

ELECTRICAL SYSTEM

SECTION **EL**

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PRECAUTIONS

Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

NHEL0001

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER" used along with a seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. The SRS system composition which is available to INFINITI I30 is as follows:

- For a frontal collision
The Supplemental Restraint System consists of driver air bag module (located in the center of the steering wheel), front passenger air bag module (located on the instrument panel on passenger side), seat belt pre-tensioners, a diagnosis sensor unit, crash zone sensor, warning lamp, wiring harness and spiral cable.
- For a side collision
The Supplemental Restraint System consists of front side air bag module (located in the outer side of front seat), satellite sensor, diagnosis sensor unit (one of components of air bags for a frontal collision), wiring harness, warning lamp (one of components of air bags for a frontal collision).

Information necessary to service the system safely is included in the **RS 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 should be performed by an authorized 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 RS section.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. Spiral cable and wiring harnesses covered with yellow insulation tape either just before the harness connectors or for the complete harness are related to the SRS.**

Wiring Diagrams and Trouble Diagnosis

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When you read wiring diagrams, refer to the following:

- Refer to GI-11, "HOW TO READ WIRING DIAGRAMS"
- Refer to EL-10, "POWER SUPPLY ROUTING" for power distribution circuit

When you perform trouble diagnosis, refer to the following:

- Refer to GI-35, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES"
- Refer to GI-24, "HOW TO PERFORM EFFICIENT DIAGNOSIS FOR AN ELECTRICAL INCIDENT"

Check for any Service bulletins before servicing the vehicle.

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HARNESS CONNECTOR

Description

Description

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NHEL0003S01

HARNESS CONNECTOR (TAB-LOCKING TYPE)

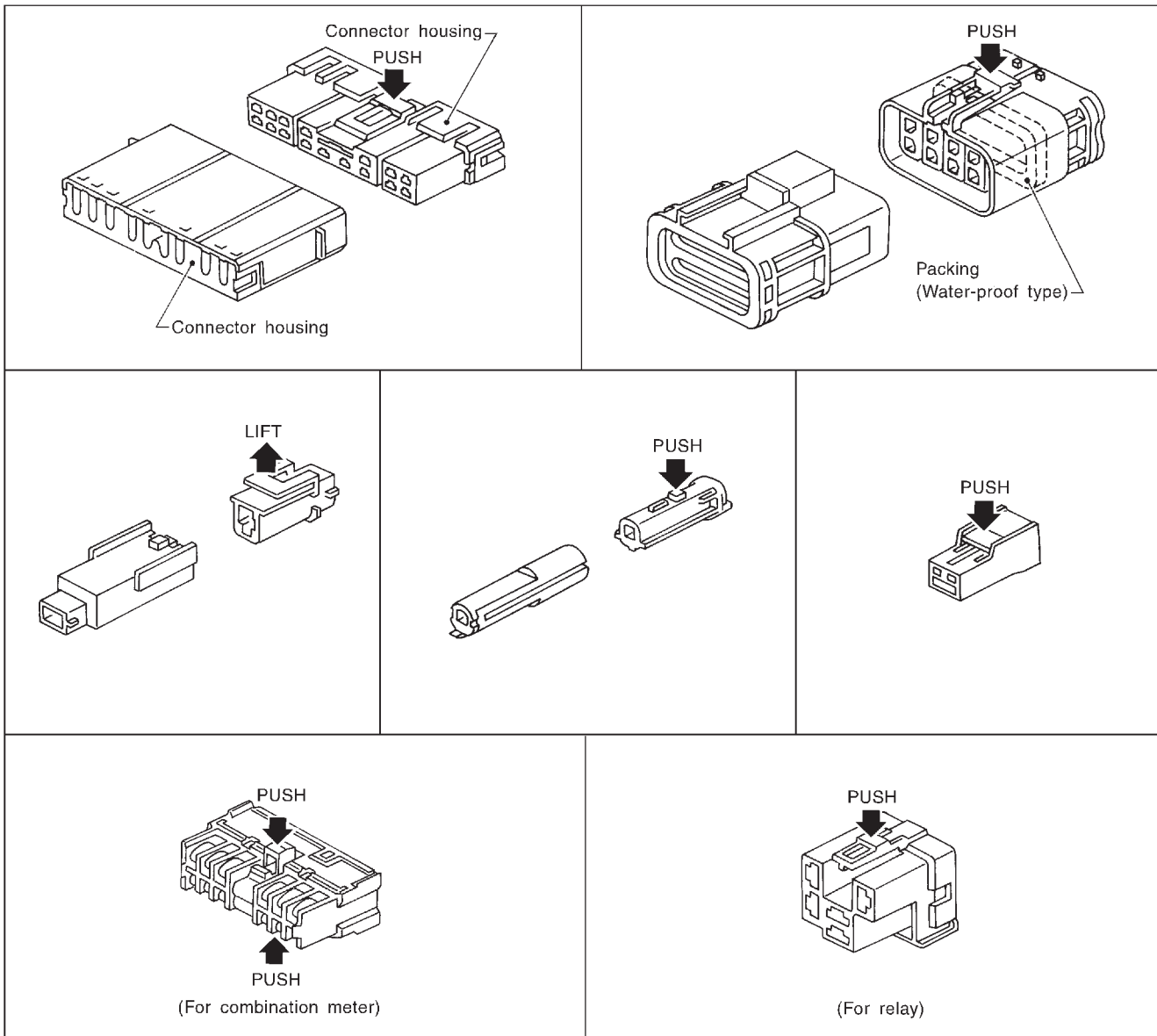
- The tab-locking type connectors help prevent accidental looseness or disconnection.
- The tab-locking type connectors are disconnected by pushing or lifting the locking tab(s). Refer to the illustration below.

Refer to the next page for description of the slide-locking type connector.

CAUTION:

Do not pull the harness or wires when disconnecting the connector.

[Example]



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HARNESS CONNECTOR (SLIDE-LOCKING TYPE)

=NHLE0003S02

- A new style slide-locking type connector is used on certain systems and components, especially those related to OBD.
- The slide-locking type connectors help prevent incomplete locking and accidental looseness or disconnection.
- The slide-locking type connectors are disconnected by pushing or pulling the slider. Refer to the illustration below.

CAUTION:

- Do not pull the harness or wires when disconnecting the connector.
- Be careful not to damage the connector support bracket when disconnecting the connector.

[Example]

Waterproof type

- ① Firmly grasp shell of connector housing at A.
- ② Push slider until connector pops or snaps apart.
- ③ Disconnect harness connector.

Non-waterproof type

- ① Firmly grasp shell of connector housing at A.
- ② Pull back on the slider while pulling apart male and female halves of connector.
- ③ Disconnect harness connector.

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STANDARDIZED RELAY

Description

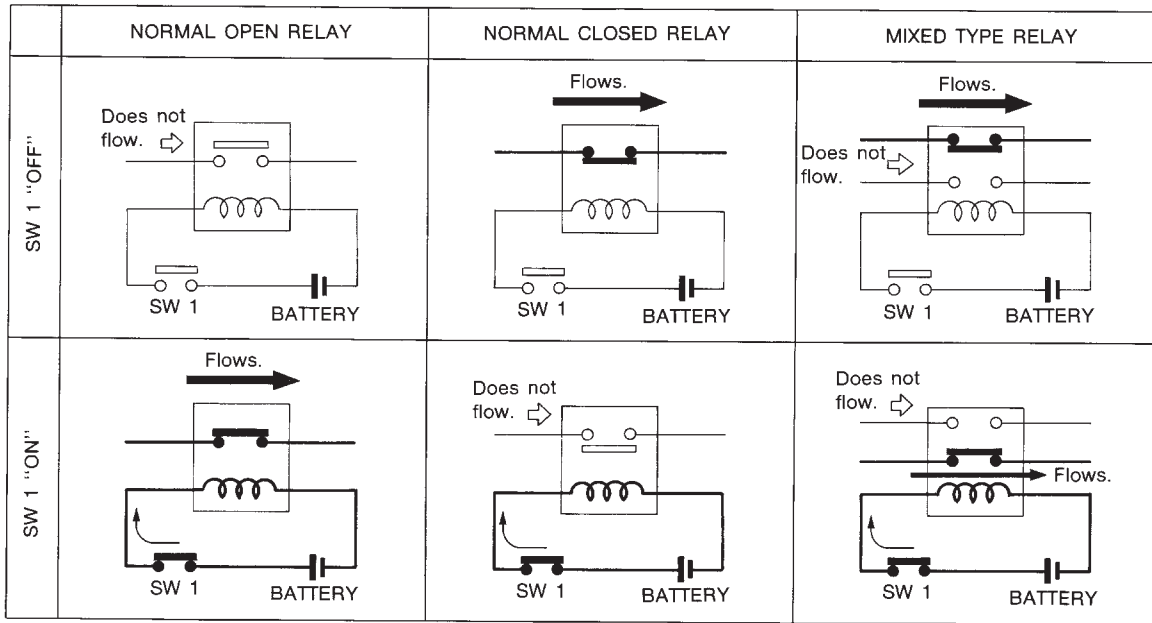
Description

NORMAL OPEN, NORMAL CLOSED AND MIXED TYPE RELAYS

Relays can mainly be divided into three types: normal open, normal closed and mixed type relays.

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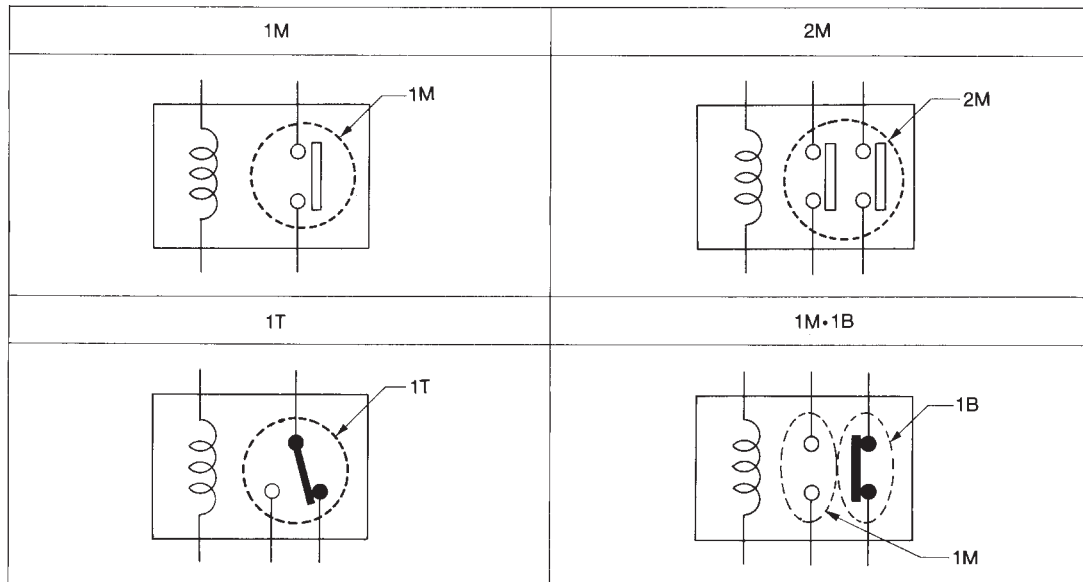


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TYPE OF STANDARDIZED RELAYS

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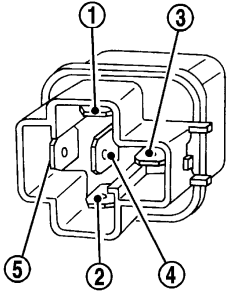
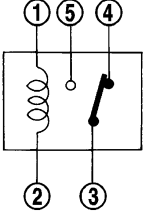
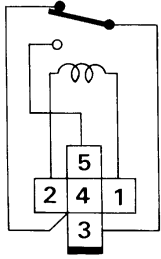
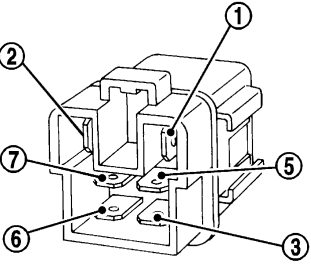
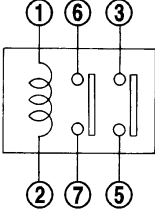
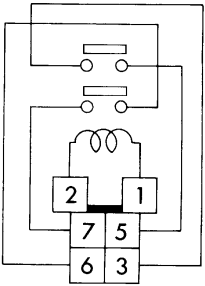
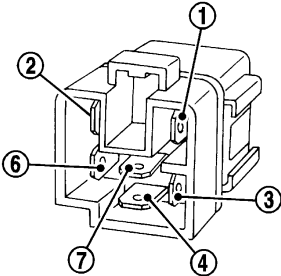
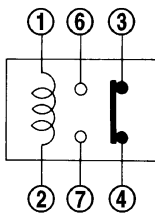
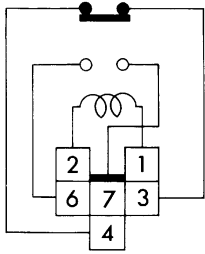
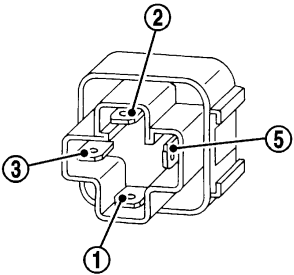
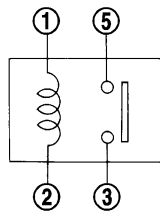
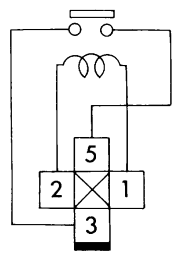
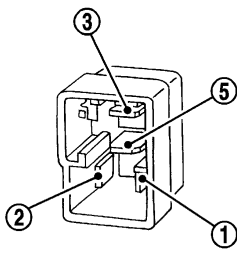
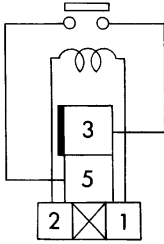
1M	1 Make	2M	2 Make
1T	1 Transfer	1M·1B	1 Make 1 Break



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STANDARDIZED RELAY

Description (Cont'd)

Type	Outer view	Circuit	Connector symbol and connection	Case color
1T				BLACK
2M				BROWN
1M•1B				GRAY
1M				BLUE
				

The arrangement of terminal numbers on the actual relays may differ from those shown above.

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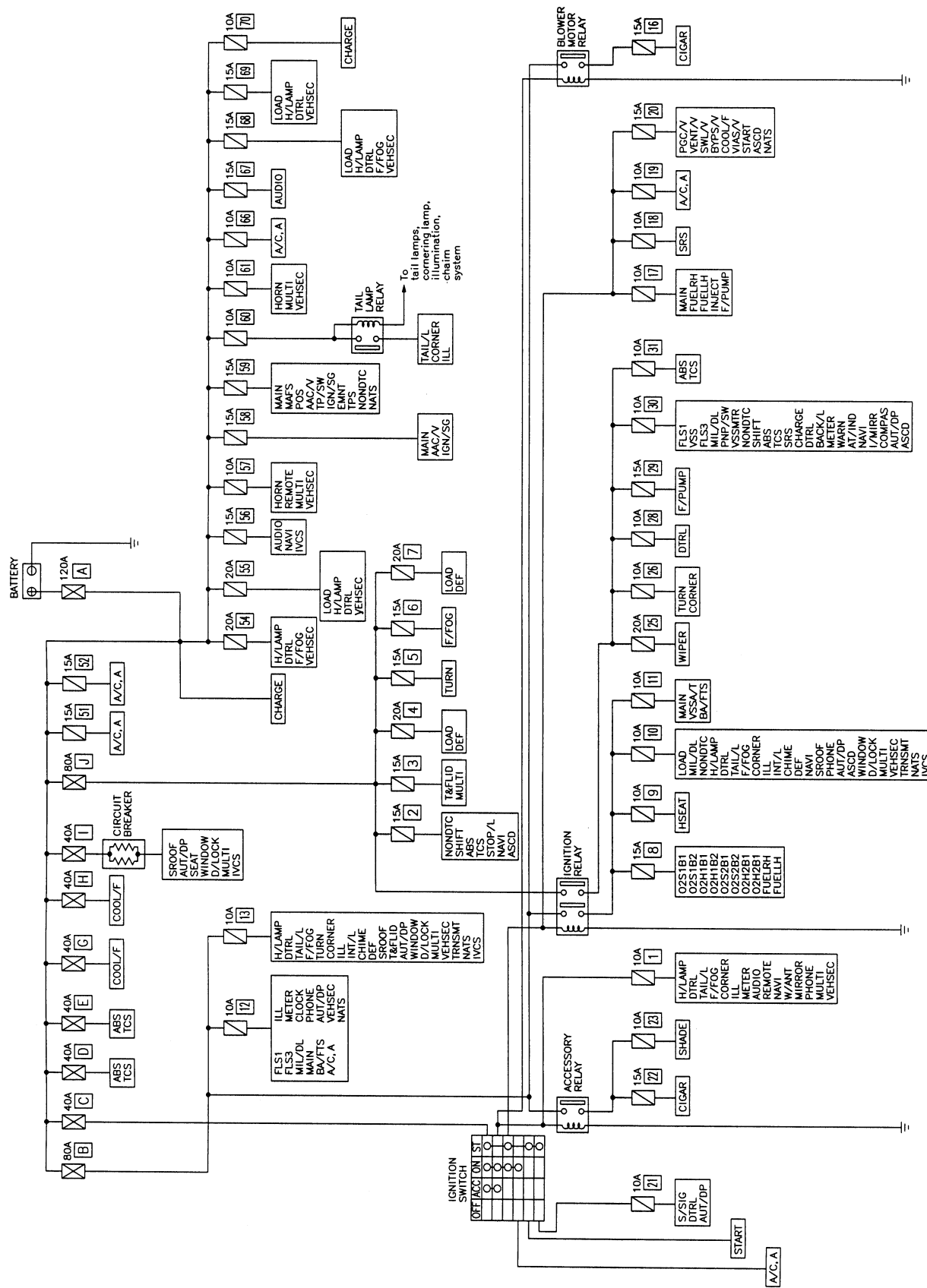
POWER SUPPLY ROUTING

Schematic

Schematic

For detailed ground distribution information, refer to "GROUND DISTRIBUTION", EL-19.

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POWER SUPPLY ROUTING

Wiring Diagram — POWER —

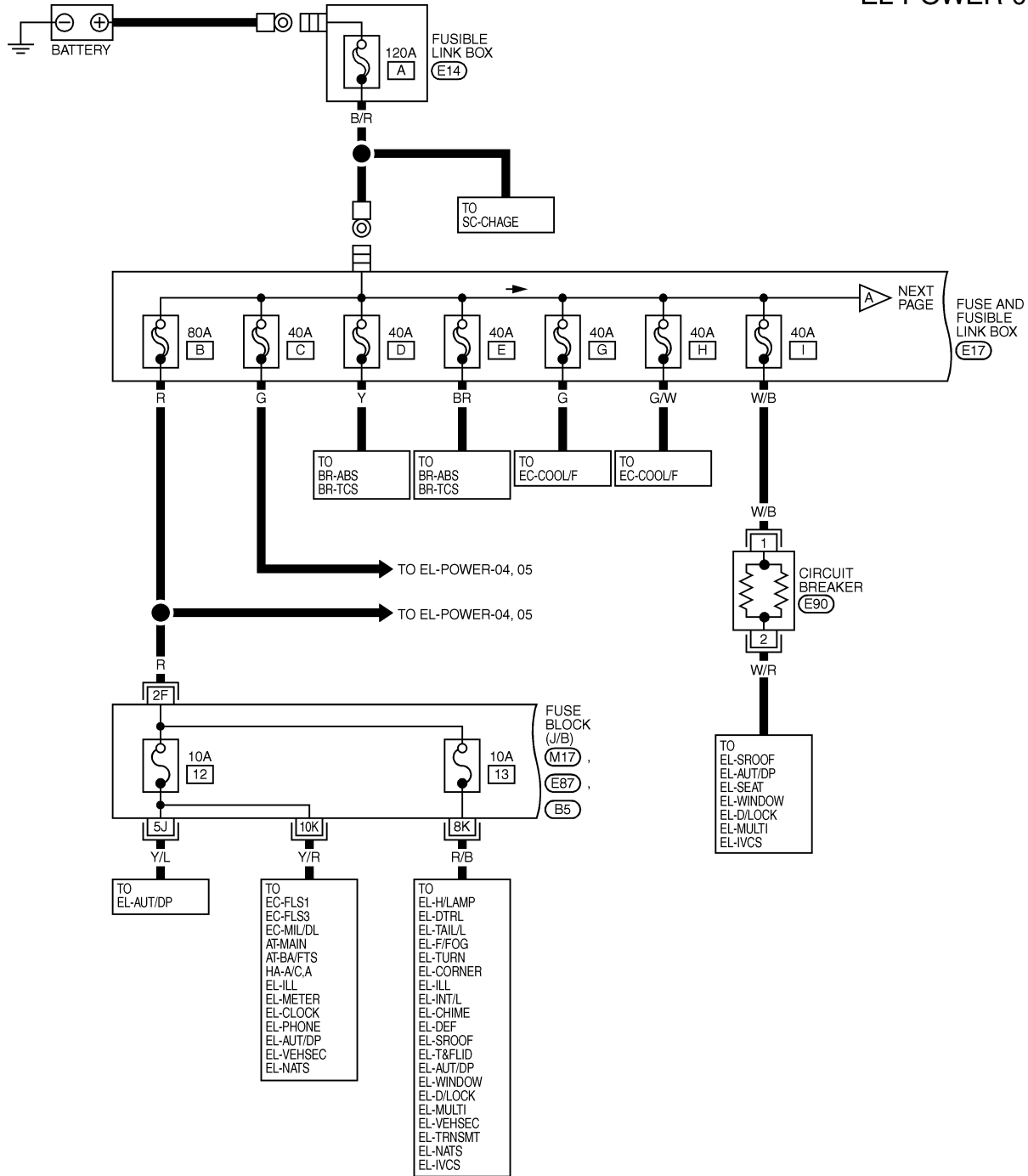
Wiring Diagram — POWER —

BATTERY POWER SUPPLY — IGNITION SW. IN ANY POSITION

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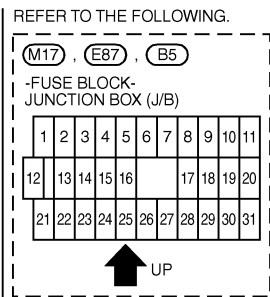
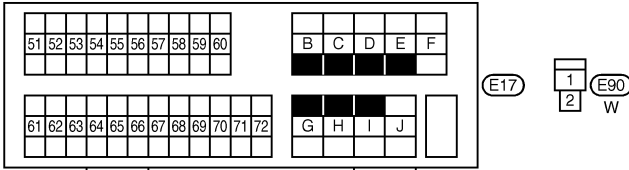
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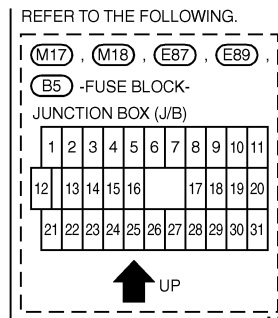
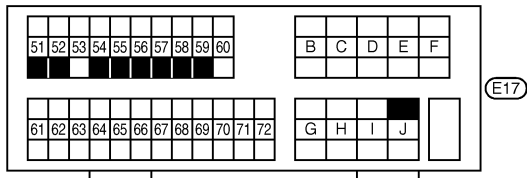
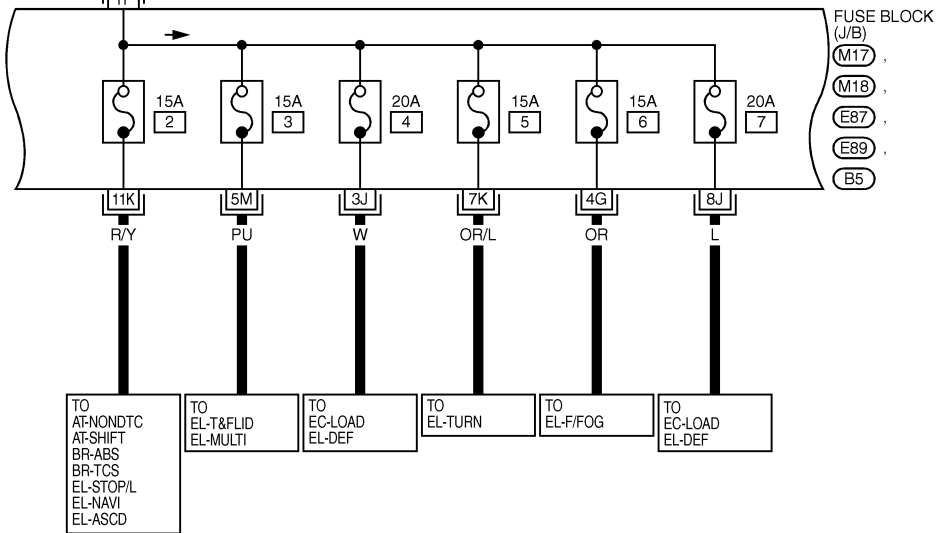
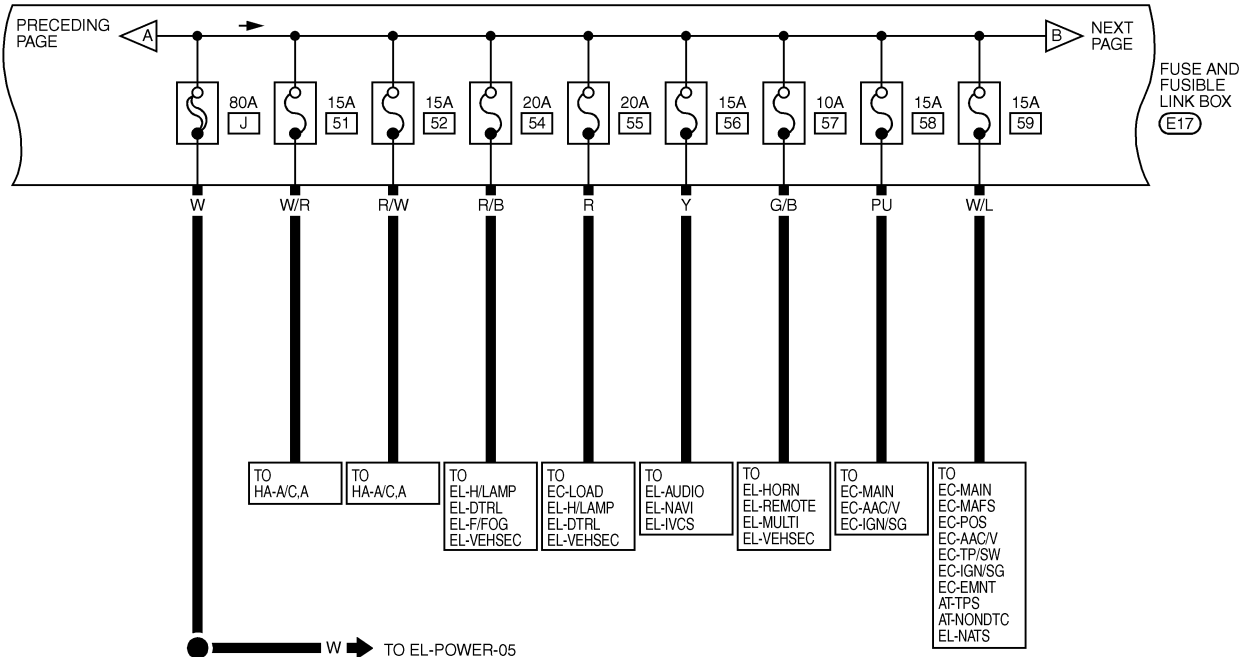


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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

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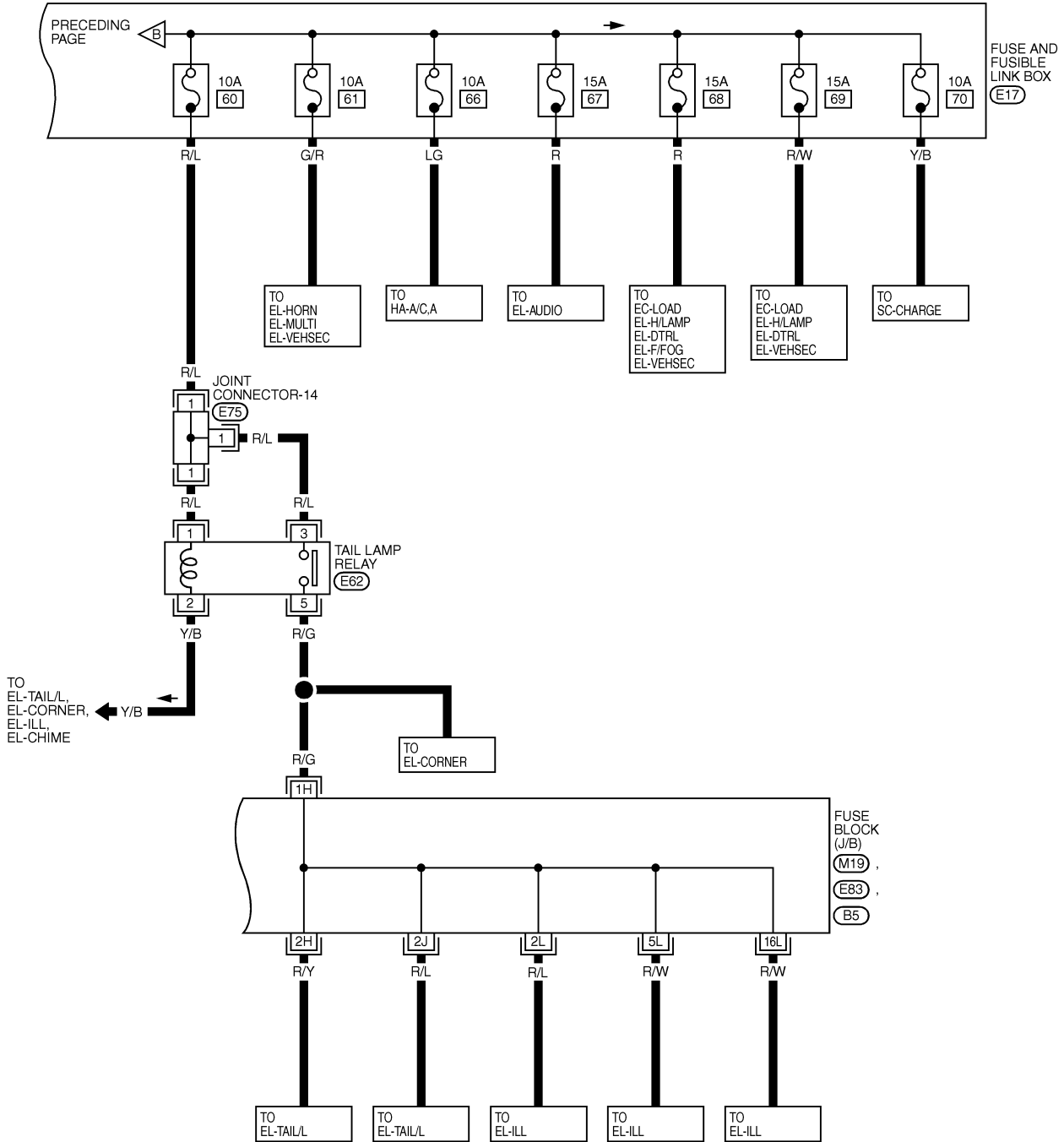


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POWER SUPPLY ROUTING

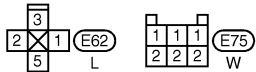
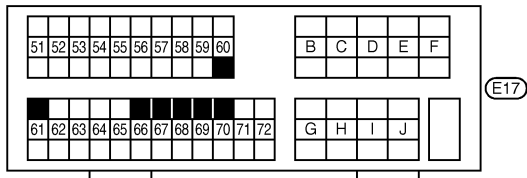
Wiring Diagram — POWER — (Cont'd)

EL-POWER-03

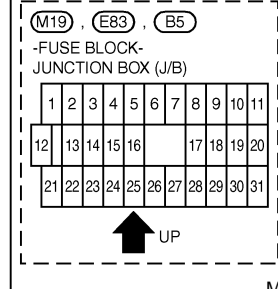


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REFER TO THE FOLLOWING.



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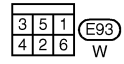
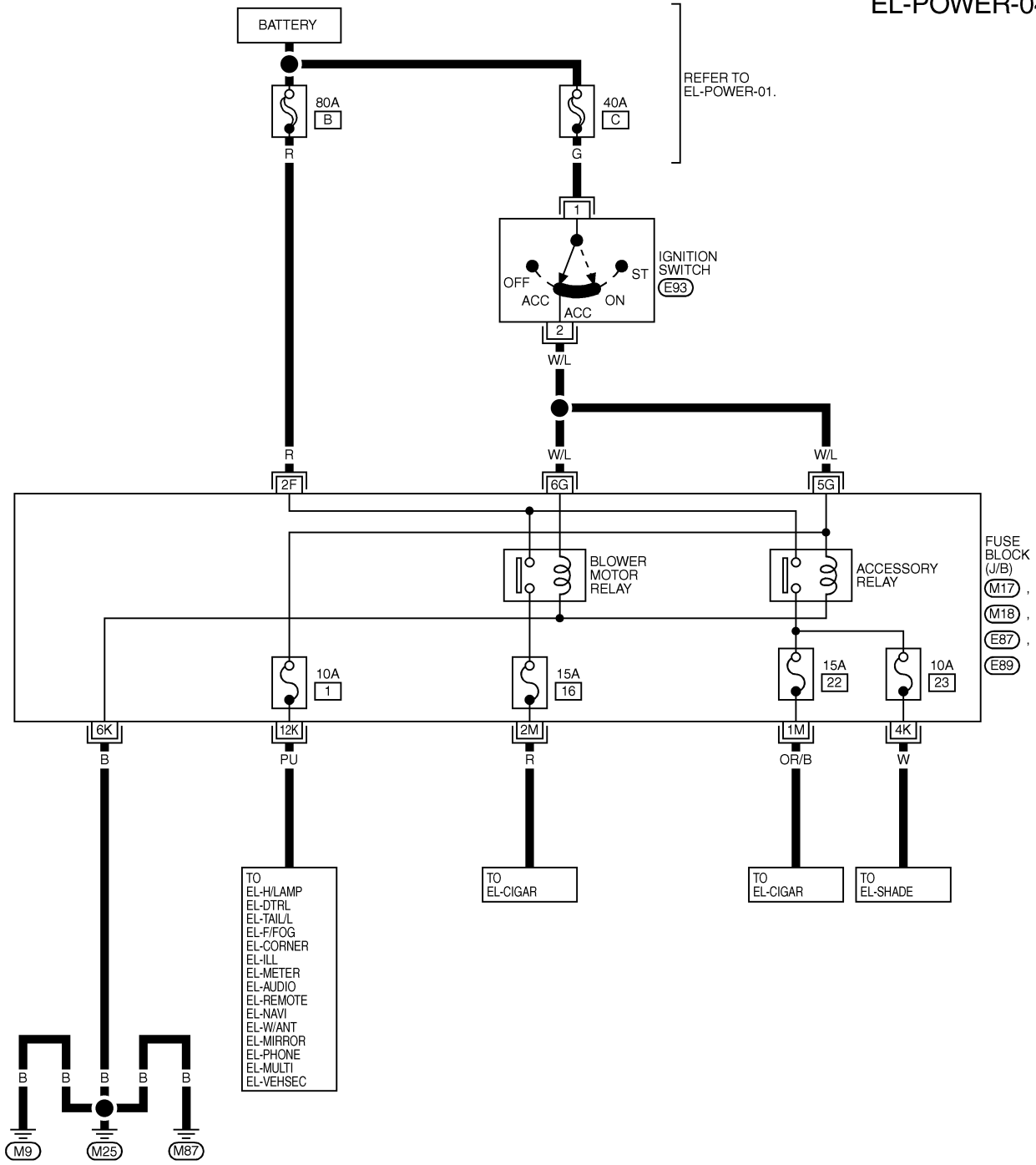
POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

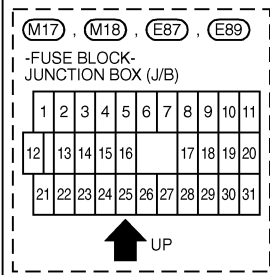
ACCESSORY POWER SUPPLY — IGNITION SW. IN "ACC" OR "ON"

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EL-POWER-04



REFER TO THE FOLLOWING.



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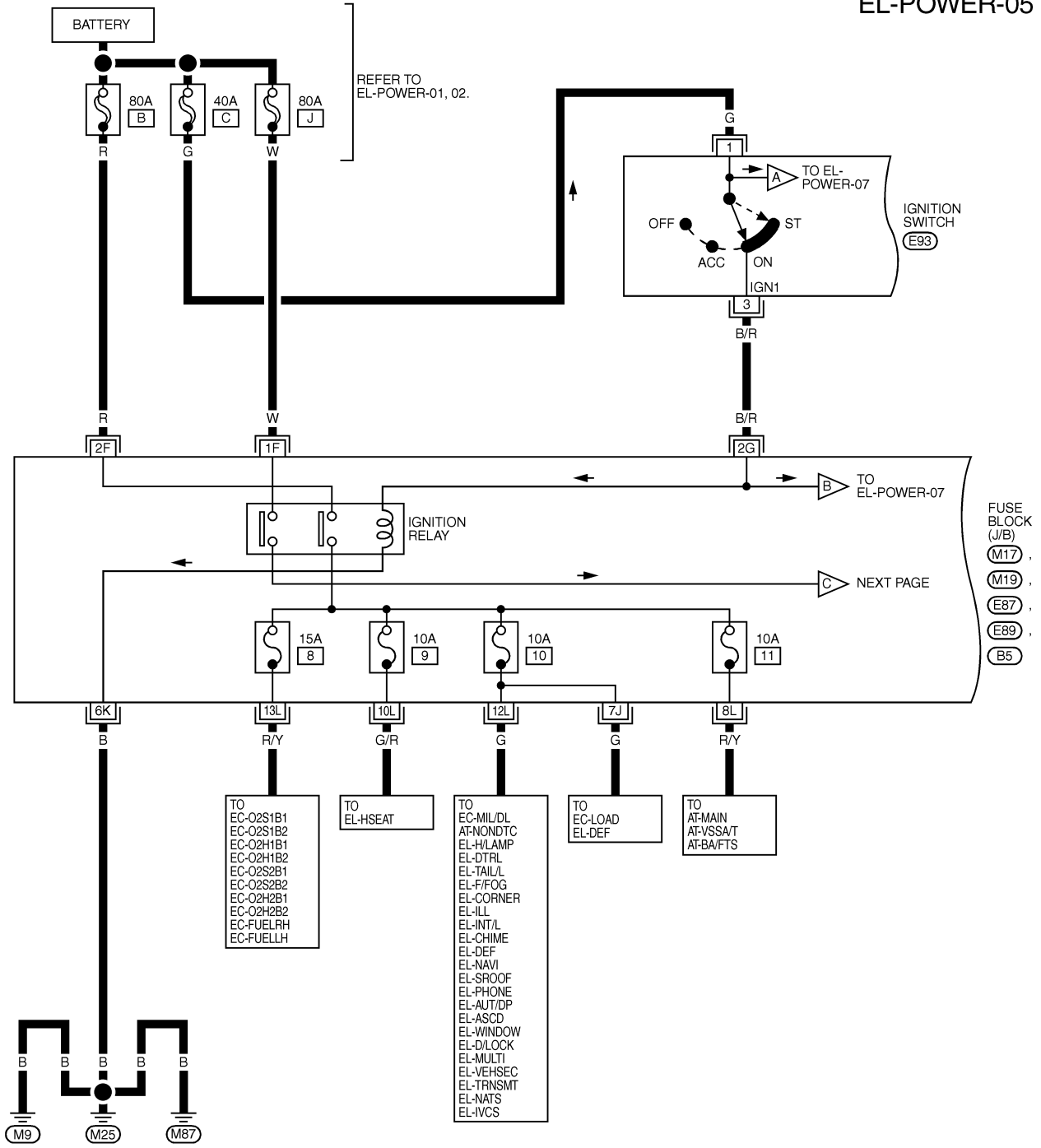
POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

IGNITION POWER SUPPLY — IGNITION SW. IN "ON" AND/OR "START"

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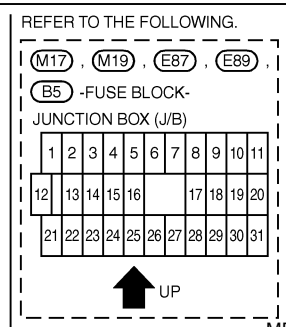
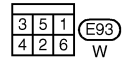
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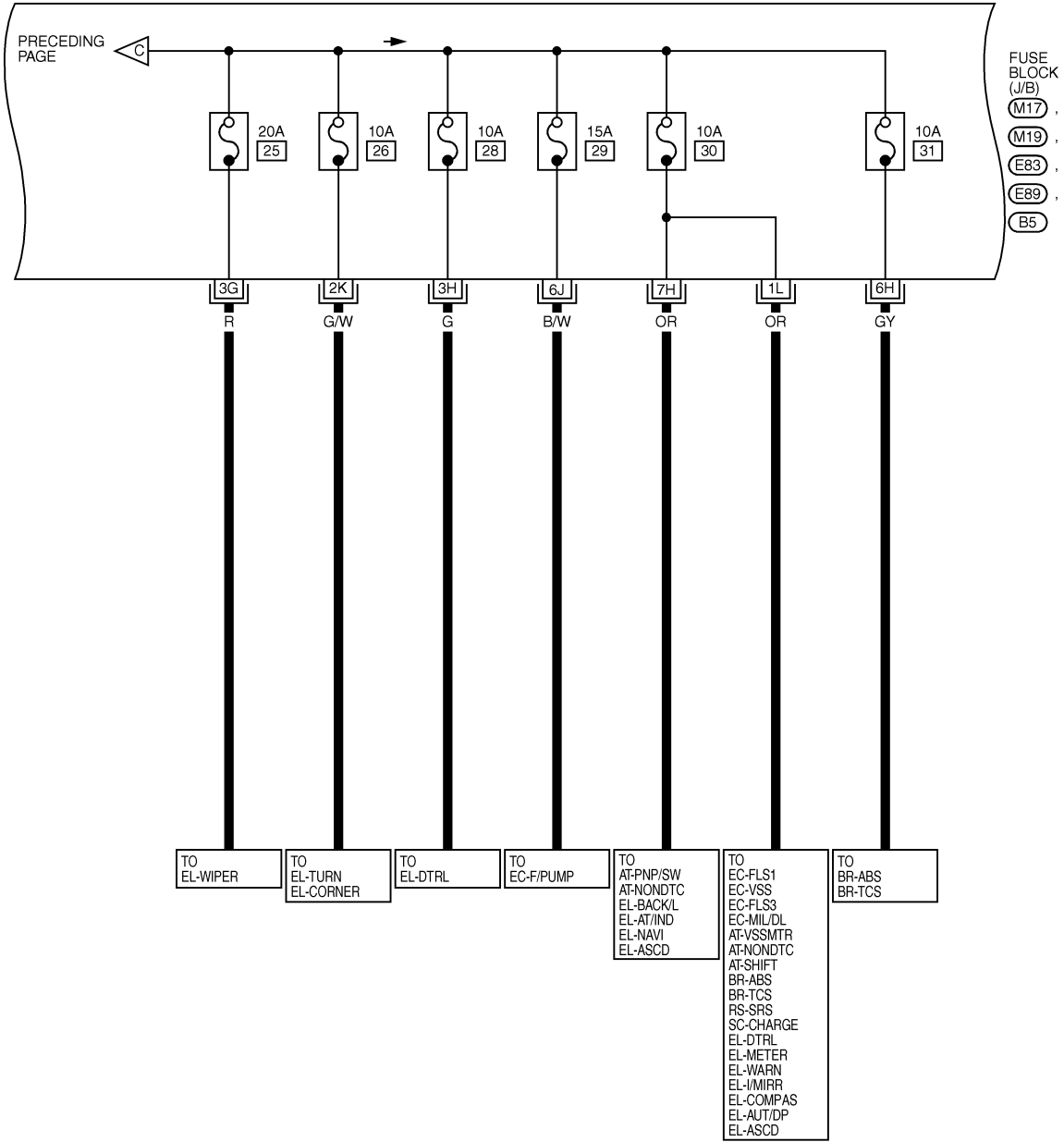


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POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-06



REFER TO THE FOLLOWING.

(M17), (M19), (E83), (E89)

(B5) -FUSE BLOCK-

JUNCTION BOX (J/B)

1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16			17	18	19	20
21	22	23	24	25	26	27	28	29	30	31

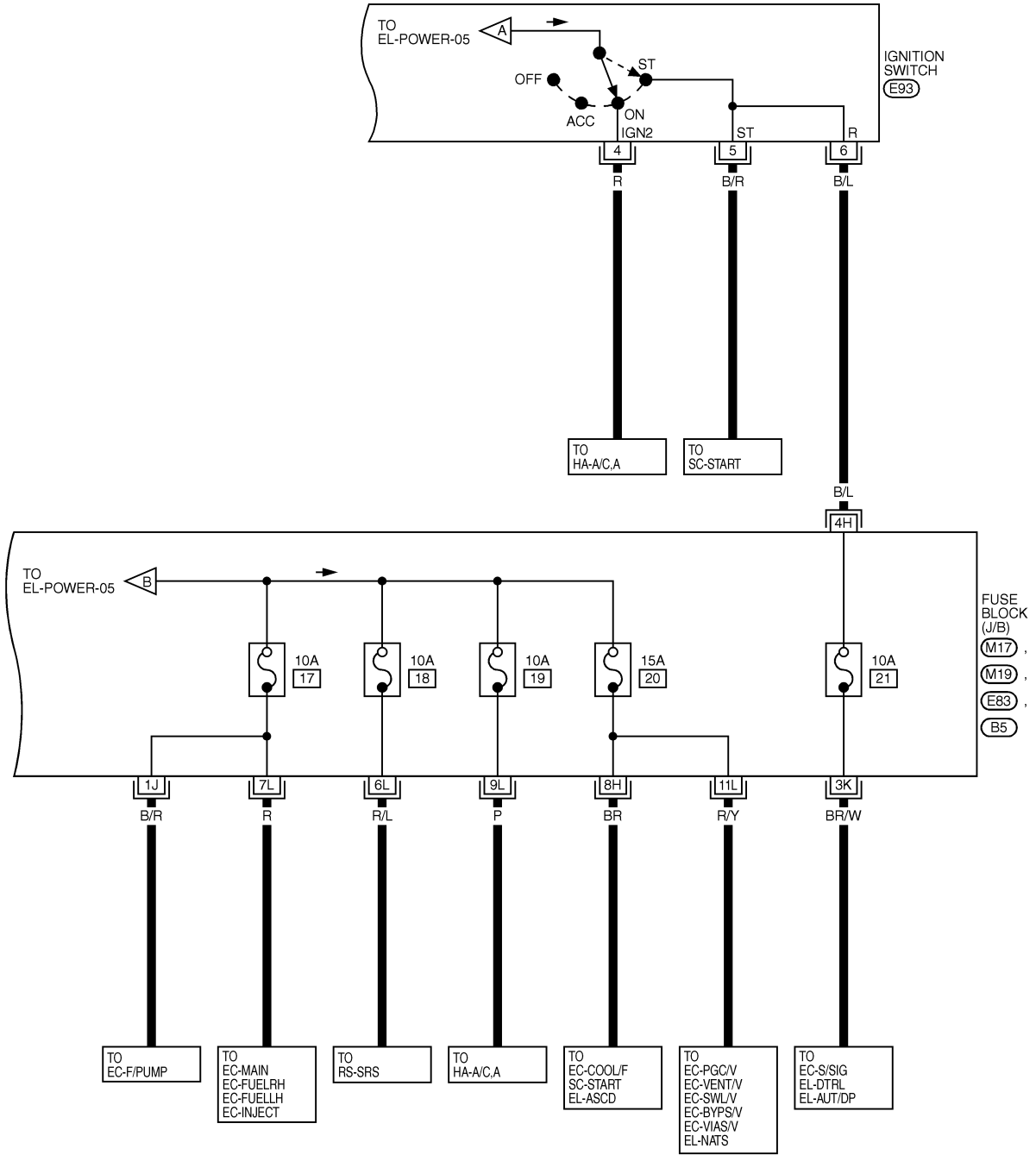


MEL384M

POWER SUPPLY ROUTING

Wiring Diagram — POWER — (Cont'd)

EL-POWER-07

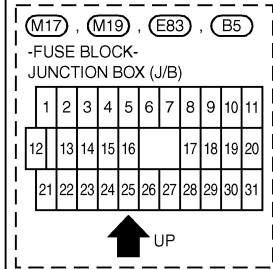


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3	5	1	E93 W
4	2	6	

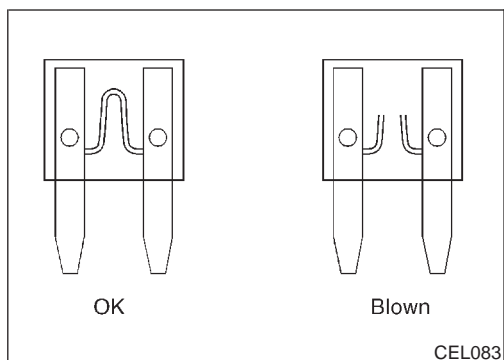
REFER TO THE FOLLOWING.



