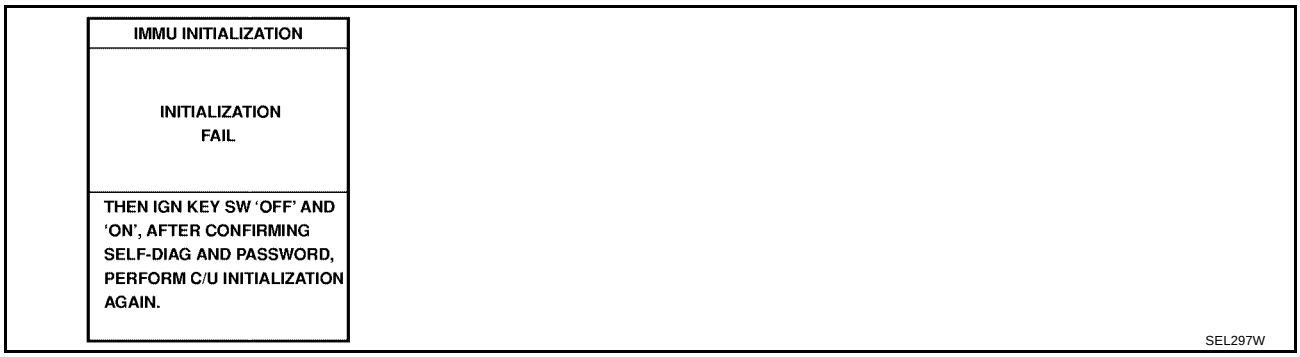
NOTE:
“ID DISCORD IMM-ECM”:
Registered ID of NVIS (NATS) IMMU is in discord with that of ECM.

Is CONSULT-II screen displayed as above?

Yes >> GO TO 2.
No >> GO TO BL-102, "SYMPTOM MATRIX CHART 1 (SELF-DIAGNOSIS RELATED ITEM)" .

2. PERFORM INITIALIZATION WITH CONSULT-II

Perform initialization with CONSULT-II. Re-register all NVIS (NATS) ignition key IDs.
For initialization, refer to “CONSULT-II OPERATION MANUAL IVIS/NVIS”.



NOTE:
If the initialization is not completed or fails, CONSULT-II shows above message on the screen.

Can the system be initialized?

Yes >> ● Start engine. (END)
● (System initialization had not been completed. **Ref. part No. F**)

No >> ● ECM is malfunctioning.
● Replace ECM. **Ref. part No. F**
● Perform initialization with CONSULT-II.
● For initialization, refer to “CONSULT-II OPERATION MANUAL IVIS/NVIS”.

DIAGNOSTIC PROCEDURE 6

“SECURITY INDICATOR LAMP DOES NOT LIGHT UP”

1. CHECK FUSE

Check 10A fuse [No. 12, located in the fuse block (J/B)].

Is 10A fuse OK?

Yes >> GO TO 2.
No >> Replace fuse.

2. CHECK SECURITY INDICATOR LAMP

1. Install 10A fuse.
2. Perform initialization with CONSULT-II.
   For initialization, refer to “CONSULT-II OPERATION MANUAL IVIS/NVIS”.
3. Turn ignition switch OFF.
4. Start engine and turn ignition switch OFF.
5. Check the security indicator lamp lighting.

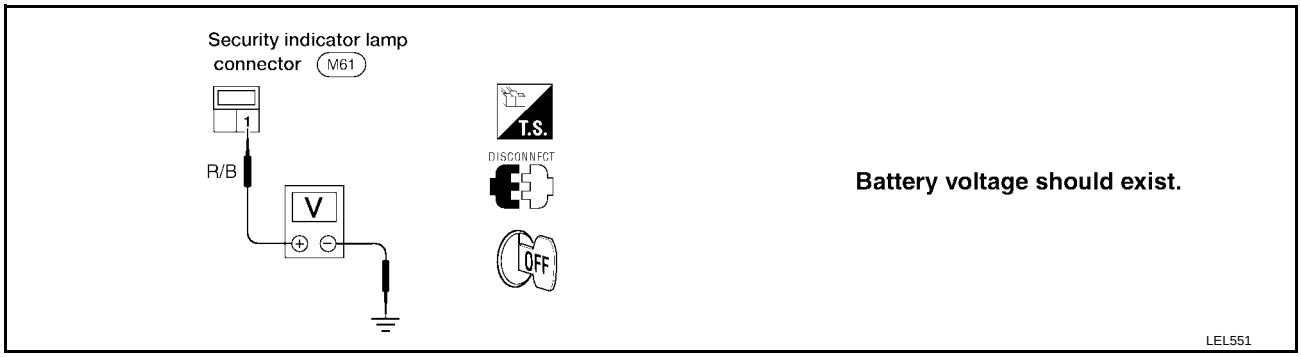
Security indicator lamp should light up.