MEL385M

POWER SUPPLY ROUTING

Inspection



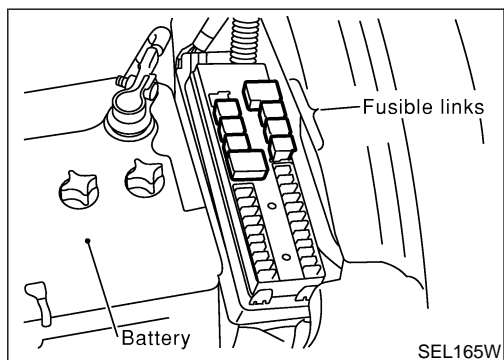
Inspection

NHEL0007

FUSE

NHEL0007S01

- If fuse is blown, be sure to eliminate cause of problem before installing new fuse.
- Use fuse of specified rating. Never use fuse of more than specified rating.
- Do not partially install fuse; always insert it into fuse holder properly.
- Remove fuse for “ELECTRICAL PARTS (BAT)” if vehicle is not used for a long period of time.



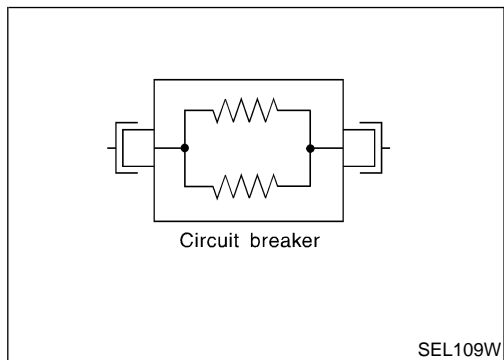
FUSIBLE LINK

NHEL0007S02

A melted fusible link can be detected either by visual inspection or by feeling with finger tip. If its condition is questionable, use circuit tester or test lamp.

CAUTION:

- If fusible link should melt, it is possible that critical circuit (power supply or large current carrying circuit) is shorted. In such a case, carefully check and eliminate cause of problem.
- Never wrap outside of fusible link with vinyl tape. Important: Never let fusible link touch any other wiring harness, vinyl or rubber parts.



CIRCUIT BREAKER (PTC THERMISTOR TYPE)

NHEL0007S03

The PTC thermistor generates heat in response to current flow. The temperature (and resistance) of the thermistor element varies with current flow. Excessive current flow will cause the element's temperature to rise. When the temperature reaches a specified level, the electrical resistance will rise sharply to control the circuit current.

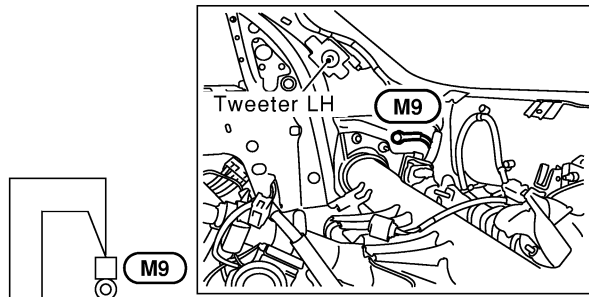
Reduced current flow will cause the element to cool. Resistance falls accordingly and normal circuit current flow is allowed to resume.

Ground Distribution

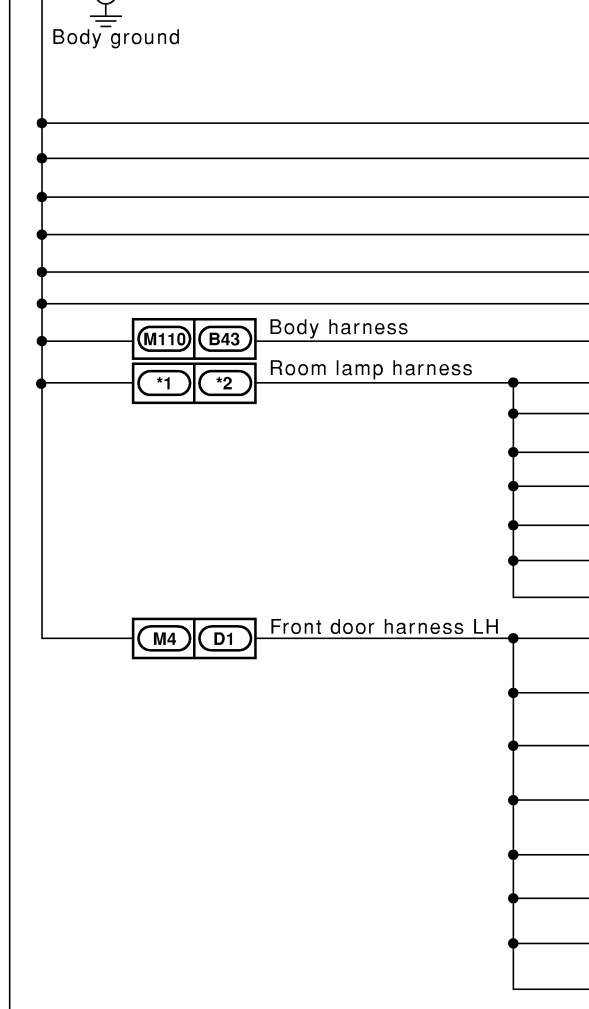
NHLE0008

NHLE0008S01

MAIN HARNESS



- *1 **M7** : **IV** **IV** : With IVCS
- M8** : **OI** **OI** : Without IVCS
- *2 **R3** : **IV**
- R2** : **OI**



CON-NECTOR NUMBER	CONNECT TO
M20	Power window relay
M24	Door mirror remote control switch
M28	Data link connector (Terminal No. 4)
M76	A/T device (Terminal No. 2)
M101	Memory seat cancel switch
M111	Rear sunshade switch
B39	Rear sunshade unit
R4	Vanity mirror LH (Illumination)
R5	Sunroof motor (With sunroof)
R7	Spot lamp (Without IVCS)
R8	Vanity mirror RH (Illumination)
R11	Spot lamp (With IVCS)
R12	IVCS switch (With IVCS)
R15	Auto anti-dazzling inside mirror
D7	Trunk and fuel lid opener switch (Terminal No. 2)
D7	Trunk and fuel lid opener switch (Terminal No. 4)
D8	Front door key cylinder switch LH (Without IVCS)
D9	Front door key cylinder switch LH (With IVCS) (Terminal No. 4)
D9	Front door key cylinder switch LH (With IVCS) (Terminal No. 6)
D10	Front power window main switch
D11	Door mirror actuator LH (With door mirror defogger)
D12	Memory seat switch

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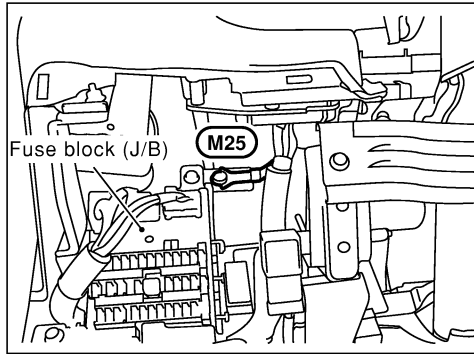
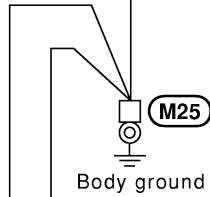


Next page

GROUND

Ground Distribution (Cont'd)

A Preceding page



CON-NECTOR NUMBER	CONNECT TO
M16	Telephone
M17	Fuse block (J/B) (Terminal No. 6K) • Accessory relay • Blower motor relay • Ignition relay
M21	Combination flasher unit
M23	Illumination control switch
M32	Combination meter (Terminal No. 30) • ABS indicator (Without TCS) • A/T indicator • Turn signal indicator
M34	Combination meter (Terminal No. 59) • Air bag warning lamp • Fuel gauge • Odo/trip meter • Speedometer • Tachometer • Water temp. gauge
M34	Combination meter (Terminal No. 65) • Meter illumination
M45	TCS on/off switch (With TCS)
M52	ASCD control unit
M53	Cigarette lighter
M72	Ashtray illumination
M76	A/T device (Terminal No. 6)
M78	Power socket
M144	Smart entrance control unit (Terminal No. 43)
M146	Air bag diagnosis sensor unit
M152	Clock

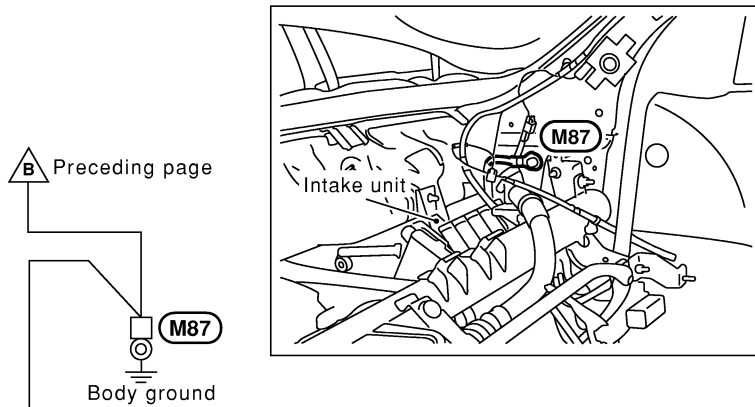
M30 M151 Main sub-harness-1

B Next page

MEL785M

GROUND

Ground Distribution (Cont'd)



CON-NECTOR NUMBER	CONNECT TO
M31	Fan control amp.
M49	Mode door motor
M51	Air mix door motor
M60	A/C auto amp.
M74	Heated seat switch LH
M75	Heated seat switch RH
M82	Glove box lamp
M84	Intake door motor
M106	Navi control unit (With navigation system) (Terminal No.3)
M106	Navi control unit (With navigation system) (Terminal No.4)
M145	Smart entrance control unit (Terminal No.64)
M148	Steering wheel receiver control switch
M193	Front monitor (With navigation system)
D32	Door mirror actuator RH (With door mirror defogger)
D41	Front power window switch RH

M104	M191	Main sub-harness-2		
M38	D62	Front door sub-harness	D61	D31
M39	D63	Front door sub-harness	D61	D31
				Front door harness RH
				Front door harness RH

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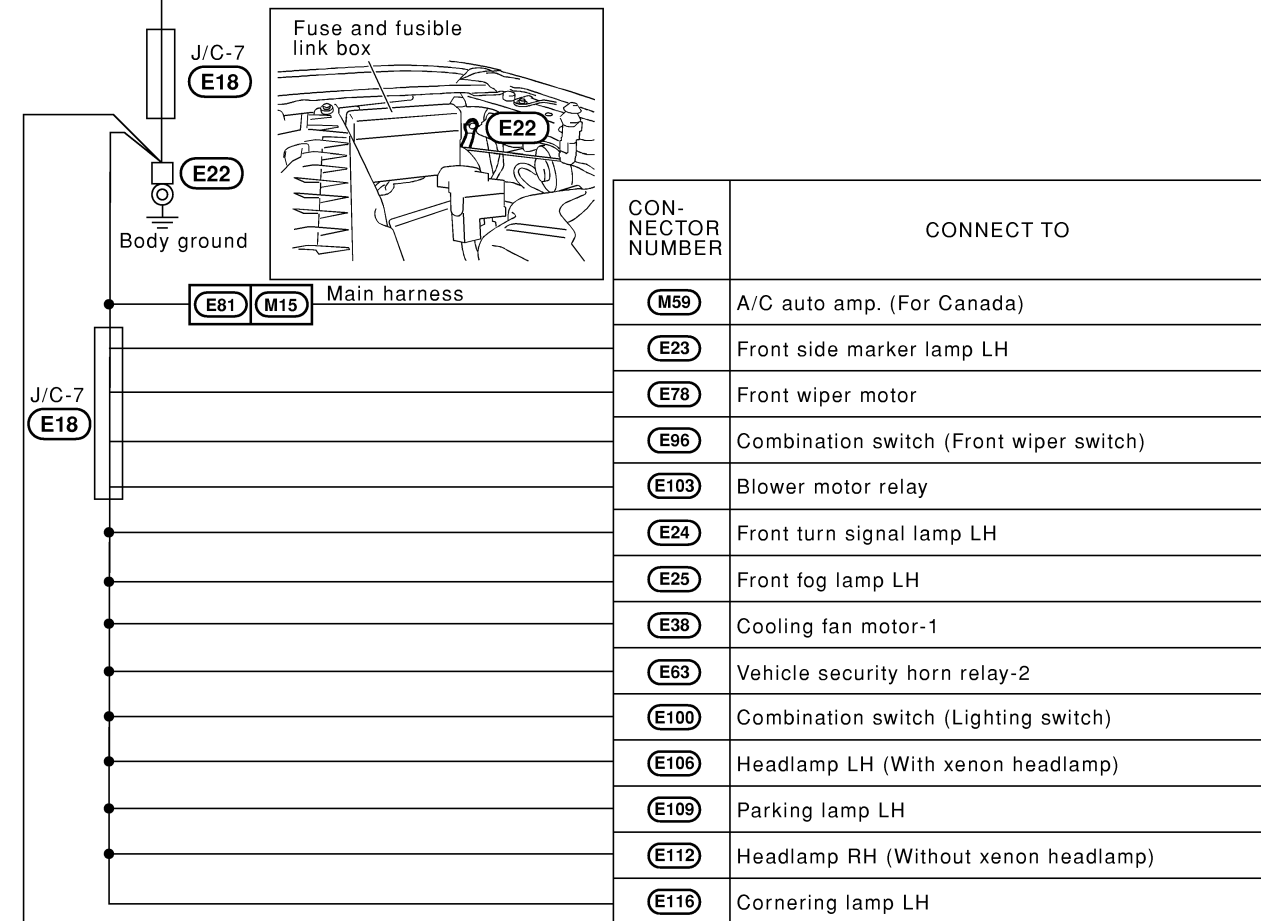
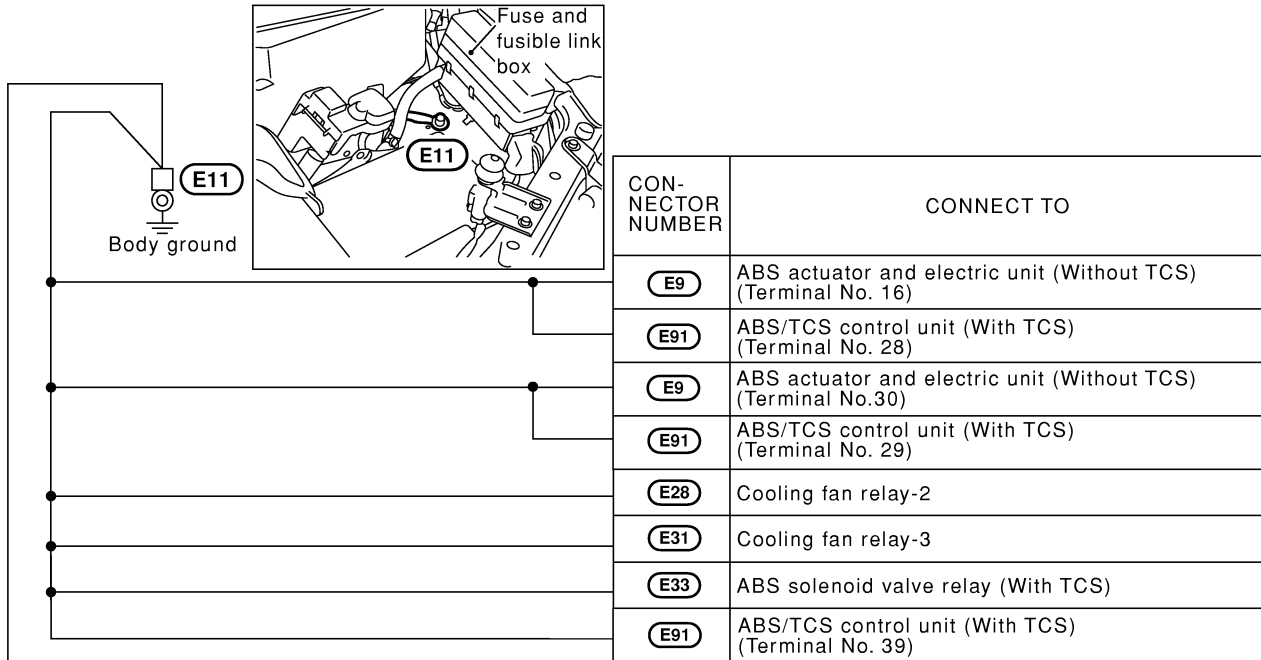
MEL786M

GROUND

Ground Distribution (Cont'd)

ENGINE ROOM HARNESS

NHEL0008S02

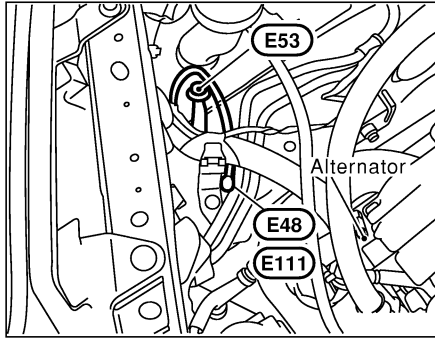
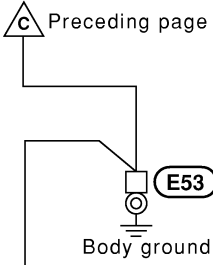


Next page

MEL787M

GROUND

Ground Distribution (Cont'd)



CON-NECTOR NUMBER	CONNECT TO
E1	Brake fluid level switch
E26	Hood switch
E42	Washer level switch
E43	Cooling fan motor-2
E44	Front fog lamp RH
E45	Front turn signal lamp RH
E49	Front side marker lamp RH
E59	Daytime light control unit (For Canada)
E69	Door mirror defogger relay
E97	Combination switch (Lighting switch)
E107	Headlamp LH (Without xenon headlamp)
E113	Headlamp RH (With xenon headlamp)
E115	Parking lamp RH
E117	Cornering lamp RH
E126	Cornering lamp relay

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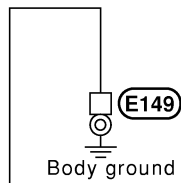
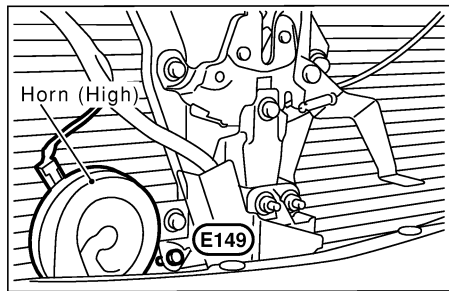
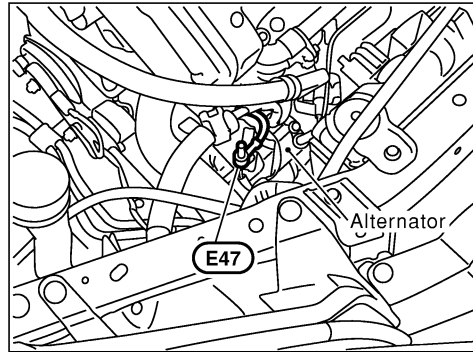
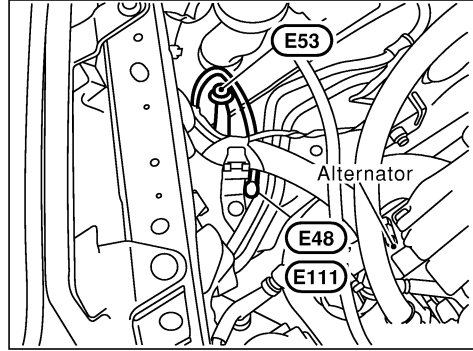
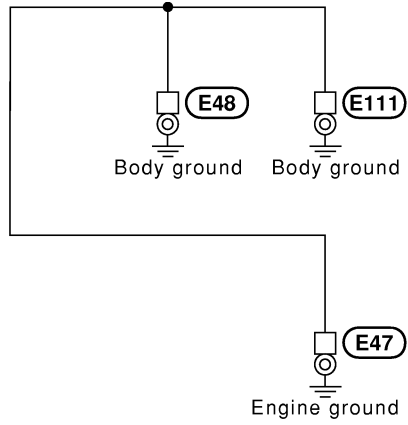
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MEL788M

GROUND

Ground Distribution (Cont'd)

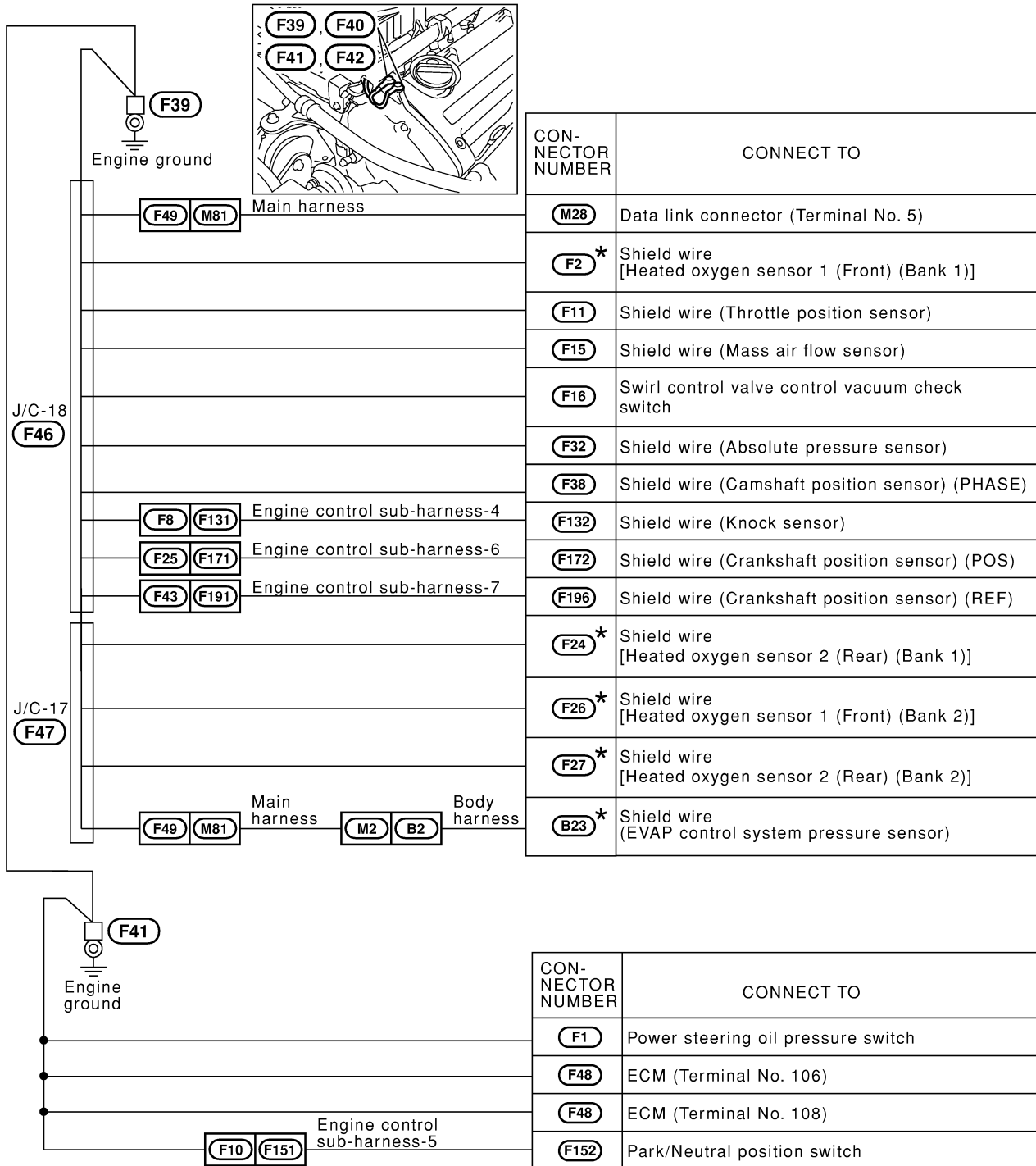


E147 M150 Main harness

CON-NECTOR NUMBER	CONNECT TO
E147	Shield wire (Air bag diagnosis sensor unit)

MEL789M

ENGINE CONTROL HARNESS

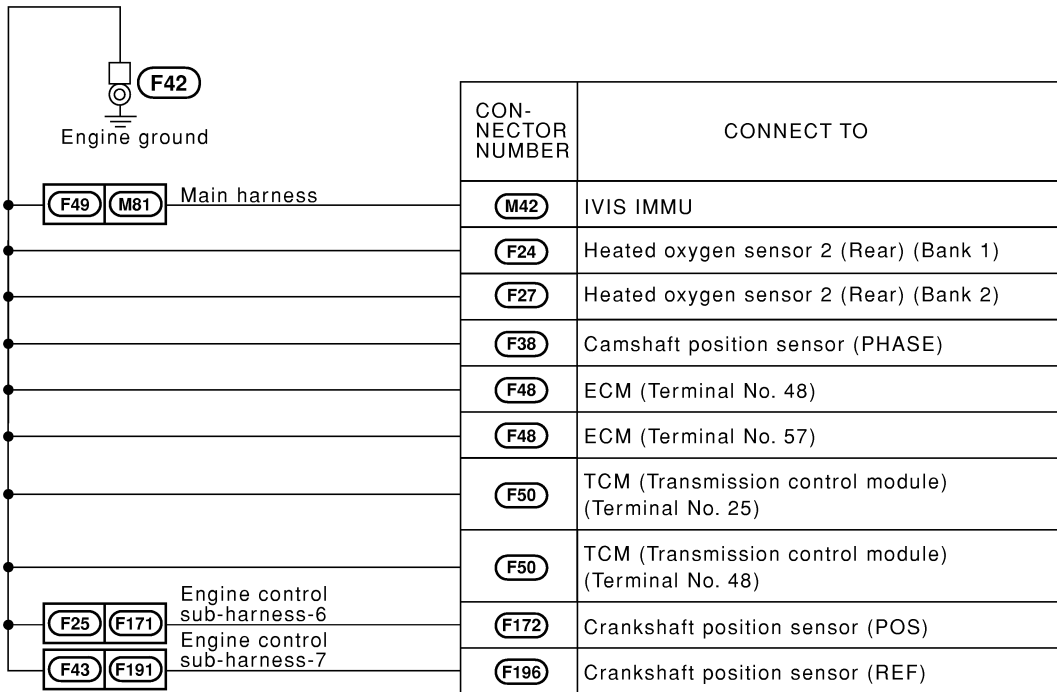
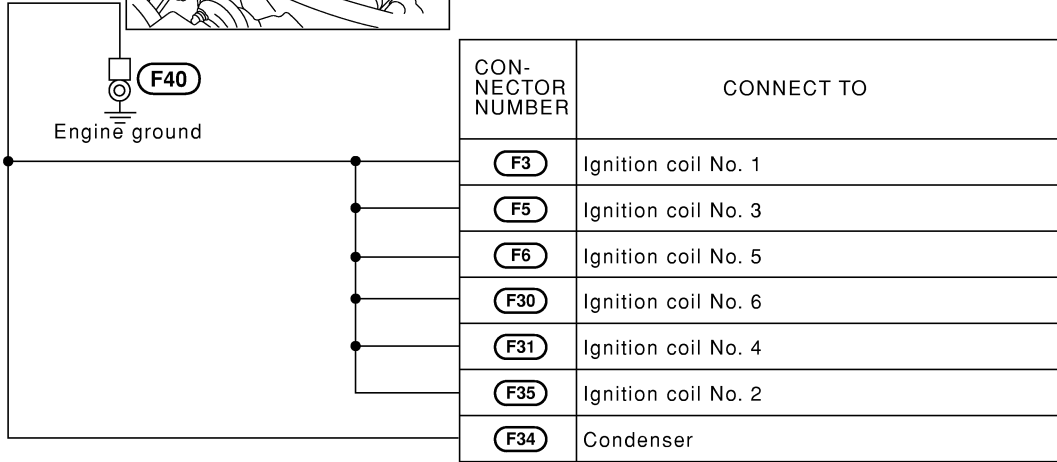
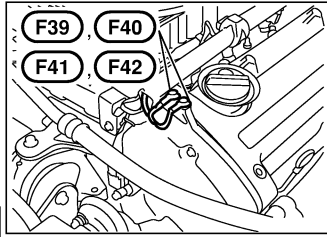


* THE SHIELD CIRCUIT IS APPLICABLE TO THE INITIAL PRODUCTION MODELS.

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GROUND

Ground Distribution (Cont'd)

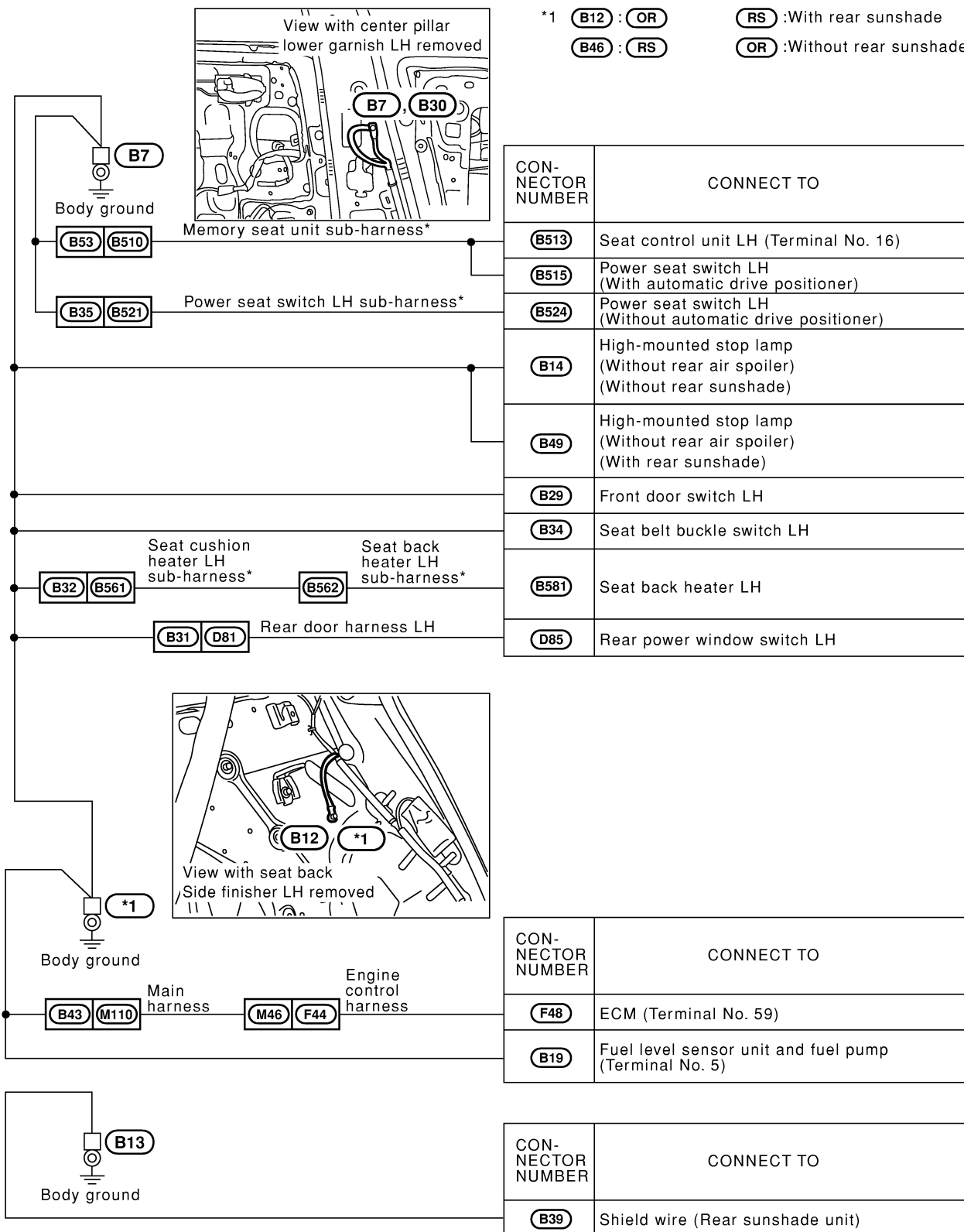


MEL791M

BODY HARNESS

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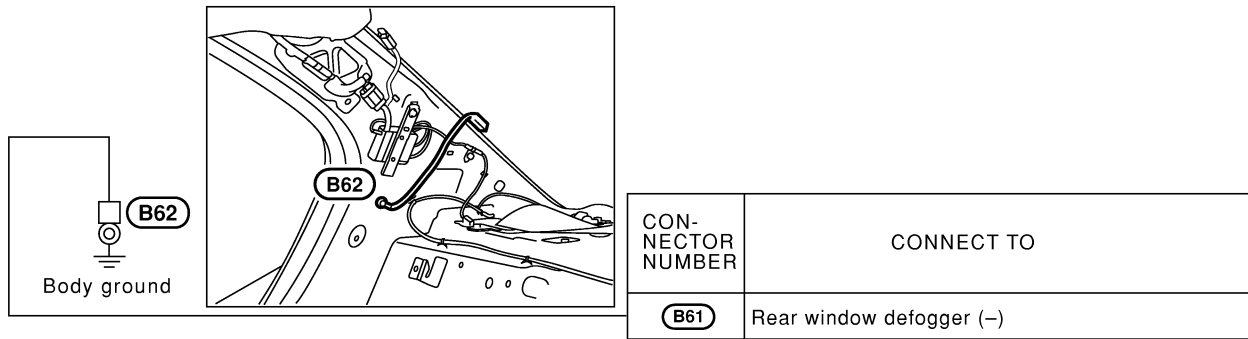
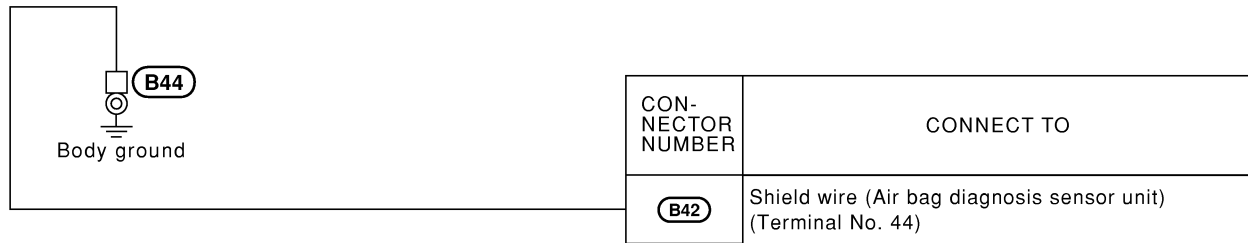
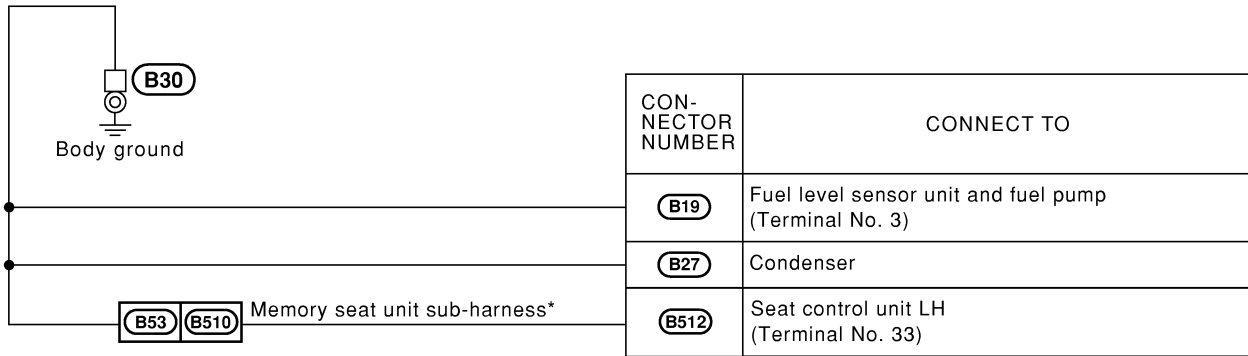
*1 (B12) : OR (RS) :With rear sunshade
 (B46) : RS (OR) :Without rear sunshade



* : This sub-harness is not shown in "Harness Layout", EL-section.

GROUND

Ground Distribution (Cont'd)

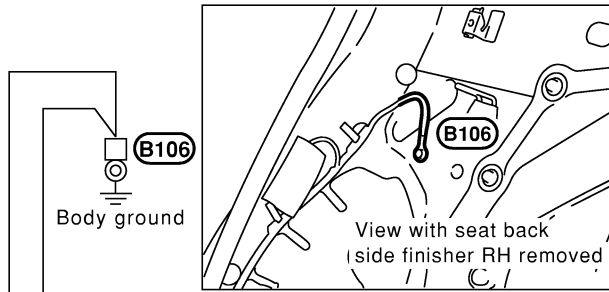


* : This sub-harness is not shown in "Harness Layout", EL section.

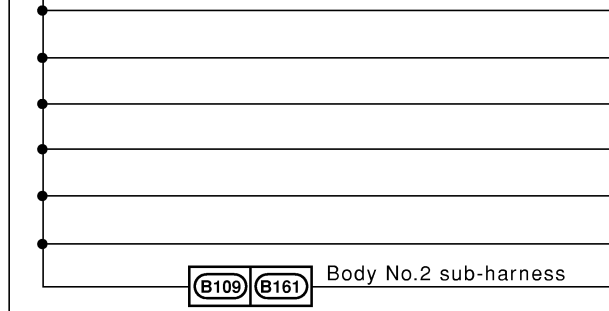
MEL161N

BODY NO. 2 HARNESS

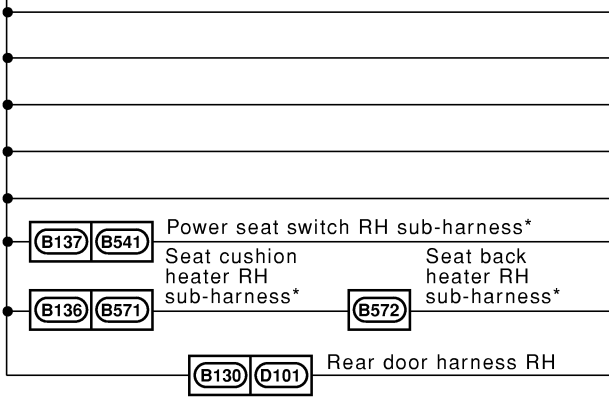
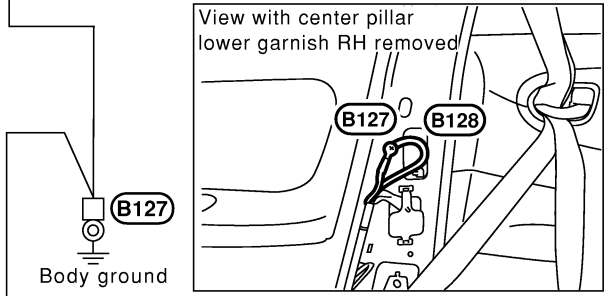
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CON-NECTOR NUMBER	CONNECT TO
(B108)	Trunk lid key cylinder switch
(B110)	License lamp RH
(B111)	License lamp LH
(B117)	IVCS unit
(B123)	Woofer
(B124)	BOSE speaker amp.
(B162)	High-mounted stop lamp (With rear air spoiler)



CON-NECTOR NUMBER	CONNECT TO
(B129)	Front door switch RH
(B140)	Trunk lid combination lamp RH (For stop and tail)
(B141)	Trunk lid combination lamp RH (For reverse)
(B142)	Trunk lid combination lamp LH (For reverse)
(B143)	Trunk lid combination lamp LH (For stop and tail)
(B543)	Power seat switch RH
(B591)	Seat back heater RH
(D102)	Rear power window switch RH



CON-NECTOR NUMBER	CONNECT TO
(B135)	Shield wire (Air bag diagnosis sensor unit) (Terminal No. 39)
(B135)	Shield wire (Air bag diagnosis sensor unit) (Terminal No. 40)



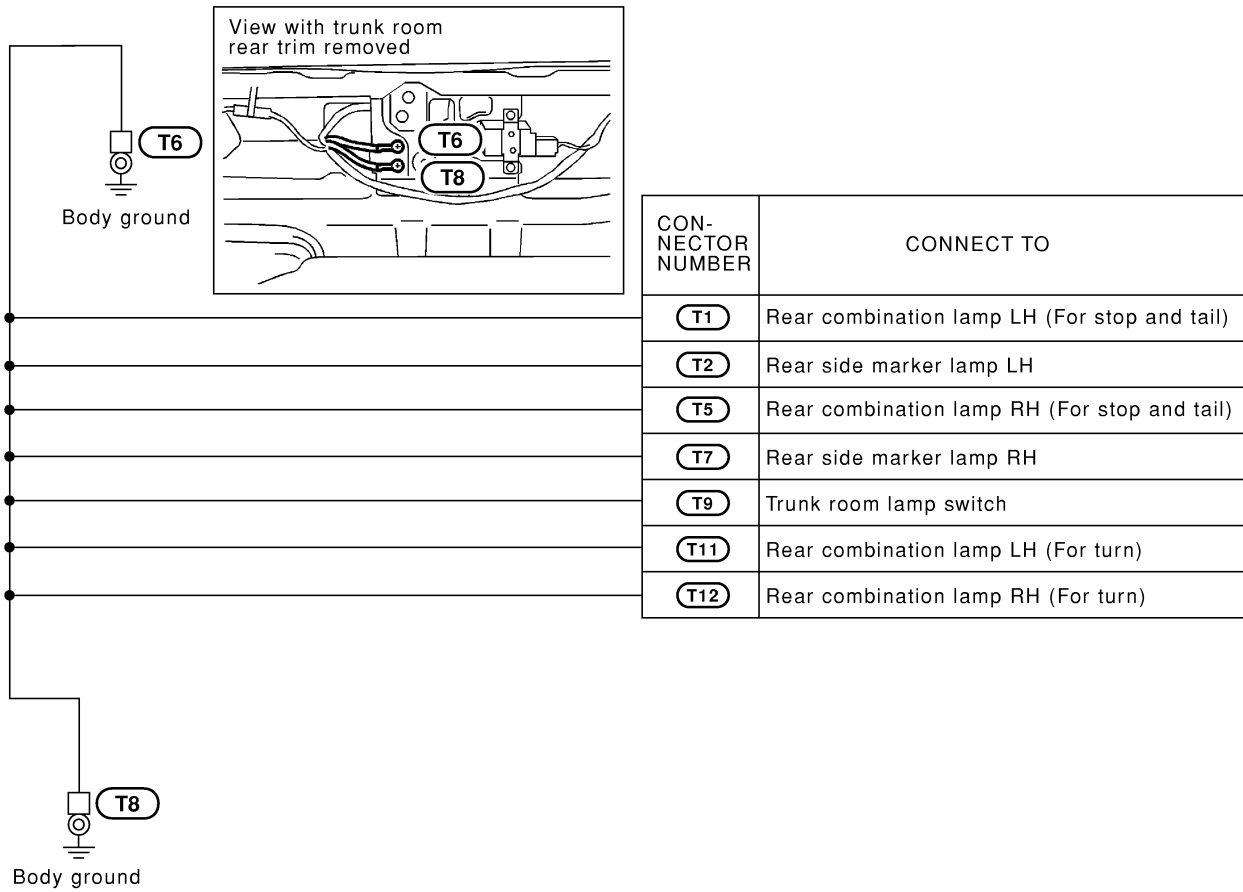
* : This sub-harness is not shown in "Harness Layout", EL-section.

GROUND

Ground Distribution (Cont'd)

TAIL HARNESS

NHEL0008S06



MEL620K

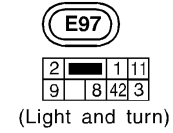
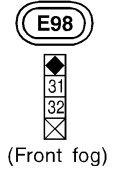
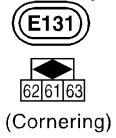
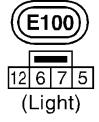
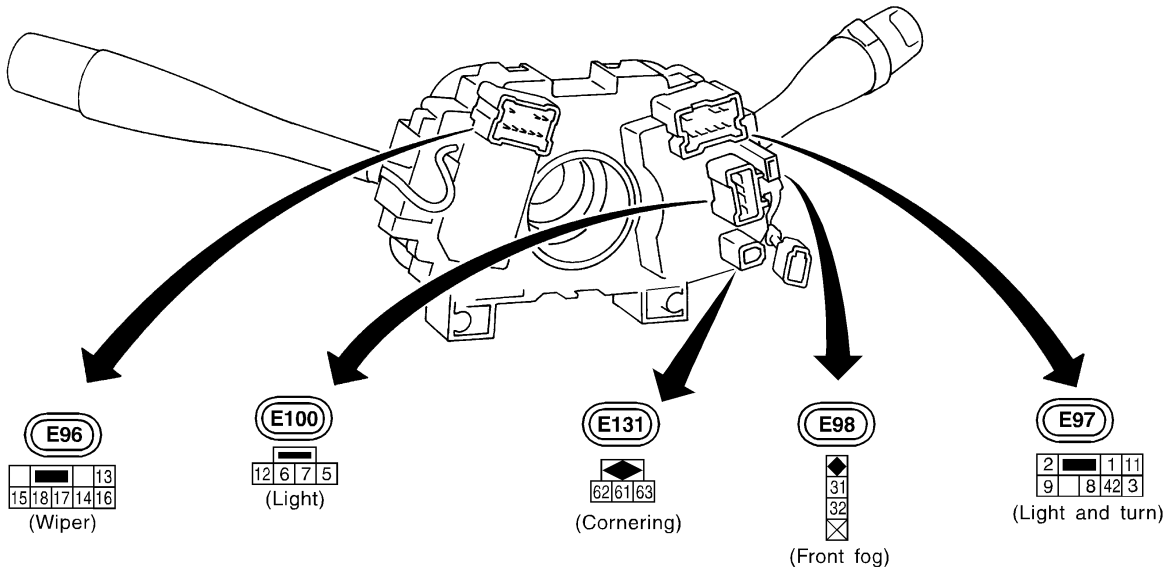
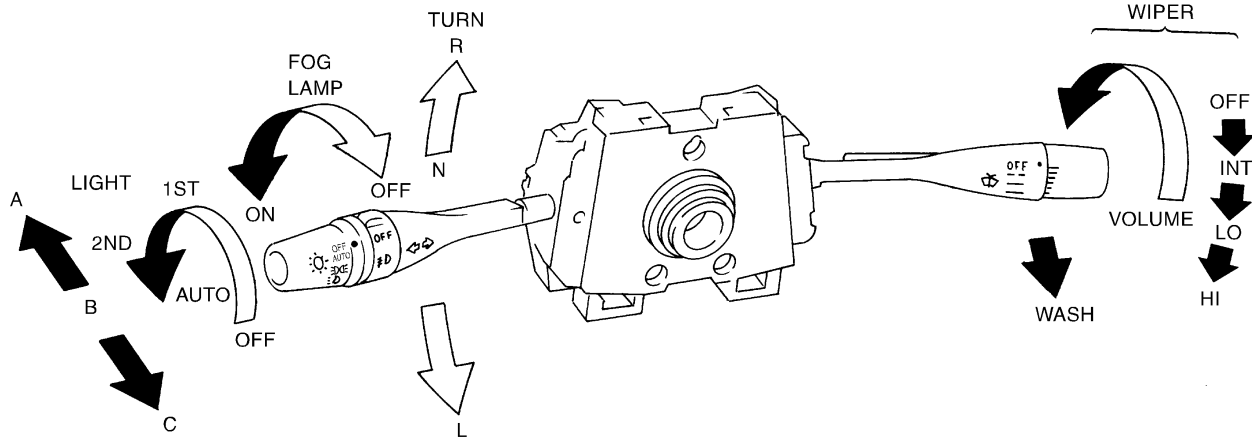
COMBINATION SWITCH

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Check

NHEL0009

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LIGHTING SWITCH

	OFF	AUTO	1ST	2ND
5			○	○
11			○	○
8				○
12				○
42		○		
(8)		○		

	A	B	C
(5)	○		○
7	○		○
6	○		○
(8)	○	○	○
10	○		○
9	○		○
(12)			○

FRONT WIPER AND WASHER SWITCH

	LO	AUTO STOP	AMP	WASH	HI	EARTH
OFF	○	○				○
INT	○		○			○
LO	○					○
HI					○	○
WASH				○		○

WIPER AMP.