OK or NG

OK >> INSPECTION END
NG >> GO TO 3.

3. CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

1. Disconnect security indicator lamp connector.
2. Check voltage between security indicator lamp connector terminal 1 and ground.



OK or NG

OK >> GO TO 4.
NG >> Check harness for open or short between fuse and security indicator lamp.

4. CHECK SECURITY INDICATOR LAMP

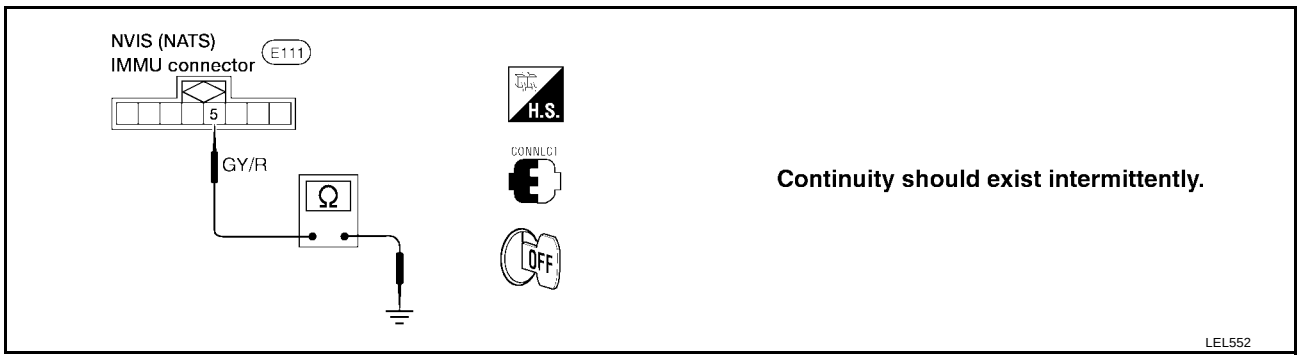
Check security indicator lamp.

Is security indicator lamp OK?

Yes >> GO TO 5.
No >> Replace security indicator lamp.

5. CHECK NVIS (NATS) IMMU FUNCTION

1. Connect NVIS (NATS) IMMU connector.
2. Disconnect security indicator lamp connector.
3. Check continuity between NVIS (NATS) IMMU terminal 5 and ground.



OK or NG

OK >> Check harness for open or short between security indicator lamp and NVIS (NATS) IMMU.

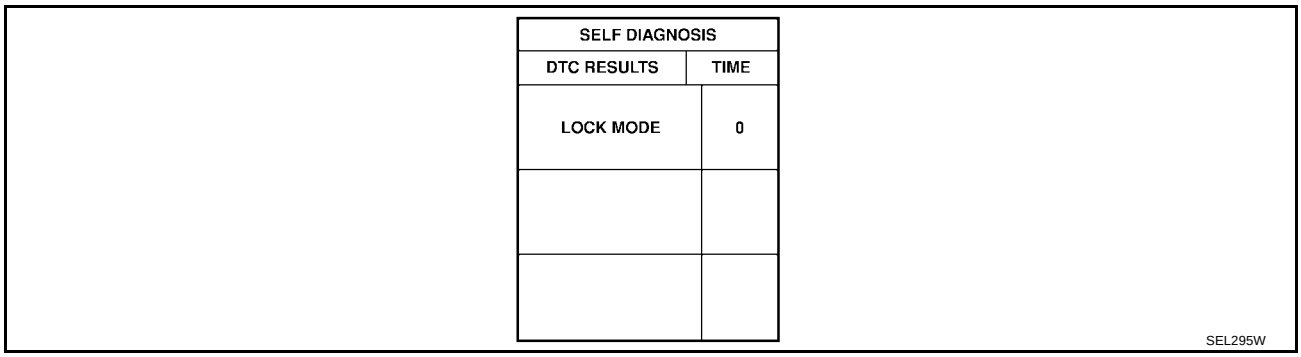
NG >>
- NVIS (NATS) IMMU is malfunctioning.
- Replace NVIS (NATS) IMMU.
- Perform initialization with CONSULT-II.
- For initialization, refer to “CONSULT-II OPERATION MANUAL IVIS/NVIS”.