FRONT FOG LAMP SWITCH

	OFF	ON
31		○
32		○

TURN SIGNAL LAMP SWITCH

	L	N	R
1	○		○
2			○
3	○		

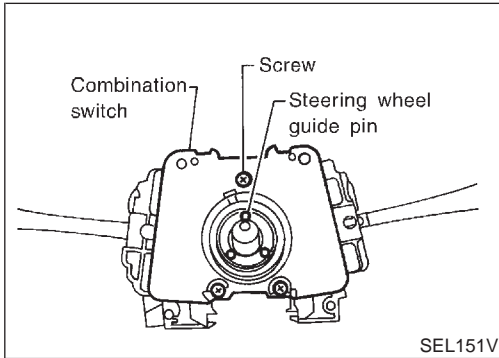
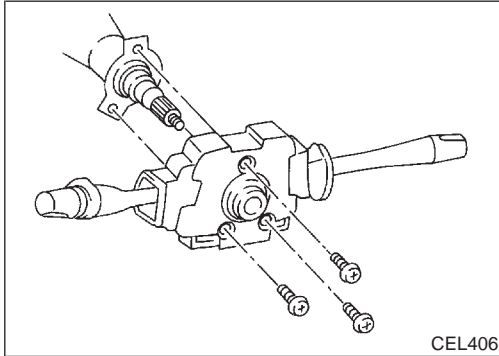
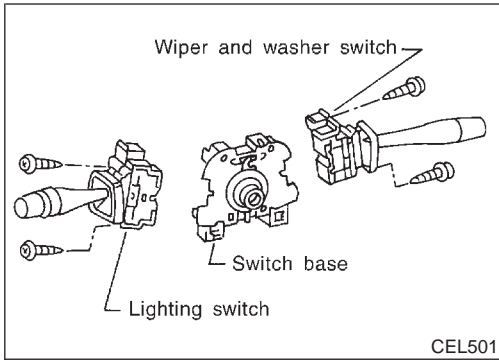
CORNERING LAMP SWITCH

	L	N	R
61	○		○
62			○
63	○		

MEL526K

COMBINATION SWITCH

Replacement



Replacement

For removal and installation of spiral cable, refer to RS-25, ^{NHEL0010} "Installation — Air Bag Module and Spiral Cable".

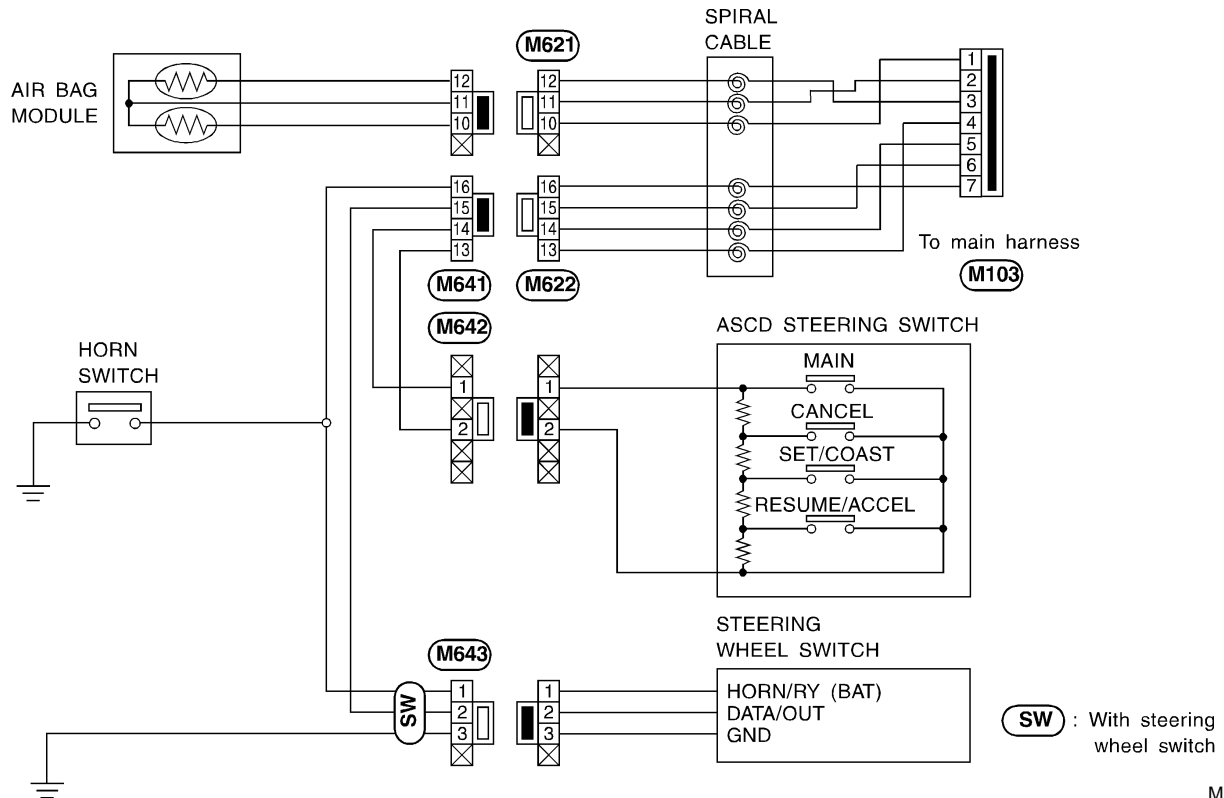
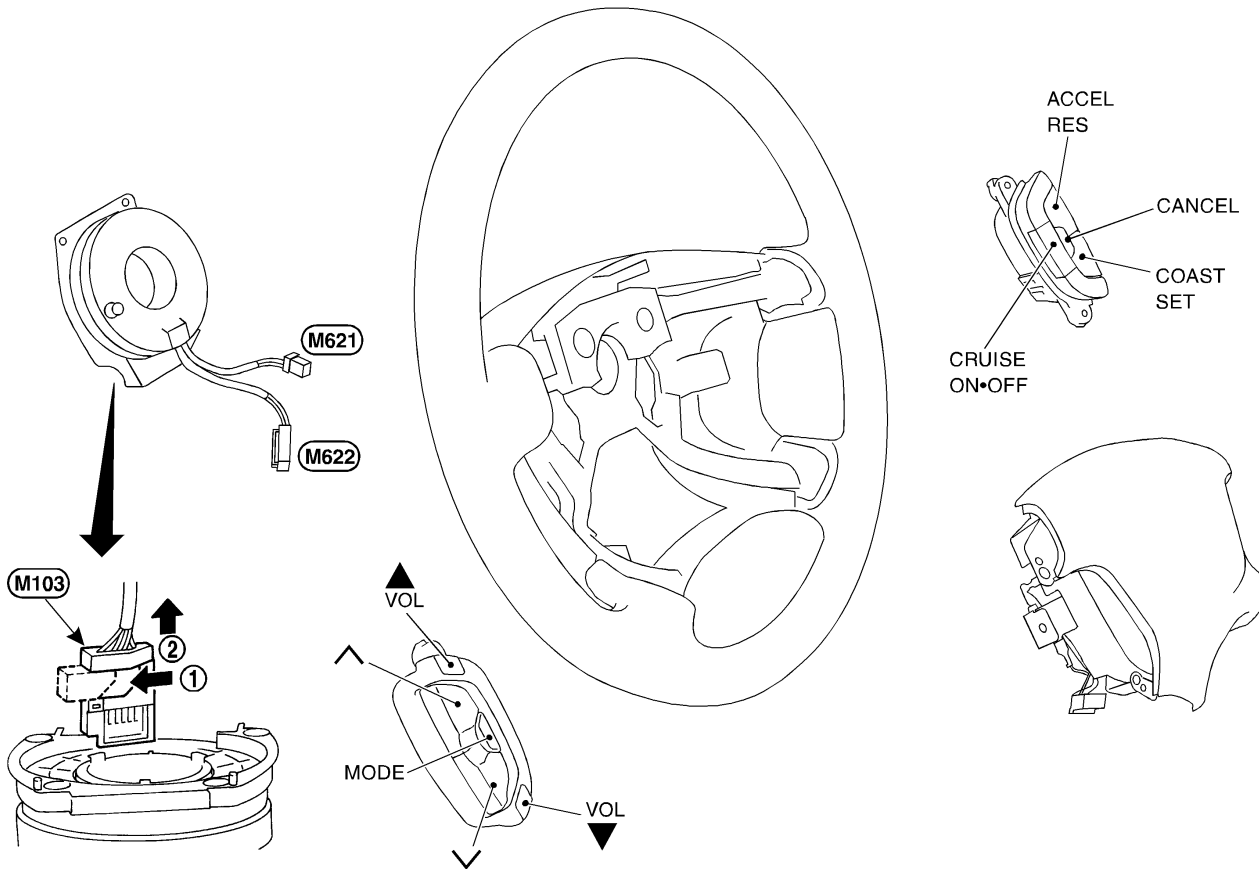
- Each switch can be replaced without removing combination switch base.
- To remove combination switch base, remove base attaching screw.
- Before installing the steering wheel, align the steering wheel guide pins with the screws which secure the combination switch as shown in the left figure.

STEERING SWITCH

Check

Check

NHEL0011



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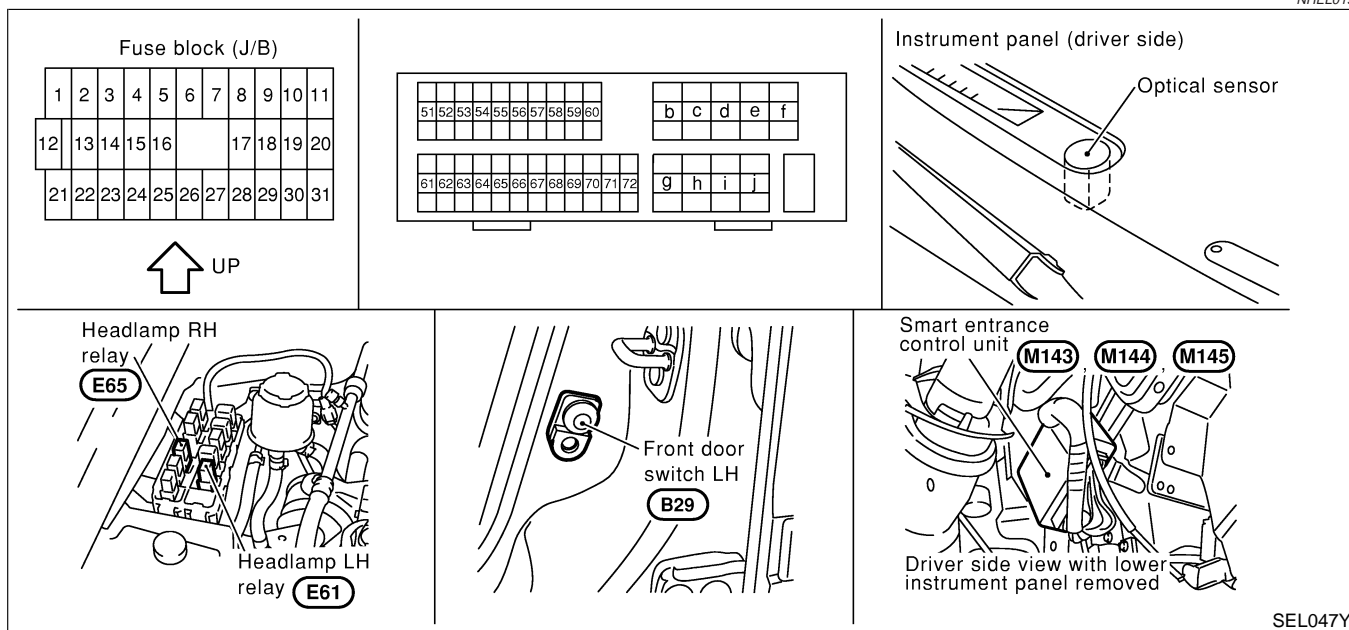
MEL781M

HEADLAMP (FOR USA) — CONVENTIONAL TYPE —

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NHEL0197



SEL047Y

System Description

NHEL0198

The headlamp operation is controlled by the lighting switch which is built into the combination switch and smart entrance control unit. And the headlamp battery saver system is controlled by the smart entrance control unit.

OUTLINE

NHEL0198S01

Power is supplied at all times

- to headlamp LH relay terminals 1 and 3
- through 15A fuse (No. 68, located in the fuse and fusible link box), and
- to headlamp RH relay terminals 1 and 3
- through 15A fuse (No. 69, located in the fuse and fusible link box), and
- to smart entrance control unit terminal 49
- through 10A fuse [No. 13, located in the fuse block (J/B)].

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

- to smart entrance control unit terminal 27
- through 10A fuse [No. 10, located in the fuse block (J/B)].

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

- to smart entrance control unit terminal 26
- through 10A fuse [No. 1, located in the fuse block (J/B)]

Ground is supplied

- to smart entrance control unit terminals 43 and 64
- through body grounds M9, M25 and M87.

Power Supply to Low Beam and High Beam

NHEL0198S0101

When lighting switch is in 2ND or PASS position, ground is supplied

- to headlamp LH relay terminal 2 from smart entrance control unit terminal 21
- through smart entrance control unit terminal 22,
- from lighting switch terminal 12, and
- to headlamp RH relay terminal 2 from smart entrance control unit terminal 59
- through smart entrance control unit terminal 60,
- from lighting switch terminal 12.

Headlamp relays (LH and RH) are energized and then power is supplied to headlamps (LH and RH).

LOW BEAM OPERATION

NHLE0198S02

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

- from terminal 5 of each headlamp relay
- to terminal 3 of each headlamp

Ground is supplied

- to headlamp LH terminal 4
- through body grounds E11, E22 and E53, and
- to headlamp RH terminal 4
- through body grounds E11, E22 and E53.

With power and ground supplied, the headlamp(s) will illuminate.

HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

NHLE0198S03

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

- from terminal 5 of each headlamp relay
- to terminals 1 and 3 of each headlamp, and
- to combination meter terminal 26 for the HIGH BEAM indicator.

Ground is supplied

- to headlamp LH terminal 2
- through lighting switch terminals 6 and 5
- through body grounds E11, E22 and E53, and
- to headlamp LH terminal 4
- through body grounds E11, E22 and E53, and
- to headlamp RH terminal 2
- to combination meter terminal 27 for the HIGH BEAM indicator
- through lighting switch terminals 9 and 8
- through body grounds E11, E22 and E53, and
- to headlamp RH terminal 4
- through body grounds E11, E22 and E53.

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

BATTERY SAVER CONTROL

NHLE0198S04

Headlamps will remain on for a short while after the ignition switch is turned ON (or START) from OFF (or ACC).

Continuity between terminals 21 and 22, and between terminals 59 and 60 of smart entrance control unit will be disturbed after 45 seconds, then the headlamps will be turned off.

Then the headlamps are turned off.

The headlamps are turned off when driver or passenger side door is opened even if 45 seconds have not passed after ignition switch is turned from ON (or START) to OFF (or ACC) positions while headlamps are illuminated.

When the lighting switch is turned from OFF to 2ND after headlamps are turned to off by the battery saver control, ground is supplied

- to smart entrance control unit terminals 20 and 58 from lighting switch terminal 11, and then,
- to headlamp LH and RH relays terminal 2 from smart entrance control unit terminals 21 and 59,
- through smart entrance control unit terminals 22 and 60 and
- through lighting switch terminal 12.

Then headlamps illuminate again.

AUTO LIGHT OPERATION

NHLE0198S06

The auto light control system has an optical sensor inside it that detects outside brightness.

When lighting switch is in “AUTO” position, ground is supplied

- to smart entrance control unit terminal 23
- from lighting switch terminal 42.

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HEADLAMP (FOR USA) — CONVENTIONAL TYPE —

System Description (Cont'd)

When ignition switch is turn to “ON” or “START” position and Outside brightness is darker than prescribed level.

Ground is supplied

- to headlamp relay LH and RH terminals 2
- through smart entrance control unit terminal 21, 59 and 43, 64.

Then both headlamp relays and tail lamp relay are energized, headlamps (low or high) and tail lamps are illuminate according to switch position.

Auto light operation allows headlamps and tail lamps to go off when

- Ignition switch is turned to “OFF” position or
- Outside brightness is brighter than prescribed level.

NOTE:

The delay time is changed (maximum of 20 seconds) as the outside brightness changes.

For parking license and tail lamp auto operation, refer to “PARKING, LICENSE AND TAIL LAMPS”.

VEHICLE SECURITY SYSTEM

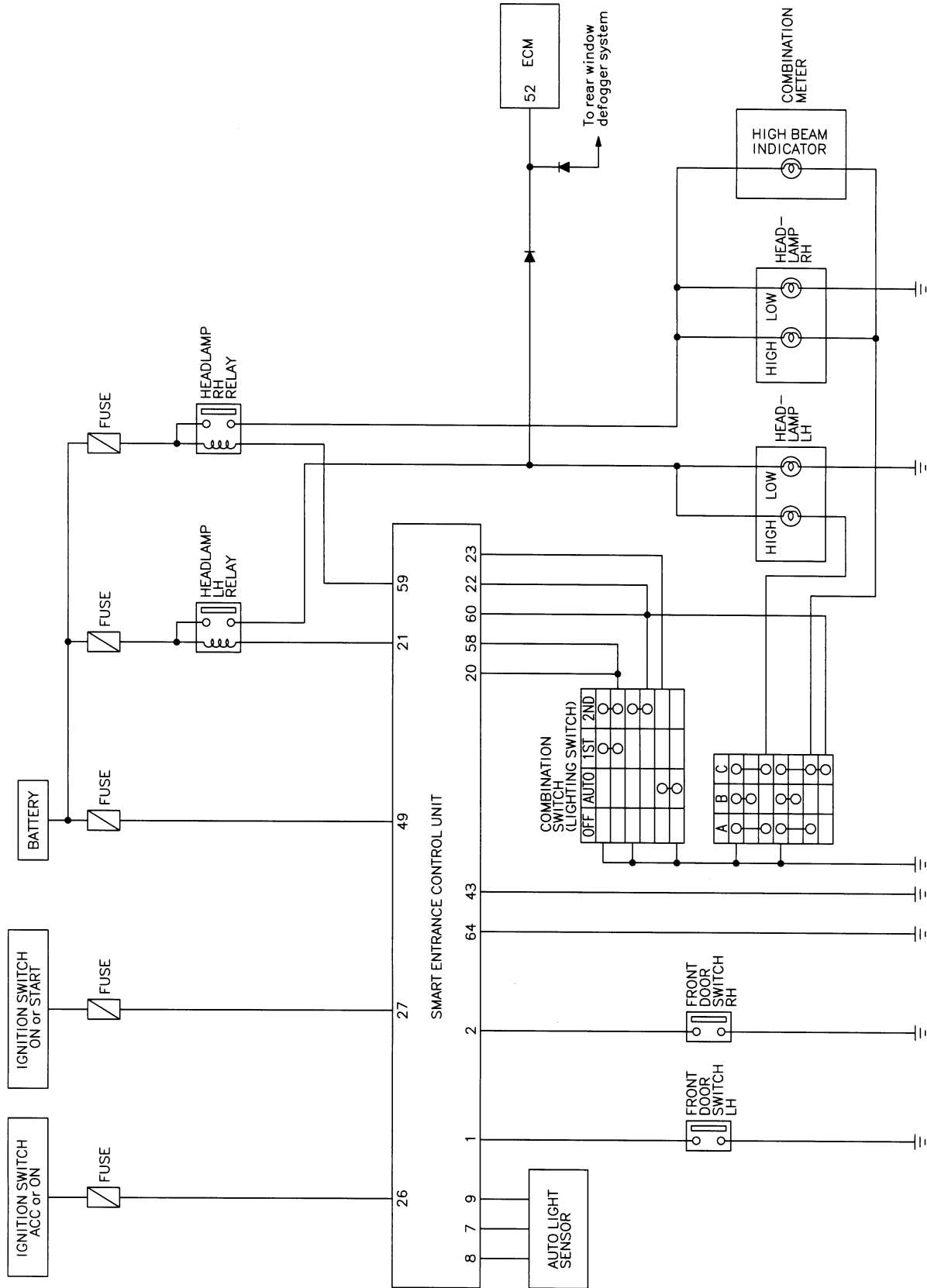
The vehicle security system will flash the low beams if the system is triggered. Refer to “VEHICLE SECURITY (THEFT WARNING) SYSTEM” (EL-369). NHELO198S05

HEADLAMP (FOR USA) — CONVENTIONAL TYPE —

Schematic

Schematic

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HEADLAMP (FOR USA) — CONVENTIONAL TYPE —

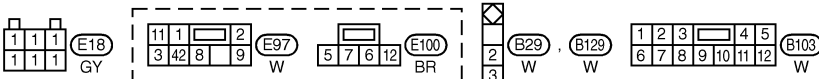
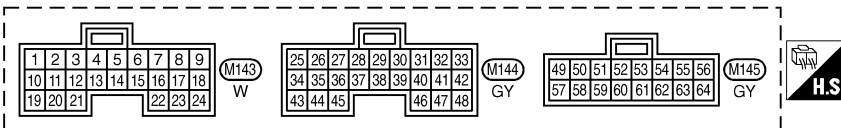
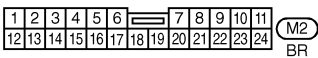
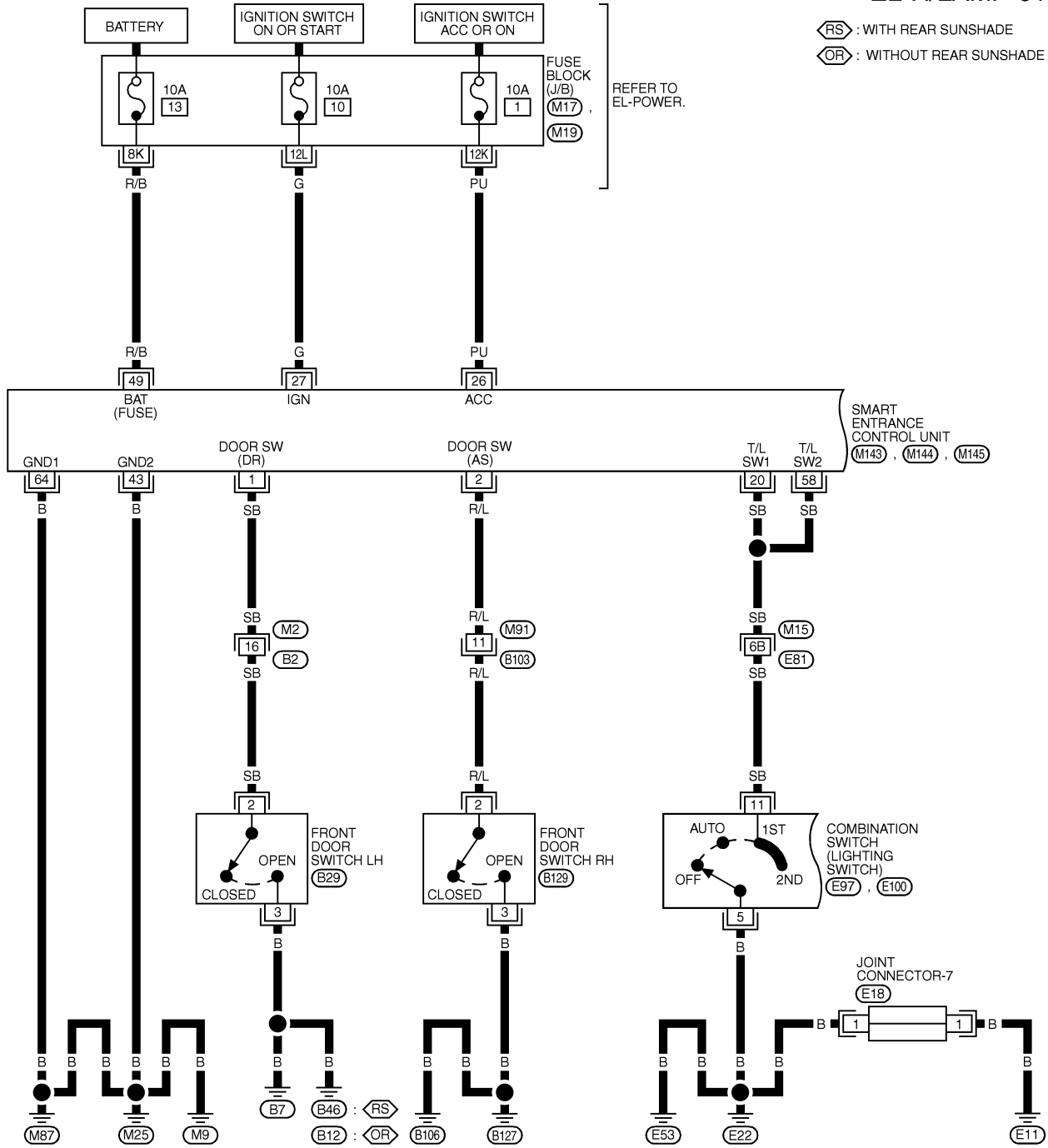
Wiring Diagram — H/LAMP —

Wiring Diagram — H/LAMP —

NHEL0013

EL-H/LAMP-01

- ◊RS : WITH REAR SUNSHADE
- ◊OR : WITHOUT REAR SUNSHADE



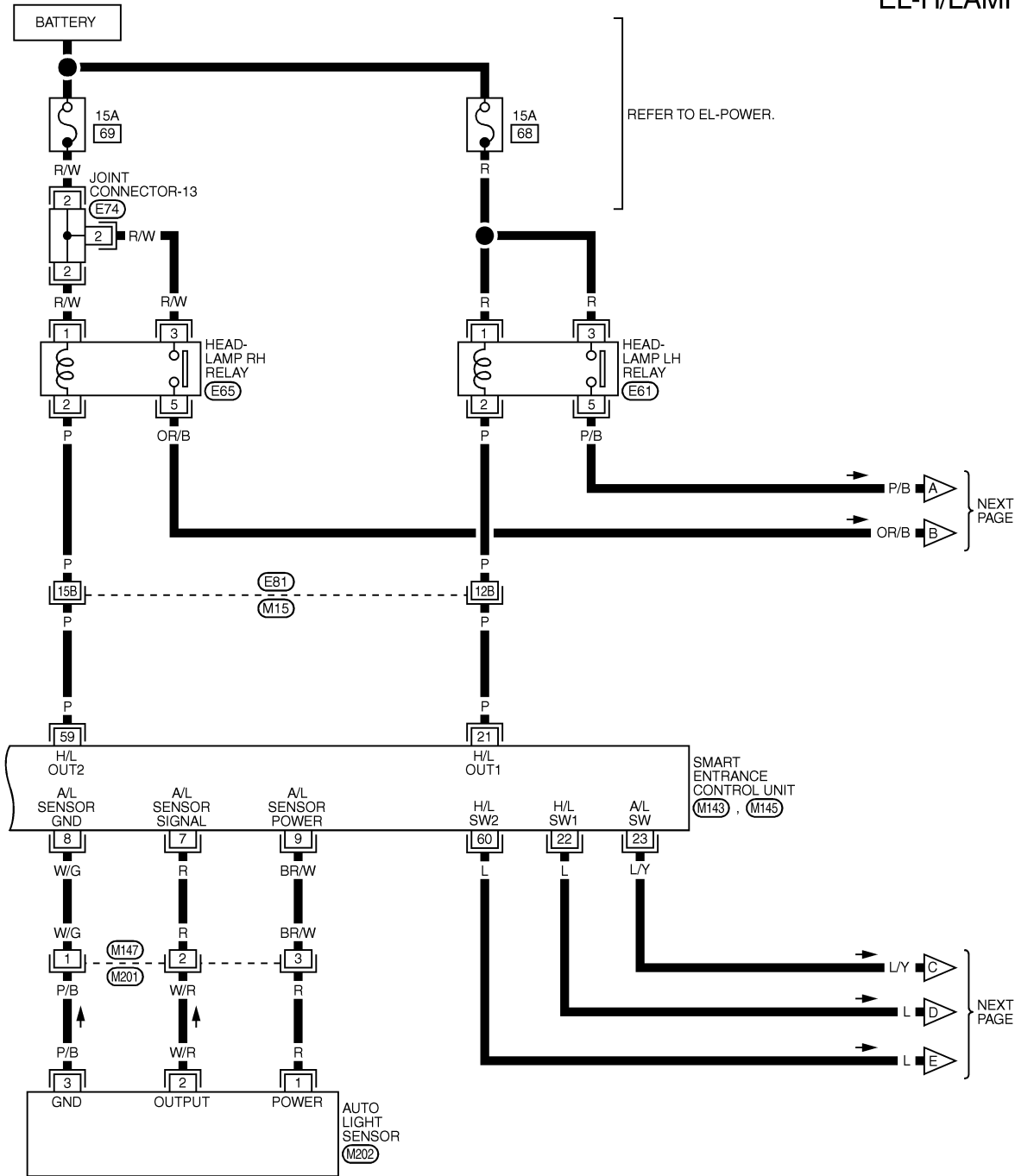
REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M17), (M19) -FUSE BLOCK-
 JUNCTION BOX (J/B)

MEL387M

HEADLAMP (FOR USA) — CONVENTIONAL TYPE —

Wiring Diagram — H/LAMP — (Cont'd)

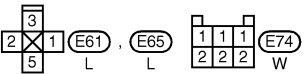
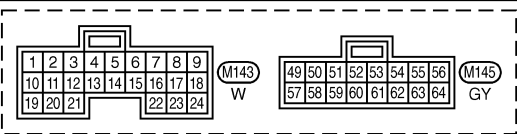
EL-H/LAMP-02



REFER TO EL-POWER.

NEXT PAGE

NEXT PAGE



REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)

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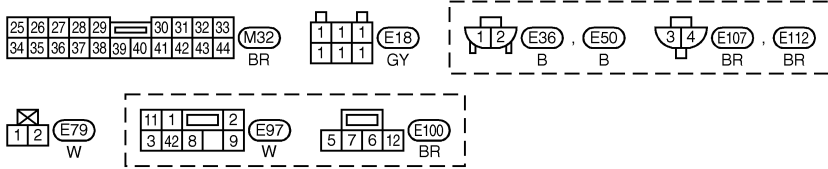
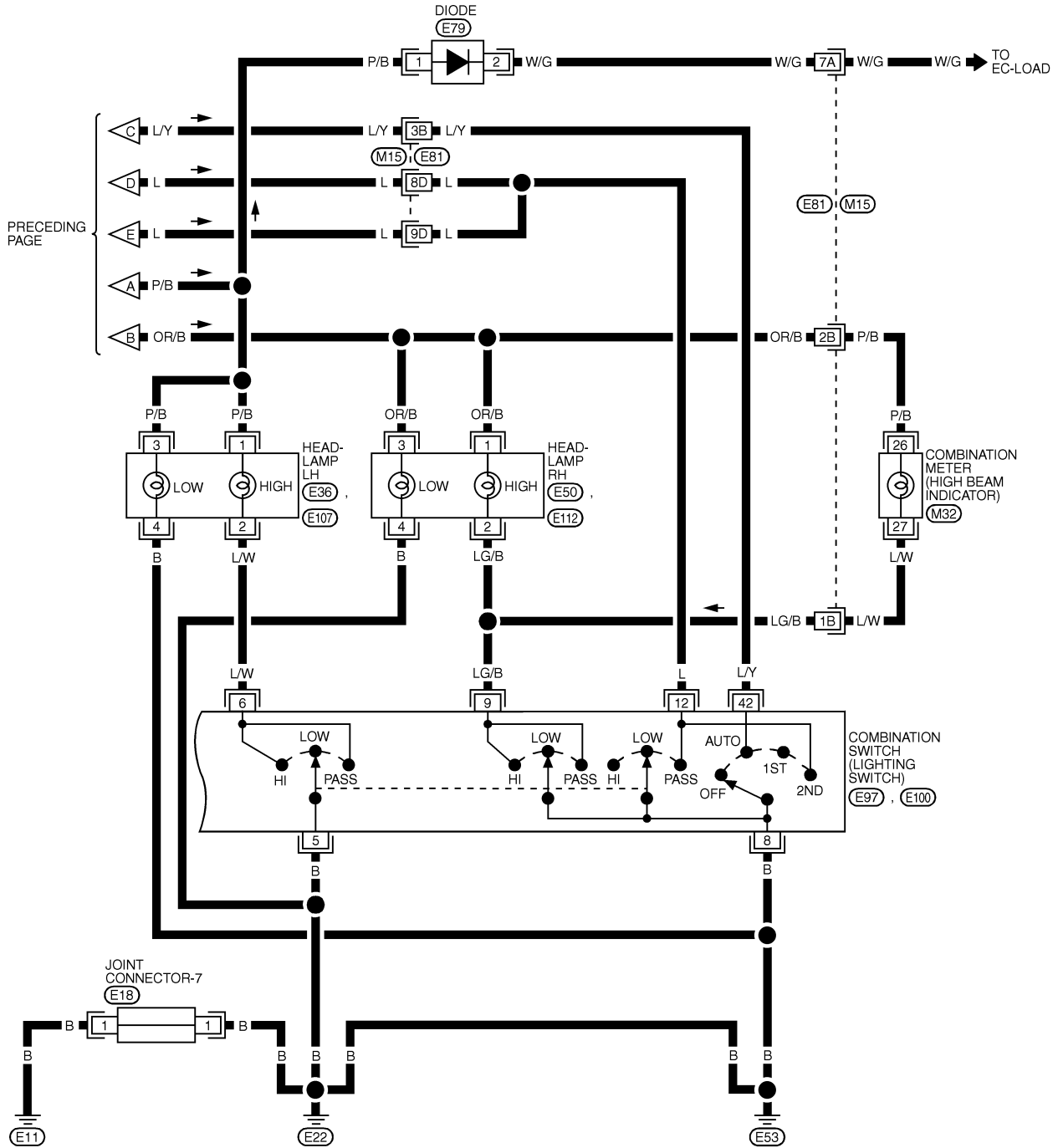
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HEADLAMP (FOR USA) — CONVENTIONAL TYPE —

Wiring Diagram — H/LAMP — (Cont'd)

EL-H/LAMP-03



REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)

MEL389M

HEADLAMP (FOR USA) — CONVENTIONAL TYPE —

Wiring Diagram — H/LAMP — (Cont'd)

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

TERMINAL	WIRE COLOR	ITEM	CONDITION		DATA (DC)	
1	SB	DRIVER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)		5V → 0V	
2	R/L	PASSENGER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)		5V → 0V	
7	R	AUTO LIGHT SENSOR (SIGNAL)	IGNITION SWITCH ON POSITION	HEADLAMPS ILLUMINATE BY AUTO LIGHT CONTROL OPERATE → NOT OPERATE	5V → 1V	
8	W/G	AUTO LIGHT SENSOR (GND)	-		-	
9	BR/W	AUTO LIGHT SENSOR (POWER)	IGNITION SWITCH (OFF → ON)		0V → 5V	
20	SB	TAIL LAMP SWITCH	LIGHT SWITCH (OFF → 1ST OR 2ND POSITION)		12V → 0V	
21	P	HEADLAMP LH RELAY	IGNITION SWITCH (WITH LIGHTING SWITCH OFF OR 1ST)	OFF	MORE THAN 45 SECONDS	12V
				ON OR START	WITHIN 45 SECONDS	0V
			HEADLAMPS ILLUMINATE BY AUTO LIGHT CONTROL		0V	
22	L	HEADLAMP SWITCH	LIGHTING SWITCH	EXCEPT PASS OR 2ND POSITION	12V	
				PASS OR 2ND POSITION	0V	
			HEADLAMPS ILLUMINATE BY AUTO LIGHT CONTROL OPERATE → NOT OPERATE		LESS THAN 1.5V → 12V	
23	L/Y	HEADLAMP SWITCH	IGNITION SWITCH "ON" POSITION	LIGHTING SWITCH (EXCEPT AUTO → AUTO POSITION)		
26	PU	IGNITION SWITCH (ACC)	"ACC" POSITION		12V	
27	G	IGNITION SWITCH (ON)	IGNITION KEY IS IN "ON" POSITION		12V	
43	B	GROUND	-		-	
49	R/B	POWER SOURCE (FUSE)	-		12V	
58	SB	TAIL LAMP SWITCH	LIGHTING SWITCH OFF OR AUTO → 1ST OR 2ND		12V → 0V	
59	P	HEADLAMP RH RELAY	IGNITION SWITCH (WITH LIGHTING SWITCH OFF OR 1ST)	OFF	MORE THAN 45 SECONDS	12V
				ON OR START	WITHIN 45 SECONDS	0V
			HEADLAMPS ILLUMINATE BY AUTO LIGHT CONTROL OPERATE → NOT OPERATE		LESS THAN 1.5V → 12V	
60	L	HEADLAMP SWITCH	LIGHTING SWITCH	EXCEPT PASS OR 2ND POSITION	12V	
				PASS OR 2ND POSITION	0V	
			HEADLAMPS ILLUMINATE BY AUTO LIGHT CONTROL (OPERATE → NOT OPERATE)		0V → 12V	
64	B	GROUND	-		-	

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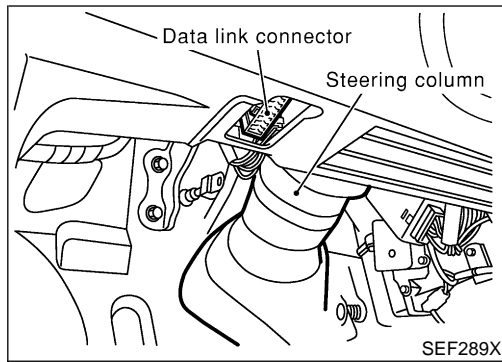
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HEADLAMP (FOR USA) — CONVENTIONAL TYPE —

CONSULT-II Inspection Procedure

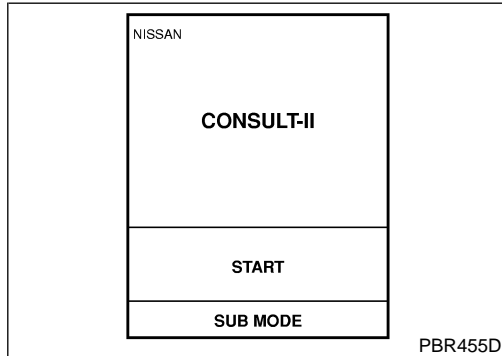


CONSULT-II Inspection Procedure “RETAINED PWR”

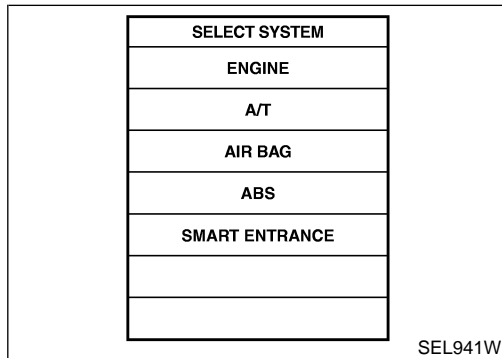
NHEL0200

NHEL0200S01

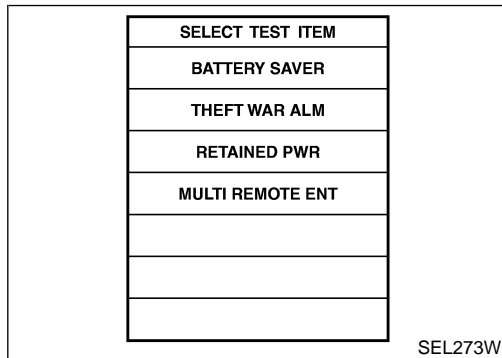
1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” to the data link connector.



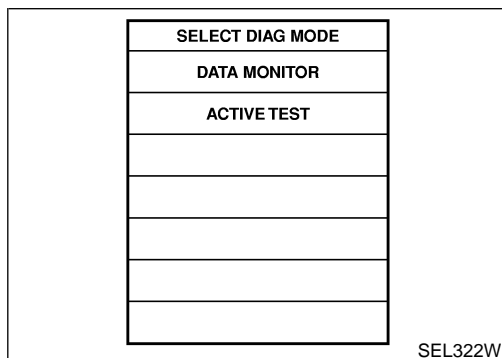
3. Turn ignition switch “ON”.
4. Touch “START”.



5. Touch “SMART ENTRANCE”.



6. Touch “RETAINED PWR”.



7. Select diagnosis mode.
“DATA MONITOR” and “ACTIVE TEST” are available.

HEADLAMP (FOR USA) — CONVENTIONAL TYPE —

CONSULT-II Application Items

CONSULT-II Application Items

NHEL0201

NHEL0201S01

NHEL0201S0101

“RETAINED PWR” Data Monitor

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.

Active Test

NHEL0201S0102

Test Item	Description
RETAINED PWR	<p>This test is able to supply RAP signal (power) from smart entrance control unit to power window system, power sunroof system. Those systems can be operated when turning on “RETAINED PWR” on CONSULT-II screen even if the ignition switch is turned OFF.</p> <p>NOTE: During this test, CONSULT-II can be operated with ignition switch “OFF” position. “RETAINED PWR” should be turned “ON” or “OFF” on CONSULT-II screen when ignition switch is ON. Then turn ignition switch OFF for checking retained power operation. CONSULT-II might be stuck if “RETAINED PWR” is turned “ON” or “OFF” on CONSULT-II screen when ignition switch is OFF.</p>

Trouble Diagnoses

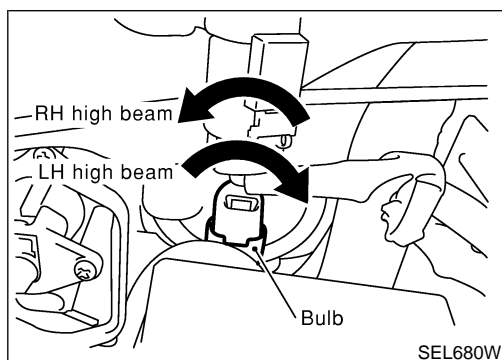
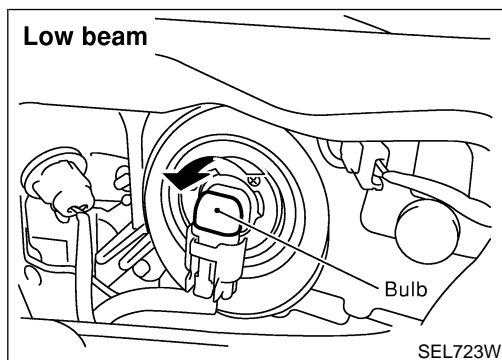
NHEL0202

Symptom	Possible cause	Repair order
Neither headlamp operates.	<ol style="list-style-type: none"> 10A fuse Lighting switch Smart entrance control unit 	<ol style="list-style-type: none"> Check 10A fuse [No. 13, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 49 of smart entrance control unit. Check Lighting switch. Check smart entrance control unit. (EL-406)
LH headlamp (low and high beam) does not operate, but RH headlamp (low and high beam) does operate.	<ol style="list-style-type: none"> 15A fuse Headlamp LH relay Headlamp LH relay circuit Lighting switch circuit Smart entrance control unit 	<ol style="list-style-type: none"> Check 15A fuse (No. 68, located in fusible link and fuse box). Verify battery positive voltage is present at terminals 1 and 3 of headlamp LH relay. Check headlamp LH relay. Check the following. <ol style="list-style-type: none"> Harness between headlamp LH relay and headlamp LH. Harness between headlamp LH relay and smart entrance control unit. Check harness between smart entrance control unit and lighting switch. Check smart entrance control unit. (EL-406)
RH headlamp (low and high beam) does not operate, but LH headlamp (low and high beam) does operate.	<ol style="list-style-type: none"> 15A fuse Headlamp RH relay Headlamp RH relay circuit Lighting switch circuit Smart entrance control unit 	<ol style="list-style-type: none"> Check 15A fuse (No. 69, located in fusible link and fuse box). Verify battery positive voltage is present at terminals 1 and 3 of headlamp RH relay. Check headlamp RH relay. Check the following. <ol style="list-style-type: none"> Harness between headlamp RH relay and headlamp RH. Harness between headlamp RH relay and smart entrance control unit. Check harness between smart entrance control unit and lighting switch. Check smart entrance control unit. (EL-406)
LH high beam does not operate, but LH low beam does operate.	<ol style="list-style-type: none"> Bulb Open in LH high beams circuit Lighting switch 	<ol style="list-style-type: none"> Check bulb. Check the harness between lighting switch and LH headlamp for an open circuit. Check lighting switch.

HEADLAMP (FOR USA) — CONVENTIONAL TYPE —

Trouble Diagnoses (Cont'd)

Symptom	Possible cause	Repair order
LH low beam does not operate, but LH high beam does operate.	1. Bulb 2. Open in LH low beams circuit	1. Check bulb. 2. Check harness between headlamp LH terminal 4 and ground.
RH high beam does not operate, but RH low beam does operate.	1. Bulb 2. Open in RH high beams circuit 3. Lighting switch	1. Check bulb. 2. Check the harness between lighting switch and RH headlamp for an open circuit. 3. Check lighting switch.
RH low beam does not operate, but RH high beam does operate.	1. Bulb 2. Open in RH low beams circuit	1. Check bulb. 2. Check harness between headlamp RH terminal 4 and ground.
High beam indicator does not work.	1. Bulb 2. Open in high beam circuit	1. Check bulb in combination meter. 2. Check the following. a. Harness between headlamp RH relay and combination meter for an open circuit b. Harness between combination meter and combination switch for an open circuit
Battery saver control does not operate properly.	1. Door switch LH or RH circuit 2. Smart entrance control unit	1. Check the following. a. Harness between smart entrance control unit and LH or RH door switch for open or short circuit b. LH or RH door switch ground circuit c. LH or RH door switch 2. Check smart entrance control unit. (EL-406)



Bulb Replacement

NHLE0015

The headlamp is a semi-sealed beam type which uses a replaceable halogen bulb. The bulb can be replaced from the engine compartment side without removing the headlamp body.

- **Grasp only the plastic base when handling the bulb. Never touch the glass envelope.**
1. Disconnect the battery cable.
 2. Disconnect the harness connector from the back side of the bulb.
 3. Turn the bulb clockwise (LH high beam) or counterclockwise (LH, RH low beam and RH high beam)
 4. Remove the headlamp bulb carefully. Do not shake or rotate the bulb when removing it.
 5. Install in the reverse order of removal.

CAUTION:

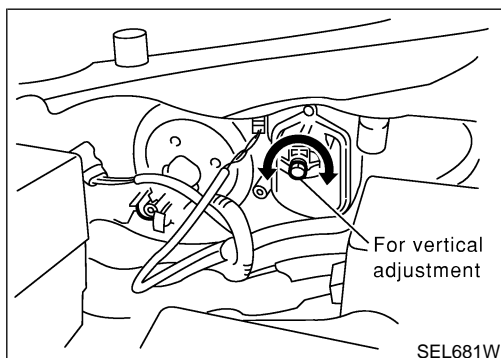
Do not leave headlamp reflector without bulb for a long period of time. Dust, moisture, smoke, etc. entering headlamp body may affect the performance of the headlamp. Remove headlamp bulb from the headlamp reflector just before a replacement bulb is installed.

Aiming Adjustment

NHEL0016

For details, refer to the regulations in your own country. Before performing aiming adjustment, check the following.