DIAGNOSTIC PROCEDURE 7

Self-diagnostic results:
“LOCK MODE” displayed on CONSULT-II screen

1. CONFIRM SELF-DIAGNOSTIC RESULTS

Confirm SELF-DIAGNOSTIC RESULTS “LOCK MODE” is displayed on CONSULT-II screen.



Is CONSULT-II screen displayed as above?

Yes >> GO TO 2.
No >> GO TO BL-102, "SYMPTOM MATRIX CHART 1 (SELF-DIAGNOSIS RELATED ITEM)" .

2. ESCAPE FROM LOCK MODE

1. Turn ignition switch OFF.
2. Turn ignition switch ON with registered key. (Do not start engine.) Wait 5 seconds.
3. Return the key to OFF position.
4. Repeat steps 2 and 3 twice (total of three cycles).
5. Start the engine.

Does engine start?

Yes >> ● System is OK.
● (Now system is escaped from “LOCK MODE”.)
No >> GO TO 3.

3. CHECK NVIS (NATS) IMMU INSTALLATION

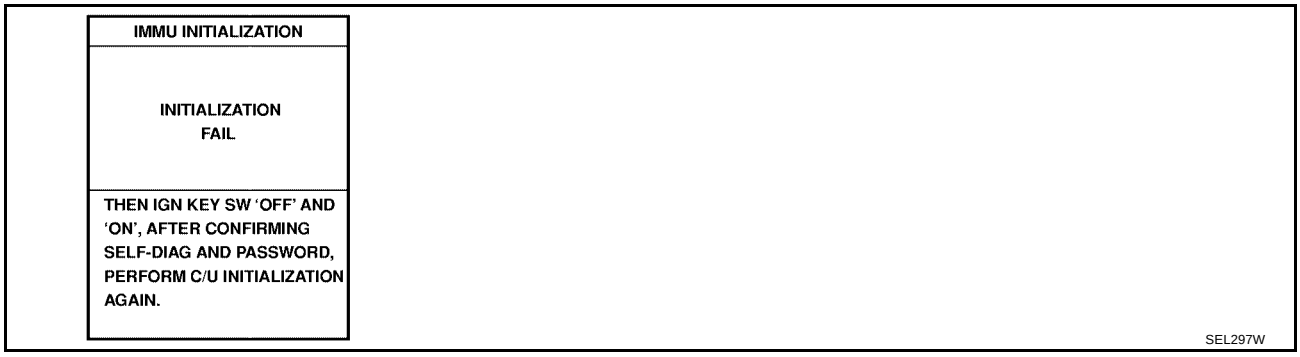
Check NVIS (NATS) IMMU installation. Refer to BL-114, "How to Replace NVIS (NATS) IMMU" .

OK or NG

OK >> GO TO 4.
NG >> Reinstall NVIS (NATS) IMMU correctly.

4. PERFORM INITIALIZATION WITH CONSULT-II

Perform initialization with CONSULT-II.
For initialization, refer to “CONSULT-II OPERATION MANUAL IVIS/NVIS”.



NOTE:
If the initialization is not completed or fails, CONSULT-II shows the above message on the screen.

Can the system be initialized?