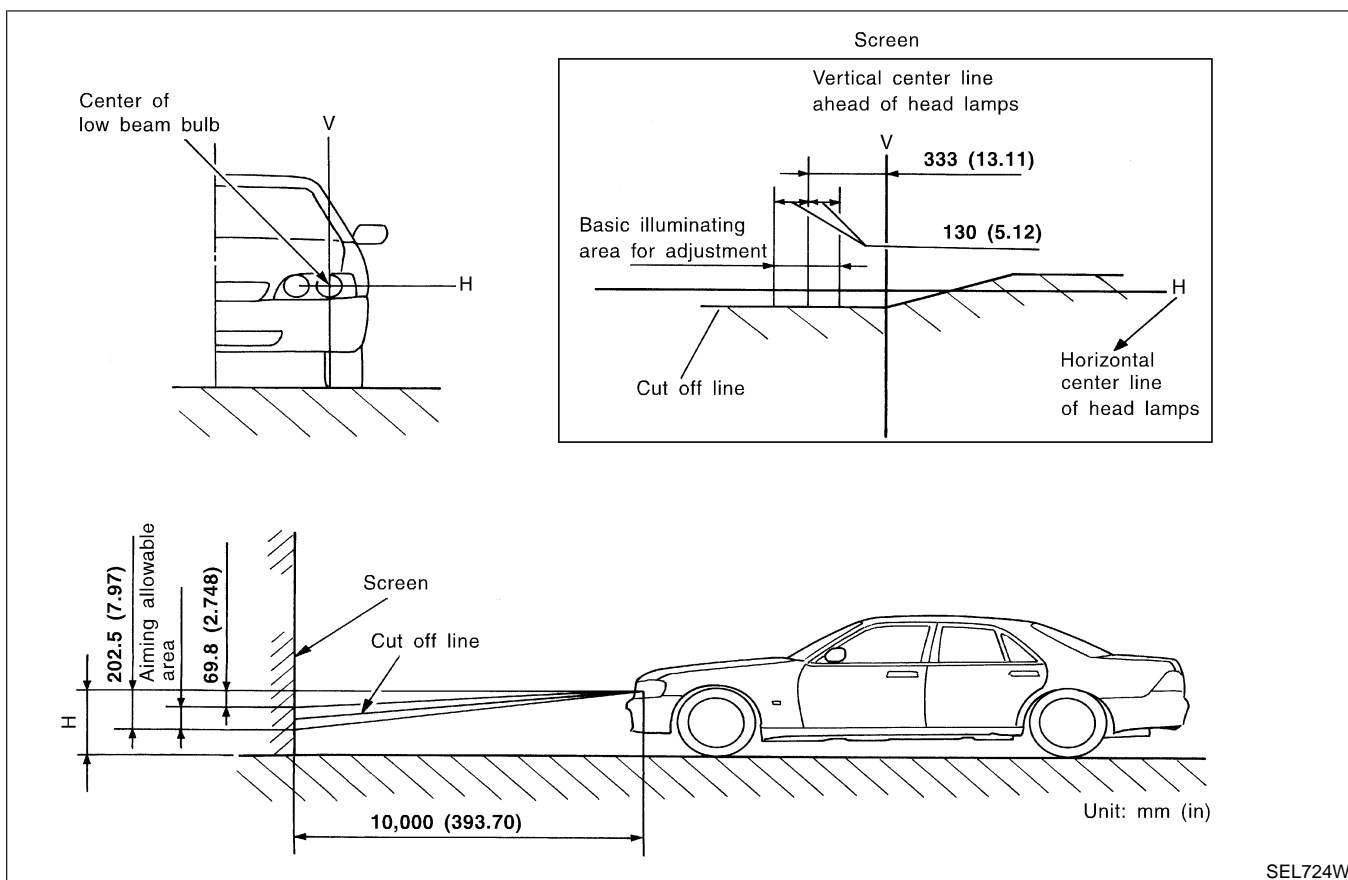
- 1) Keep all tires inflated to correct pressures.
- 2) Place vehicle on flat surface.
- 3) See that there is no-load in vehicle (coolant, engine oil filled up to correct level and full fuel tank) other than the driver (or equivalent weight placed in driver's position).



LOW BEAM

NHEL0016S02

1. Turn headlamp low beam on.
 2. Use adjusting screws to perform aiming adjustment.
- **First tighten the adjusting screw all the way and then make adjustment by loosening the screw.**



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

- **Basic illuminating area for adjustment should be within the range shown on the aiming chart. Adjust headlamps accordingly.**

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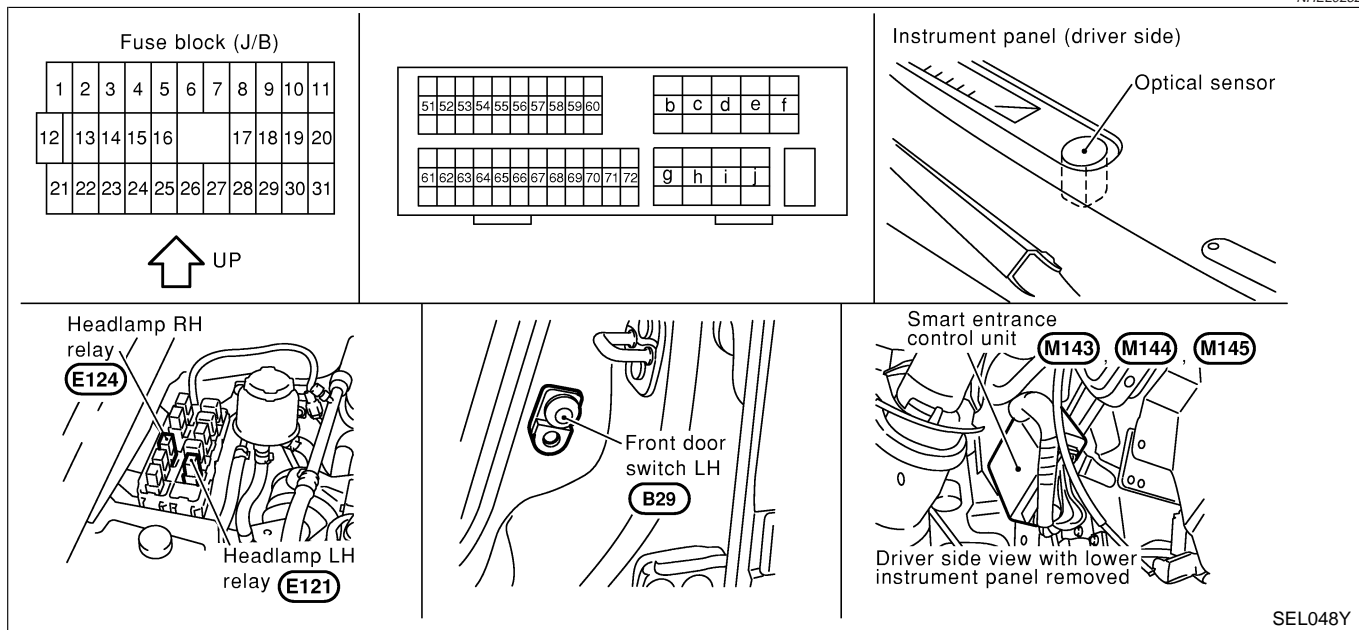
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HEADLAMP (FOR USA) — XENON TYPE —

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NHEL0252



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System Description

NHEL0253

The headlamp operation is controlled by the lighting switch which is built into the combination switch and smart entrance control unit. And the headlamp battery saver system is controlled by the smart entrance control unit.

OUTLINE

NHEL0253S01

Power is supplied at all times

- to headlamp LH relay terminals 1 and 6
- through 20A fuse (No. 54, located in the fuse and fusible link box), and
- to headlamp LH relay terminal 3
- through 15A fuse (No. 68, located in the fuse and fusible link box), and
- to headlamp RH relay terminals 1 and 6
- through 20A fuse (No. 55, located in the fuse and fusible link box), and
- to headlamp RH relay terminal 3
- through 15A fuse (No. 69, located in the fuse and fusible link box), and
- to smart entrance control unit terminal 49
- through 10A fuse [No. 13, located in the fuse block (J/B)].

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

- to smart entrance control unit terminal 27
- through 10A fuse [No. 10, located in the fuse block (J/B)].

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

- to smart entrance control unit terminal 26
- through 10A fuse [No. 1, located in the fuse block (J/B)].

Ground is supplied

- to smart entrance control unit terminals 43 and 64
- through body grounds M9, M25 and M87.

Power Supply to Low Beam and High Beam

NHEL0253S0101

When lighting switch is in 2ND or PASS position, ground is supplied

- to headlamp LH relay terminal 2 from smart entrance control unit terminal 21
- through smart entrance control unit terminal 22,
- from lighting switch terminal 12, and
- to headlamp RH relay terminal 2 from smart entrance control unit terminal 59

HEADLAMP (FOR USA) — XENON TYPE —

System Description (Cont'd)

- through smart entrance control unit terminal 60,
- from lighting switch terminal 12.

Headlamp relays (LH and RH) are energized and then power is supplied to headlamps (LH and RH).

LOW BEAM OPERATION

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

- from terminal 7 of each headlamp relay
- to terminal 3 of each headlamp

Ground is supplied

- to headlamp LH terminal 4
- through body grounds E11, E22 and E53, and
- to headlamp RH terminal 4
- through body grounds E11, E22 and E53.

With power and ground supplied, the headlamp(s) will illuminate.

HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

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

- from terminal 5 of each headlamp relay
- to terminal 1 of each headlamp, and
- to combination meter terminal 26 for the HIGH BEAM indicator.

Ground is supplied

- to headlamp LH terminal 2
- through lighting switch terminals 6 and 5
- through body grounds E11, E22 and E53, and
- to headlamp RH terminal 2
- to combination meter terminal 27 for the HIGH BEAM indicator
- through lighting switch terminals 9 and 8
- through body grounds E11, E22 and E53.

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

BATTERY SAVER CONTROL

Headlamps will remain on for a short while after the ignition switch is turned ON (or START) from OFF (or ACC).

Continuity between terminals 21 and 22, and between terminals 59 and 60 of smart entrance control unit will be disturbed after 45 seconds, then the headlamps will be turned off.

Then the headlamps are turned off.

The headlamps are turned off when driver or passenger side door is opened even if 45 seconds have not passed after ignition switch is turned from ON (or START) to OFF (or ACC) positions while headlamps are illuminated.

When the lighting switch is turned from OFF to 2ND after headlamps are turned to off by the battery saver control, ground is supplied

- to smart entrance control unit terminals 20 and 58 from lighting switch terminal 11, and then
- to headlamp LH and RH relays terminal 2 from smart entrance control unit terminals 21 and 59
- through smart entrance control unit terminals 22 and 60, and
- through lighting switch terminal 12.

Then headlamps illuminate again.

AUTO LIGHT OPERATION

The auto light control system has an optical sensor inside it that detects outside brightness.

When lighting switch is in “AUTO” position, ground is supplied

- to smart entrance control unit terminal 23
- from lighting switch terminal 42.

When ignition switch is turn to “ON” or “START” position and

- Outside brightness is darker than prescribed level or
- After 20 seconds delay, outside brightness becomes darker than prescribed level

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HEADLAMP (FOR USA) — XENON TYPE —

System Description (Cont'd)

Ground is supplied

- to headlamp relay LH and RH terminals 2
- through smart entrance control unit terminals 21, 59 and 43, 64.

Then both headlamp relays and tail lamp relay are energized, headlamps (low or high) and tail lamps are illuminate according to switch position.

Auto light operation allows headlamps and tail lamps to go off when

- Ignition switch is turned to "OFF" position or
- Outside brightness is brighter than prescribed level or
- After 20 seconds delay, outside brightness becomes brighter than the prescribed level.

For parking license and tail lamp auto operation, refer to "PARKING, LICENSE AND TAIL LAMPS".

VEHICLE SECURITY SYSTEM

The vehicle security system will flash the low beams if the system is triggered. Refer to "VEHICLE SECURITY (THEFT WARNING) SYSTEM" (EL-369). NHELO253S06

HEADLAMP (FOR USA) — XENON TYPE —

System Description (Cont'd)

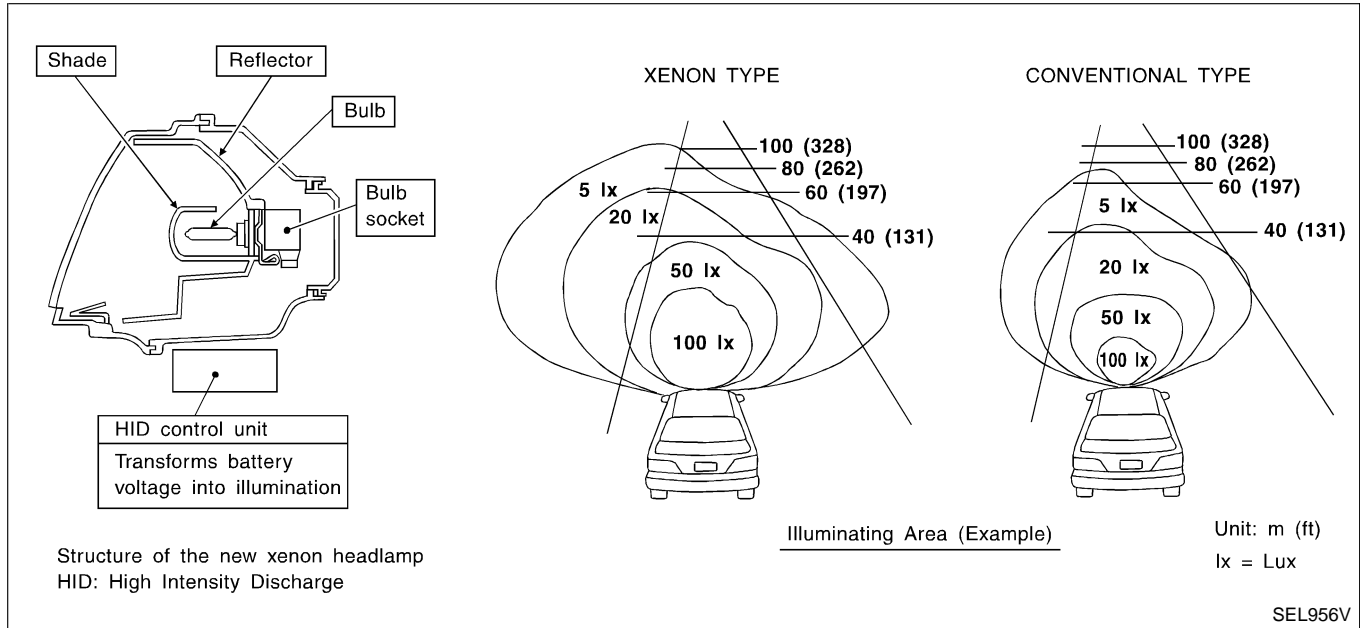
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XENON HEADLAMP

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

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

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



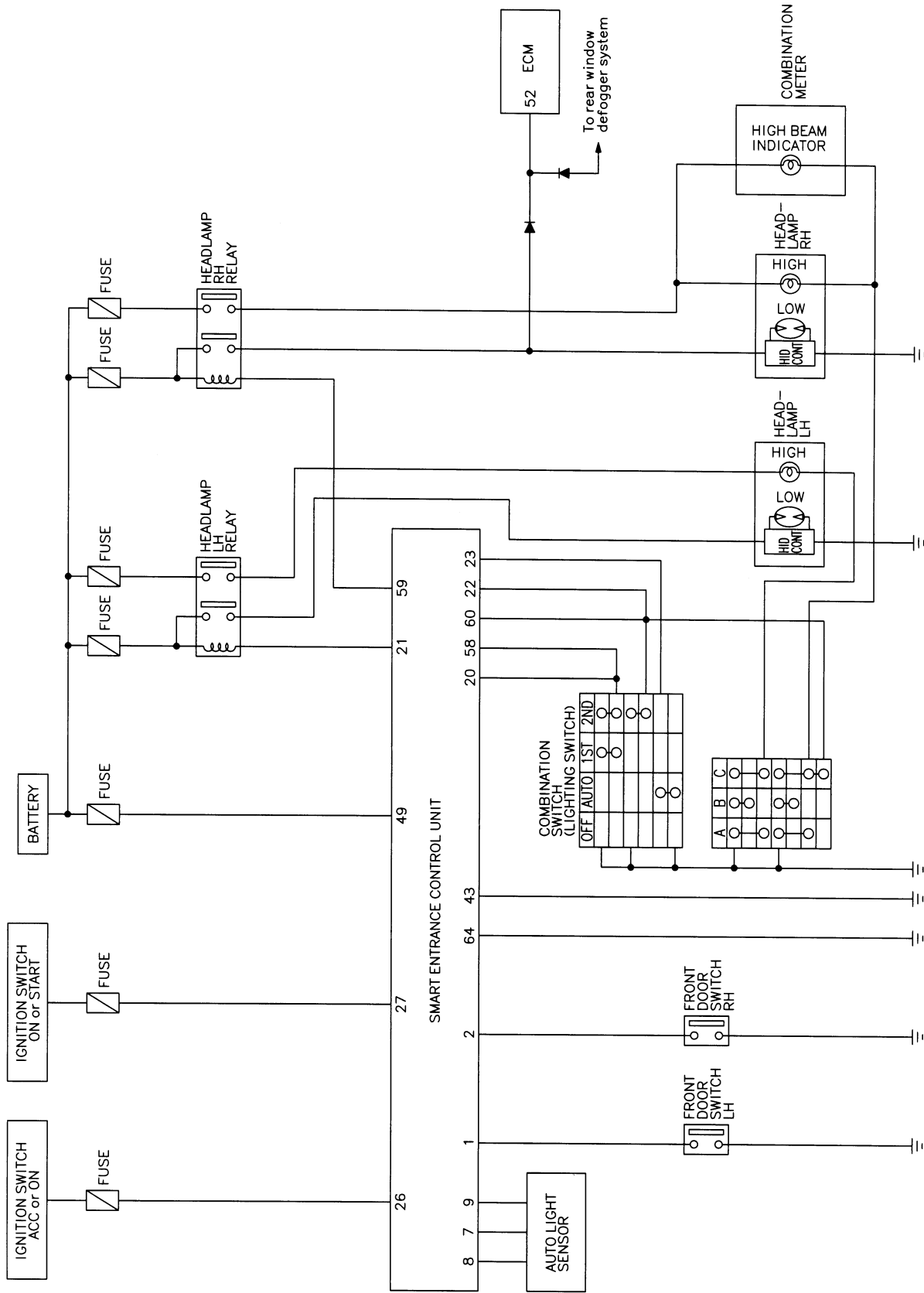
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HEADLAMP (FOR USA) — XENON TYPE —

Schematic

Schematic

NHEL0254



MEL390M

HEADLAMP (FOR USA) — XENON TYPE —

Wiring Diagram — H/LAMP —

Wiring Diagram — H/LAMP —

NHEL0255

EL-H/LAMP-04

◊RS : WITH REAR SUNSHADE
◊OR : WITHOUT REAR SUNSHADE

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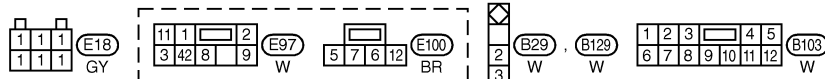
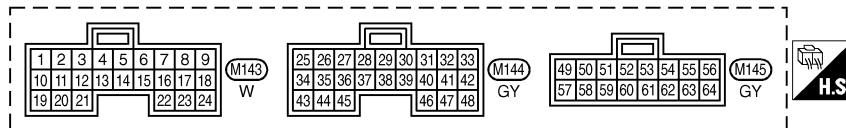
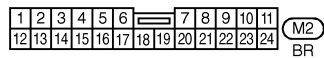
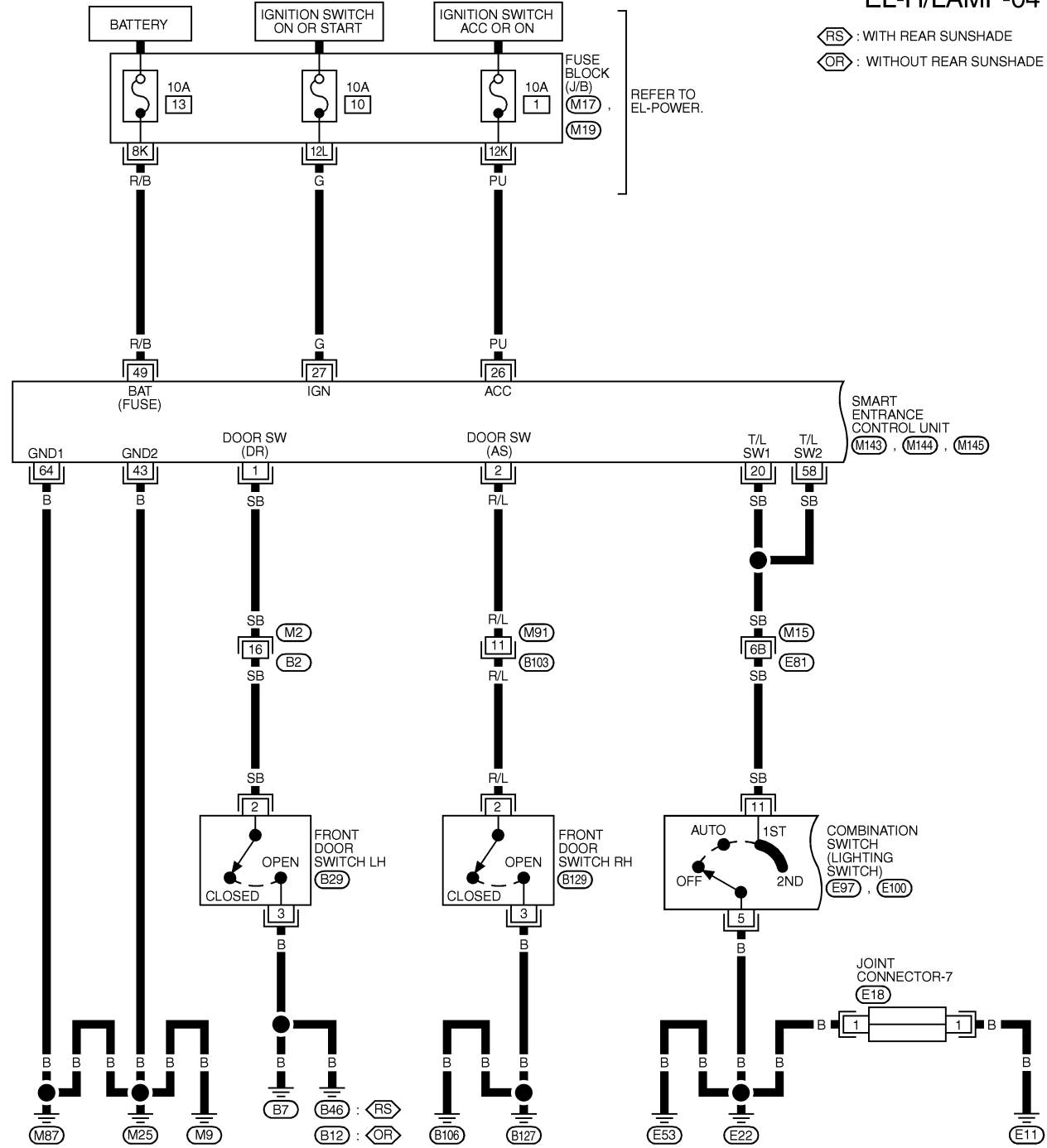
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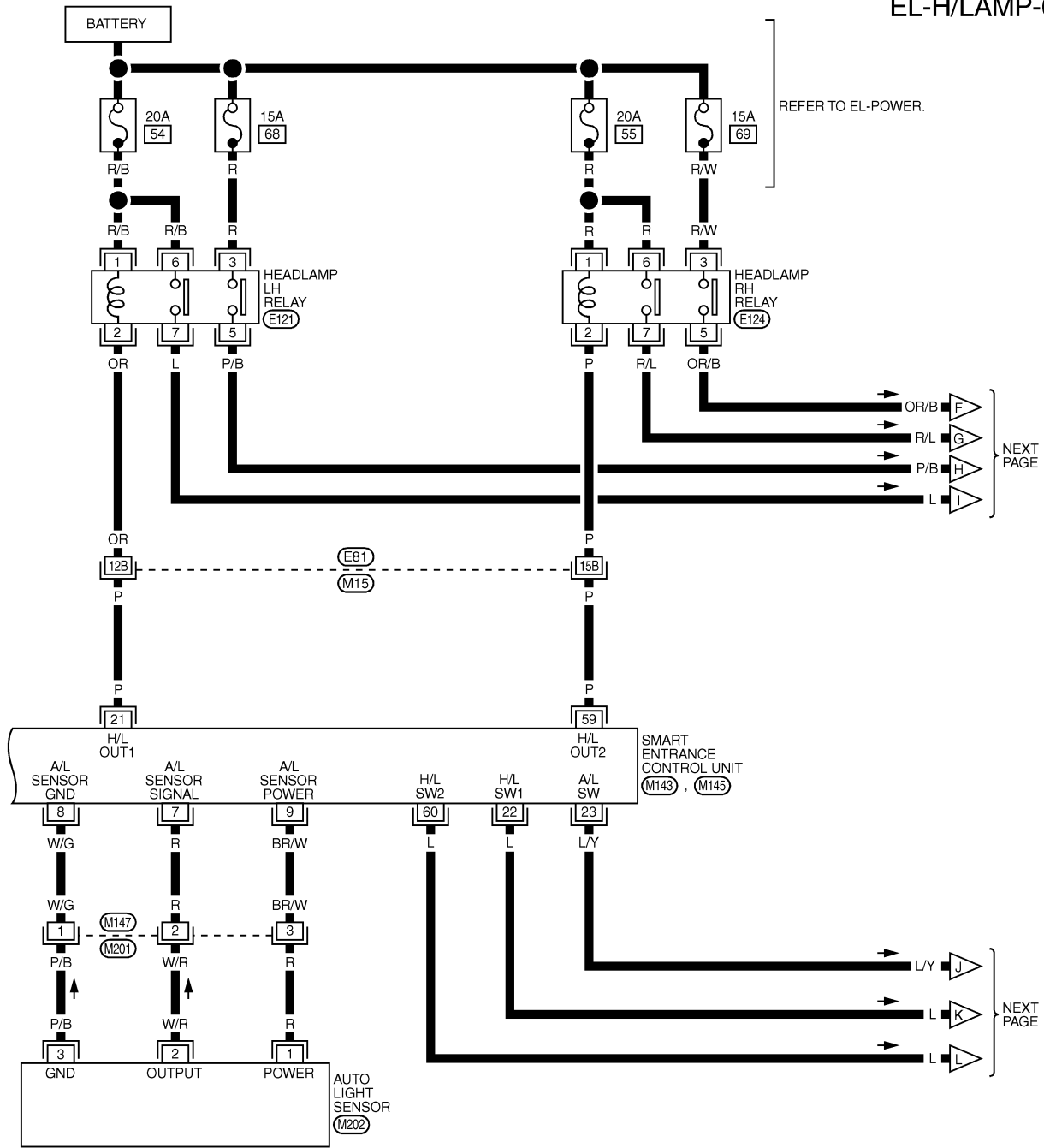
REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M17), (M19) -FUSE BLOCK-
 JUNCTION BOX (J/B)

MEL391M

HEADLAMP (FOR USA) — XENON TYPE —

Wiring Diagram — H/LAMP — (Cont'd)

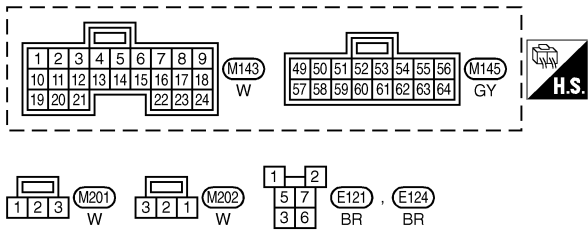
EL-H/LAMP-05



REFER TO EL-POWER.

NEXT PAGE

NEXT PAGE



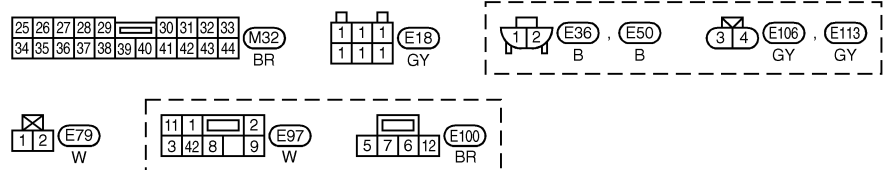
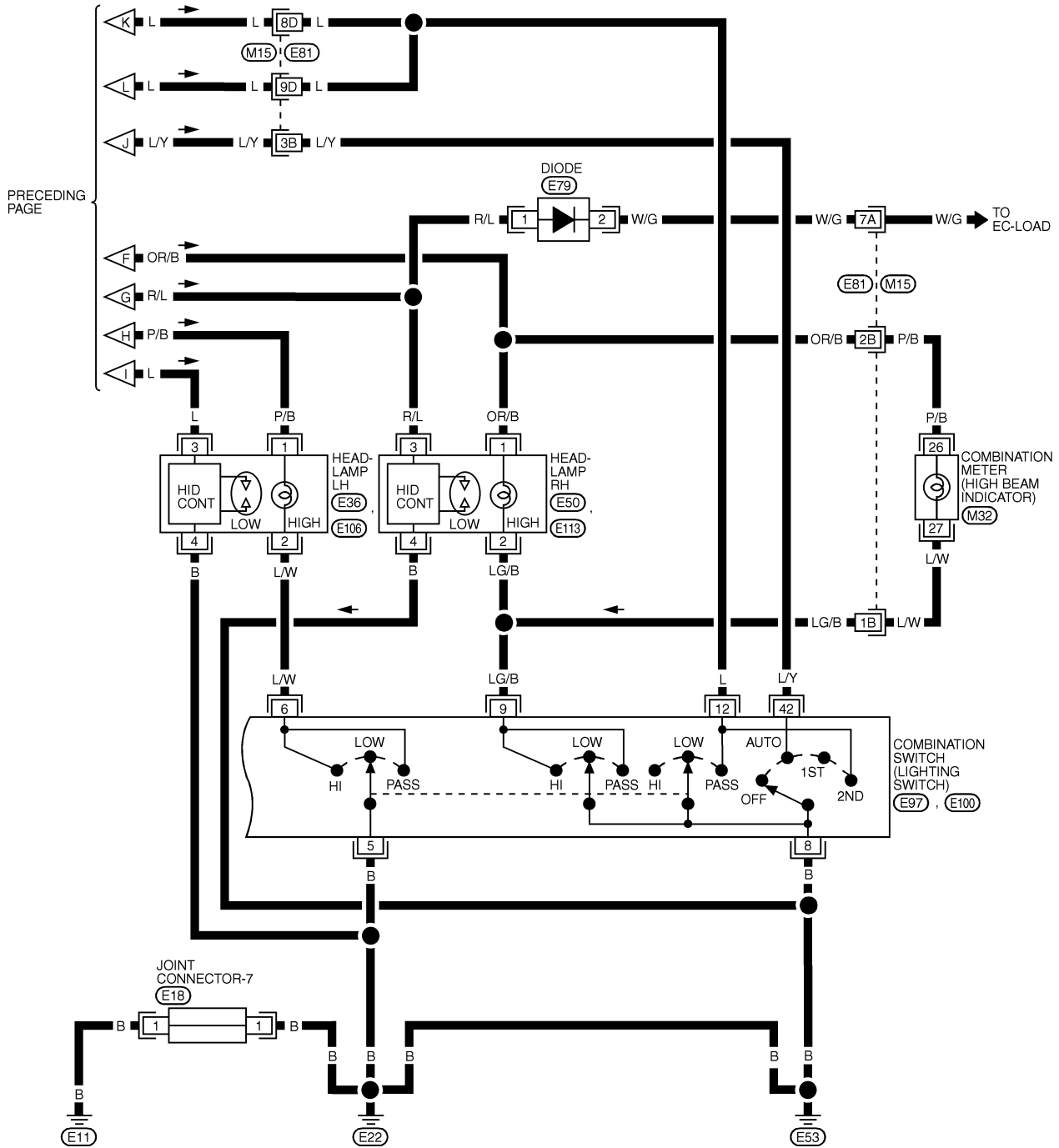
REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)

MEL392M

HEADLAMP (FOR USA) — XENON TYPE —

Wiring Diagram — H/LAMP — (Cont'd)

EL-H/LAMP-06



REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)

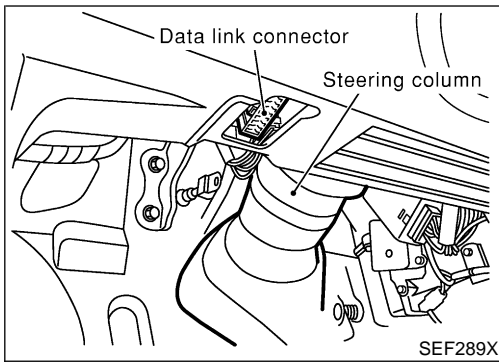
EL

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MEL393M

HEADLAMP (FOR USA) — XENON TYPE —

CONSULT-II Inspection Procedure

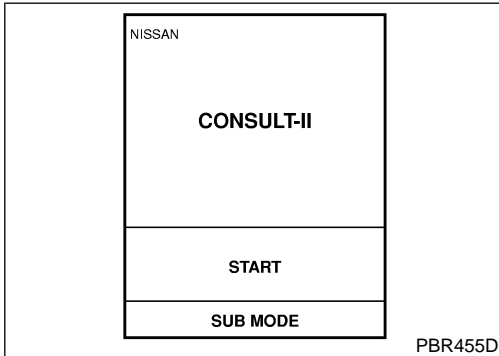


CONSULT-II Inspection Procedure “RETAINED PWR”

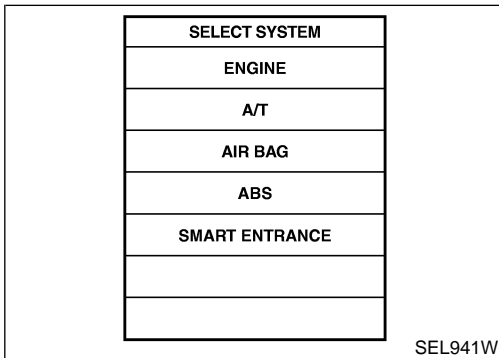
NHEL0256

NHEL0256S01

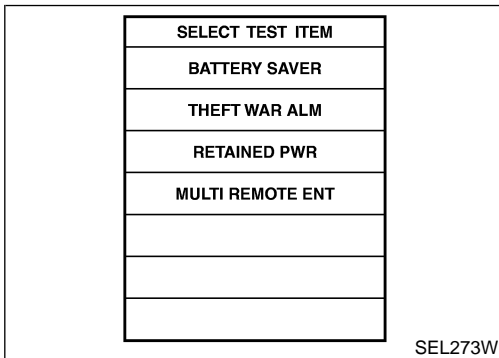
1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” to the data link connector.



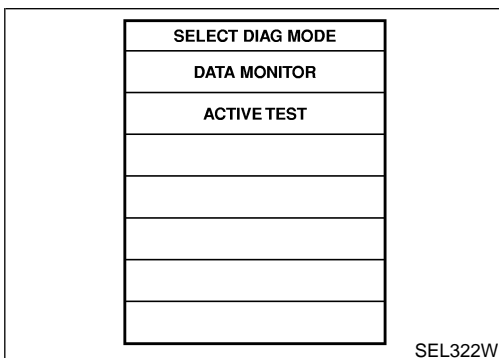
3. Turn ignition switch “ON”.
4. Touch “START”.



5. Touch “SMART ENTRANCE”.



6. Touch “RETAINED PWR”.



7. Select diagnosis mode.
“DATA MONITOR” and “ACTIVE TEST” are available.

CONSULT-II Application Items

“RETAINED PWR”

NHEL0257

Data Monitor

NHEL0257S01

NHEL0257S0101

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.

Active Test

NHEL0257S0102

Test Item	Description
RETAINED PWR	<p>This test is able to supply RAP signal (power) from smart entrance control unit to power window system, power sunroof system. Those systems can be operated when turning on “RETAINED PWR” on CONSULT-II screen even if the ignition switch is turned OFF.</p> <p>NOTE: During this test, CONSULT-II can be operated with ignition switch “OFF” position. “RETAINED PWR” should be turned “ON” or “OFF” on CONSULT-II screen when ignition switch is ON. Then turn ignition switch OFF for checking retained power operation. CONSULT-II might be stuck if “RETAINED PWR” is turned “ON” or “OFF” on CONSULT-II screen when ignition switch is OFF.</p>

Trouble Diagnoses

NHEL0258

WARNING:

- The xenon headlamp has a high-tension current generating area. Be extremely careful when removing and installing. Be certain to disconnect the battery negative cable prior to removing or installing.
- When the xenon headlamp is lit, do not touch the harness (covered with red or amber insulation), bulb itself or the bulb socket with your bare hands.
- Never service a xenon headlamp with wet hands.
- When checking body side harness with a circuit tester, be certain to disconnect the harness connector from the xenon headlamp.
- When the xenon headlamp is lit, the xenon bulb must be installed in the headlamp housing. (Never turn on xenon headlamp, if the bulb is out of the headlamp housing.)

CAUTION:

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

Symptom	Possible cause	Repair order
Neither headlamp operates.	1. 10A fuse 2. Lighting switch 3. Smart entrance control unit	1. Check 10A fuse [No. 13, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 49 of smart entrance control unit. 2. Check Lighting switch. 3. Check smart entrance control unit. (EL-406)
LH headlamp (low and high beam) does not operate, but RH headlamp (low and high beam) does operate.	1. 20A fuse 2. Headlamp LH relay 3. Headlamp LH relay circuit 4. Lighting switch circuit 5. Smart entrance control unit	1. Check 20A fuse (No. 54, located in fusible link and fuse box). Verify battery positive voltage is present at terminals 1 and 6 of headlamp LH relay. 2. Check headlamp LH relay. 3. Check harness between headlamp LH relay and smart entrance control unit. 4. Check harness between smart entrance control unit and lighting switch. 5. Check smart entrance control unit. (EL-406)

HEADLAMP (FOR USA) — XENON TYPE —

Trouble Diagnoses (Cont'd)

Symptom	Possible cause	Repair order
RH headlamp (low and high beam) does not operate, but LH headlamp (low and high beam) does operate.	<ol style="list-style-type: none"> 1. 20A fuse 2. Headlamp RH relay 3. Headlamp RH relay circuit 4. Lighting switch circuit 5. Smart entrance control unit 	<ol style="list-style-type: none"> 1. Check 20A fuse (No. 55, located in fusible link and fuse box). Verify battery positive voltage is present at terminals 1 and 6 of headlamp RH relay. 2. Check headlamp RH relay. 3. Check harness between headlamp RH relay and smart entrance control unit. 4. Check harness between smart entrance control unit and lighting switch. 5. Check smart entrance control unit. (EL-406)
LH high beam does not operate, but LH low beam operates.	<ol style="list-style-type: none"> 1. Bulb 2. 15A fuse 3. Headlamp LH relay 4. Open in the LH high beams circuit 5. Lighting switch 6. Lighting switch ground circuit 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check 15A fuse (No. 68, located in fusible link and fuse box). Verify battery positive voltage is present at terminal 3 of headlamp LH relay. 3. Check headlamp LH relay. 4. Check the following. <ol style="list-style-type: none"> a. Harness between headlamp relay LH terminal 5 and LH headlamp for open circuit b. Harness between LH headlamp and lighting switch for open circuit 5. Check lighting switch. 6. Check harness between lighting switch and ground.
LH low beam does not operate, but LH high beam operates.	<ol style="list-style-type: none"> 1. Headlamp relay LH 2. Open in the LH low beam circuit 3. LH low beam ground circuit 4. Xenon bulb 5. HID control unit 6. Booster 	<ol style="list-style-type: none"> 1. Check headlamp relay LH 2. Check harness between headlamp relay LH terminal 7 and LH headlamp for open circuit. 3. Check harness between LH headlamp and ground. 4. Replace the xenon bulb with other side bulb or new one. (If headlamps illuminate correctly, replace the bulb.) 5. Replace the HID control unit with other side control unit or new one. (If headlamps illuminate correctly, replace the control unit.) 6. Replace booster as a headlamp assembly.
RH high beam does not operate, but RH low beam operates.	<ol style="list-style-type: none"> 1. Bulb 2. 15A fuse 3. Headlamp RH relay 4. Open in the RH high beams circuit 5. Lighting switch 6. Lighting switch ground circuit 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check 15A fuse (No. 69, located in fusible link and fuse box). Verify battery positive voltage is present at terminal 3 of headlamp RH relay. 3. Check headlamp RH relay. 4. Check the following. <ol style="list-style-type: none"> a. Harness between headlamp relay RH terminal 5 and RH headlamp for open circuit b. Harness between RH headlamp and lighting switch for open circuit 5. Check lighting switch. 6. Check harness between lighting switch and ground.
RH low beam does not operate, but RH high beam operates.	<ol style="list-style-type: none"> 1. Headlamp relay RH 2. Open in the RH low beam circuit 3. RH low beam ground circuit 4. Xenon bulb 5. HID control unit 6. Booster 	<ol style="list-style-type: none"> 1. Check headlamp relay RH 2. Check harness between headlamp relay RH terminal 7 and RH headlamp for open circuit. 3. Check harness between RH headlamp and ground. 4. Replace the xenon bulb with other side bulb or new one. (If headlamps illuminate correctly, replace the bulb.) 5. Replace the HID control unit with other side control unit or new one. (If headlamps illuminate correctly, replace the control unit.) 6. Replace booster as a headlamp assembly.

HEADLAMP (FOR USA) — XENON TYPE —

Trouble Diagnoses (Cont'd)

Symptom	Possible cause	Repair order
High beam indicator does not work.	<ol style="list-style-type: none"> Bulb Open in high beam circuit 	<ol style="list-style-type: none"> Check bulb in combination meter. Check the following. <ol style="list-style-type: none"> Harness between headlamp RH relay and combination meter for an open circuit Harness between high beam indicator and lighting switch
Battery saver control does not operate properly.	<ol style="list-style-type: none"> Door switch LH or RH circuit Smart entrance control unit 	<ol style="list-style-type: none"> Check the following. <ol style="list-style-type: none"> Harness between smart entrance control unit and LH or RH door switch for open or short circuit LH or RH door switch ground circuit LH or RH door switch Check smart entrance control unit. (EL-406)

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AX

NHEL0259

Bulb Replacement/Xenon Type

CAUTION:

- After replacing a new xenon bulb, be sure to make aiming adjustments.
 - Hold only the plastic base when handling the bulb. Never touch the glass envelope.
 - Do not leave headlamp reflector without bulb for a long period of time. Dust, moisture, smoke, etc. entering headlamp body may affect the performance of the headlamp. Remove headlamp bulb from the headlamp reflector just before a replacement bulb is installed.
- Disconnect negative battery cable.
 - Disconnect headlamp connector.
 - Remove headlamp assembly.

SU

BR

ST

RS

BT

WARNING:

Never service a xenon headlamp without disconnecting negative battery cable and with wet hands.

HA

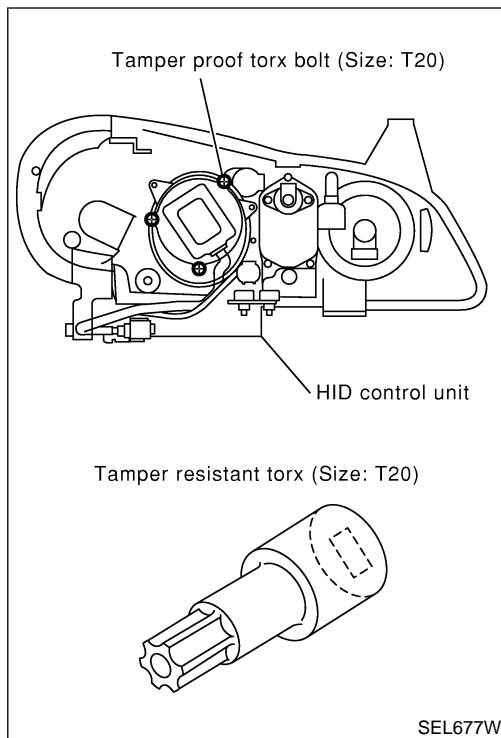
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HEADLAMP (FOR USA) — XENON TYPE —

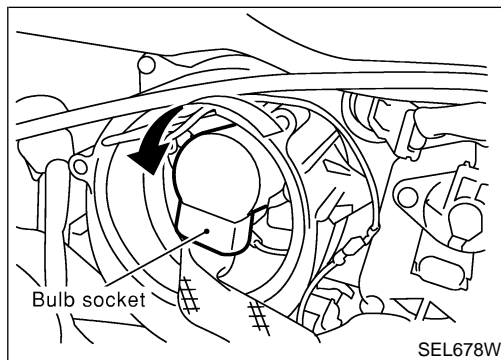
Bulb Replacement/Xenon Type (Cont'd)



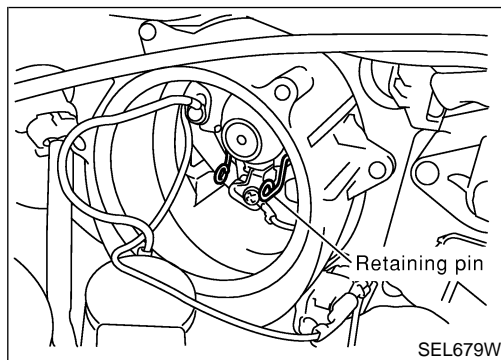
XENON BULB (LOW BEAM)

NHLE0259S01

1. Remove tamper proof torx bolt (size: T20), then remove headlamp seal cover.



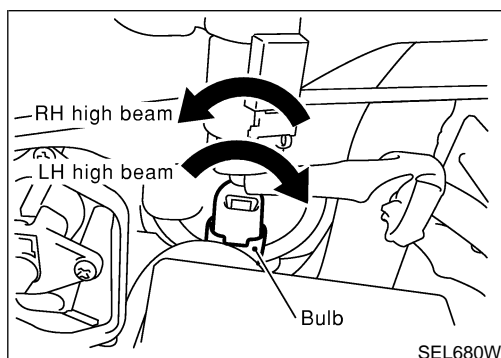
2. Turn bulb socket counterclockwise with keep pushing, then remove it.



3. Release retaining pin.
4. Remove the xenon bulb.
5. Install in the reverse order of removal.

CAUTION:

- When disposing of the xenon bulb, do not break it; always dispose of it as is.
- Make sure to install the bulb securely; if the xenon bulb is improperly installed in its socket, high-tension current leaks occur. This may lead to a melted bulb and/or bulb socket.



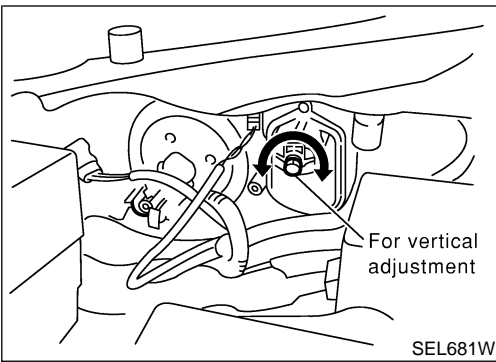
HIGH BEAM

NHLE0259S02

1. Turn the bulb clockwise (LH high beam) or counterclockwise (RH high beam).
2. Remove the bulb.
3. Install in the reverse order of removal.

HEADLAMP (FOR USA) — XENON TYPE —

Aiming Adjustment/Xenon Type



Aiming Adjustment/Xenon Type

=NHEL0260

NHEL0260S01

LOW BEAM

1. Turn headlamp low beam on.
 2. Use adjusting screw to perform aiming adjustment.
- **First tighten the adjusting screw all the way and then make adjustment by loosening the screw.**

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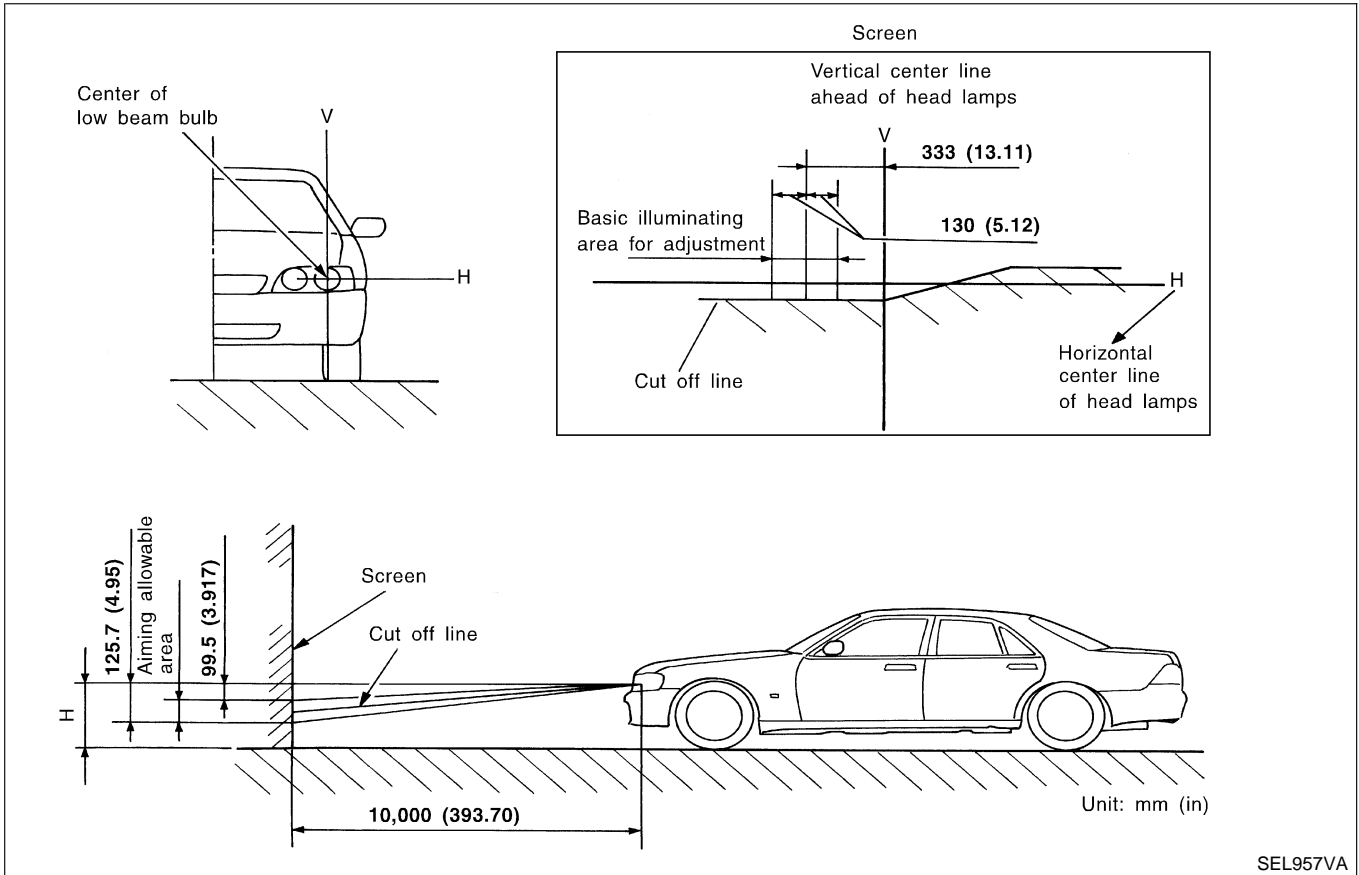
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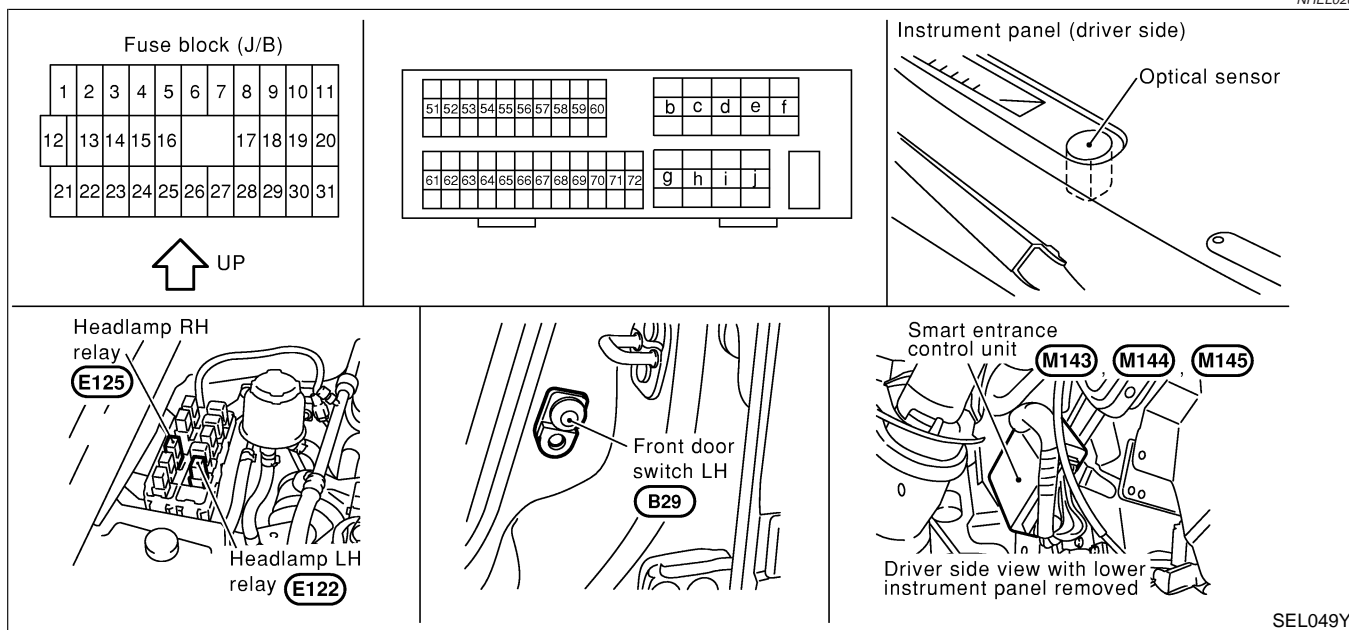
SEL957VA

HEADLAMP (FOR CANADA) — CONVENTIONAL TYPE —

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NHEL0203



SEL049Y

System Description

NHEL0204

The headlamp system for Canada vehicles contains a daytime light control unit that activates the high beam headlamps at approximately half illumination whenever the engine is running. If the parking brake is applied before the engine is started the daytime lights will not be illuminated. The daytime lights will illuminate once the parking brake is released. Thereafter, the daytime lights will continue to operate when the parking brake is applied.

And battery saver system is controlled by the smart entrance control unit.

Power is supplied at all times

- to headlamp LH relay terminals 1 and 3
- through 15A fuse (No. 68, located in the fuse and fusible link box), and
- to headlamp RH relay terminals 1 and 3
- through 15A fuse (No. 69, located in the fuse and fusible link box), and
- to smart entrance control unit terminal 49
- through 10A fuse [No. 13, located in the fuse block (J/B)].

Ground is supplied

- to daytime light control unit terminal 16 and
- to smart entrance control unit terminals 43 and 64

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

- to daytime light control unit terminal 3
- through 10A fuse [No. 28, located in the fuse block (J/B)], and
- to smart entrance control unit terminal 27
- through 10A fuse [No. 10, located in the fuse block (J/B)].

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

- to smart entrance control unit terminal 26
- through 10A fuse [No. 1, located in the fuse block (J/B)].

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

- to daytime light control unit terminal 2
- through 10A fuse [No. 21, located in the fuse block (J/B)].

HEADLAMP OPERATION

Power Supply to Low Beam and High Beam

When lighting switch is in 2ND or PASS position, ground is supplied

NHEL0204S01

NHEL0204S0101

HEADLAMP (FOR CANADA) — CONVENTIONAL TYPE —

System Description (Cont'd)

- to headlamp LH relay terminal 2 from smart entrance control unit terminal 21
- through smart entrance control unit terminal 22
- from lighting switch terminal 12, and
- to headlamp RH relay terminal 2 from smart entrance control unit terminal 59
- through smart entrance control unit terminal 60
- from lighting switch terminal 12.

GI

Headlamp relays (LH and RH) are energized and then power is supplied to headlamps (LH and RH).

MA

Low Beam Operation

NHELO204S0103

When the lighting switch is turned to 2ND and LOW (“B”) positions, ground is supplied

EM

- to terminal 5 of headlamp LH relay
- through headlamp LH terminals 3 and 4
- through body grounds E11, E22 and E53.

LC

Ground is also supplied

- to terminal 5 of headlamp RH relay
- through headlamp RH terminals 3 and 4
- through body grounds E11, E22 and E53.

EC

FE

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

High Beam Operation/Flash-to-pass Operation

NHELO204S0104

When the lighting switch is turned to 2ND and HIGH (“A”) or PASS (“C”) positions, ground is supplied

AT

- to terminal 2 of LH headlamp
- through daytime light control unit terminals 10 and 13, and
- through lighting switch terminals 6 and 5
- through body grounds E11, E22 and E53.

AX

Ground is also supplied

- to terminal 2 of RH headlamp
- through daytime light control unit terminals 9 and 14
- to combination meter terminal 27 for the HIGH BEAM indicator
- through lighting switch terminals 9 and 8
- through body grounds E11, E22 and E53.

SU

BR

ST

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

RS

BATTERY SAVER CONTROL

NHELO204S02

Headlamps will remain on for a short while after the ignition switch is turned ON (or START) from OFF (or ACC).

BT

Continuity between terminals 21 and 22, and between terminals 59 and 60 of smart entrance control unit will be disturbed after 45 seconds, then the headlamps will be turned off.

Then headlamps are turned off.

HA

The headlamps are turned off when LH or RH door is opened even if 45 seconds have not passed after the ignition switch is turned from ON (or START) to OFF (or ACC) positions while headlamps are illuminated.

When the lighting switch is turned from OFF to 2ND after headlamps are turned to off by the battery saver control, ground is supply

SC

- to smart entrance control unit terminals 20 and 58 from lighting switch terminal 11, and then
- to headlamp LH and RH relays terminal 2 from headlamp battery saver control unit terminals 21 and 59
- through smart entrance control unit terminals 22 and 60, and
- through lighting switch terminal 12.

EL

Then headlamps illuminate again.

IDX

AUTO LIGHT OPERATION

NHELO204S05

For auto light operation, refer to “HEADLAMP” (EL-35).

DAYTIME LIGHT OPERATION

NHELO204S03

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

- through daytime light control unit terminal 7

HEADLAMP (FOR CANADA) — CONVENTIONAL TYPE —

System Description (Cont'd)

- to terminal 1 of RH headlamp
- through terminal 2 of RH headlamp
- to daytime light control unit terminal 9
- through daytime light control unit terminal 6
- to terminal 1 of LH headlamp.

Ground is supplied to terminal 2 of LH headlamp.

- through daytime light control unit terminals 10 and 16
- through body grounds E11, E22 and E53.

Because the high beam headlamps are now wired in series, they operate at half illumination.

OPERATION

After starting the engine with the lighting switch in the "OFF" or "1ST" position, the headlamp high beam automatically turns on. Lighting switch operations other than the above are the same as conventional light systems.

NHEL0204S04

Engine		With engine stopped									With engine running								
		OFF			1ST			2ND			OFF			1ST			2ND		
Lighting switch		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
		Headlamp	High beam	X	X	O	X	X	O	O	X	O	△*	△*	O	△*	△*	O	O
Low beam	X		X	X	X	X	X	X	O	X	X	X	X	X	X	X	X	O	X
Clearance and tail lamp		X	X	X	O	O	O	O	O	O	X	X	X	O	O	O	O	O	O
License and instrument illumination lamp		X	X	X	O	O	O	O	O	O	X	X	X	O	O	O	O	O	O

A: "HIGH BEAM" position

B: "LOW BEAM" position

C: "FLASH TO PASS" position

O : Lamp "ON"

X : Lamp "OFF"

△ : Lamp dims. (Added functions)

*: When starting the engine with the parking brake released, the daytime light will come ON.

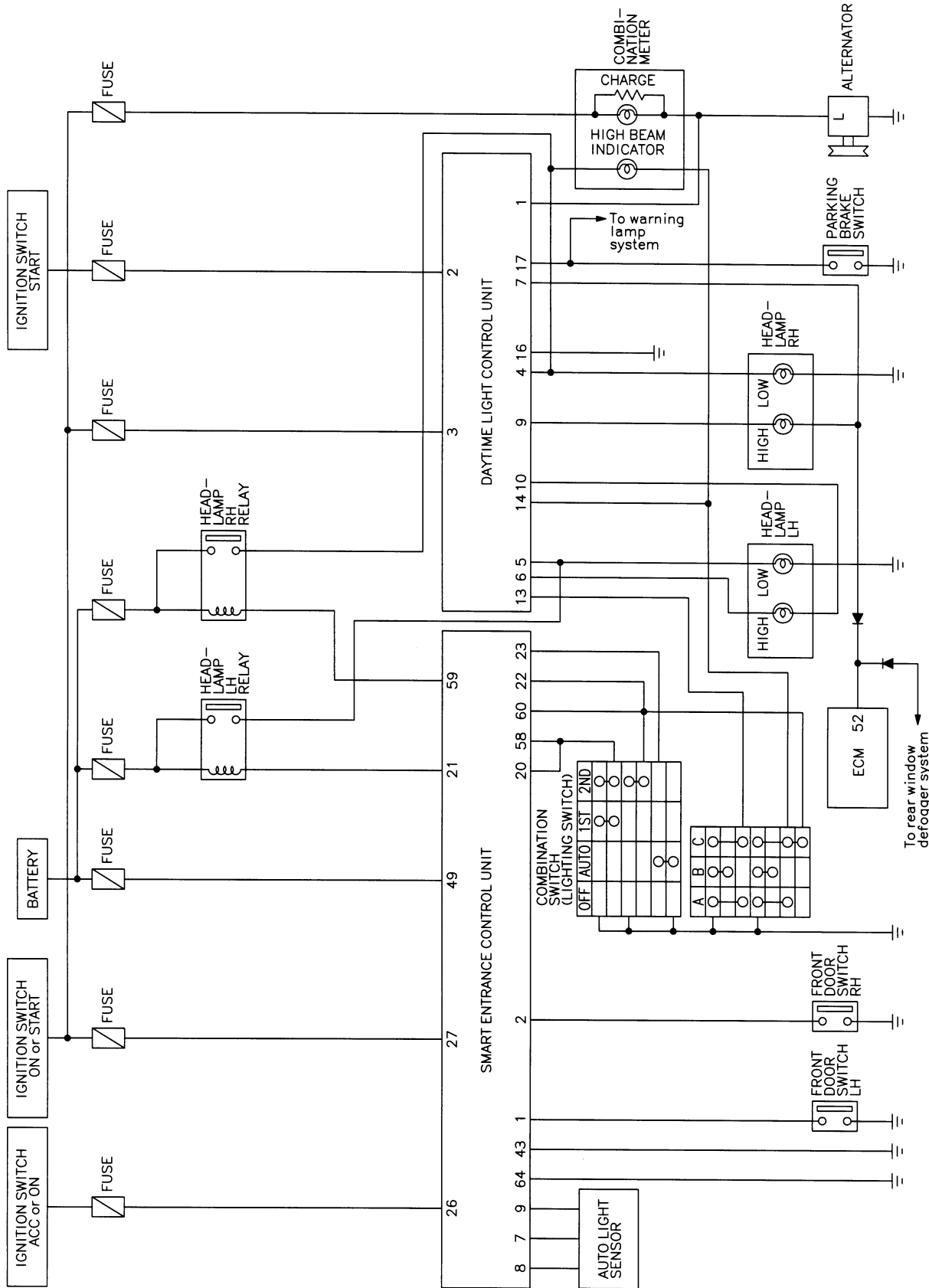
When starting the engine with the parking brake pulled, the daytime light won't come ON.

HEADLAMP (FOR CANADA) — CONVENTIONAL TYPE —

Schematic

Schematic

NHEL0205



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HEADLAMP (FOR CANADA) — CONVENTIONAL TYPE —

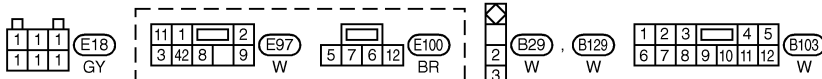
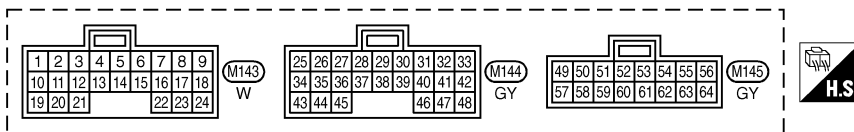
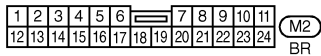
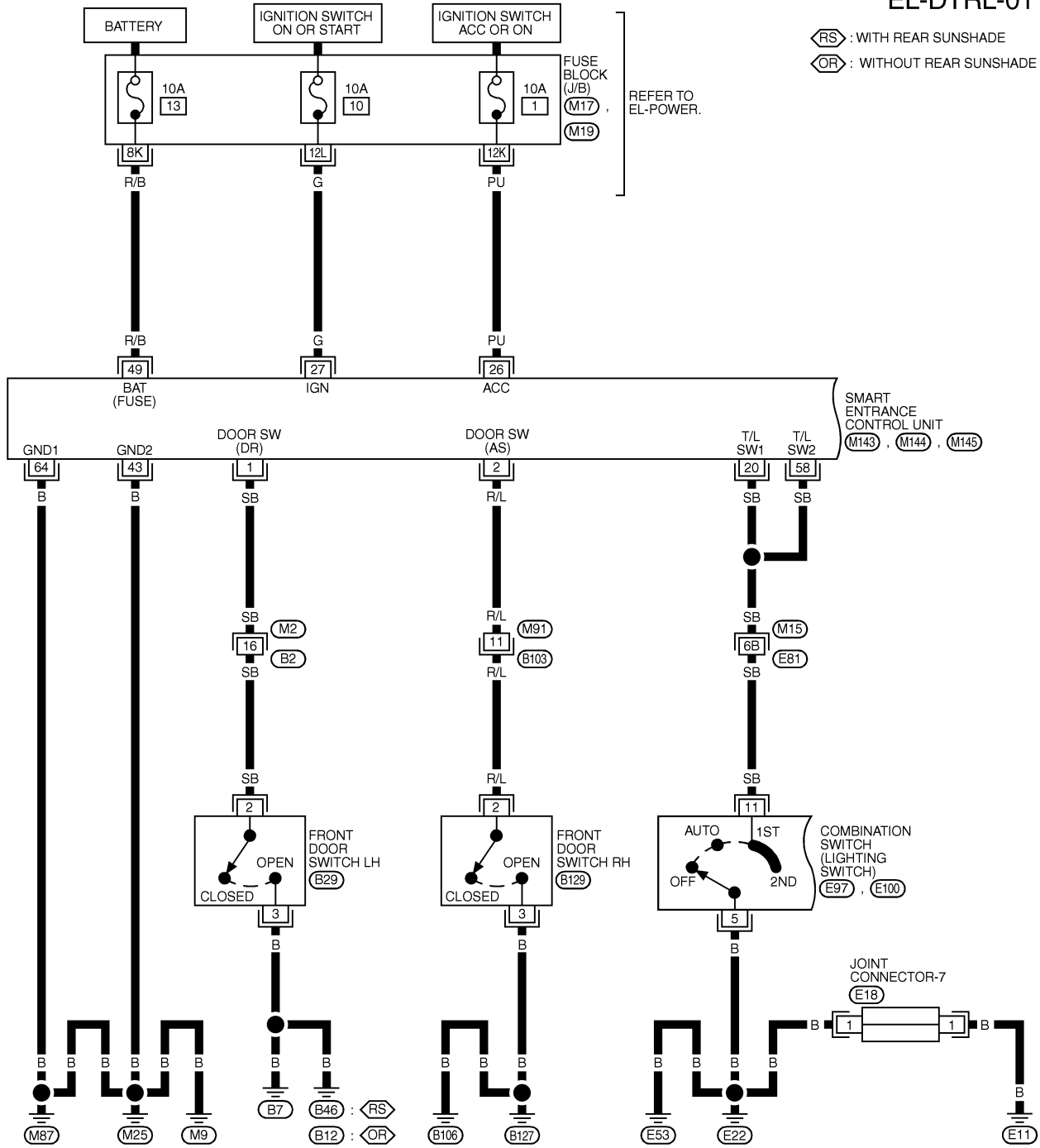
Wiring Diagram — DTRL —

Wiring Diagram — DTRL —

NHEL0020

EL-DTRL-01

⊠RS : WITH REAR SUNSHADE
 ⊠OR : WITHOUT REAR SUNSHADE



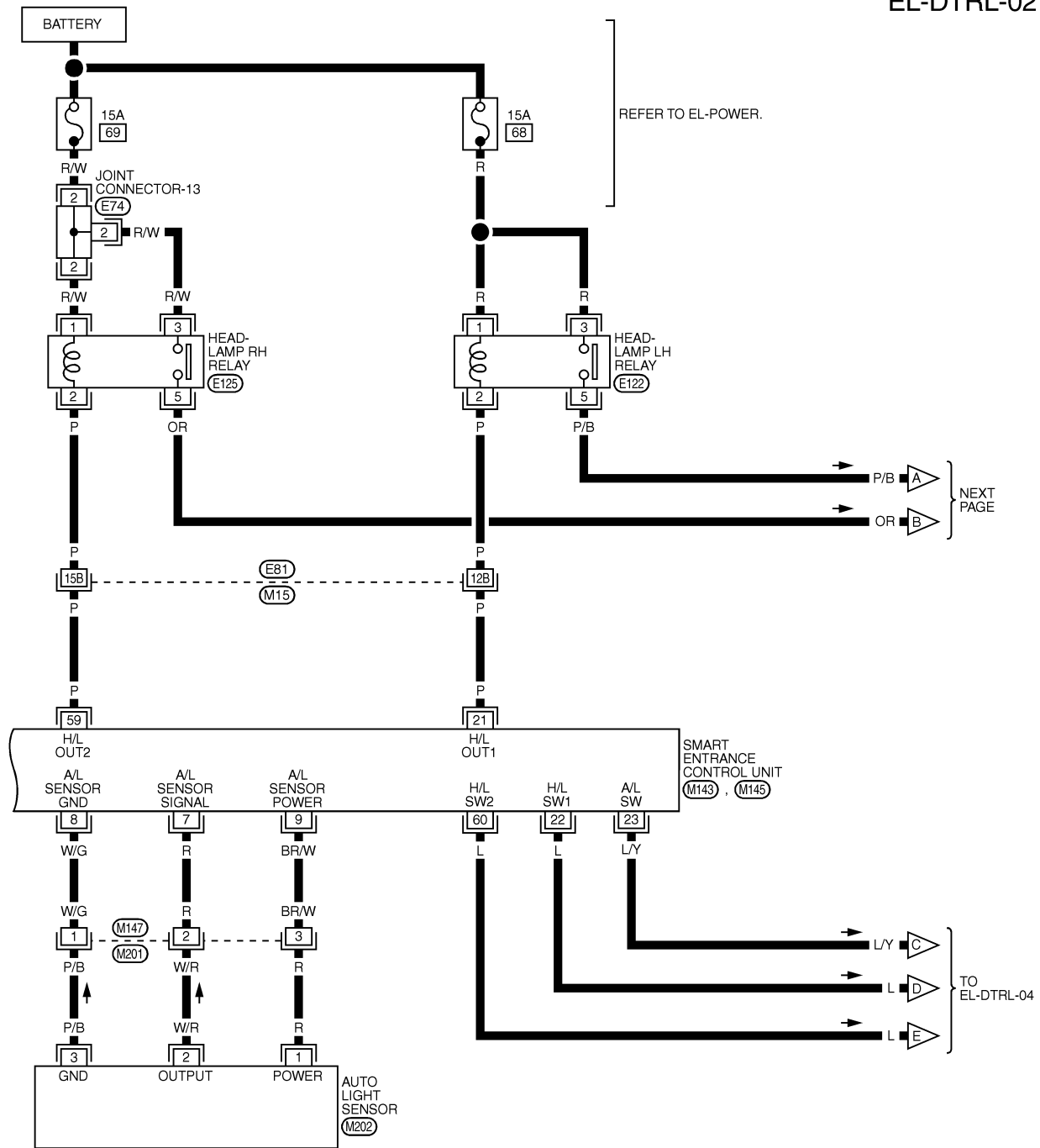
REFER TO THE FOLLOWING.
 ⊠M15 -SUPER
 MULTIPLE JUNCTION (SMJ)
 ⊠M17, ⊠M19 -FUSE BLOCK-
 JUNCTION BOX (J/B)

MEL395M

HEADLAMP (FOR CANADA) — CONVENTIONAL TYPE —

Wiring Diagram — DTRL — (Cont'd)

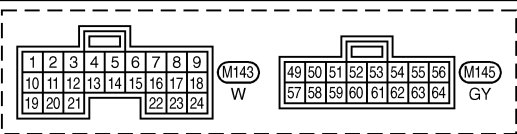
EL-DTRL-02



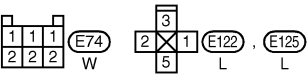
REFER TO EL-POWER.

NEXT PAGE

TO EL-DTRL-04



REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)



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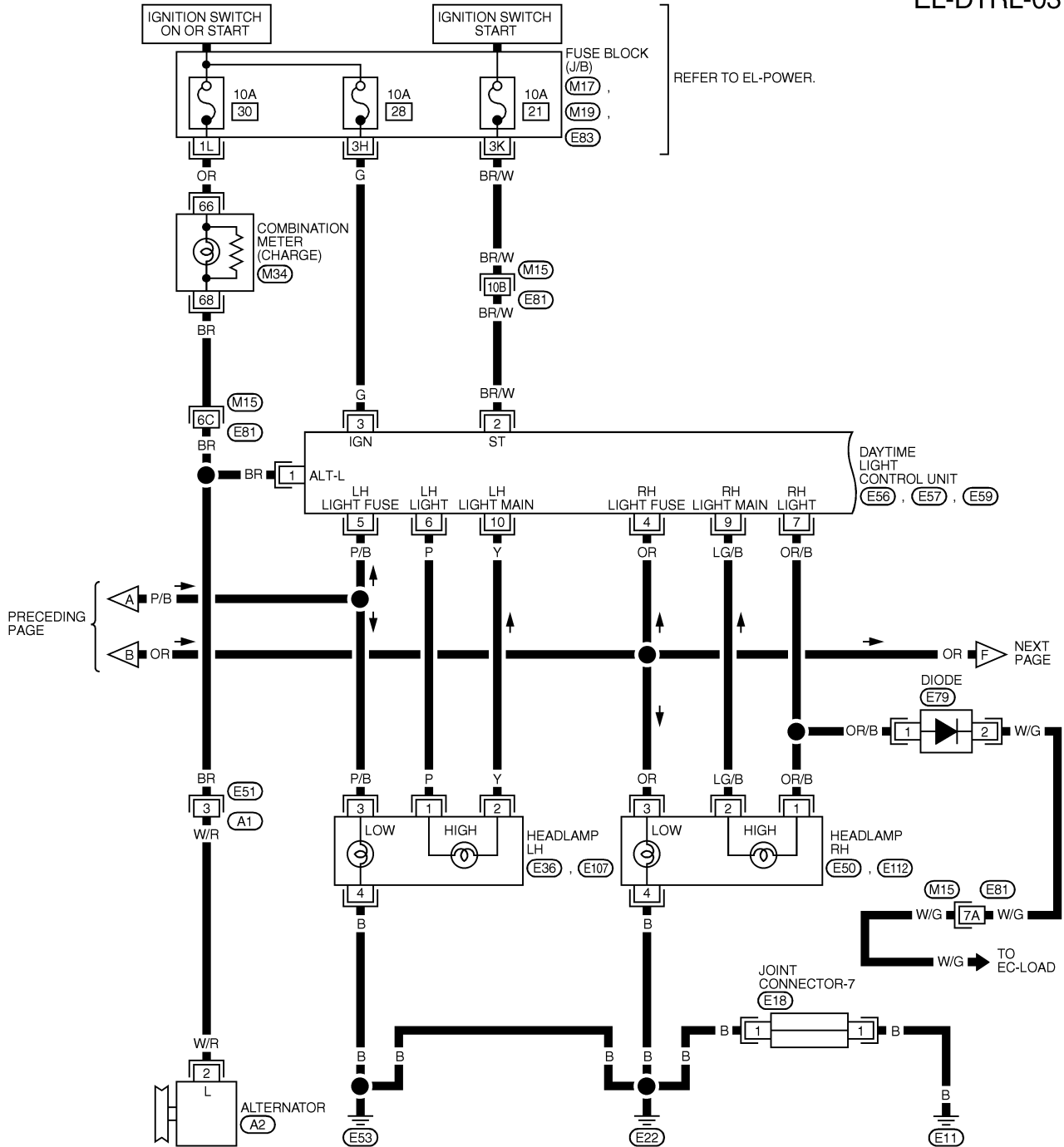
EL

IDX

HEADLAMP (FOR CANADA) — CONVENTIONAL TYPE —

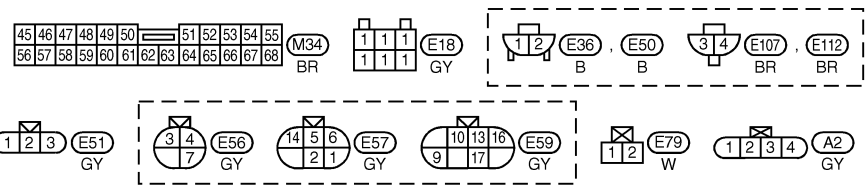
Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-03



PRECEDING PAGE

NEXT PAGE



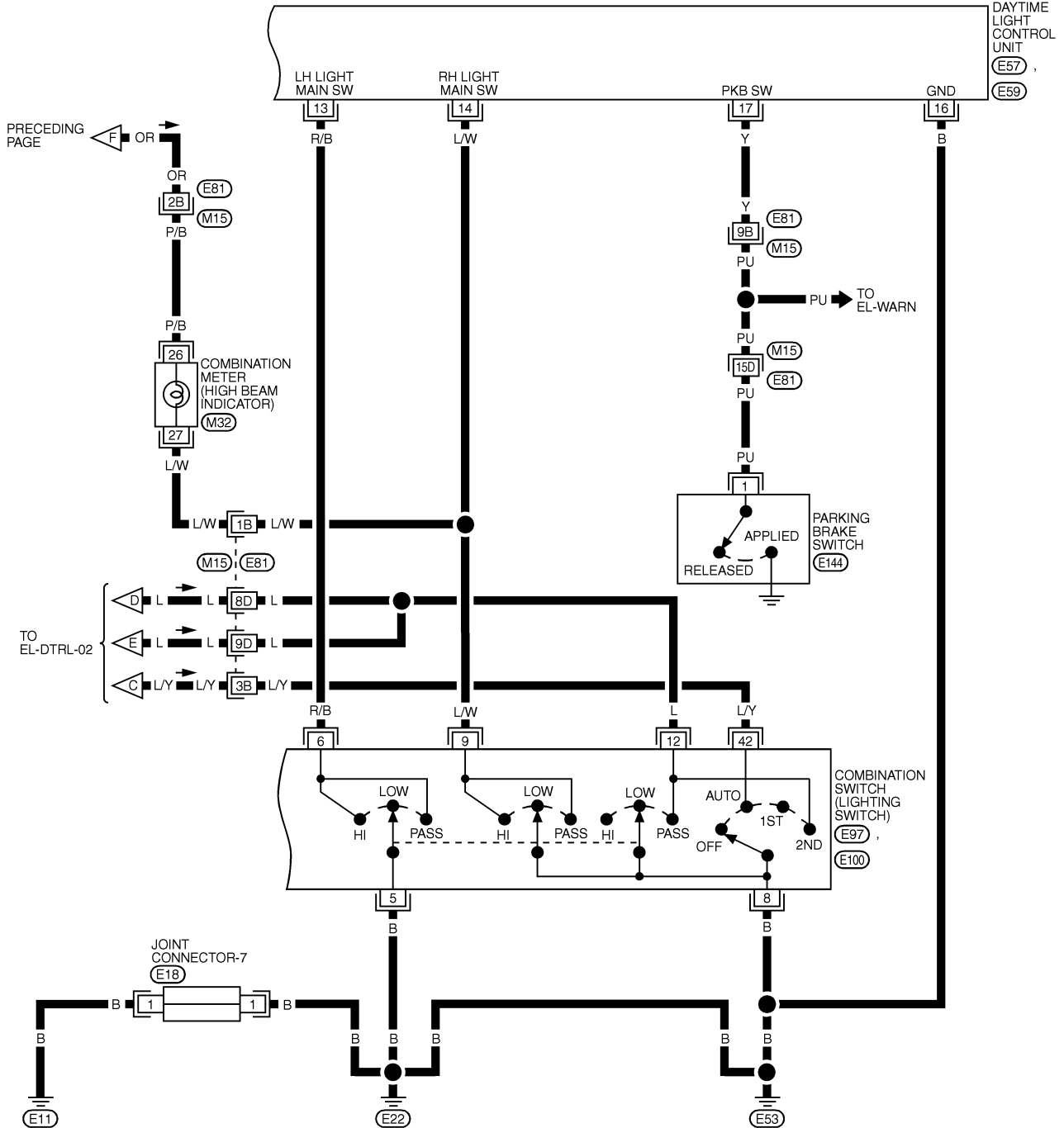
REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M17) , (M19) , (E83) -FUSE-BLOCK- JUNCTION BOX (J/B)

MEL397M

HEADLAMP (FOR CANADA) — CONVENTIONAL TYPE —

Wiring Diagram — DTRL — (Cont'd)

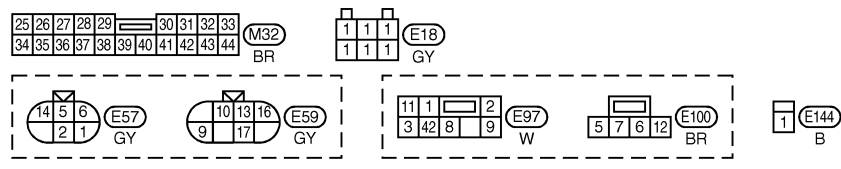
EL-DTRL-04



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REFER TO THE FOLLOWING.
(M15) -SUPER
MULTIPLE JUNCTION (SMJ)

MEL922N

HEADLAMP (FOR CANADA) — CONVENTIONAL TYPE —

Trouble Diagnoses

Trouble Diagnoses

NHEL0206

Symptom	Possible cause	Repair order
Neither headlamp operates.	<ol style="list-style-type: none"> 1. 10A fuse 2. Lighting switch 3. Smart entrance control unit 	<ol style="list-style-type: none"> 1. Check 10A fuse [No. 13, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 49 of smart entrance control unit. 2. Check Lighting switch. 3. Check smart entrance control unit. (EL-406)
LH headlamp (low and high beam) does not operate, but RH headlamp (low and high beam) does operate.	<ol style="list-style-type: none"> 1. 15A fuse 2. Headlamp LH relay 3. Headlamp LH relay circuit 4. Lighting switch circuit 5. Smart entrance control unit 	<ol style="list-style-type: none"> 1. Check 15A fuse (No. 68, located in fusible link and fuse box). Verify battery positive voltage is present at terminals 1 and 3 of headlamp LH relay. 2. Check headlamp LH relay. 3. Check the following. <ol style="list-style-type: none"> a. Harness between headlamp LH relay and headlamp LH b. Harness between headlamp LH relay and daytime light control unit c. Harness between headlamp LH relay and smart entrance control unit 4. Check harness between smart entrance control unit and lighting switch. 5. Check smart entrance control unit. (EL-406)
RH headlamp (low and high beam) does not operate, but LH headlamp (low and high beam) does operate.	<ol style="list-style-type: none"> 1. 15A fuse 2. Headlamp RH relay 3. Headlamp RH relay circuit 4. Lighting switch circuit 5. Smart entrance control unit 	<ol style="list-style-type: none"> 1. Check 15A fuse (No. 69, located in fusible link and fuse box). Verify battery positive voltage is present at terminals 1 and 3 of headlamp RH relay. 2. Check headlamp RH relay. 3. Check the following. <ol style="list-style-type: none"> a. Harness between headlamp RH relay and headlamp RH b. Harness between headlamp RH relay and daytime light control unit c. Harness between headlamp RH relay and smart entrance control unit 4. Check harness between smart entrance control unit and lighting switch. 5. Check smart entrance control unit. (EL-406)
LH high beam does not operate, but LH low beam does operate.	<ol style="list-style-type: none"> 1. Bulb 2. Headlamp LH relay 3. Headlamp LH relay circuit 4. Headlamp LH high beams circuit 5. Lighting switch 6. Lighting switch circuit 7. Daytime control unit 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check headlamp LH relay. 3. Check harness between headlamp LH relay and daytime light control unit. 4. Check harness between daytime light control unit and headlamp LH. 5. Check lighting switch. 6. Check harness between daytime light control unit and lighting switch. 7. Check daytime control unit. (EL-69)
LH low beam does not operate, but LH high beam does operate.	<ol style="list-style-type: none"> 1. Bulb 2. Headlamp LH relay 3. Headlamp LH relay circuit 4. Open in LH low beams circuit 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check headlamp LH relay. 3. Check harness between headlamp LH relay and headlamp LH. 4. Check harness between headlamp LH terminal 4 and ground.




HEADLAMP (FOR CANADA) — CONVENTIONAL TYPE —

Trouble Diagnoses (Cont'd)

Symptom	Possible cause	Repair order	
RH high beam does not operate, but RH low beam does operate.	<ol style="list-style-type: none"> 1. Bulb 2. Headlamp RH relay 3. Headlamp RH relay circuit 4. Headlamp RH high beams circuit 5. Lighting switch 6. Lighting switch circuit 7. Daytime control unit 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check headlamp RH relay. 3. Check harness between headlamp RH relay and daytime light control unit. 4. Check harness between daytime light control unit and headlamp RH. 5. Check lighting switch. 6. Check harness between daytime light control unit and lighting switch. 7. Check daytime control unit. (EL-69) 	GI MA EM
RH low beam does not operate, but RH high beam does operate.	<ol style="list-style-type: none"> 1. Bulb 2. Headlamp RH relay 3. Headlamp RH relay circuit 4. Open in RH low beams circuit 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check headlamp RH relay. 3. Check harness between headlamp RH relay and headlamp RH. 4. Check harness between headlamp RH terminal 4 and ground. 	LC EC
High beam indicator does not work.	<ol style="list-style-type: none"> 1. Bulb 2. Open in high beam circuit 	<ol style="list-style-type: none"> 1. Check bulb in combination meter. 2. Check the following. <ol style="list-style-type: none"> a. Harness between daytime light control unit and combination meter for an open circuit b. Harness between combination meter and combination switch for an open circuit 	FE AT
Battery saver control does not operate properly.	<ol style="list-style-type: none"> 1. Door switch LH or RH circuit 2. Smart entrance control unit 	<ol style="list-style-type: none"> 1. Check the following. <ol style="list-style-type: none"> a. Harness between smart entrance control unit and LH or RH door switch for open or short circuit b. LH or RH door switch ground circuit c. LH or RH door switch 2. Check smart entrance control unit. (EL-406) 	AX SU
Daytime light control does not operate properly.	<ol style="list-style-type: none"> 1. Bulb 2. Fuse check 3. Parking brake switch 4. Parking brake switch circuit 5. Daytime control unit 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check the following. <ol style="list-style-type: none"> a. 10A fuse [No. 28, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 3 of daytime light control unit. b. 10A fuse [No. 21, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 2 of daytime light control unit. 3. Check parking brake switch. 4. Check harness between parking brake switch and daytime light control unit. 5. Check daytime light control unit. (EL-69) 	BR ST RS BT














DAYTIME LIGHT CONTROL UNIT INSPECTION TABLE

NHEL0206S01

Terminal No.	Wire color	Item	Condition	Voltage (Approximate values)	
1	BR	Alternator	 When turning ignition switch to "ON"	Less than 1V	EL
			 When engine is running	Battery voltage	IDX
			 When turning ignition switch to "OFF"	Less than 1V	



HEADLAMP (FOR CANADA) — CONVENTIONAL TYPE —

Trouble Diagnoses (Cont'd)

Terminal No.	Wire color	Item	Condition		Voltage (Approximate values)
2	BR/W	Start signal		When turning ignition switch to "ST"	Battery voltage
				When turning ignition switch to "ON" from "ST"	Less than 1V
				When turning ignition switch to "OFF"	Less than 1V
3	G	Power source		When turning ignition switch to "ON"	Battery voltage
				When turning ignition switch to "ST"	Battery voltage
				When turning ignition switch to "OFF"	Less than 1V
4	OR	Power source		When turning ignition switch to "ON"	Battery voltage
				When turning ignition switch to "OFF"	Battery voltage
5	P/B	Power source		When turning ignition switch to "ON"	Battery voltage
				When turning ignition switch to "OFF"	Battery voltage
6	P	LH hi beam		When lighting switch is turned to the 2ND position with "HI BEAM" position	Battery voltage
				When releasing parking brake with engine running and turning lighting switch to "OFF" (daytime light operation) CAUTION: Block wheels and ensure selector lever is in N or P position.	Approx. half battery voltage
7	OR/B	RH hi beam		When lighting switch is turned to the 2ND position with "HI BEAM" position	Battery voltage
				When releasing parking brake with engine running and turning lighting switch to "OFF" (daytime light operation) CAUTION: Block wheels and ensure selector lever is in N or P position.	Approx. half battery voltage
9	LG/B	RH hi beam (ground)		When lighting switch is turned to the 2ND position with "HI BEAM" position	Less than 1V
				When releasing parking brake with engine running and turning lighting switch to "OFF" (daytime light operation) CAUTION: Block wheels and ensure selector lever is in N or P position.	Approx. half battery voltage

HEADLAMP (FOR CANADA) — CONVENTIONAL TYPE —

Trouble Diagnoses (Cont'd)

Terminal No.	Wire color	Item	Condition	Voltage (Approximate values)
10	Y	LH hi beam (ground)	When lighting switch is turned to the 2ND position with "HI BEAM" position	Less than 1V
			 When releasing parking brake with engine running and turning lighting switch to "OFF" (daytime light operation) CAUTION: Block wheels and ensure selector lever is in N or P position.	Approx. half battery voltage
13	R/B L/W	Lighting switch (Hi beam)	When turning lighting switch to "HI BEAM"	Battery voltage
14			When turning lighting switch to "FLASH TO PASS"	Battery voltage
16	B	Ground	—	—
17	Y	Parking brake switch	 When parking brake is released	Battery voltage
			When parking brake is set	Less than 1.5V

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Bulb Replacement

Refer to "HEADLAMP (FOR USA)" (EL-44).

NHEL0022

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Aiming Adjustment

Refer to "HEADLAMP (FOR USA)" (EL-45).

NHEL0023

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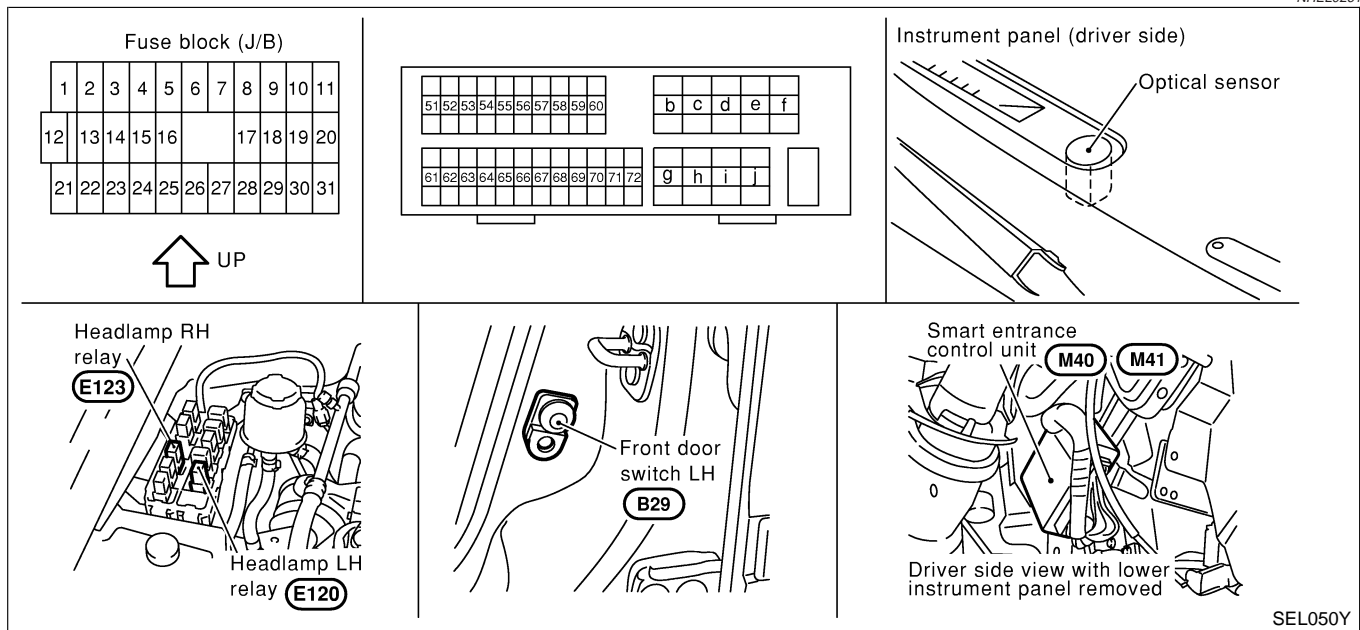
IDX

HEADLAMP (FOR CANADA) — XENON TYPE —

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NHEL0261



System Description

NHEL0262

The headlamp system for Canada vehicles contains a daytime light control unit that activates the high beam headlamps at approximately half illumination whenever the engine is running. If the parking brake is applied before the engine is started the daytime lights will not be illuminated. The daytime lights will illuminate once the parking brake is released. Thereafter, the daytime lights will continue to operate when the parking brake is applied.

And battery saver system is controlled by the smart entrance control unit.

Power is supplied at all times

- to headlamp LH relay terminals 1 and 6
- through 20A fuse (No. 54, located in the fuse and fusible link box), and
- to headlamp RH relay terminals 1 and 6
- through 20A fuse (No. 55, located in the fuse and fusible link box), and
- to smart entrance control unit terminal 49
- through 10A fuse [No. 13, located in the fuse block (J/B)].

Ground is supplied

- to daytime light control unit terminal 16 and
- to smart entrance control unit terminals 43 and 64

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

- to daytime light control unit terminal 3,
- through 10A fuse [No. 28, located in the fuse block (J/B)], and
- to smart entrance control unit terminal 27
- through 10A fuse [No. 10, located in the fuse block (J/B)].

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

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

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

- to daytime light control unit terminal 2
- through 10A fuse [No. 21, located in the fuse block (J/B)].

HEADLAMP OPERATION

Power Supply to Low Beam and High Beam

When lighting switch is in 2ND or PASS position, ground is supplied

NHEL0262S01

NHEL0262S0101

HEADLAMP (FOR CANADA) — XENON TYPE —

System Description (Cont'd)

- to headlamp LH relay terminal 2 from smart entrance control unit terminal 21
- through smart entrance control unit terminal 22, and
- from lighting switch terminal 12, and
- to headlamp RH relay terminal 2 from smart entrance control unit terminal 59
- through smart entrance control unit terminal 60, and
- from lighting switch terminal 12.

GI

Headlamp relays (LH and RH) are energized and then power is supplied to headlamps (LH and RH).

MA

Low Beam Operation

When the lighting switch is turned to 2ND and LOW (“B”) positions, ground is supplied

NHREL0262S0103

EM

- to terminal 4 of the headlamp LH
- through body grounds E11, E22 and E53.

LC

Ground is also supplied

- to terminal 4 of the headlamp RH
- through body grounds E11, E22 and E53.

EC

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

High Beam Operation/Flash-to-pass Operation

When the lighting switch is turned to 2ND and HIGH (“A”) or PASS (“C”) positions, ground is supplied

NHREL0262S0104

FE

- to terminal 2 of LH headlamp
- through daytime light control unit terminals 10 and 13, and
- through lighting switch terminals 6 and 5
- through body grounds E11, E22 and E53.

AT

Ground is also supplied

- to terminal 2 of RH headlamp
- through daytime light control unit terminals 9 and 14
- to combination meter terminal 27 for the HIGH BEAM indicator
- through lighting switch terminals 9 and 8
- through body grounds E11, E22 and E53.

AX

SU

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

BR

ST

BATTERY SAVER CONTROL

Headlamps will remain on for a short while after the ignition switch is turned ON (or START) from OFF (or ACC).

NHREL0262S02

RS

Continuity between terminals 21 and 22, and between terminals 59 and 60 of smart entrance control unit will be disturbed after 45 seconds, then the headlamps will be turned off.