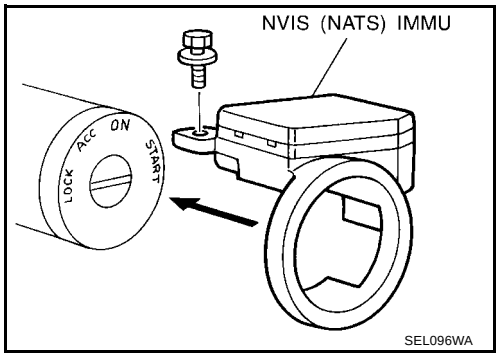
Yes >> System is OK.
No >> Check “CHAIN OF IMMU-KEY”. Refer to BL-109, "DIAGNOSTIC PROCEDURE 4" .

How to Replace NVIS (NATS) IMMU

EIS0015S

NOTE:

- **If NVIS (NATS) IMMU is not installed correctly, NVIS (NATS) system will not operate properly and SELF-DIAG RESULTS on CONSULT-II screen will show “LOCK MODE” or “CHAIN OF IMMU-KEY”.**



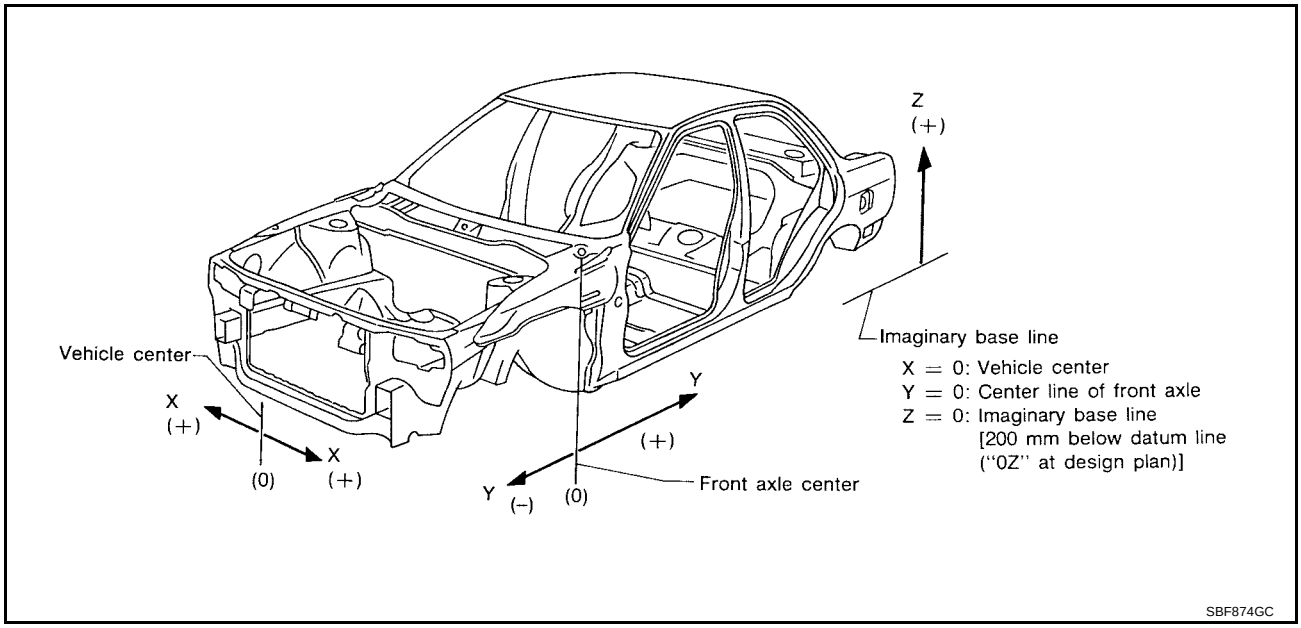
BODY (ALIGNMENT)