Then headlamps are turned off.

BT

The headlamps are turned off when LH or RH door is opened even if 45 seconds have not passed after the ignition switch is turned from ON (or START) to OFF (or ACC) positions while headlamps are illuminated.

HA

When the lighting switch is turned from OFF to 2ND after headlamps are turned to off by the battery saver control, ground is supply

- to smart entrance control unit terminals 20 and 58 from lighting switch terminal 11, and then
- to headlamp LH and RH relays terminal 2 from headlamp battery saver control unit terminals 21 and 59
- through smart entrance control unit terminals 22 and 60, and
- through lighting switch terminal 12.

SC

EL

Then headlamps illuminate again.

AUTO LIGHT OPERATION

For auto light operation, refer to “HEADLAMP” (EL-35).

NHREL0262S03

IDX

DAYTIME LIGHT OPERATION

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

NHREL0262S04

- through daytime light control unit terminal 7
- to terminal 1 of RH headlamp
- through terminal 2 of RH headlamp

HEADLAMP (FOR CANADA) — XENON TYPE —

System Description (Cont'd)

- to daytime light control unit terminal 9
- through daytime light control unit terminal 6
- to terminal 1 of LH headlamp.

Ground is supplied to terminal 2 of LH headlamp.

- through daytime light control unit terminals 10 and 16
- through body grounds E11, E22 and E53.

Because the high beam headlamps are now wired in series, they operate at half illumination.

OPERATION

NHLE0262S05

After starting the engine with the lighting switch in the "OFF" or "1ST" position, the headlamp high beam automatically turns on. Lighting switch operations other than the above are the same as conventional light systems.

Engine		With engine stopped									With engine running								
		OFF			1ST			2ND			OFF			1ST			2ND		
		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Lighting switch	High beam	X	X	O	X	X	O	O	X	O	△*	△*	O	△*	△*	O	O	X	O
	Low beam	X	X	X	X	X	X	X	O	X	X	X	X	X	X	X	X	O	X
Clearance and tail lamp		X	X	X	O	O	O	O	O	O	X	X	X	O	O	O	O	O	O
License and instrument illumination lamp		X	X	X	O	O	O	O	O	O	X	X	X	O	O	O	O	O	O

A: "HIGH BEAM" position

B: "LOW BEAM" position

C: "FLASH TO PASS" position

O : Lamp "ON"

X : Lamp "OFF"

△ : Lamp dims. (Added functions)

*: When starting the engine with the parking brake released, the daytime light will come ON.

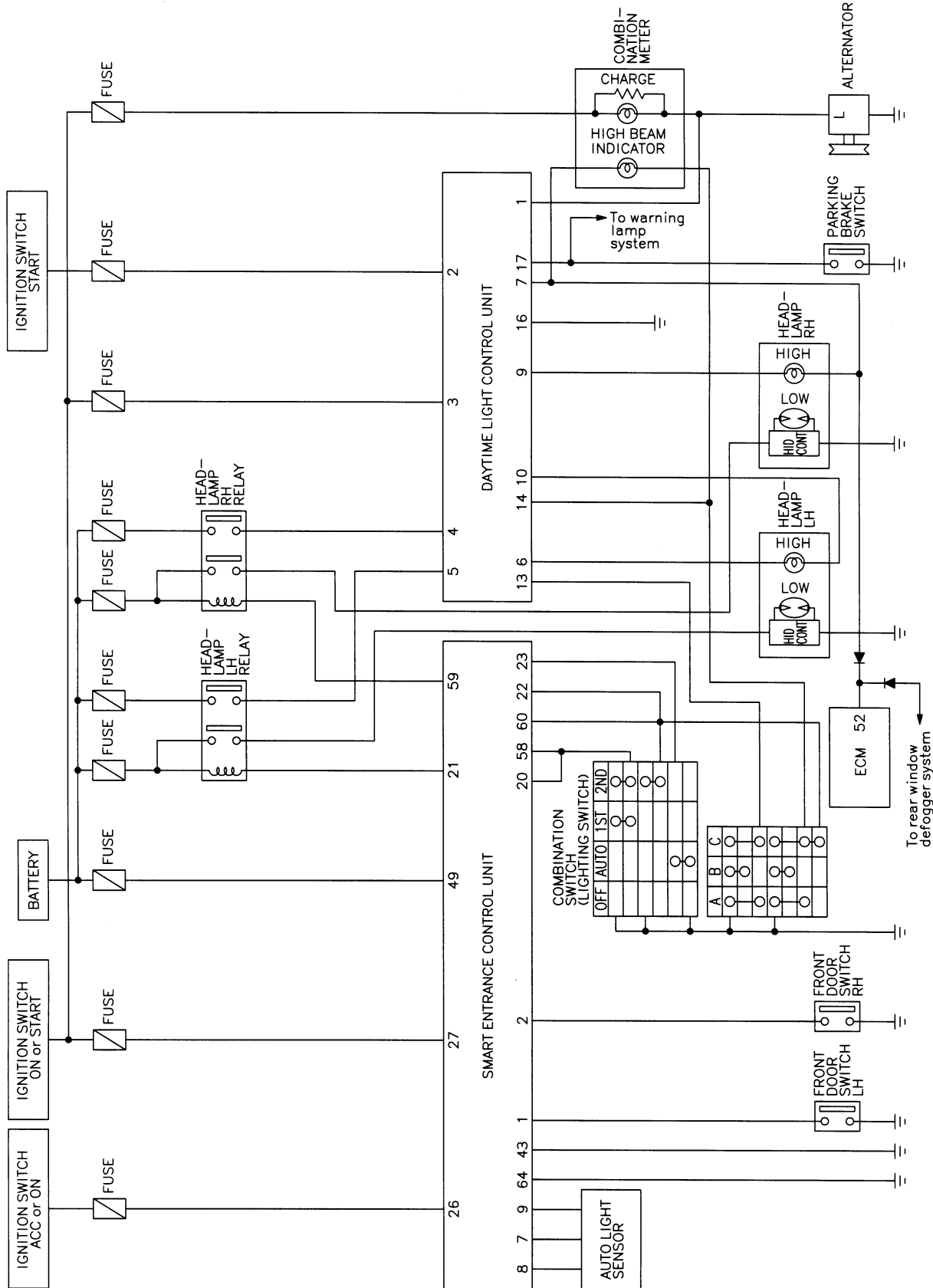
When starting the engine with the parking brake pulled, the daytime light won't come ON.

HEADLAMP (FOR CANADA) — XENON TYPE —

Schematic

NHEL0263

Schematic



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MEL399M

HEADLAMP (FOR CANADA) — XENON TYPE —

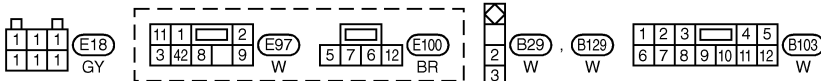
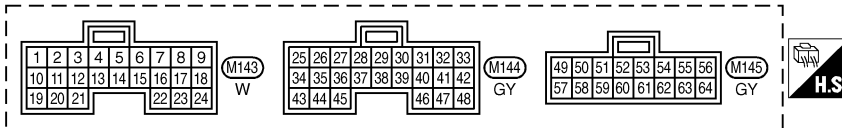
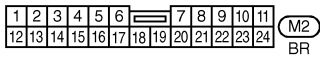
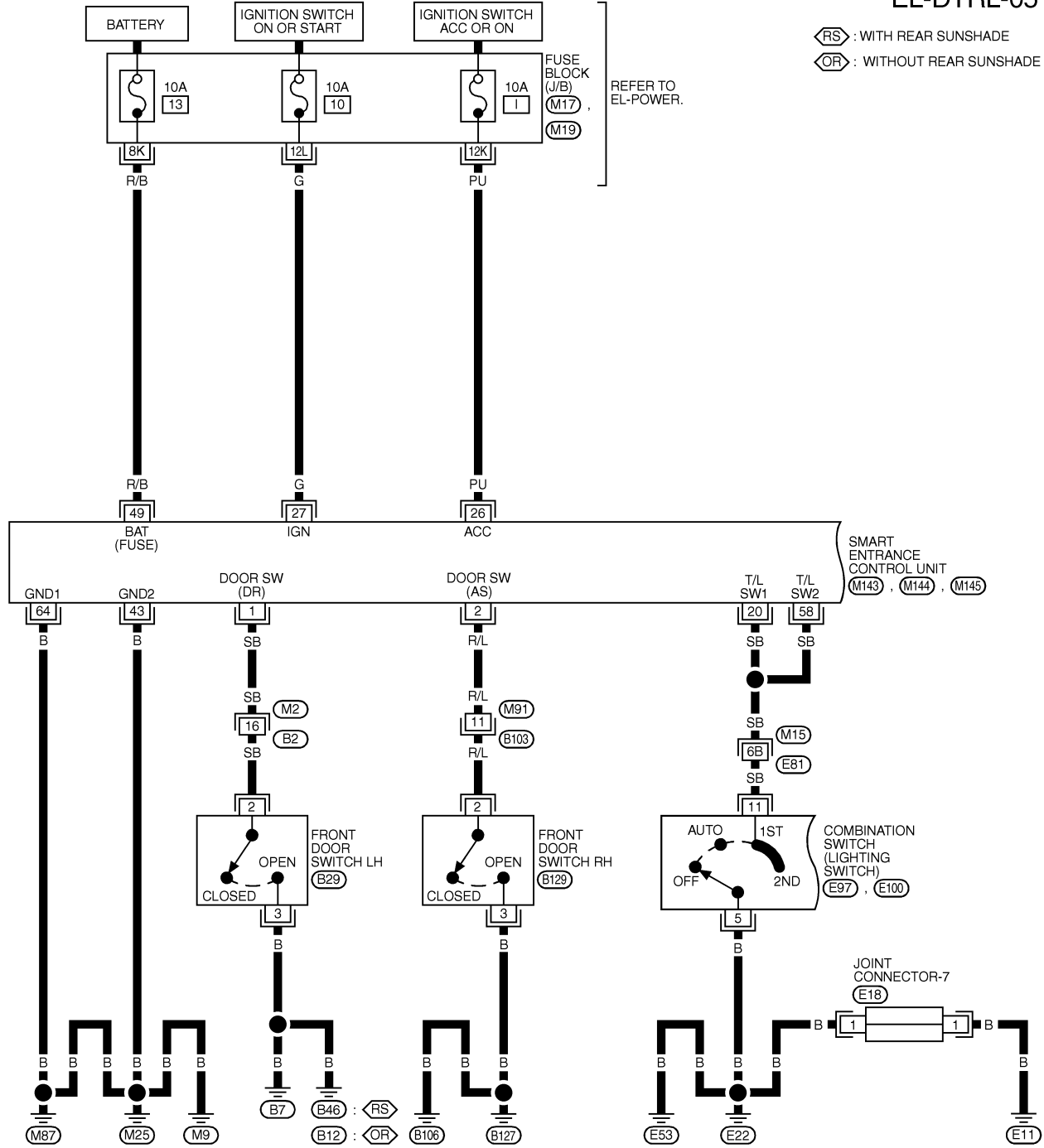
Wiring Diagram — DTRL —

Wiring Diagram — DTRL —

NHEL0264

EL-DTRL-05

◊RS : WITH REAR SUNSHADE
 ◊OR : WITHOUT REAR SUNSHADE



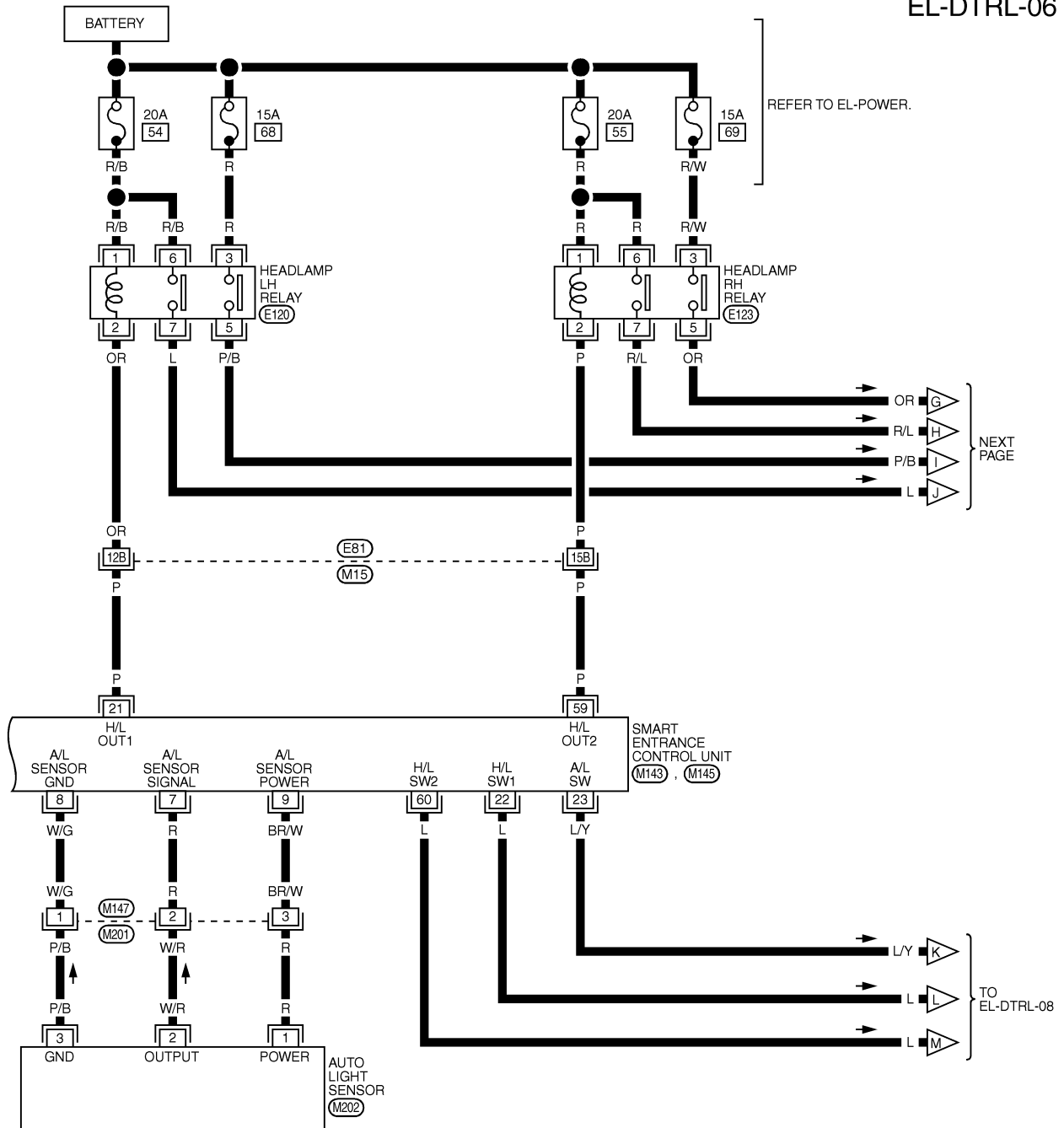
REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M17), (M19) -FUSE BLOCK-
 JUNCTION BOX (J/B)

MEL400M

HEADLAMP (FOR CANADA) — XENON TYPE —

Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-06



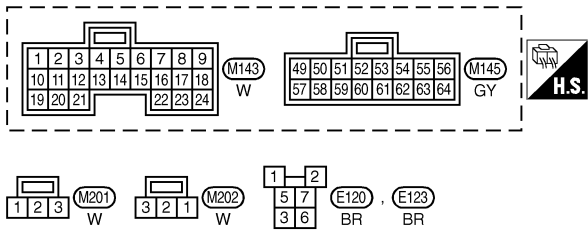
REFER TO EL-POWER.

NEXT PAGE

TO EL-DTRL-08

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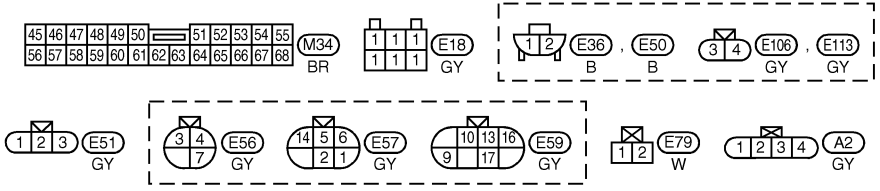
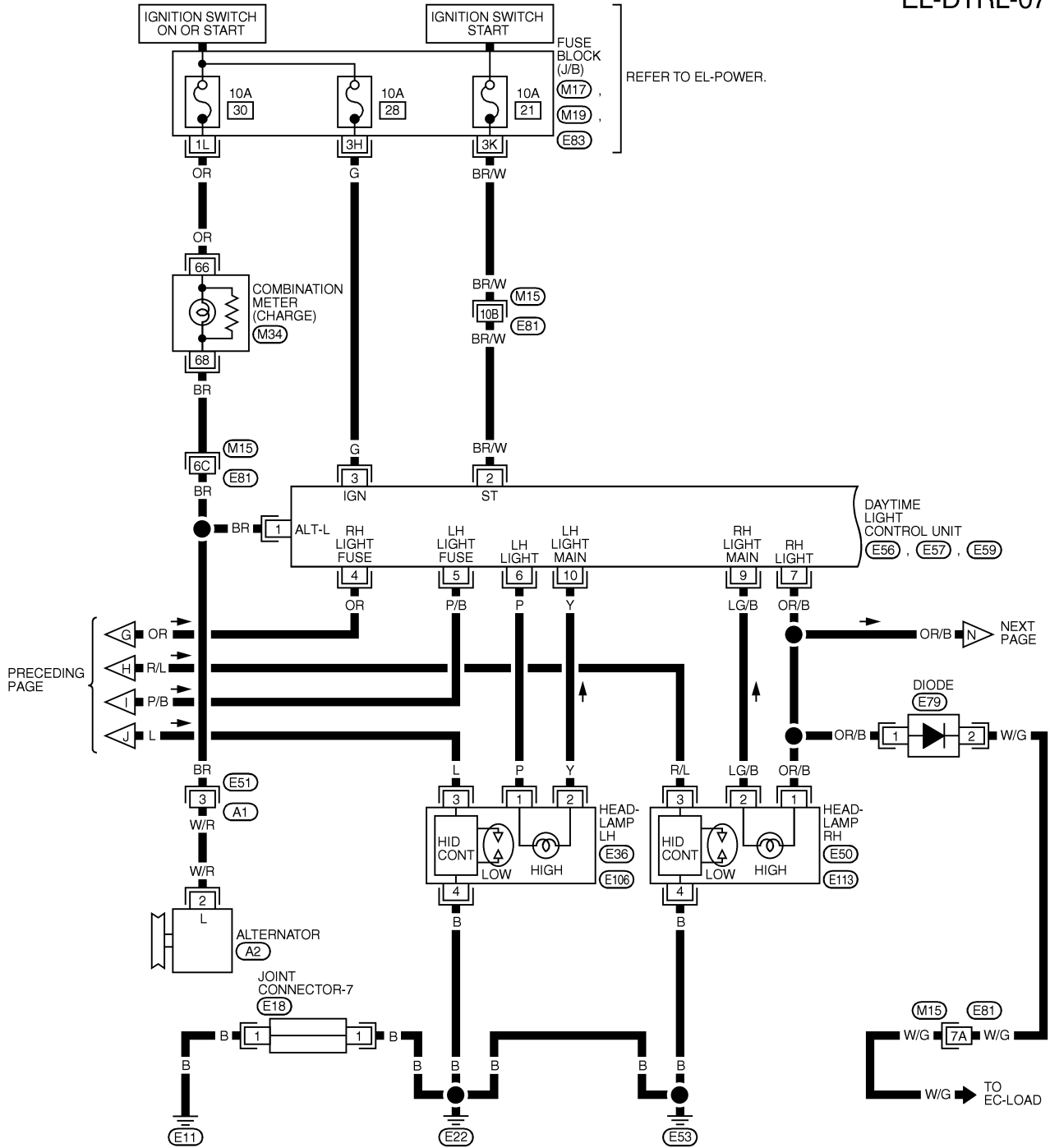
REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)

MEL401M

HEADLAMP (FOR CANADA) — XENON TYPE —

Wiring Diagram — DTRL — (Cont'd)

EL-DTRL-07



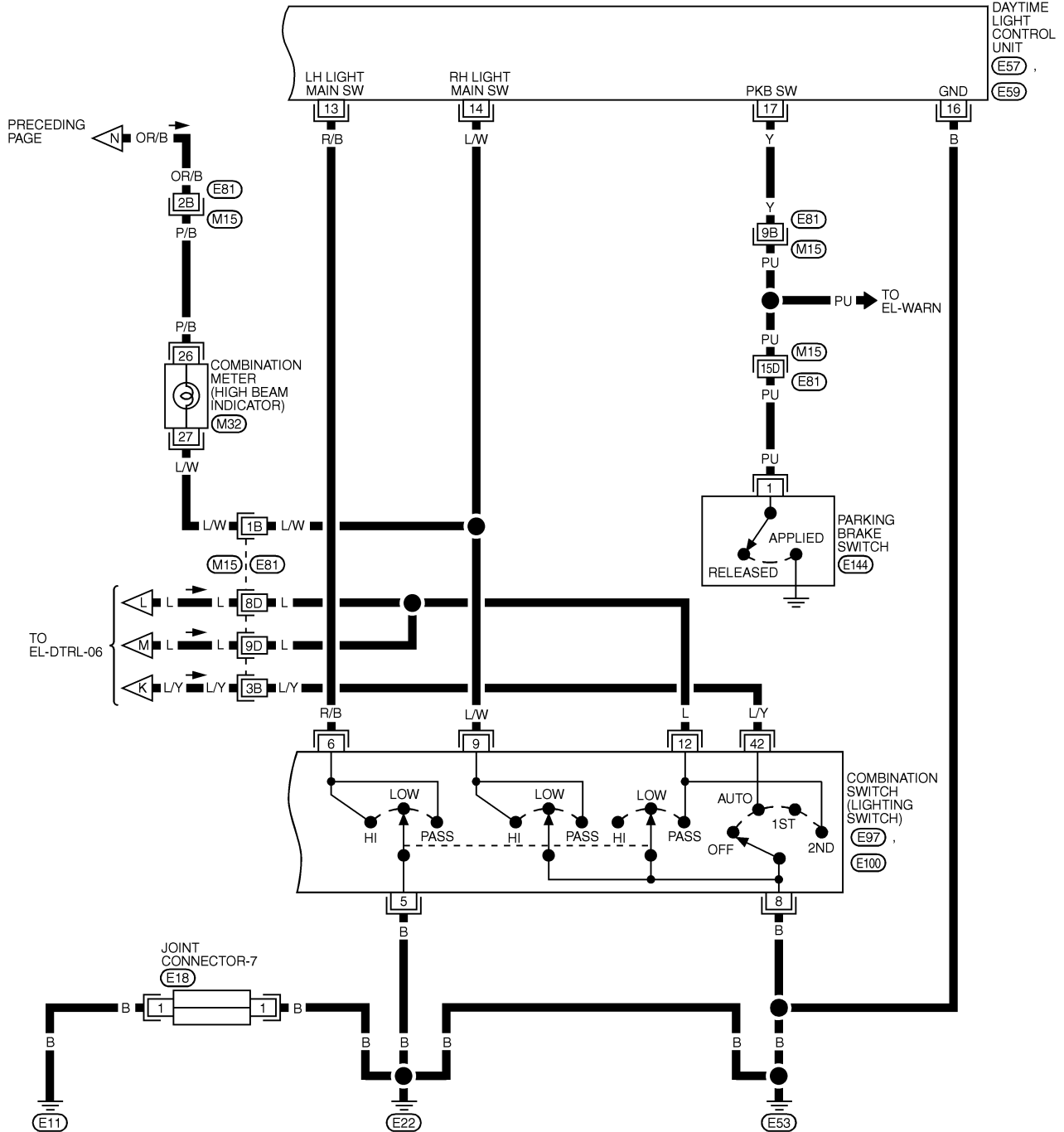
REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M17) , (M19) , (E83) -FUSE
 BLOCK- JUNCTION BOX (J/B)

MEL402M

HEADLAMP (FOR CANADA) — XENON TYPE —

Wiring Diagram — DTRL — (Cont'd)

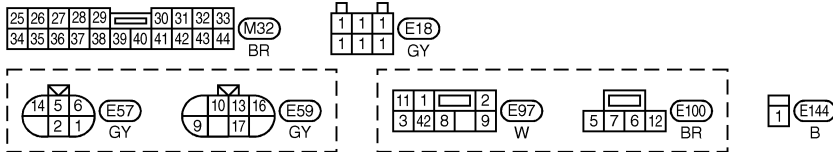
EL-DTRL-08



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REFER TO THE FOLLOWING.
(M15) -SUPER
MULTIPLE JUNCTION (SMJ)

MEL923N

HEADLAMP (FOR CANADA) — XENON TYPE —

Trouble Diagnoses

WARNING:

- The xenon headlamp has a high-tension current generating area. Be extremely careful when removing and installing. Be certain to disconnect the battery negative cable prior to removing or installing.
- When the xenon headlamp is lit, do not touch the harness (covered with red or amber insulation), bulb itself or the bulb socket with your bare hands.
- Never service a xenon headlamp with wet hands.
- When checking body side harness with a circuit tester, be certain to disconnect the harness connector from the xenon headlamp.
- When the xenon headlamp is lit, the xenon bulb must be installed in the headlamp housing. (Never turn on xenon headlamp, if the bulb is out of the headlamp housing.)

CAUTION:

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

Symptom	Possible cause	Repair order
Neither headlamp operates.	<ol style="list-style-type: none"> 1. 10A fuse 2. Lighting switch 3. Smart entrance control unit 	<ol style="list-style-type: none"> 1. Check 10A fuse [No. 13, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 49 of smart entrance control unit. 2. Check Lighting switch. 3. Check smart entrance control unit. (EL-406)
LH headlamp (low and high beam) does not operate, but RH headlamp (low and high beam) does operate.	<ol style="list-style-type: none"> 1. 20A fuse 2. Headlamp LH relay 3. Headlamp LH relay circuit 4. Lighting switch circuit 5. Smart entrance control unit 	<ol style="list-style-type: none"> 1. Check 20A fuse (No. 54, located in fusible link and fuse box). Verify battery positive voltage is present at terminals 1 and 6 of headlamp LH relay. 2. Check headlamp LH relay. 3. Check harness between headlamp LH relay and smart entrance control unit. 4. Check harness between smart entrance control unit and lighting switch. 5. Check smart entrance control unit. (EL-406)
RH headlamp (low and high beam) does not operate, but LH headlamp (low and high beam) does operate.	<ol style="list-style-type: none"> 1. 20A fuse 2. Headlamp RH relay 3. Headlamp RH relay circuit 4. Lighting switch circuit 5. Smart entrance control unit 	<ol style="list-style-type: none"> 1. Check 20A fuse (No. 55, located in fusible link and fuse box). Verify battery positive voltage is present at terminals 1 and 6 of headlamp RH relay. 2. Check headlamp RH relay. 3. Check harness between headlamp RH relay and smart entrance control unit. 4. Check harness between smart entrance control unit and lighting switch. 5. Check smart entrance control unit. (EL-406)
LH high beam does not operate, but LH low beam operates.	<ol style="list-style-type: none"> 1. Bulb 2. 15A fuse 3. Headlamp LH relay 4. Headlamp LH relay circuit 5. Headlamp LH high beams circuit 6. Lighting switch 7. Lighting switch circuit 8. Daytime light control unit 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check 15A fuse (No. 68, located in fusible link and fuse box). Verify battery positive voltage is present at terminal 3 of headlamp LH relay. 3. Check headlamp LH relay. 4. Check harness between headlamp LH relay and daytime light control unit. 5. Check harness between LH headlamp and lighting switch. 6. Check lighting switch. 7. Check the following. <ol style="list-style-type: none"> a. Harness between daytime light control unit and lighting switch b. Harness between lighting switch and ground 8. Check daytime light control unit.

HEADLAMP (FOR CANADA) — XENON TYPE —

Trouble Diagnoses (Cont'd)

Symptom	Possible cause	Repair order	
LH low beam does not operate, but LH high beam operates.	<ol style="list-style-type: none"> 1. Headlamp relay LH 2. Open in the LH low beam circuit 3. LH low beam ground circuit 4. Xenon bulb 5. HID control unit 6. Booster 	<ol style="list-style-type: none"> 1. Check headlamp relay LH. 2. Check harness between headlamp relay LH terminal 7 and LH headlamp for open circuit. 3. Check harness between LH headlamp and ground. 4. Replace the xenon bulb with other side bulb or new one. (If headlamps illuminate correctly, replace the bulb.) 5. Replace the HID control unit with other side control unit or new one. (If headlamps illuminate correctly, replace the control unit.) 6. Replace booster as a headlamp assembly. 	<p>GI</p> <p>MA</p> <p>EM</p>
RH high beam does not operate, but RH low beam operates.	<ol style="list-style-type: none"> 1. Bulb 2. 15A fuse 3. Headlamp RH relay 4. Headlamp RH relay circuit 5. Open in the RH high beams circuit 6. Lighting switch 7. Lighting switch circuit 8. Daytime light control unit 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check 15A fuse (No. 69, located in fusible link and fuse box). Verify battery positive voltage is present at terminal 3 of headlamp RH relay. 3. Check headlamp RH relay. 4. Check harness between headlamp RH relay and daytime light control unit. 5. Check harness between RH headlamp and lighting switch. 6. Check lighting switch. 7. Check the following. <ol style="list-style-type: none"> a. Harness between daytime control unit and lighting switch b. Harness between lighting switch and ground 8. Check daytime light control unit. 	<p>LC</p> <p>EC</p> <p>FE</p> <p>AT</p> <p>AX</p>
RH low beam does not operate, but RH high beam operates.	<ol style="list-style-type: none"> 1. Headlamp relay RH 2. Open in the RH low beam circuit 3. RH low beam ground circuit 4. Xenon bulb 5. HID control unit 6. Booster 	<ol style="list-style-type: none"> 1. Check headlamp relay RH. 2. Check harness between headlamp relay RH terminal 7 and RH headlamp for open circuit. 3. Check harness between RH headlamp and ground. 4. Replace the xenon bulb with other side bulb or new one. (If headlamps illuminate correctly, replace the bulb.) 5. Replace the HID control unit with other side control unit or new one. (If headlamps illuminate correctly, replace the control unit.) 6. Replace booster as a headlamp assembly. 	<p>SU</p> <p>BR</p> <p>ST</p> <p>RS</p>
High beam indicator does not work.	<ol style="list-style-type: none"> 1. Bulb 2. Open in high beam circuit 	<ol style="list-style-type: none"> 1. Check bulb in combination meter. 2. Check the following. <ol style="list-style-type: none"> a. Harness between daytime light control unit and combination meter for an open circuit b. Harness between high beam indicator and lighting switch 	<p>BT</p> <p>HA</p>
Battery saver control does not operate properly.	<ol style="list-style-type: none"> 1. Door switch LH or RH circuit 2. Smart entrance control unit 	<ol style="list-style-type: none"> 1. Check the following. <ol style="list-style-type: none"> a. Harness between smart entrance control unit and LH or RH door switch for open or short circuit b. LH or RH door switch ground circuit c. LH or RH door switch 2. Check smart entrance control unit. (EL-406) 	<p>SC</p> <p style="background-color: black; color: white; padding: 2px;">EL</p>

IDX

HEADLAMP (FOR CANADA) — XENON TYPE —

Trouble Diagnoses (Cont'd)

Symptom	Possible cause	Repair order
Daytime light control does not operate properly.	<ol style="list-style-type: none">1. Bulb2. Fuse check3. Parking brake switch4. Parking brake switch circuit5. Daytime control unit	<ol style="list-style-type: none">1. Check bulb.2. Check the following.<ol style="list-style-type: none">a. 10A fuse [No. 28, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 3 of daytime light control unit.b. 10A fuse [No. 21, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 2 of daytime light control unit.3. Check parking brake switch.4. Check harness between parking brake switch and daytime light control unit.5. Check daytime light control unit. (EL-69)

DAYTIME LIGHT CONTROL UNIT INSPECTION TABLE

Refer to "HEADLAMP (FOR CANADA)". (EL-69)

NHELO265S01

Bulb Replacement

Refer to "HEADLAMP (FOR USA)" (EL-44).

NHELO266

Aiming Adjustment

Refer to "HEADLAMP (FOR USA)" (EL-45).

NHELO267

System Description

NHEL0207

The parking, license and tail lamp operation is controlled by the lighting switch which is built into the combination switch and smart entrance control unit. The battery saver system is controlled by the smart entrance control unit.

Power is supplied at all times

- to tail lamp relay terminals 1 and 3
- through 10A fuse (No. 60, located in the fuse and fusible link box), and
- to smart entrance control unit terminal 49
- through 10A fuse [No. 13, located in the fuse block (J/B)].

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

- to smart entrance control unit terminal 27
- through 10A fuse [No. 1, located in the fuse block (J/B)].

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

- to smart entrance control unit terminal 26
- through 10A fuse [No. 1, located in the fuse block (J/B)].

Ground is supplied to smart entrance control unit terminals 43 and 64.

LIGHTING OPERATION BY LIGHTING SWITCH

When lighting switch is in 1ST (or 2ND) position, ground is supplied

- to tail lamp relay terminal 2 from smart entrance control unit terminals 19 and 57
- through smart entrance control unit terminals 20 and 58, and
- through lighting switch and body grounds E11, E22 and E53.

Tail lamp relay is then energized and the parking, license, side marker and tail lamps illuminate.

LIGHTING OPERATION BY AUTO LIGHT CONTROL SYSTEM

When lighting switch is in AUTO position, ground is supplied

- to tail lamp relay terminal 2 from smart entrance control unit terminals 19 and 57
- through smart entrance control unit terminals 43 and 64, and
- to body grounds E11, E22 and E53.

Tail lamp relay is then energized and the parking, license, side marker and tail lamps illuminate.

BATTERY SAVER CONTROL

Parking, license, side marker and tail lamps will remain on for a short while after the ignition switch is turned ON (or START) from OFF (or ACC).

Continuity between terminals 19 and 20, and between terminals 57 and 58 of smart entrance control unit will be disturbed after 45 seconds, then the headlamps will be turned off.

Then the parking, license, side marker and tail lamps are turned off.

The parking, license, side marker and tail lamps are turned off when driver or passenger side door is opened even if 45 seconds have not passed after the ignition switch is turned from ON (or START) to OFF (or ACC) positions while parking, license, side marker and tail lamps are illuminated.

When the lighting switch is turned from OFF to 1ST (or 2ND) after the parking, license, side marker and tail lamps are turned off by the battery saver control, ground is supplied.

- to smart entrance control unit terminals 20 and 58 from lighting switch terminal 11, and
- to tail lamp relay terminal 2 from smart entrance control unit terminals 19 and 57.

Then the parking, license, side marker and tail lamps illuminate again.

GI

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NHEL0207S01

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NHEL0207S03

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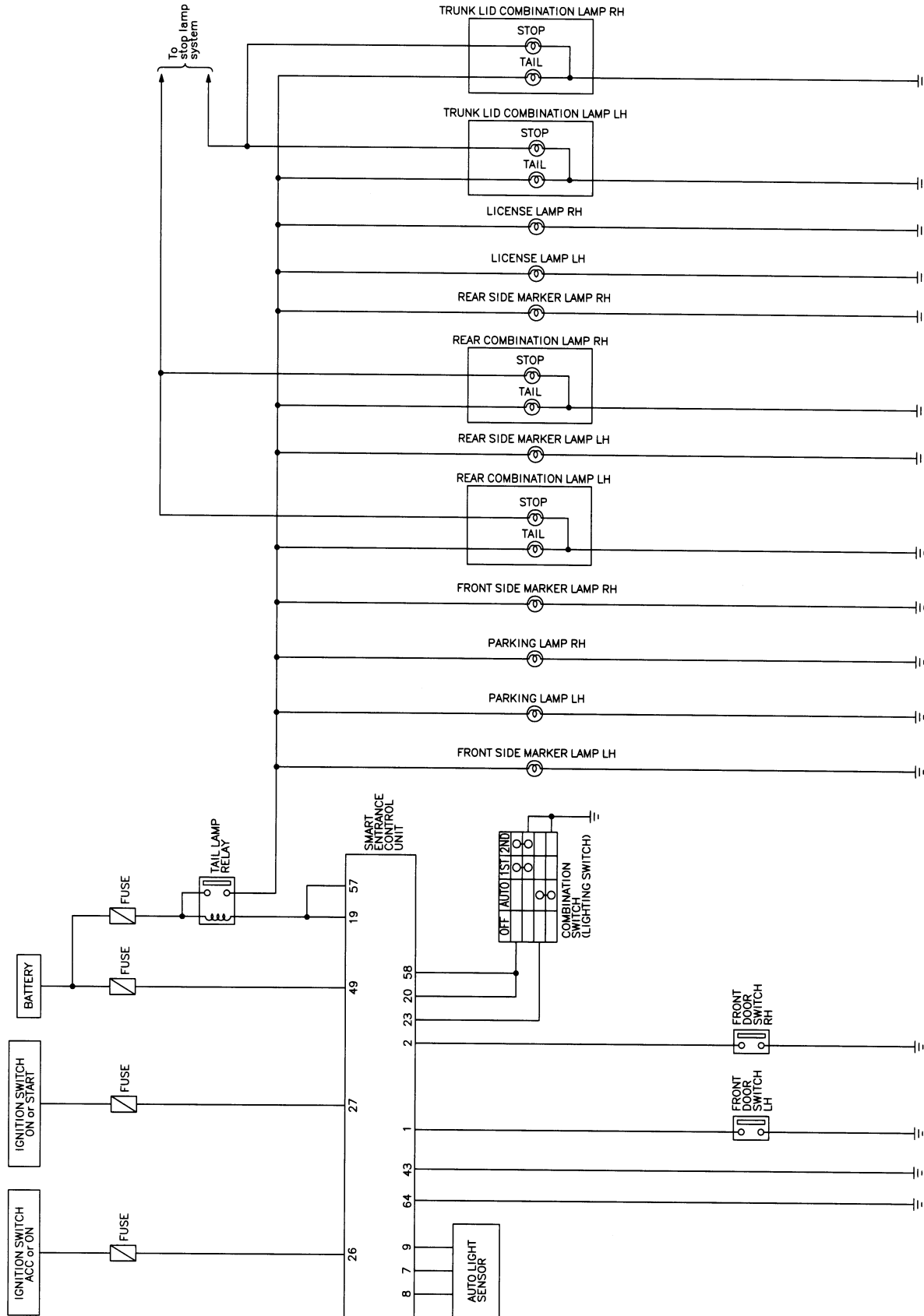
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PARKING, LICENSE AND TAIL LAMPS

Schematic

Schematic

NHEL0208



MEL404M

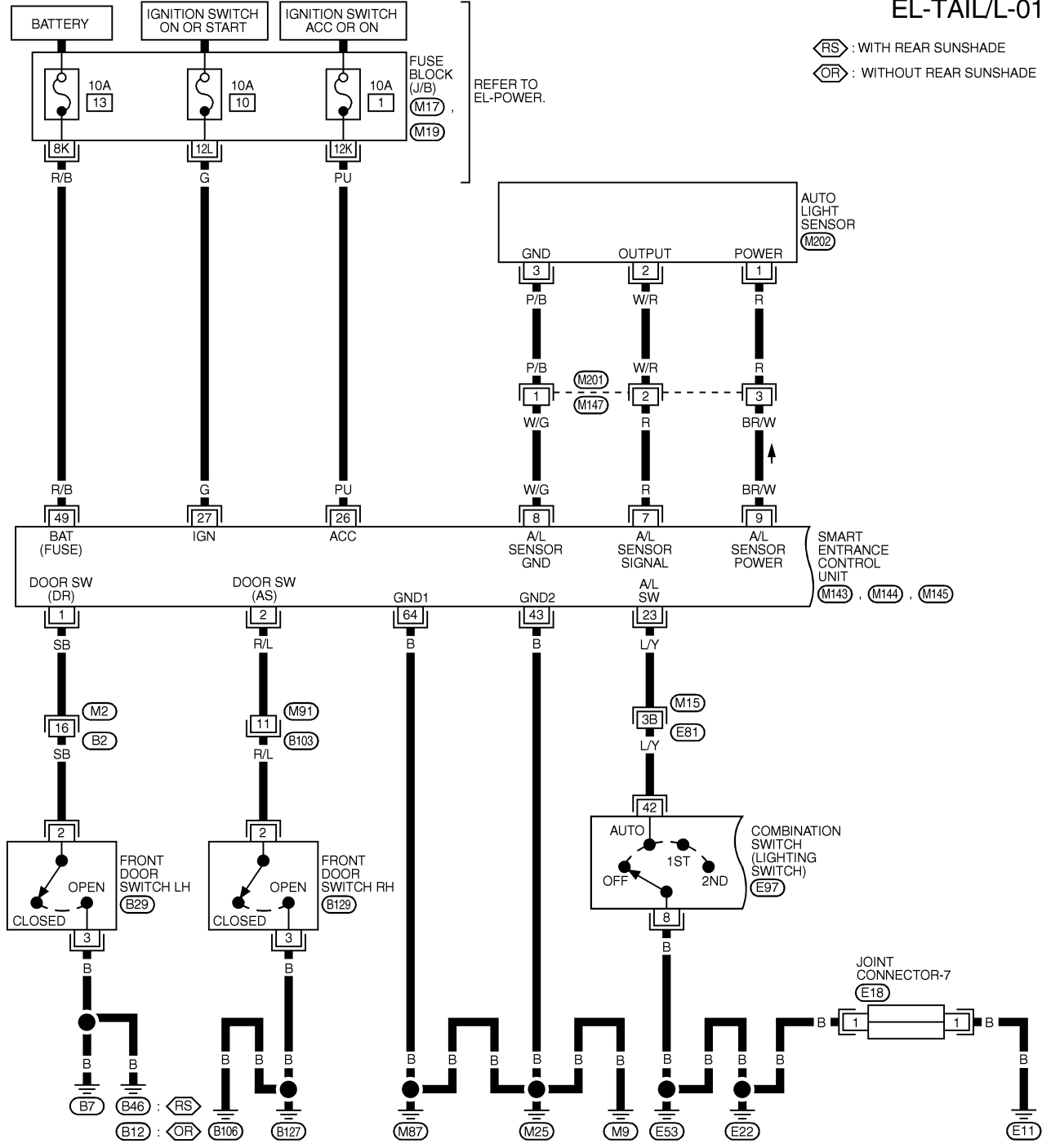
PARKING, LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L —

Wiring Diagram — TAIL/L —

NHEL0024

EL-TAIL/L-01



◁RS : WITH REAR SUNSHADE
 ▷OR : WITHOUT REAR SUNSHADE

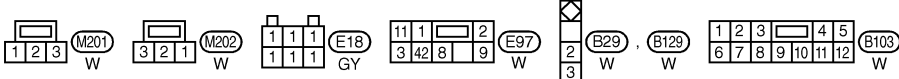
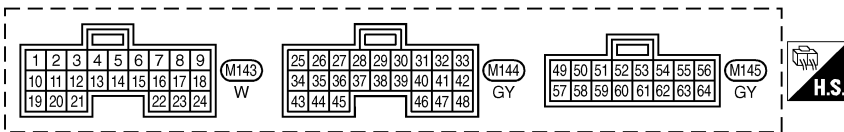
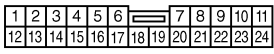
REFER TO EL-POWER.