PFP:74312

Alignment

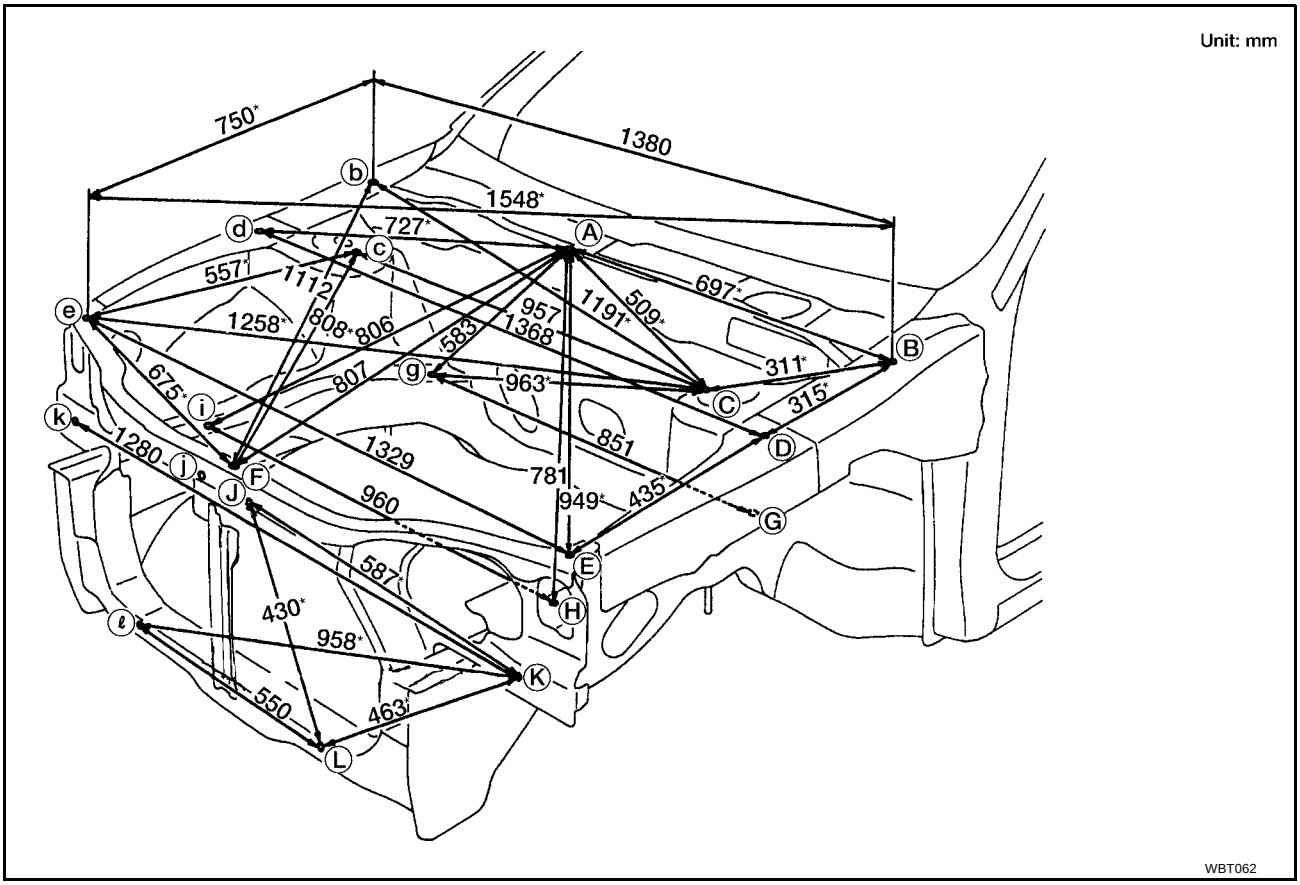
EIS0015T

- All dimensions indicated in figures are actual ones.
- When using a tracking gauge, adjust both pointers to equal length. Then check the pointers and gauge itself to make sure there is no free play.
- When a measuring tape is used, check to be sure there is no elongation, twisting or bending.
- Measurements should be taken at the center of the mounting holes.
- An asterisk (*) indicates the measuring point value is the same on both sides.
- The coordinates of the measurement points are the distances measured from the standard line of “X”, “Y” and “Z”.

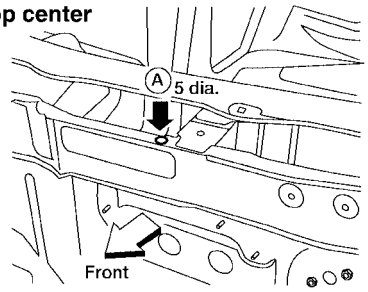


ENGINE COMPARTMENT

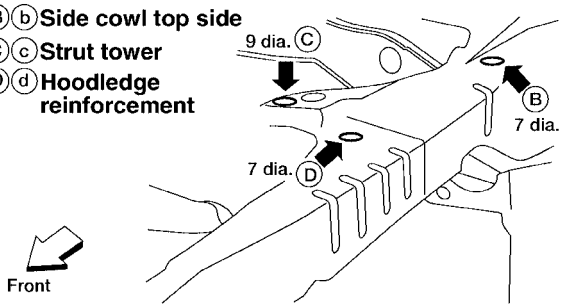
Measurement



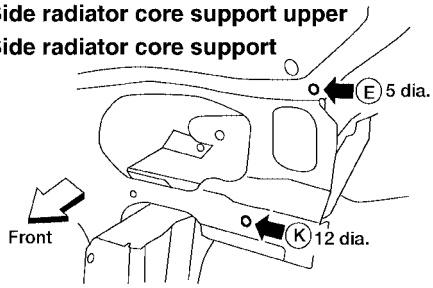
Ⓐ Cowl top center



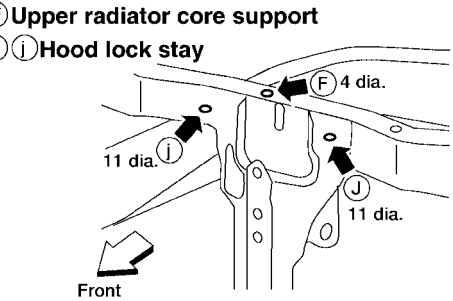
Ⓑ ⓑ Side cowl top side
Ⓒ ⓒ Strut tower
Ⓓ ⓓ Hoodledge reinforcement



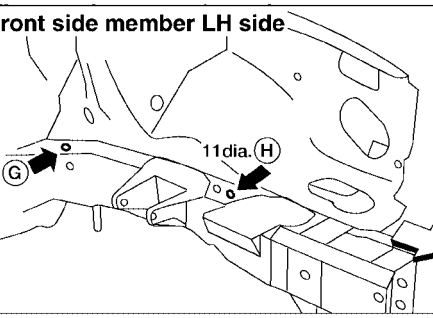
Ⓔ ⓔ Side radiator core support upper
Ⓚ ⓚ Side radiator core support



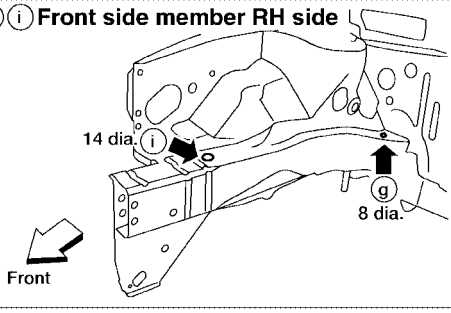
Ⓕ Upper radiator core support
Ⓙ ⓙ Hood lock stay