AUTO LIGHT SENSOR (M202)

SMART ENTRANCE CONTROL UNIT (M143, M144, M145)

COMBINATION SWITCH (LIGHTING SWITCH) (E97)

JOINT CONNECTOR-7 (E18)



REFER TO THE FOLLOWING.
 (M15) -SUPER MULTIPLE JUNCTION (SMJ)
 (M17) . (M19) -FUSE BLOCK-JUNCTION BOX (J/B)

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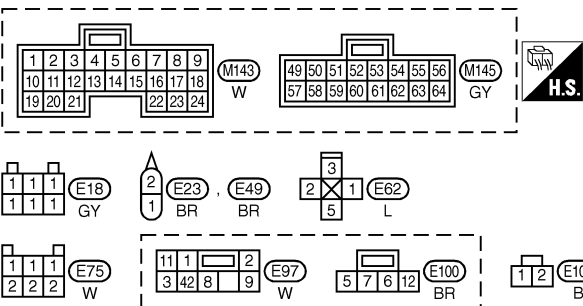
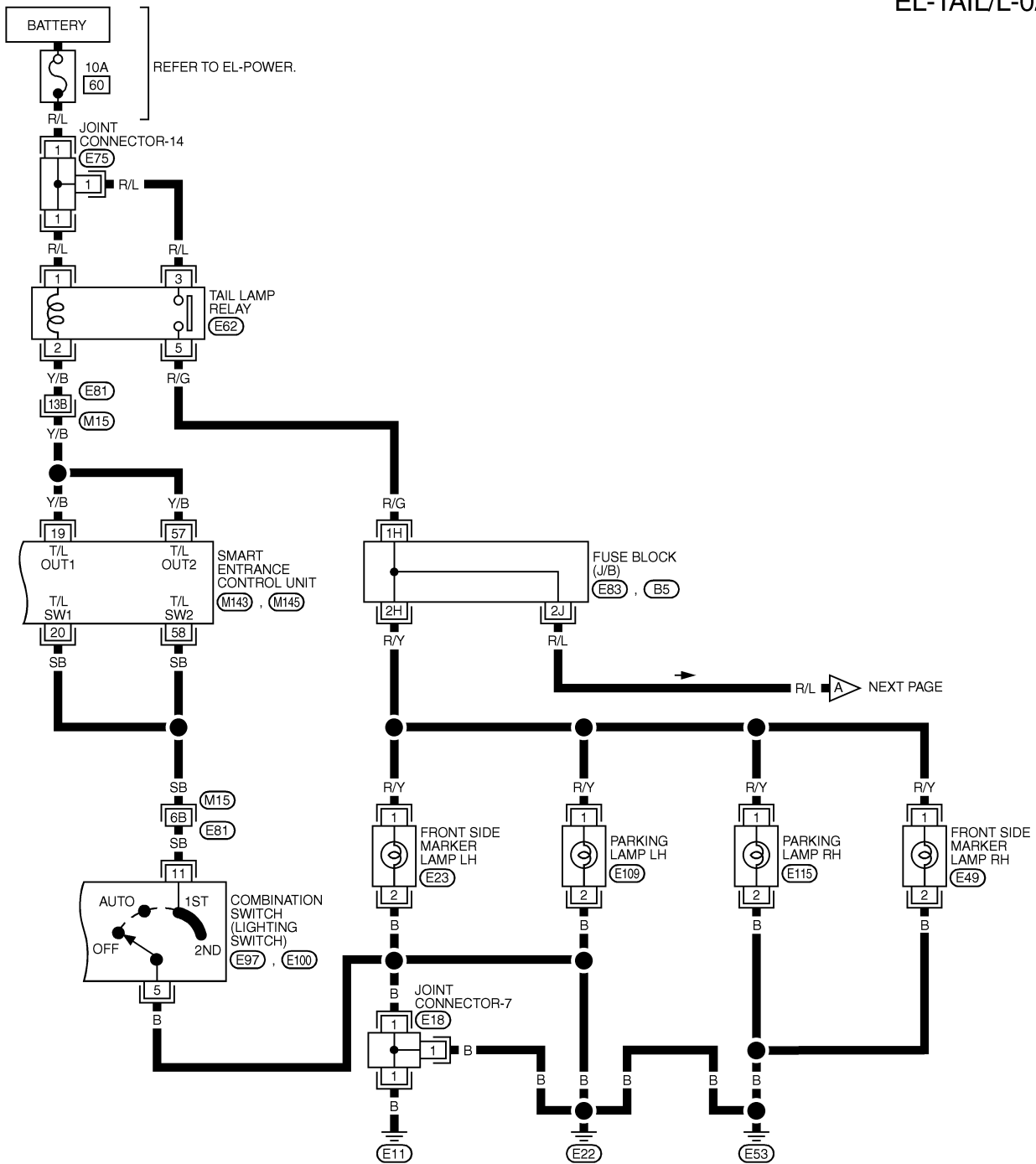
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PARKING, LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L — (Cont'd)

EL-TAIL/L-02



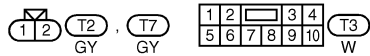
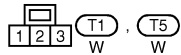
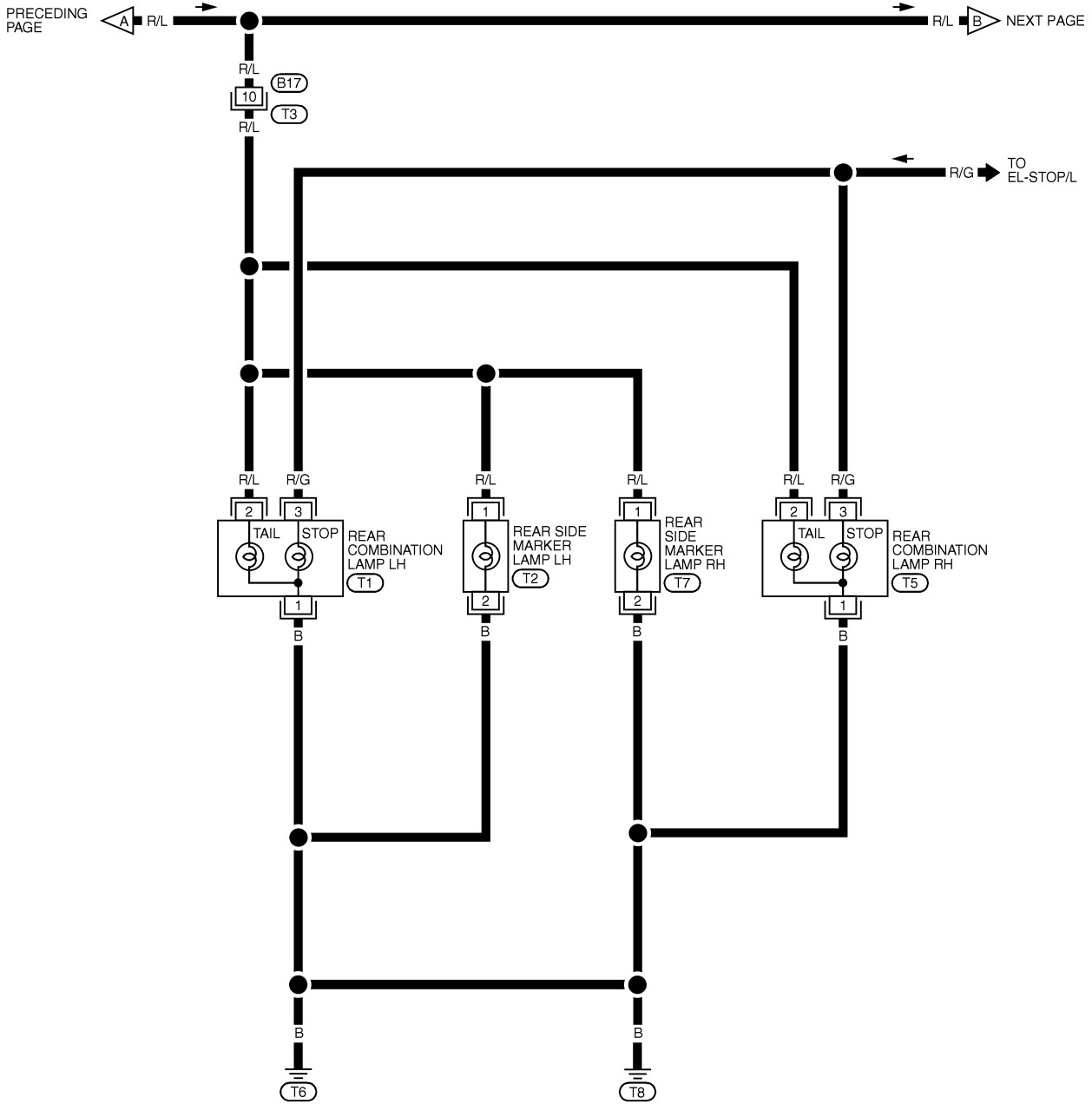
REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (E83) , (B5) -FUSE BLOCK-
 JUNCTION BOX (J/B)

MEL406M

PARKING, LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L — (Cont'd)

EL-TAIL/L-03



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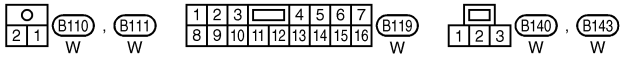
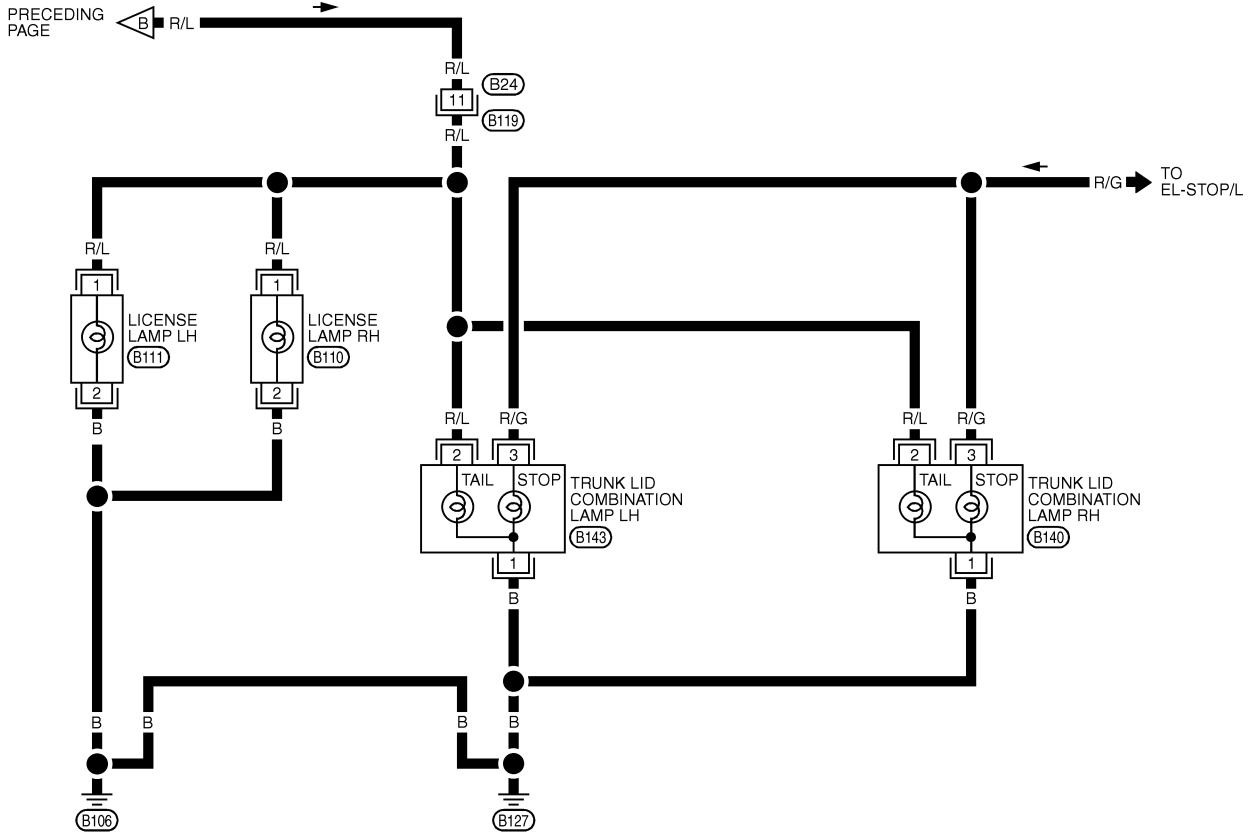
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MEL407M

PARKING, LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L — (Cont'd)

EL-TAIL/L-04



MEL435K

PARKING, LICENSE AND TAIL LAMPS

Wiring Diagram — TAIL/L — (Cont'd)

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

TERMINAL	WIRE COLOR	ITEM	CONDITION		DATA (DC)			
1	SB	DRIVER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)		5V → 0V			
2	R/L	PASSENGER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)		5V → 0V			
19	Y/B	TAIL LAMP RELAY (Out put)	IGNITION SWITCH (WITH LIGHTING SWITCH 1ST OR 2ND)	OFF	MORE THAN 45 SECONDS	12V		
				ON OR START	WITHIN 45 SECONDS	0V		
			HEADLAMPS ILLUMINATE BY AUTO LIGHT CONTROL (OPERATE → NOT OPERATE)					0V → 12V
			LIGHT SWITCH (OFF → 1ST OR 2ND POSITION)					12V → 0V
20	SB	TAIL LAMP SWITCH	LIGHT SWITCH (OFF → 1ST OR 2ND POSITION)		12V → 0V			
23	L/Y	HEADLAMP SWITCH	IGNITION SWITCH "ON" POSITION	LIGHTING SWITCH (EXCEPT AUTO → AUTO POSITION)	12V → 0V			
26	PU	IGNITION SWITCH (ACC)	"ACC" POSITION		12V			
27	G	IGNITION SWITCH (ON)	IGNITION KEY IS IN "ON" POSITION		12V			
43	B	GROUND	-		-			
49	R/B	POWER SOURCE (FUSE)	-		12V			
57	Y/B	TAIL LAMP RELAY	IGNITION SWITCH (WITH LIGHTING SWITCH 1ST OR 2ND)	OFF	MORE THAN 45 SECONDS	12V		
				ON OR START	WITHIN 45 SECONDS	0V		
			HEADLAMPS ILLUMINATE BY AUTO LIGHT CONTROL (OPERATE → NOT OPERATE)					LESS THAN 1.5V → 12V
			LIGHTING SWITCH OFF OR AUTO → 1ST OR 2ND					12V → 0V
58	SB	TAIL LAMP SWITCH	LIGHTING SWITCH OFF OR AUTO → 1ST OR 2ND		12V → 0V			
64	B	GROUND	-		-			

GI

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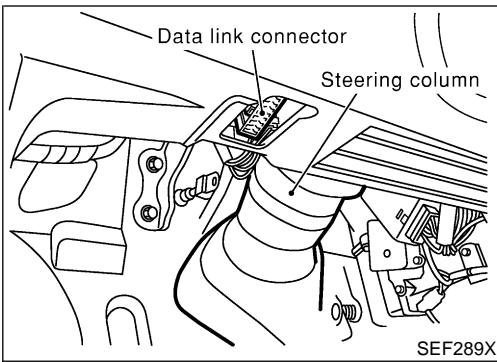
EL

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SEL972X

PARKING, LICENSE AND TAIL LAMPS

CONSULT-II Inspection Procedure

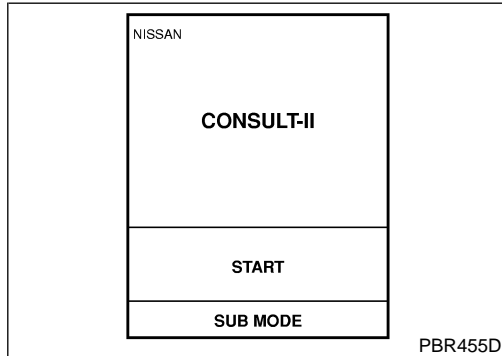


CONSULT-II Inspection Procedure "RETAINED PWR"

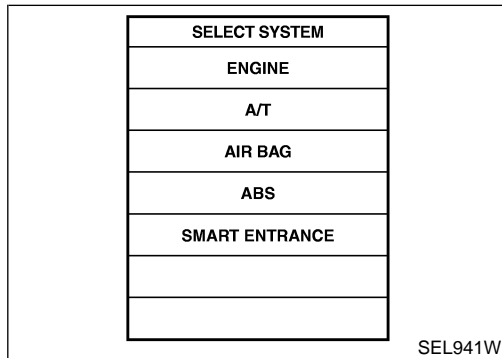
NHEL0209

NHEL0209S01

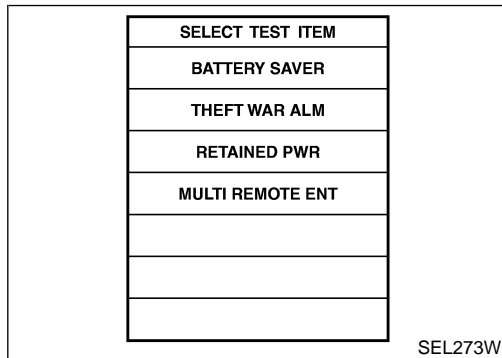
1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" to the data link connector.



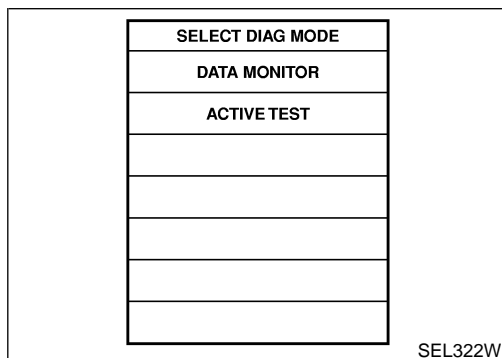
3. Turn ignition switch "ON".
4. Touch "START".



5. Touch "SMART ENTRANCE".



6. Touch "RETAINED PWR".



7. Select diagnosis mode.
"DATA MONITOR" and "ACTIVE TEST" are available.

CONSULT-II Application Items

NHLE0210

NHLE0210S01

NHLE0210S0101

“RETAINED PWR”

Data Monitor

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.

GI

MA

EM

Active Test

NHLE0210S0102

Test Item	Description
RETAINED PWR	<p>This test is able to supply RAP signal (power) from smart entrance control unit to power window system, power sunroof system and headlamp system. Those systems can be operated when turning on “RETAINED PWR” on CONSULT-II screen even if the ignition switch is turned OFF.</p> <p>NOTE: During this test, CONSULT-II can be operated with ignition switch “OFF” position. “RETAINED PWR” should be turned “ON” or “OFF” on CONSULT-II screen when ignition switch is ON. Then turn ignition switch OFF for checking retained power operation. CONSULT-II might be stuck if “RETAINED PWR” is turned “ON” or “OFF” on CONSULT-II screen when ignition switch is OFF.</p>

LC

EC

FE

AT

Trouble Diagnoses

NHLE0211

Symptom	Possible cause	Repair order
No lamps operate (including headlamps).	<ol style="list-style-type: none"> 1. 10A fuse 2. Lighting switch 3. Smart entrance control unit 	<ol style="list-style-type: none"> 1. Check 10A fuse [No. 13, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 49 of smart entrance control unit. 2. Check lighting switch. 3. Check smart entrance control unit. (EL-406)
No parking, side marker, license and tail lamps operate, but headlamps do operate.	<ol style="list-style-type: none"> 1. 10A fuse 2. Tail lamp relay 3. Tail lamp relay circuit 4. Lighting switch 5. Lighting switch circuit 6. Smart entrance control unit 	<ol style="list-style-type: none"> 1. Check 10A fuse (No. 60, located in fusible and fuse block). Verify battery positive voltage is present at terminals 1 and 3 of tail lamp relay. 2. Check tail lamp relay. 3. Check harness between smart entrance control unit terminals 19 and 57 and tail lamp relay terminal 2. Check harness between tail lamp relay terminal 5 and ground. 4. Check lighting switch. 5. Check harness between lighting switch terminal 11 and smart entrance control unit terminals 20 and 58. Check harness between lighting switch terminal 5 and ground. 6. Check smart entrance control unit. (EL-406)
Battery saver control does not operate properly.	<ol style="list-style-type: none"> 1. Smart entrance control unit 	<ol style="list-style-type: none"> 1. Check smart entrance control unit. (EL-406)

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STOP LAMP

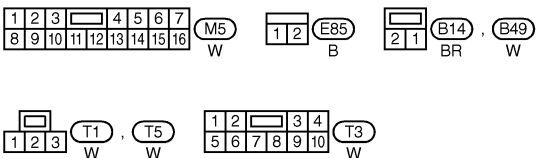
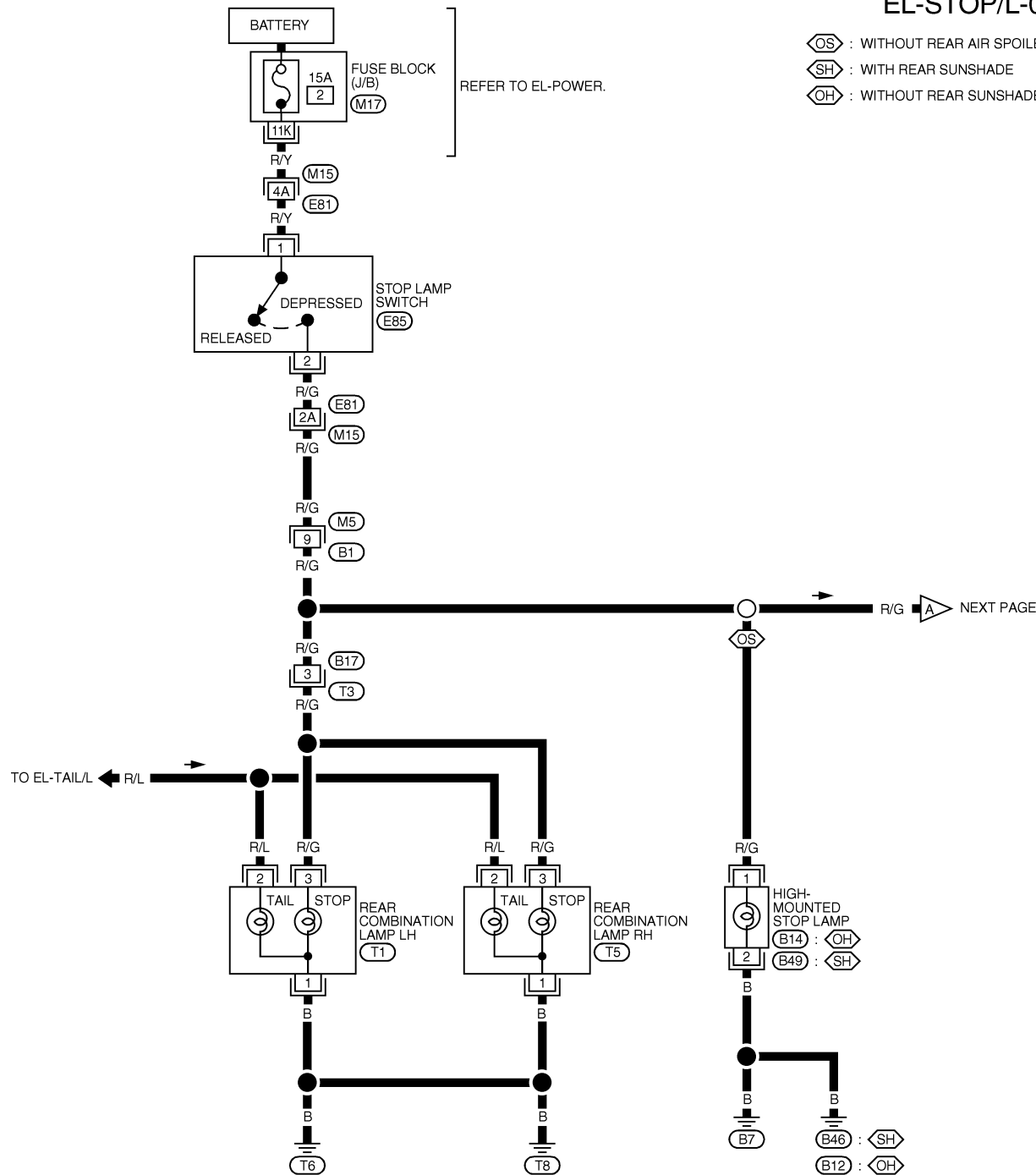
Wiring Diagram — STOP/L —

Wiring Diagram — STOP/L —

NHEL0025

EL-STOP/L-01

- ⊖ OS : WITHOUT REAR AIR SPOILER
- ⊖ SH : WITH REAR SUNSHADE
- ⊖ OH : WITHOUT REAR SUNSHADE



REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M17) -FUSE BLOCK-
 JUNCTION BOX (J/B)

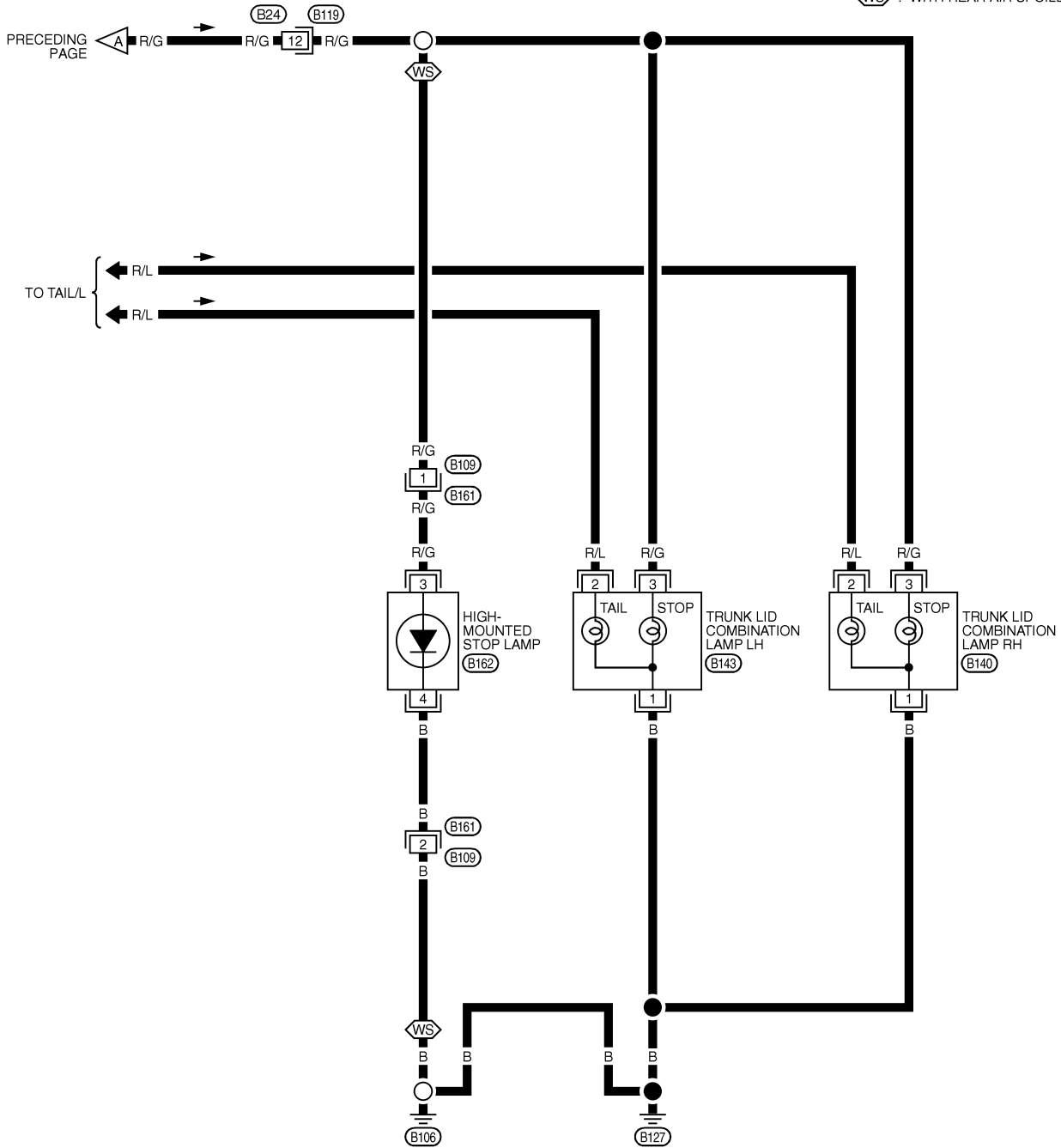
MEL408M

STOP LAMP

Wiring Diagram — STOP/L — (Cont'd)

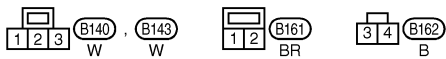
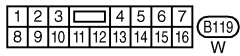
EL-STOP/L-02

⬡ WS : WITH REAR AIR SPOILER



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MEL437K

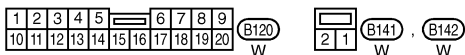
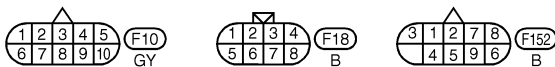
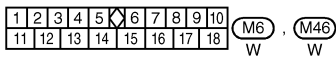
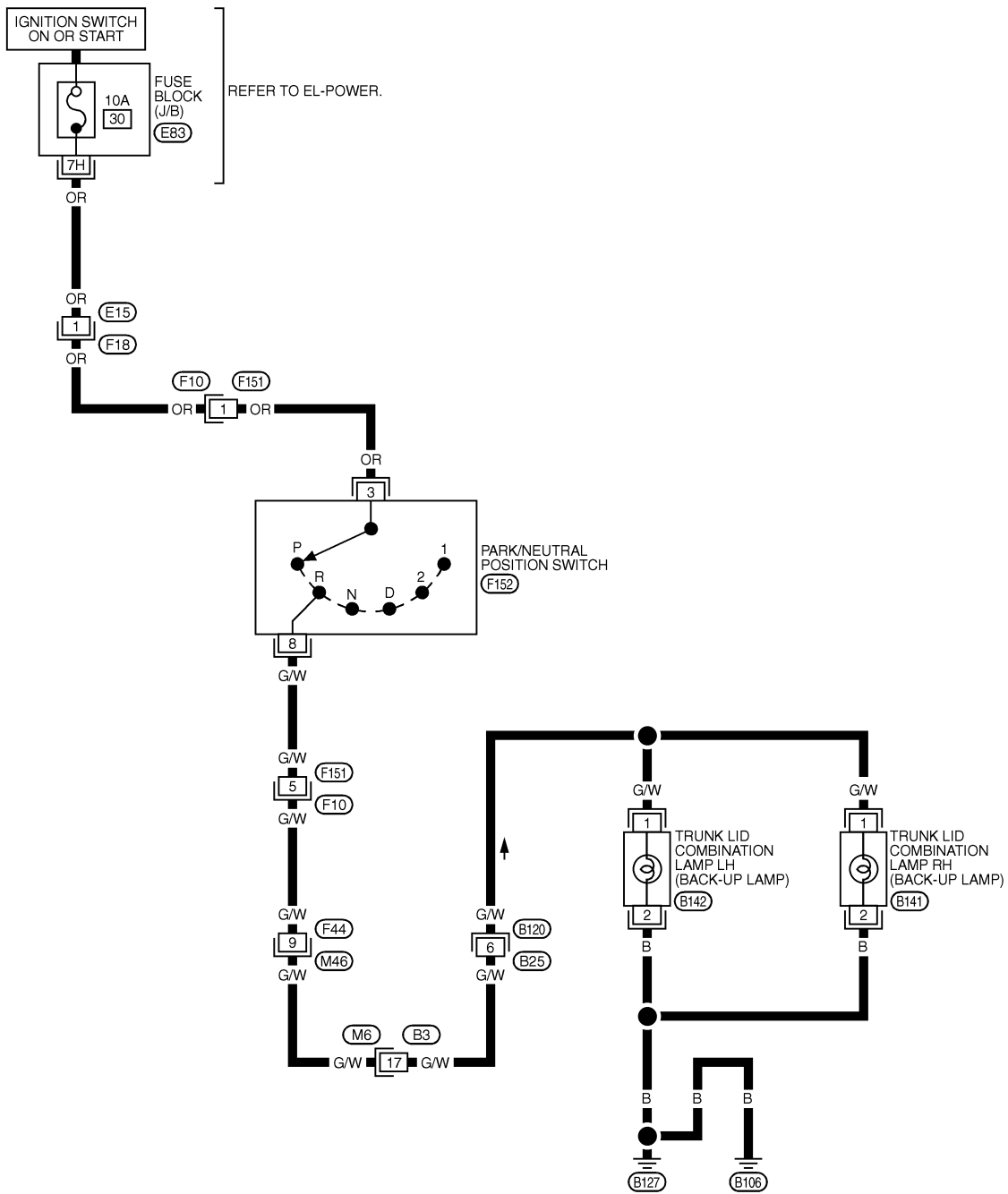
BACK-UP LAMP

Wiring Diagram — BACK/L —

Wiring Diagram — BACK/L —

NHEL0026

EL-BACK/L-01



REFER TO THE FOLLOWING.

(E83) - FUSE BLOCK-
JUNCTION BOX (J/B)

MEL409M

System Description

NHLE0164

NHLE0164S01

OUTLINE

Power is supplied at all times

- to headlamp LH relay terminals 1 and 3
- through 15A fuse (No. 68, located in the fuse and fusible link box) (without xenon headlamp), or
- to headlamp LH relay terminals 1 and 6
- through 20A fuse (No. 54, located in the fuse and fusible link box) (with xenon headlamp), and
- to smart entrance control unit terminal 49
- through 10A fuse [No. 13, located in the fuse block (J/B)], and
- to front fog lamp relay terminal 3
- through 15A fuse (No. 6, located in the fuse and fusible link box).

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

- to smart entrance control unit terminal 27
- through 10A fuse [No. 10, located in the fuse block (J/B)].

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

- to smart entrance control unit terminal 26
- through 10A fuse [No. 1, located in the fuse block (J/B)].

Ground is supplied to smart entrance control unit terminals 43 and 64.

When lighting switch is in 2ND position, ground is supplied

- to headlamp LH relay terminal 2 from smart entrance control unit terminal 21.
- through smart entrance control unit terminal 22, and
- through lighting switch, and body grounds E11, E22 and E53.

Headlamp LH relay is then energized.

FOG LAMP OPERATION

The fog lamp switch is built into the combination switch. The lighting switch must be in the 2ND position and LOW ("B") position for fog lamp operation.

With the fog lamp switch in the ON position, ground is supplied

- to fog lamp relay terminal 2
- through the fog lamp switch, lighting switch and body grounds E11, E22 and E53.

The fog lamp relay is energized and power is supplied

- from fog lamp relay terminal 5
- to terminal 1 of each fog lamp.

Ground is supplied to terminal 2 of each fog lamp through body grounds E11, E22 and E53.

With power and ground supplied, the fog lamps illuminate.

BATTERY SAVER CONTROL

Fog lamps will remain on for a short while after the ignition switch is turned ON (or START) from OFF (or ACC). Continuity between terminals 21 and 22 of smart entrance control unit will be disturbed after 45 seconds, then the headlamps will be turned off.

Then fog lamps are turned to off.

Fog lamps are turned off when driver or passenger side door is opened even if 45 seconds have not passed after the ignition switch is turned from ON (or START) to OFF (or ACC) positions while fog lamps are illuminated.

When the lighting switch is turned from OFF to 2ND after fog lamps are turned off by the battery saver control, ground is supplied

- to smart entrance control unit terminals 20 and 58 from lighting switch terminal 11, and then
- to headlamp LH relay terminal 2 from smart entrance control unit terminal 21
- through smart entrance control unit terminal 22 from lighting switch terminal 12.

Then the fog lamps illuminate again.

GI

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FRONT FOG LAMP

Wiring Diagram — F/FOG —

Wiring Diagram — F/FOG —

NHEL0028

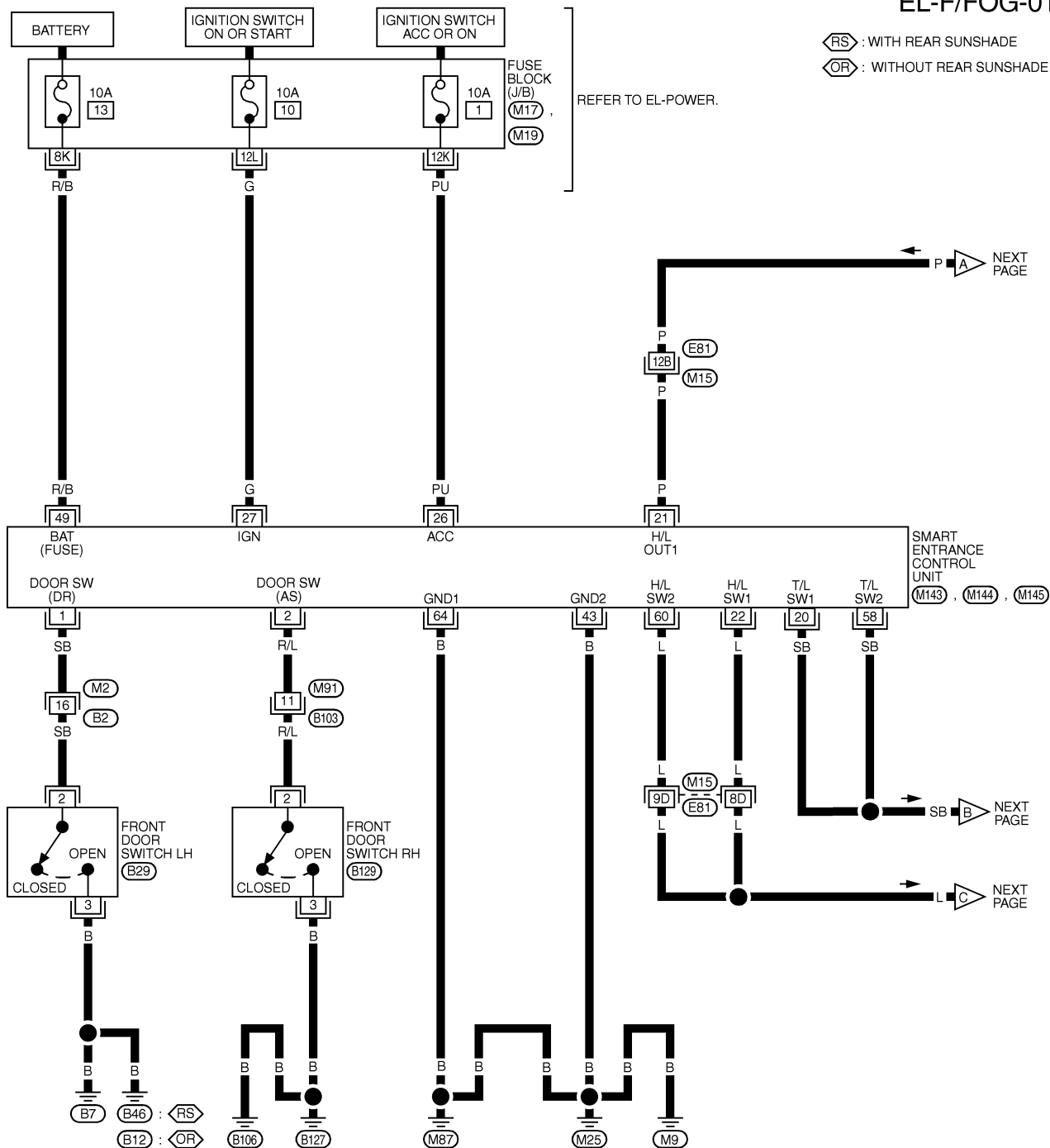
NHEL0028S01

WITHOUT XENON HEADLAMP

EL-F/FOG-01

ⓇS : WITH REAR SUNSHADE
 ⓄR : WITHOUT REAR SUNSHADE

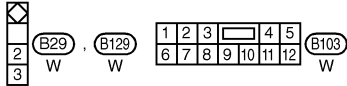
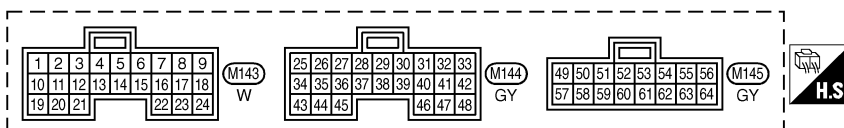
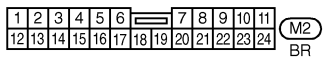
REFER TO EL-POWER.



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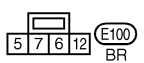
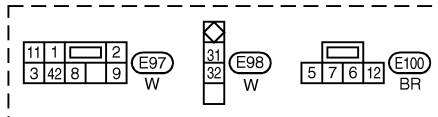
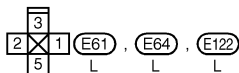
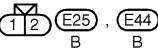
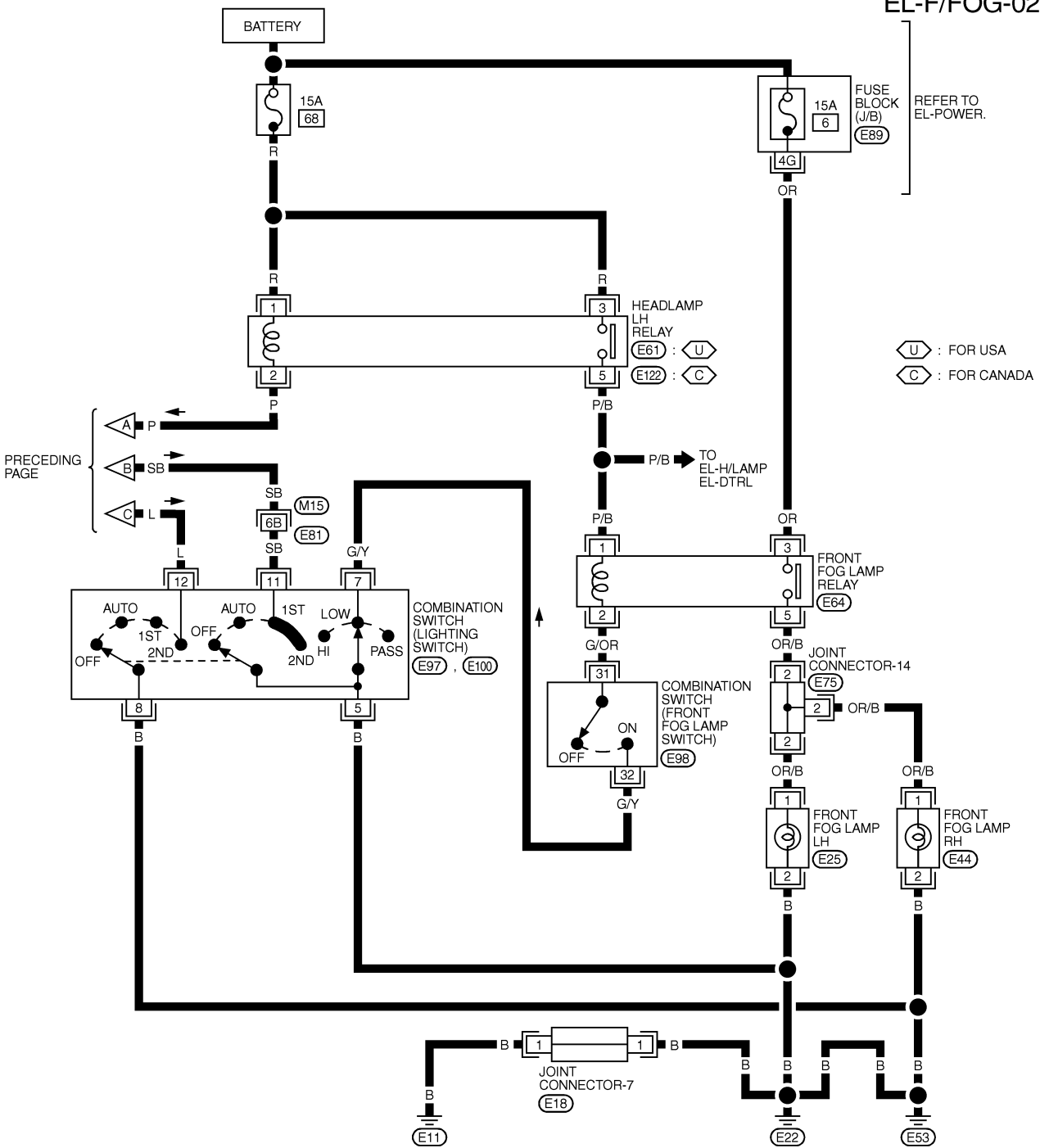
REFER TO THE FOLLOWING.
 (M15) -SUPER MULTIPLE JUNCTION (SMJ)
 (M17), (M19) -FUSE BLOCK-JUNCTION BOX (J/B)

MEL410M

FRONT FOG LAMP

Wiring Diagram — F/FOG — (Cont'd)

EL-F/FOG-02



REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (E89) -FUSE BLOCK-
 JUNCTION BOX (J/B)

GI
 MA
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MEL411M

FRONT FOG LAMP

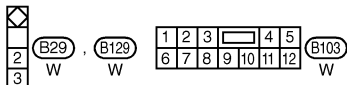
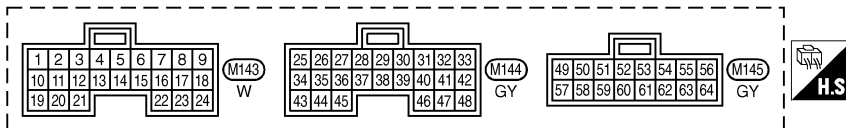
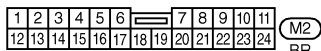
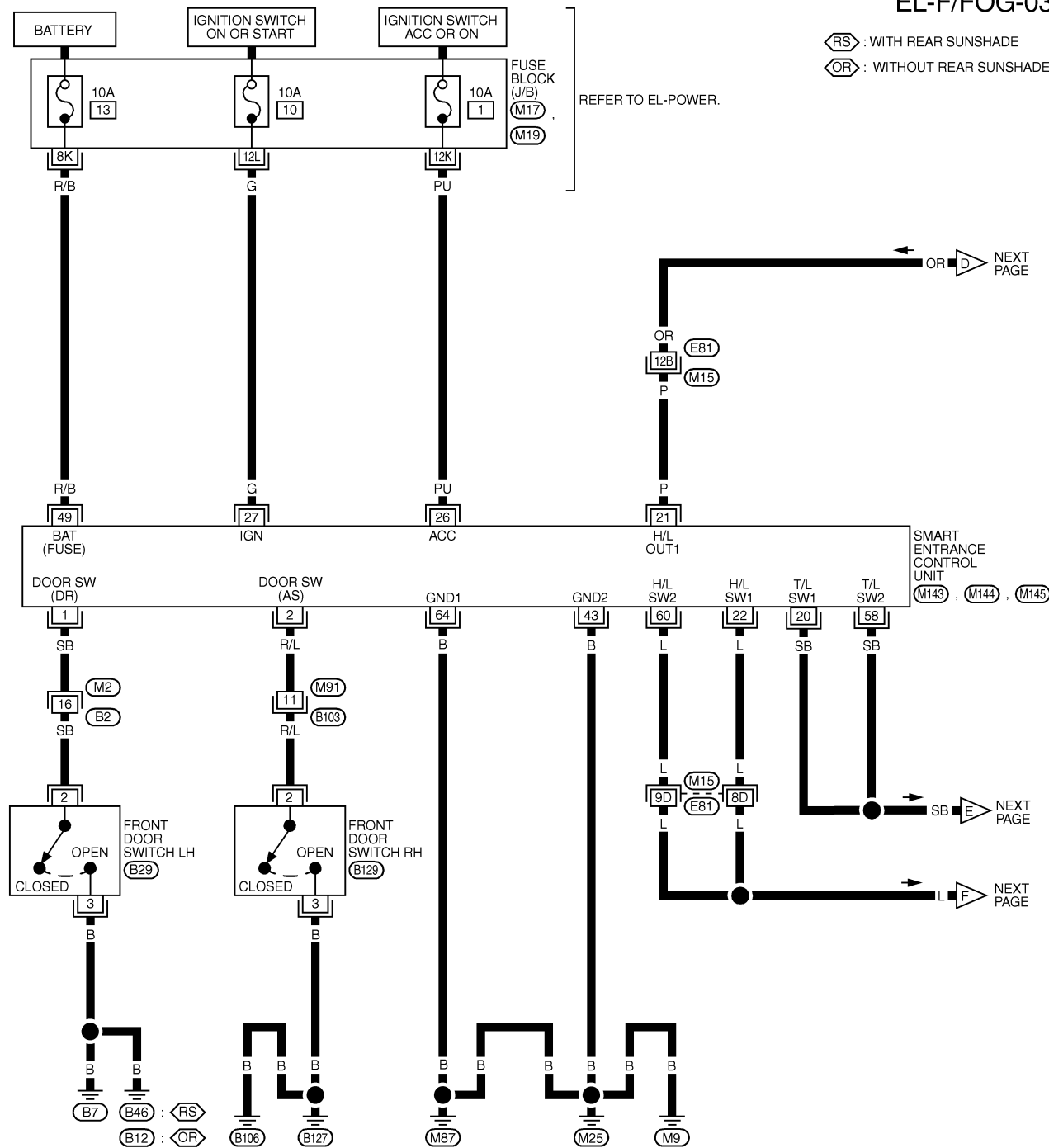
Wiring Diagram — F/FOG — (Cont'd)

WITH XENON HEADLAMP

NH0228S02

EL-F/FOG-03

ⓇS : WITH REAR SUNSHADE
 ⓄR : WITHOUT REAR SUNSHADE

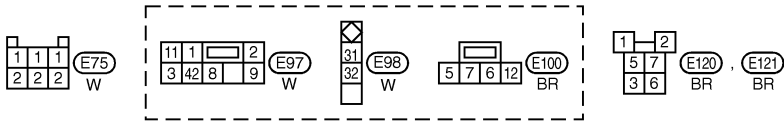
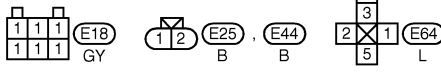
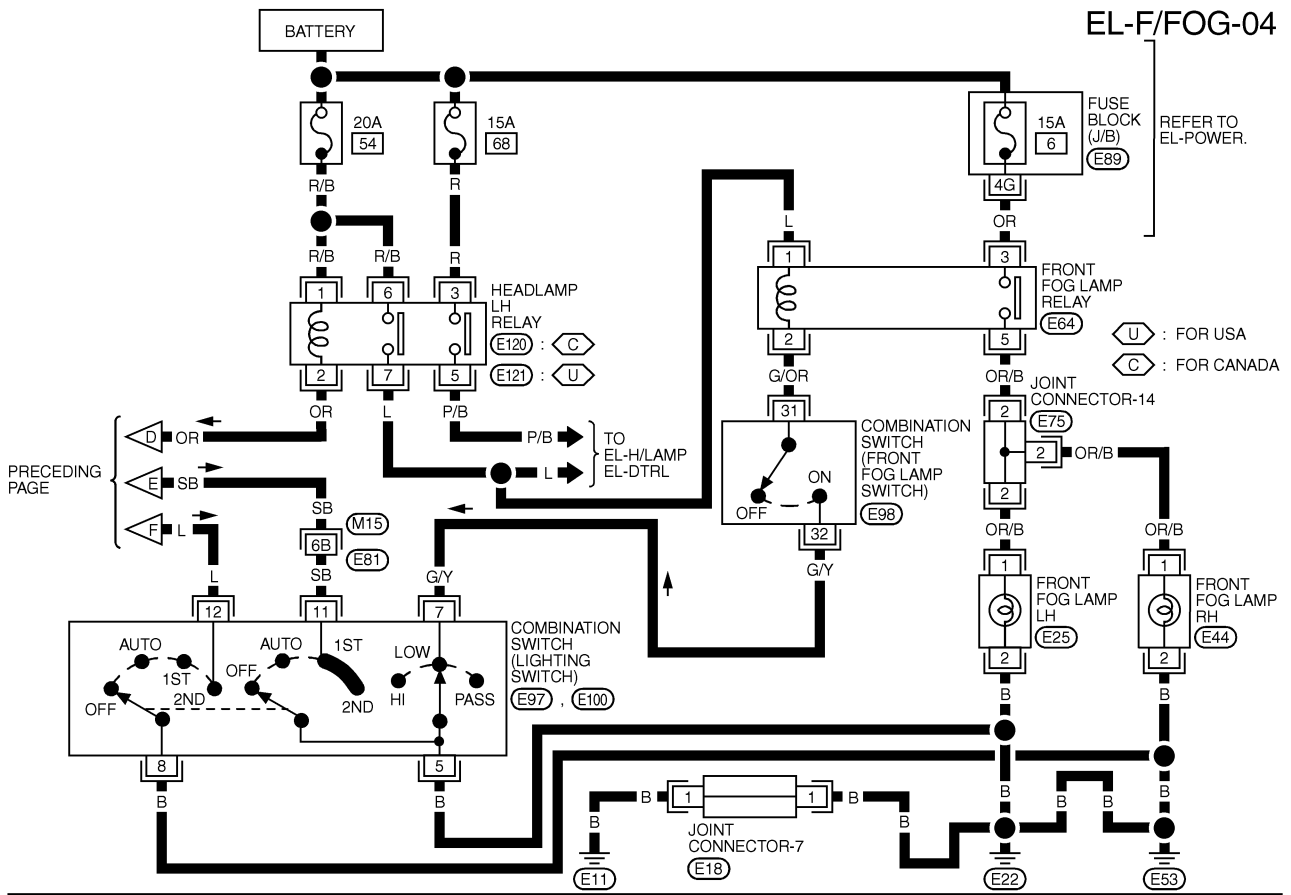


REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M17) , (M19) -FUSE BLOCK-
 JUNCTION BOX (J/B)

MEL412M

FRONT FOG LAMP

Wiring Diagram — F/FOG — (Cont'd)



REFER TO THE FOLLOWING.
 (M15) - SUPER
 MULTIPLE JUNCTION (SMJ)
 (E89) - FUSE BLOCK-
 JUNCTION BOX (J/B)

MEL413M

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FRONT FOG LAMP

Wiring Diagram — F/FOG — (Cont'd)

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

TERMINAL	WIRE COLOR	ITEM	CONDITION		DATA (DC)
1	SB	DRIVER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)		5V → 0V
2	R/L	PASSENGER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)		5V → 0V
20	SB	TAIL LAMP SWITCH	LIGHT SWITCH (OFF → 1ST OR 2ND POSITION)		12V → 0V
21	P	HEADLAMP LH RELAY	IGNITION SWITCH (WITH LIGHTING SWITCH OFF OR 1ST)	OFF	MORE THAN 45 SECONDS
				ON OR START	WITHIN 45 SECONDS
			HEADLAMPS ILLUMINATE BY AUTO LIGHT CONTROL		
22	L	HEADLAMP SWITCH	LIGHTING SWITCH	EXCEPT PASS OR 2ND POSITION	12V
				PASS OR 2ND POSITION	0V
			HEADLAMPS ILLUMINATE BY AUTO LIGHT CONTROL (OPERATE → NOT OPERATE)		
26	PU	IGNITION SWITCH (ACC)	"ACC" POSITION		12V
27	G	IGNITION SWITCH (ON)	IGNITION KEY IS IN "ON" POSITION		12V
43	B	GROUND	-		-
49	R/B	POWER SOURCE (FUSE)	-		12V
58	SB	TAIL LAMP SWITCH	LIGHTING SWITCH OFF OR AUTO → 1ST OR 2ND		12V → 0V
60	L	HEADLAMP SWITCH	LIGHTING SWITCH	EXCEPT PASS OR 2ND POSITION	12V
				PASS OR 2ND POSITION	0V
			HEADLAMPS ILLUMINATE BY AUTO LIGHT CONTROL (OPERATE → NOT OPERATE)		
64	B	GROUND	-		-

SEL973X

FRONT FOG LAMP

Wiring Diagram — F/FOG — (Cont'd)

NOTE:

For CONSULT-II Inspection Procedure, refer to "HEADLAMP (FOR USA)" (EL-42).