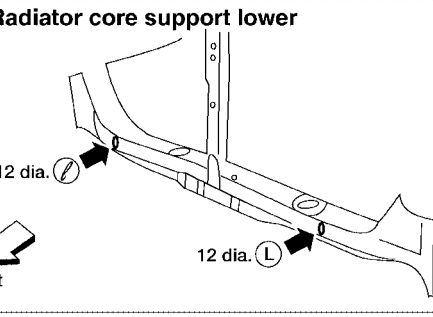
Ⓖ Ⓗ Front side member LH side



ⓖ ⓘ Front side member RH side



Ⓛ Ⓛ Radiator core support lower



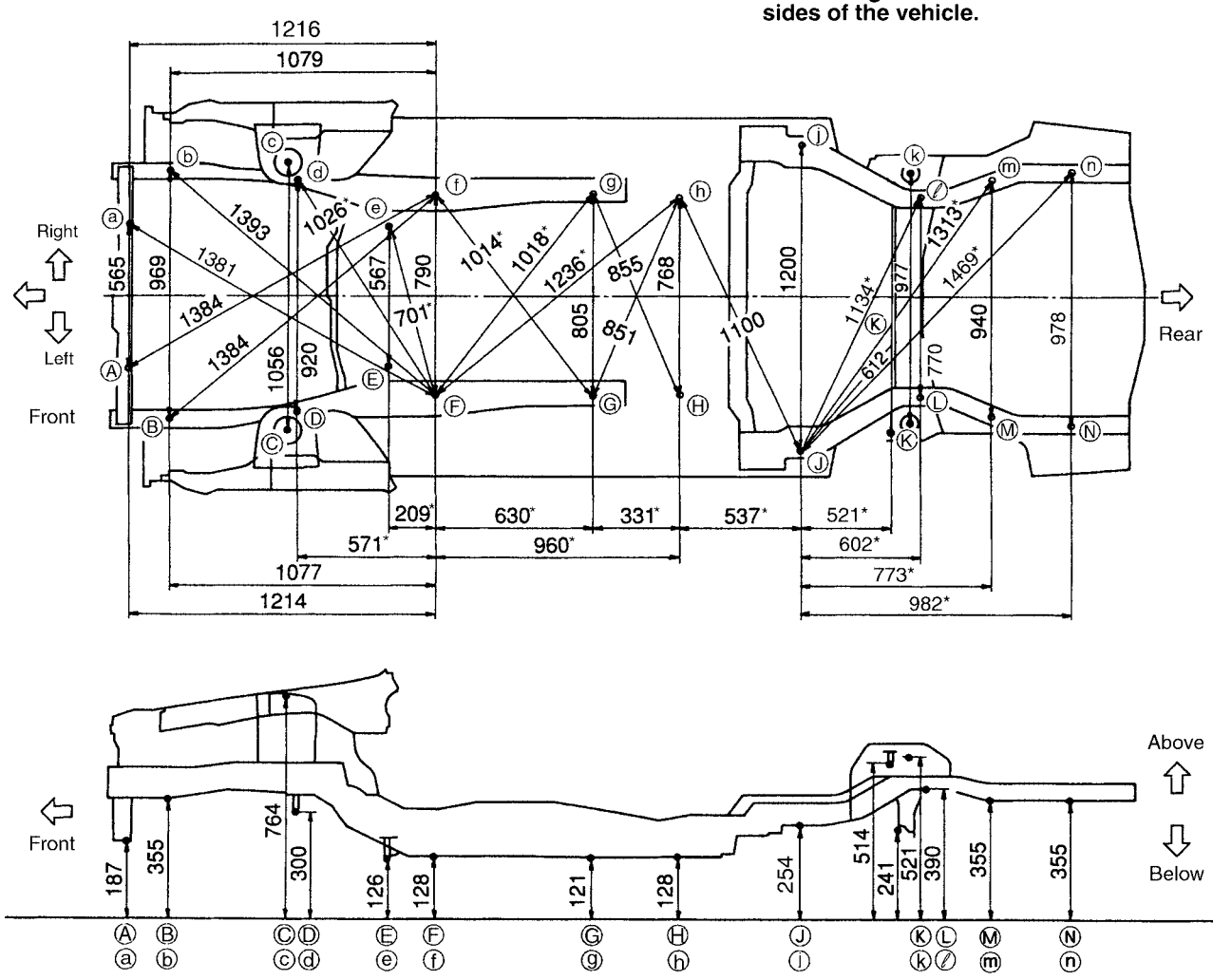
Unit: mm

WBT071

Measurement Points

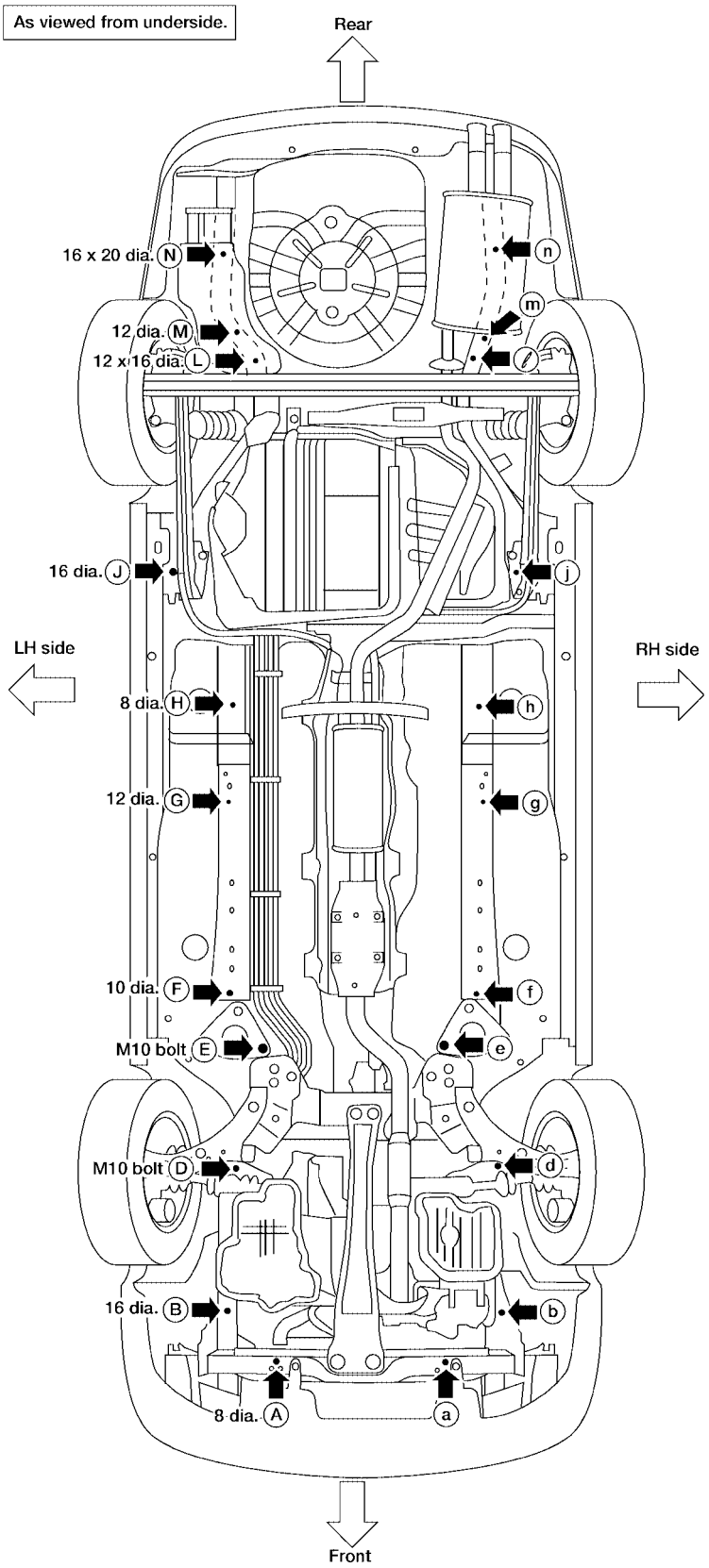
As viewed from underside.

* Figures marked with an * indicates symmetrically identical dimensions on both right- and left-hand sides of the vehicle.



WBT063

UNDERBODY
Measurement



Unit: mm

Coordinates:

Ⓐ, ⓐ
X: 280, -285
Y: 607, -609
Z: 186.8

Ⓑ, ⓑ
X: 477, -492
Y: -450
Z: 355

Ⓒ, ⓒ
X: 528
Y: 18
Z: 764

Ⓓ, ⓓ
X: 460
Y: 60
Z: 300.3

Ⓔ, ⓔ
X: 283.5
Y: 423
Z: 126.5

Ⓕ, ⓕ
X: 395
Y: 600
Z: 127.8

Ⓖ, ⓖ
X: 400, -405
Y: 1230
Z: 120.6

Ⓗ, ⓗ
X: 384
Y: 1560
Z: 128

Ⓙ, ⓙ
X: 600
Y: 2035
Z: 254

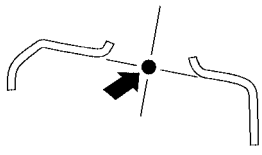
Ⓚ, ⓚ
X: 488.3
Y: 2467.8
Z: 520.6

Ⓛ, ⓛ
X: 385
Y: 2580
Z: 390

Ⓜ, ⓜ
X: 470
Y: 2790
Z: 355

Ⓝ, ⓝ
X: 489
Y: 3016
Z: 355

Front and rear strut tower centers
Ⓒ, ⓒ Ⓚ, ⓚ



Front: 30 dia.
Rear: 68 dia.

WBT064