For CONSULT-II Application Items, refer to "HEADLAMP (FOR USA)" (EL-43).

Trouble Diagnoses for battery saver control, refer to "HEADLAMP (FOR USA)" (EL-43).

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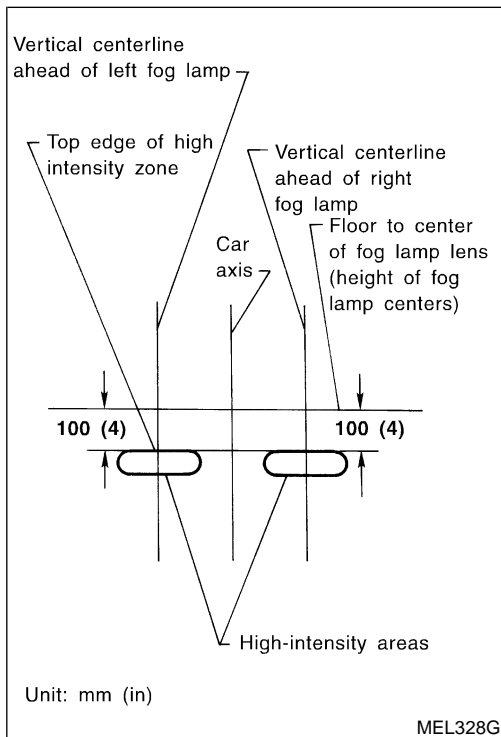
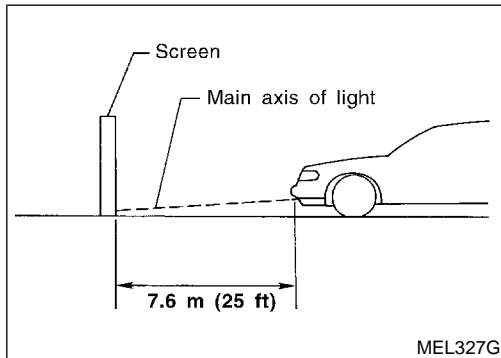
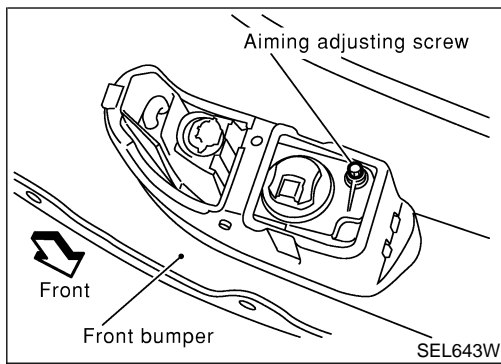
SC

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FRONT FOG LAMP

Aiming Adjustment



Aiming Adjustment

=NH0029

Before performing aiming adjustment, make sure of the following.

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

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

1. Set the distance between the screen and the center of the fog lamp lens as shown at left.
2. Remove front fog lamp rim. For detail, refer to "BODY END" in BT section.
3. Turn front fog lamps ON.
4. Adjust front fog lamps so that the top edge of the high intensity zone is 100 mm (4 in) below the height of the fog lamp centers as shown at left.
 - When performing adjustment, if necessary, cover the headlamps and opposite fog lamp.

System Description

NHEL0030

TURN SIGNAL OPERATION

NHEL0030S01

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

- through 10A fuse [No. 26, located in the fuse block (J/B)]
- to hazard switch terminal 2
- through terminal 1 of the hazard switch
- to combination flasher unit terminal 1
- through terminal 3 of the combination flasher unit
- to turn signal switch terminal 1.

Ground is supplied to combination flasher unit terminal 2 through body grounds M9, M25 and M87.

LH Turn

NHEL0030S0101

When the turn signal switch is moved to the LH position, power is supplied from turn signal switch terminal 3 to

- front turn signal lamp LH terminal 1
- combination meter terminal 25
- rear combination lamp LH terminal 1.

Ground is supplied to the front turn signal lamp LH terminal 2 through body grounds E11, E22 and E53.

Ground is supplied to the rear combination lamp LH terminal 2 through body grounds T6 and T8.

Ground is supplied to combination meter terminal 30 through body grounds M9, M25 and M87.

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

RH Turn

NHEL0030S0102

When the turn signal switch is moved to the RH position, power is supplied from turn signal switch terminal 2 to

- front turn signal lamp RH terminal 1
- combination meter terminal 29
- rear combination lamp RH terminal 1.

Ground is supplied to the front turn signal lamp RH terminal 2 through body grounds E11, E22 and E53.

Ground is supplied to the rear combination lamp RH terminal 2 through body grounds T6 and T8.

Ground is supplied to combination meter terminal 30 through body grounds M9, M25 and M87.

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

HAZARD LAMP OPERATION

NHEL0030S02

Power is supplied at all times to hazard switch terminal 3 through:

- 15A fuse [No. 5, located in the fuse block (J/B)].

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

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

Ground is supplied to combination flasher unit terminal 2 through body grounds M9, M25 and M87.

Power is supplied through terminal 5 of the hazard switch to

- front turn signal lamp LH terminal 1
- combination meter terminal 25
- rear combination lamp LH terminal 1.

Power is supplied through terminal 6 of the hazard switch to

- front turn signal lamp RH terminal 1
- combination meter terminal 29
- rear combination lamp RH terminal 1.

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TURN SIGNAL AND HAZARD WARNING LAMPS

System Description (Cont'd)

Ground is supplied to terminal 2 of each front turn signal lamp through body grounds E11, E22 and E53.

Ground is supplied to terminal 2 of each rear combination lamp through body grounds T6 and T8.

Ground is supplied to combination meter terminal 30 through body grounds M9, M25 and M87.

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

MULTI-REMOTE CONTROL SYSTEM OPERATION

NHEL0030S03

Power is supplied at all times

- to smart entrance control unit terminal 49
- through 10A fuse [No. 13, located in the fuse block (J/B)].

Ground is supplied to smart entrance control unit terminal 43 and 64.

Power is supplied to smart entrance control unit terminals 47 and 48, when the multi-remote control system is triggered.

Refer to "MULTI-REMOTE CONTROL SYSTEM", EL-337.

Power is supplied through terminal 47 of smart entrance control unit

- to front turn signal lamp LH terminal 1
- to combination meter terminal 25
- to rear combination lamp LH terminal 1.

Power is supplied through terminal 48 of smart entrance control unit

- to front turn signal lamp RH terminal 1
- to combination meter terminal 29
- to rear combination lamp RH terminal 1.

Ground is supplied to terminal 2 of each front turn signal lamp through body grounds E11, E22 and E53.

Ground is supplied to terminal 2 of each rear combination lamp through body grounds T6 and T8.

Ground is supplied to combination meter terminal 30 through body grounds M9, M25 and M87.

With power and ground supplied, the smart entrance control unit controls the flashing of the hazard warning lamps.

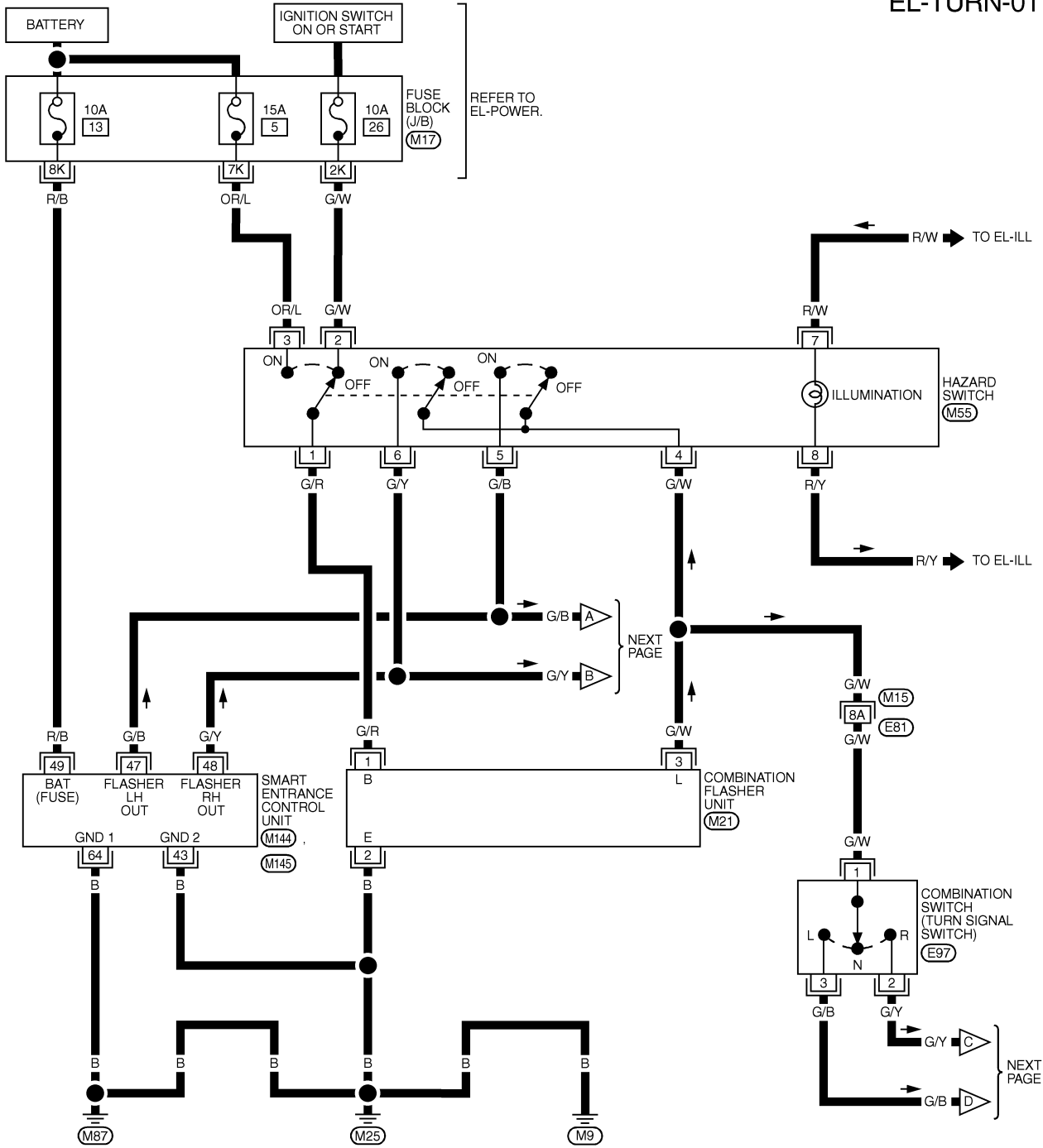
TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram — TURN —

Wiring Diagram — TURN —

NHEL0032

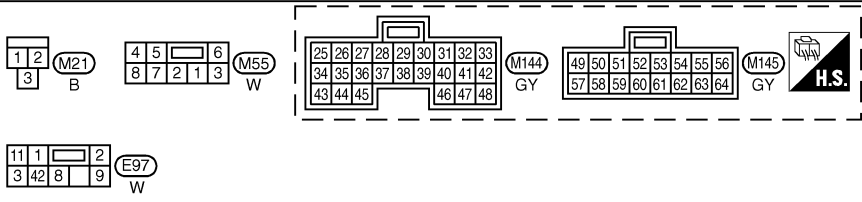
EL-TURN-01



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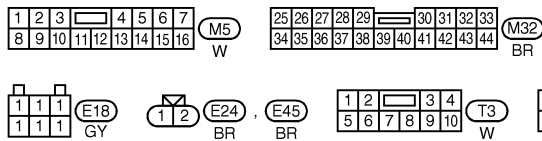
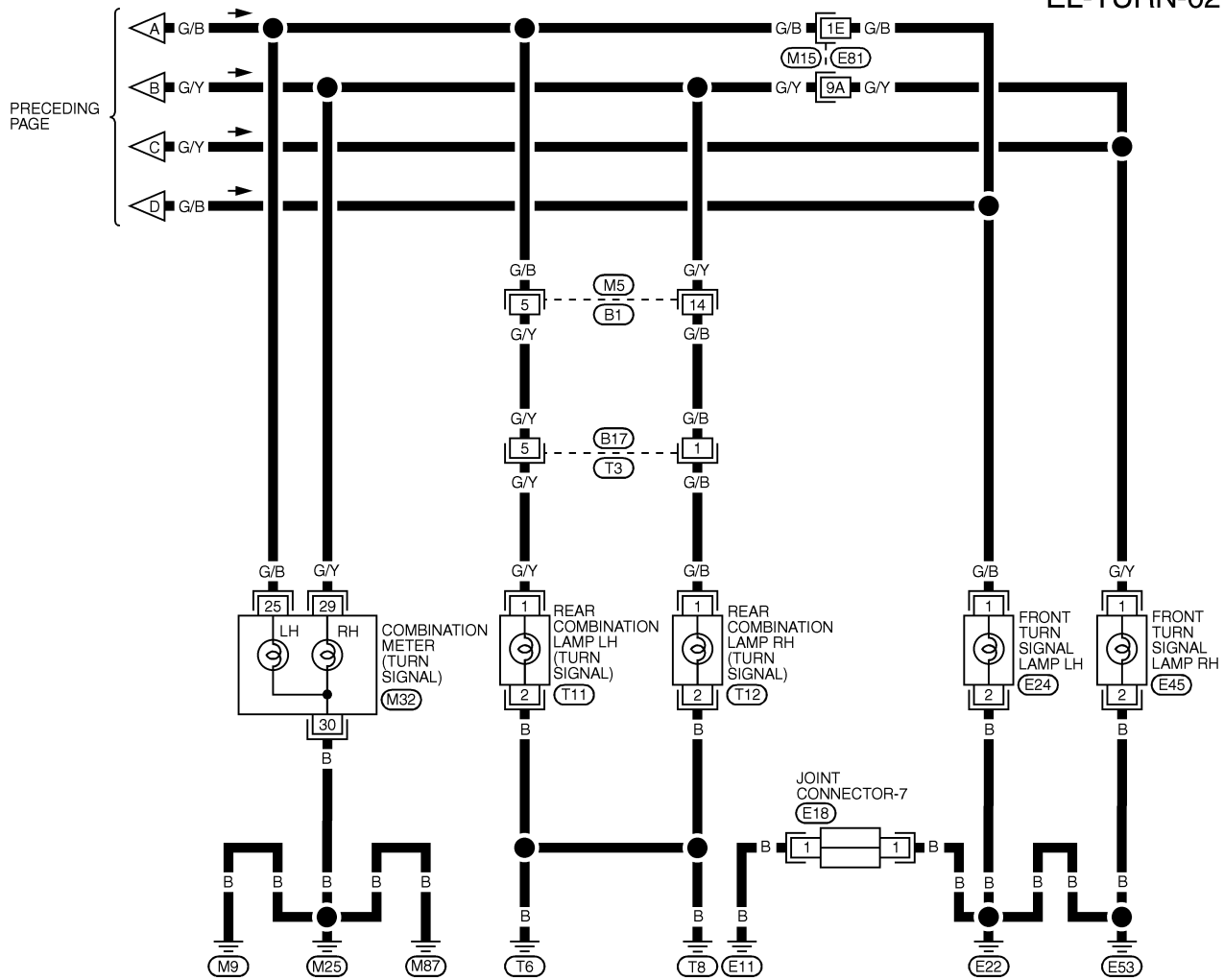
REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M17) -FUSE BLOCK-
 JUNCTION BOX (J/B)

MEL414M

TURN SIGNAL AND HAZARD WARNING LAMPS

Wiring Diagram — TURN — (Cont'd)

EL-TURN-02



REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)

MEL415M

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

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
47	G/B	LH TURN SIGNAL LAMP	WHEN DOOR LOCK OR UNLOCK IS OPERATED USING REMOTE CONTROLLER (ON → OFF)	12V → 0V
48	G/Y	RH TURN SIGNAL LAMP	WHEN DOOR LOCK OR UNLOCK IS OPERATED USING REMOTE CONTROLLER (ON → OFF)	12V → 0V
49	R/B	POWER SOURCE (FUSE)	-	12V

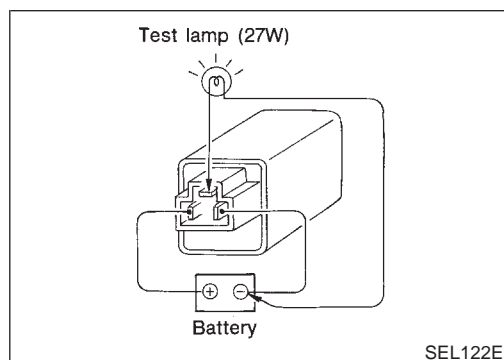
SEL988X

Trouble Diagnoses

NHLE0033

Symptom	Possible cause	Repair order
Turn signal and hazard warning lamps do not operate.	<ol style="list-style-type: none"> 1. Hazard switch 2. Combination flasher unit 3. Open in combination flasher unit circuit 	<ol style="list-style-type: none"> 1. Check hazard switch. 2. Refer to combination flasher unit check. 3. Check wiring to combination flasher unit for open circuit.
Turn signal lamps do not operate but hazard warning lamps operate.	<ol style="list-style-type: none"> 1. 10A fuse 2. Hazard switch 3. Turn signal switch 4. Open in turn signal switch circuit 	<ol style="list-style-type: none"> 1. Check 10A fuse [No. 26, located in fuse block (J/B)]. Turn ignition switch ON and verify battery positive voltage is present at terminal 2 of hazard switch. 2. Check hazard switch. 3. Check turn signal switch. 4. Check the wire between combination flasher unit terminal 3 and turn signal switch terminal 1 for open circuit.
Hazard warning lamps do not operate but turn signal lamps operate.	<ol style="list-style-type: none"> 1. 15A fuse 2. Hazard switch 3. Open in hazard switch circuit 	<ol style="list-style-type: none"> 1. Check 15A fuse [No. 5, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 3 of hazard switch. 2. Check hazard switch. 3. Check the wire between combination flasher unit terminal 3 and hazard switch terminal 4 for open circuit.
Front turn signal lamp LH or RH does not operate.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds E11, E22 and E53 3. Front turn signal lamp circuit 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds E11, E22 and E53. 3. Check the wire between combination switch and front turn signal lamp.
Rear turn signal lamp LH or RH does not operate.	<ol style="list-style-type: none"> 1. Bulb 2. Grounds T6 and T8 3. Rear turn signal lamp circuit. 	<ol style="list-style-type: none"> 1. Check bulb. 2. Check grounds T6 and T8. 3. Check the wire between combination switch and rear turn signal lamp.
LH and RH turn indicators do not operate.	<ol style="list-style-type: none"> 1. Ground 	<ol style="list-style-type: none"> 1. Check grounds M9, M25 and M87.
LH or RH turn indicator does not operate.	<ol style="list-style-type: none"> 1. Bulb 2. Turn indicator circuit 	<ol style="list-style-type: none"> 1. Check bulb in combination meter. 2. Check the wire between hazard switch and combination meter.

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Electrical Components Inspection COMBINATION FLASHER UNIT CHECK

NHLE0034

NHLE0034S01

IDX

- Before checking, ensure that bulbs meet specifications.
- Connect a battery and test lamp to the combination flasher unit, as shown. Combination flasher unit is properly functioning if it blinks when power is supplied to the circuit.

EL

CORNERING LAMP

System Description

System Description

NHEL0268

The cornering lamp operation is controlled by the lighting switch which is built into the combination switch and smart entrance control unit. The battery saver system is controlled by the smart entrance control unit.

Power is supplied at all times

- to tail lamp relay terminals 1 and 3
- through 10A fuse (No. 60, located in the fuse and fusible link box), and
- to smart entrance control unit terminal 49
- through 10A fuse [No. 13, located in the fuse block (J/B)].

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

- to smart entrance control unit terminal 27
- through 10A fuse [No. 10, located in the fuse block (J/B)].

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

- to smart entrance control unit terminal 26
- through 10A fuse [No. 1, located in the fuse block (J/B)].

Ground is supplied to smart entrance control unit terminals 43 and 64.

LIGHTING OPERATION BY LIGHTING SWITCH

NHEL0268S01

When lighting switch is 1ST (or 2ND) position, ground is supplied

- to tail lamp relay terminal 2 from smart entrance control unit terminals 19 and 57
- through smart entrance control unit terminals 20 and 58, and
- through lighting switch and body grounds E11, E22 and E53.

Tail lamp relay is then energized.

The lighting switch must be in the 1ST or 2ND position for the cornering lamps to operate.

With the ignition switch in the ON or START position, power is supplied to cornering lamp relay terminal 5

- through 10A fuse [No. 26, located in the fuse block (J/B)].

Power is supplied to cornering lamp relay terminal 1

- through tail lamp relay terminal 5, when the lighting switch in the 1st or 2ND position.

Ground is supplied to cornering lamp relay terminal 2 through body grounds E11, E22 and E53.

With power and ground supplied, the cornering lamp relay is energized.

Power is supplied

- from terminal 3 of the cornering lamp relay
- to cornering lamp switch terminal 61.

RH turn

When the turn signal lever is moved to the RH position, power is supplied

- from terminal 61 of the cornering lamp switch
- through terminal 62 of the cornering lamp switch
- to cornering lamp RH terminal 1.

Ground is supplied to terminal 2 of cornering lamp RH through body grounds E11, E22 and E53.

The RH cornering lamp illuminates until the turn signal lever returns to NEUTRAL position.

LH turn

When the turn signal lever is moved to the LH position, power is supplied

- from terminal 61 of the cornering lamp switch
- through terminal 63 of the cornering lamp switch
- to cornering lamp LH terminal 1.

Ground is supplied to terminal 2 of cornering lamp LH through body grounds E11, E22 and E53.

The LH cornering lamp illuminates until the turn signal lever returns to NEUTRAL position.

BATTERY SAVER CONTROL

NHEL0268S02

Cornering lamp will remain on for a short while after the ignition switch is turned ON (or START) from OFF (or ACC).

Continuity between terminals 19 and 20, and between terminals 57 and 58 of smart entrance control unit will be disturbed after 45 seconds, then the headlamps will be turned off.

Then cornering lamp is turned off.

Cornering lamp is turned off when driver or passenger side door is opened even if 45 seconds have not passed

CORNERING LAMP

System Description (Cont'd)

after the ignition switch is turned from ON (or START) to OFF (or ACC) positions while illumination lamps are illuminated.

When the lighting switch is turned from OFF to 1ST (or 2ND) after cornering lamp is turned off by the battery saver control, ground is supplied

- to smart entrance control unit terminals 20 and 58 from lighting switch terminal 11, and
- to tail lamp relay terminal 2 from smart entrance control unit terminals 19 and 57.

Then cornering lamp illuminates again.

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CORNERING LAMP

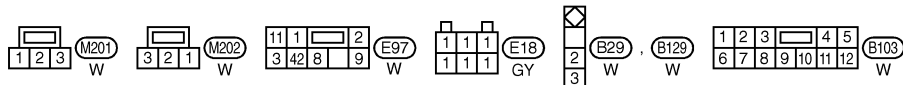
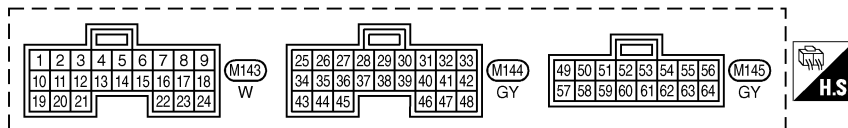
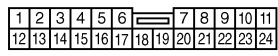
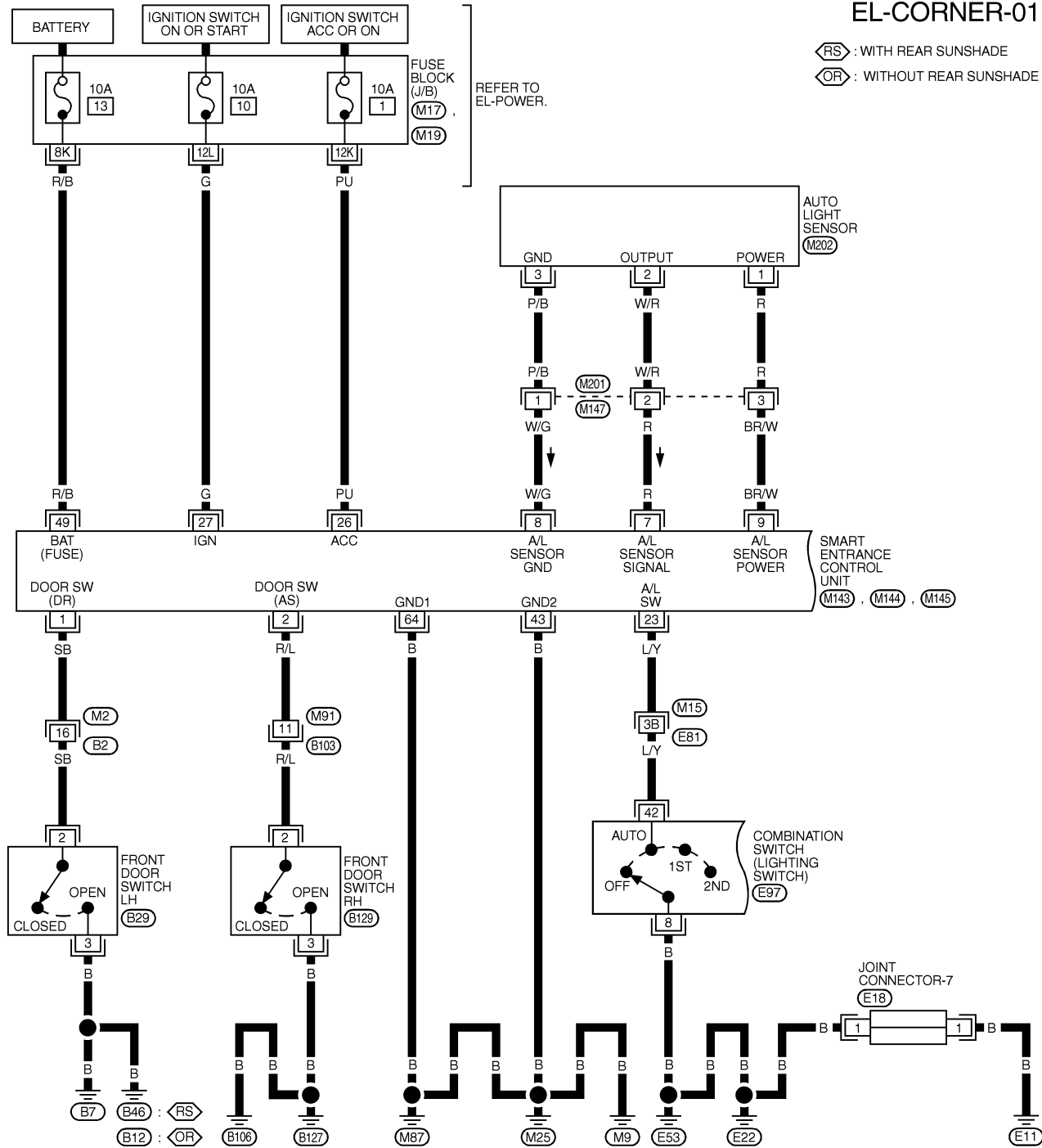
Wiring Diagram — CORNER —

Wiring Diagram — CORNER —

NHEL0270

EL-CORNER-01

◁RS : WITH REAR SUNSHADE
 ◁OR : WITHOUT REAR SUNSHADE



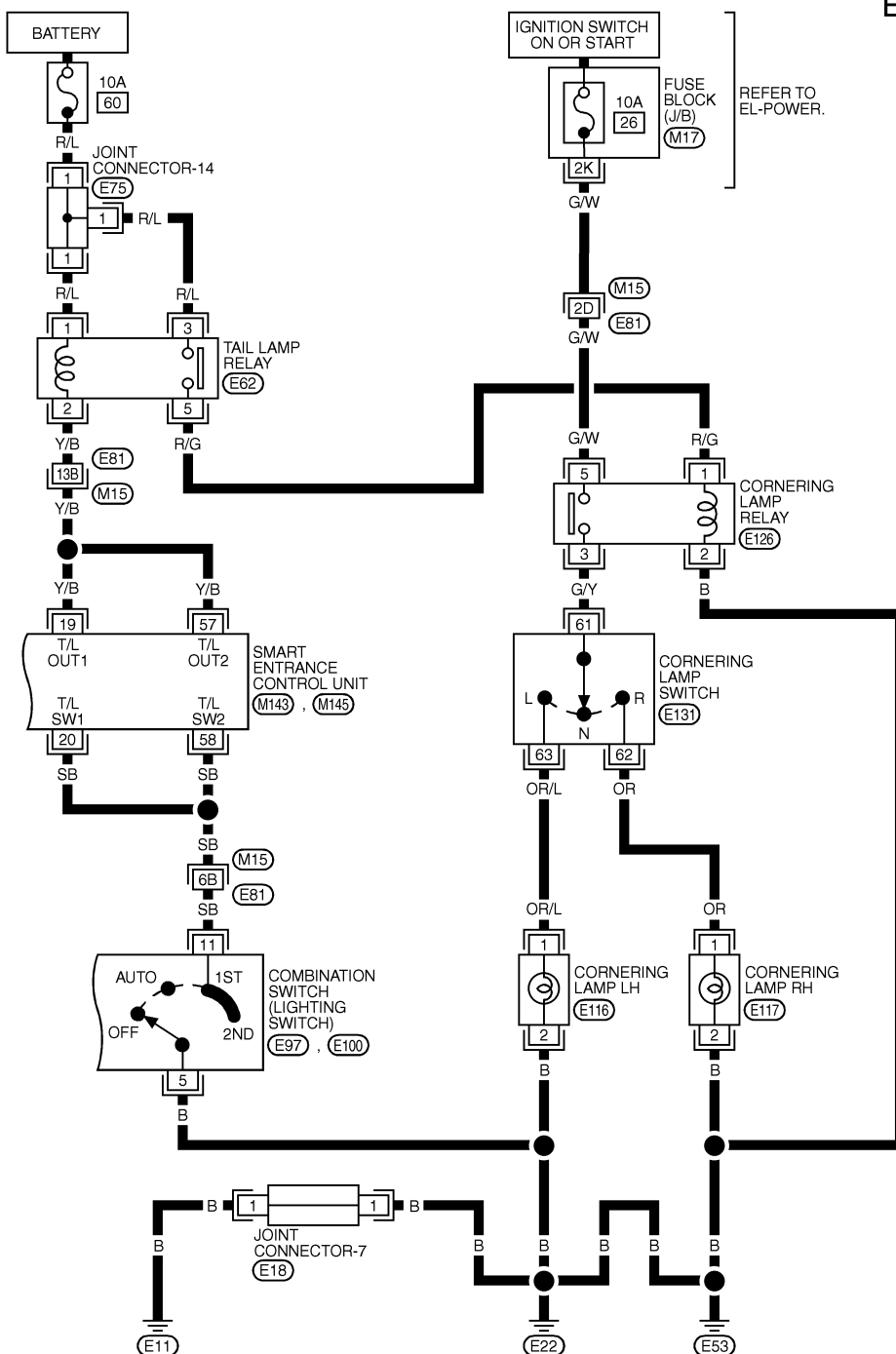
REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M17) . (M19) -FUSE BLOCK-
 JUNCTION BOX (J/B)

MEL416M

CORNERING LAMP

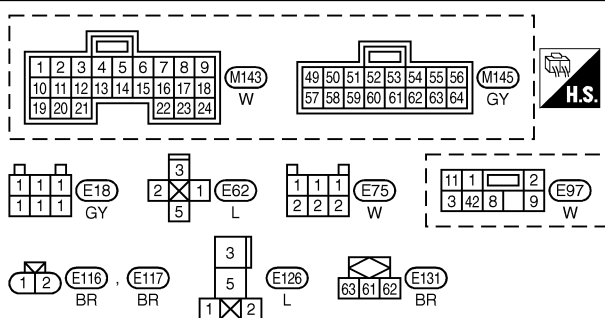
Wiring Diagram — CORNER — (Cont'd)

EL-CORNER-02



REFER TO EL-POWER.

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REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M17) -FUSE BLOCK-
 JUNCTION BOX (J/B)

EL
IDX

MEL417M

CORNERING LAMP

Wiring Diagram — CORNER — (Cont'd)

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

TERMINAL	WIRE COLOR	ITEM	CONDITION		DATA (DC)
1	SB	DRIVER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)		5V → 0V
2	R/L	PASSENGER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)		5V → 0V
20	SB	TAIL LAMP SWITCH	LIGHT SWITCH (OFF → 1ST OR 2ND POSITION)		12V → 0V
21	P	HEADLAMP LH RELAY	IGNITION SWITCH (WITH LIGHTING SWITCH OFF OR 1ST)	OFF	MORE THAN 45 SECONDS
					WITHIN 45 SECONDS
			ON OR START		0V
		HEADLAMPS ILLUMINATE BY AUTO LIGHT CONTROL		0V	
22	L	HEADLAMP SWITCH	LIGHTING SWITCH	EXCEPT PASS OR 2ND POSITION	12V
				PASS OR 2ND POSITION	0V
			HEADLAMPS ILLUMINATE BY AUTO LIGHT CONTROL (OPERATE → NOT OPERATE)		LESS THAN 1.5V → 12V
26	PU	IGNITION SWITCH (ACC)	"ACC" POSITION		12V
27	G	IGNITION SWITCH (ON)	IGNITION KEY IS IN "ON" POSITION		12V
43	B	GROUND	-		-
49	R/B	POWER SOURCE (FUSE)	-		12V
58	SB	TAIL LAMP SWITCH	LIGHTING SWITCH OFF OR AUTO → 1ST OR 2ND		12V → 0V
60	L	HEADLAMP SWITCH	LIGHTING SWITCH	EXCEPT PASS OR 2ND POSITION	12V
				PASS OR 2ND POSITION	0V
			HEADLAMPS ILLUMINATE BY AUTO LIGHT CONTROL (OPERATE → NOT OPERATE)		0V → 12V
64	B	GROUND	-		-

SEL973X

System Description

NHEL0035

The illumination lamp operation is controlled by the lighting switch which is built into the combination switch and smart entrance control unit. The battery saver system is controlled by smart entrance control unit.

Power is supplied at all times

- to tail lamp relay terminals 1 and 3
- through 10A fuse (No. 60, located in the fuse and fusible link box), and
- to smart entrance control unit terminal 49
- through 10A fuse [No. 13, located in the fuse block (J/B)].

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

- to smart entrance control unit terminal 27
- through 10A fuse [No. 10, located in the fuse block (J/B)], and

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

- to smart entrance control unit terminal 26
- through 10A fuse [No. 1, located in the fuse block (J/B)].

Ground is supplied to smart entrance control unit terminals 43 and 64.

LIGHTING OPERATION BY LIGHTING SWITCH

NHEL0035S01

When lighting switch is 1ST (or 2ND) position, ground is supplied

- to tail lamp relay terminal 2 from smart entrance control unit terminals 19 and 57
- through smart entrance control unit terminals 20 and 58, and
- through lighting switch and body grounds E11, E22 and E53.

Tail lamp relay is then energized and illumination lamps illuminate.

The lighting switch must be in the 1ST or 2ND position for illumination.

The illumination control switch that controls the amount of current to the illumination system. As the amount of current increases, the illumination becomes brighter.

The ground for all of the components except for door mirror remote control switch, grove box lamp, ashtray and rear power window switch are controlled through terminals 2 and 3 of the illumination control switch and body grounds M9, M25 and M87.

BATTERY SAVER CONTROL

NHEL0035S02

Illumination lamps will remain on for a short while after the ignition switch is turned ON (or START) from OFF (or ACC).

Continuity between terminals 19 and 20, and between terminals 57 and 58 of smart entrance control unit will be disturbed after 45 seconds, then the headlamps will be turned off.

Then illumination lamps are turned off.

Illumination lamps are turned off when driver or passenger side door is opened even if 45 seconds have not passed after the ignition switch is turned from ON (or START) to OFF (or ACC) positions while illumination lamps are illuminated.

When the lighting switch is turned from OFF to 1ST (or 2ND) after illumination lamps are turned off by the battery saver control, ground is supplied

- to smart entrance control unit terminals 20 and 58 from lighting switch terminal 11, and
- to tail lamp relay terminal 2 from smart entrance control unit terminals 19 and 57.

Then illumination lamps illuminate again.

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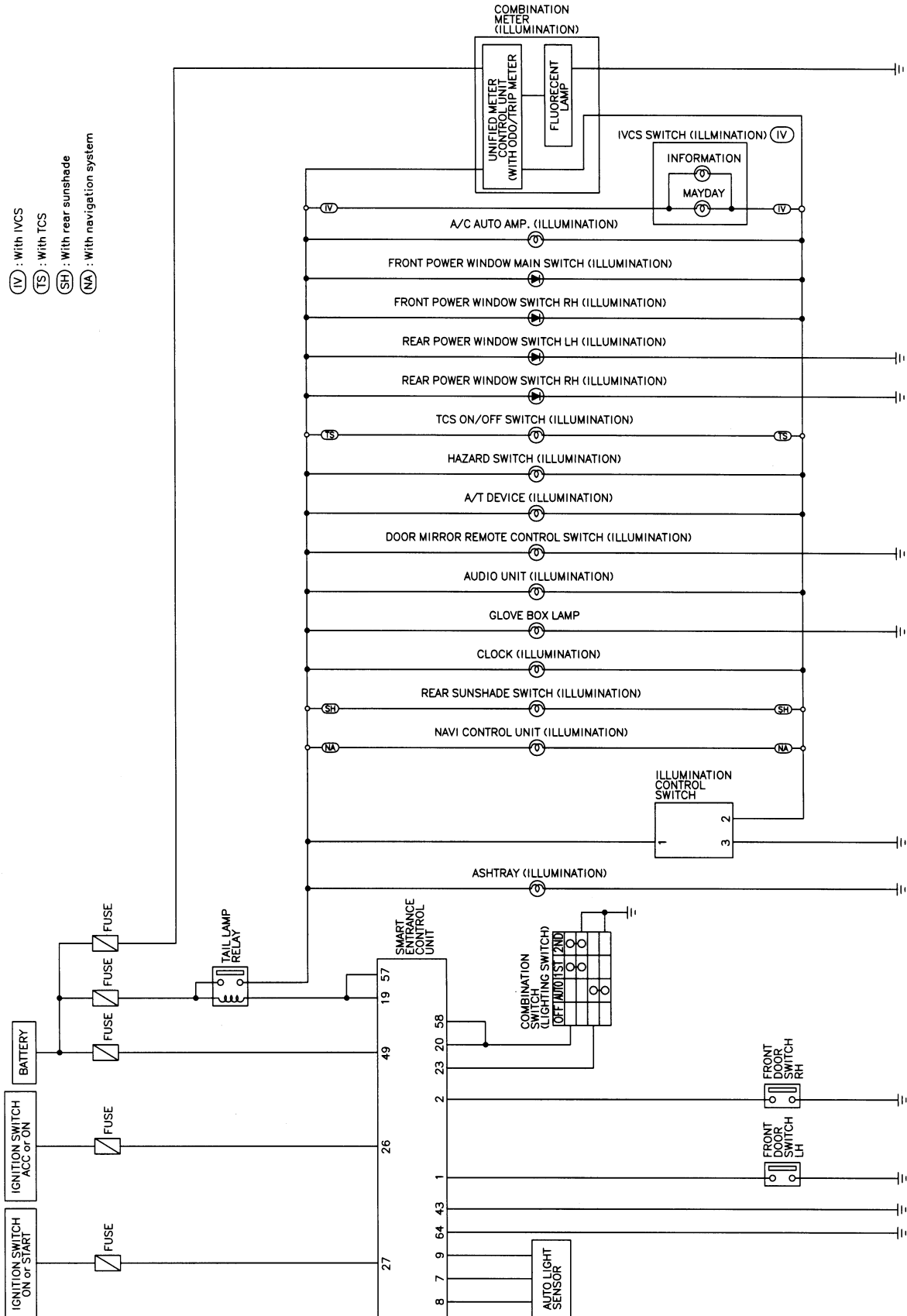
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ILLUMINATION

Schematic

NHEL0036

Schematic



MEL418M

ILLUMINATION

Wiring Diagram — ILL —

Wiring Diagram — ILL —

NHEL0037

EL-ILL-01

⊠RS : WITH REAR SUNSHADE
 ⊠OR : WITHOUT REAR SUNSHADE

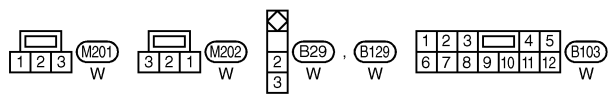
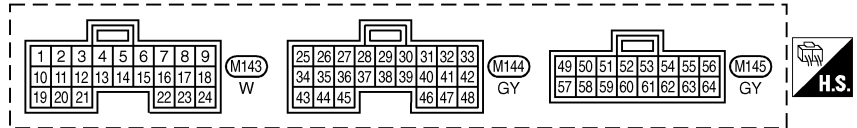
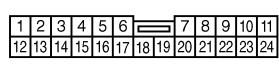
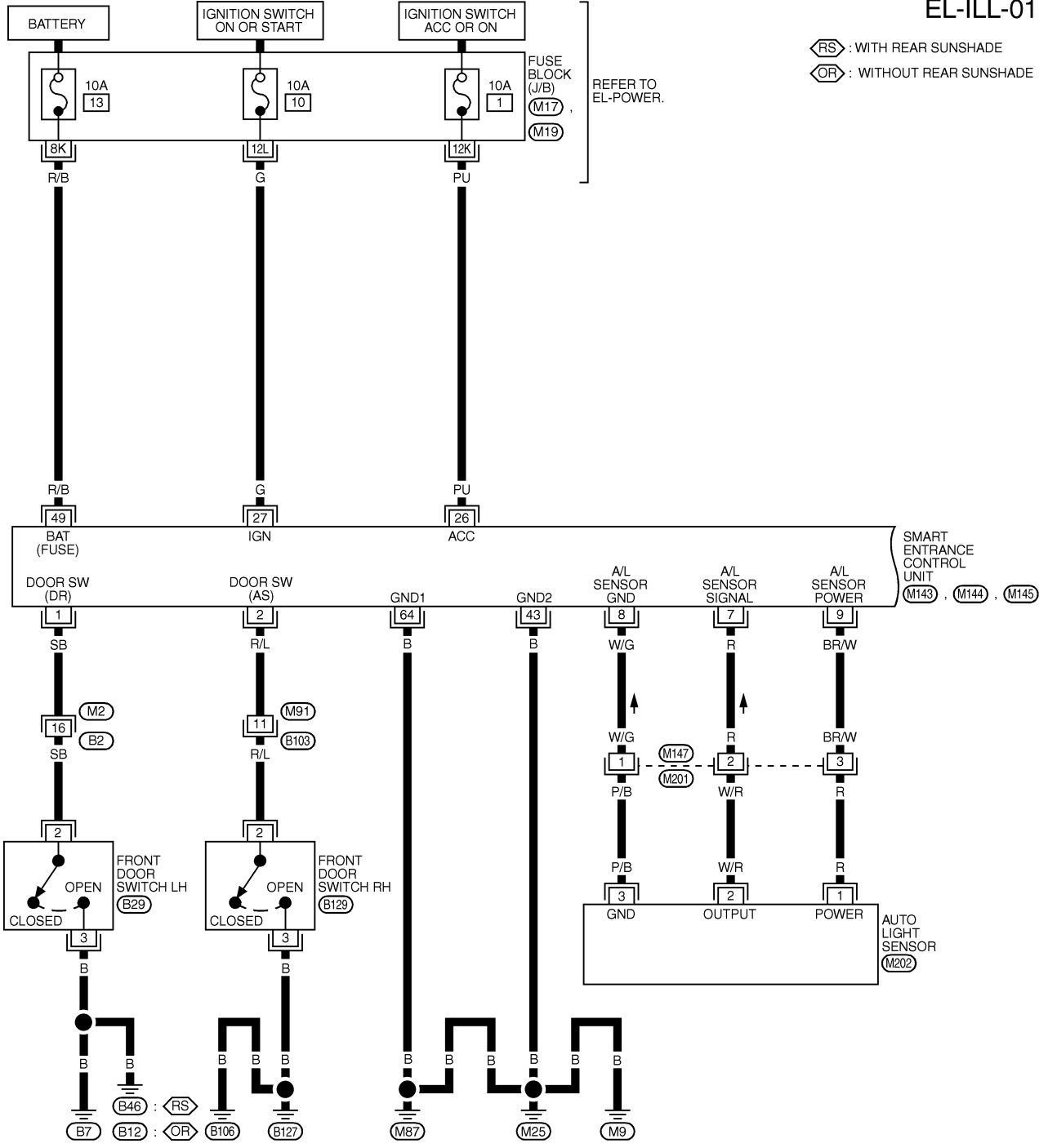
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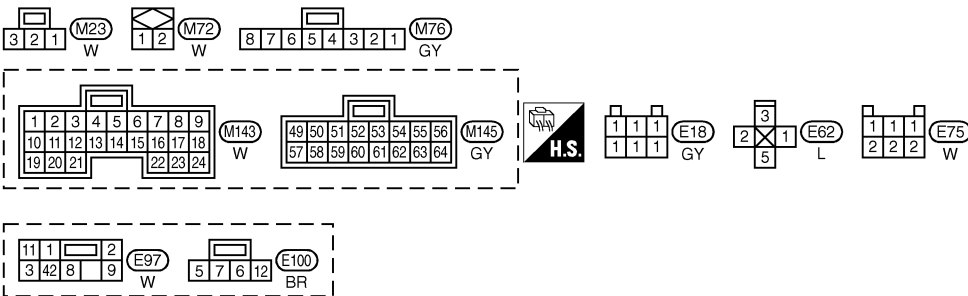
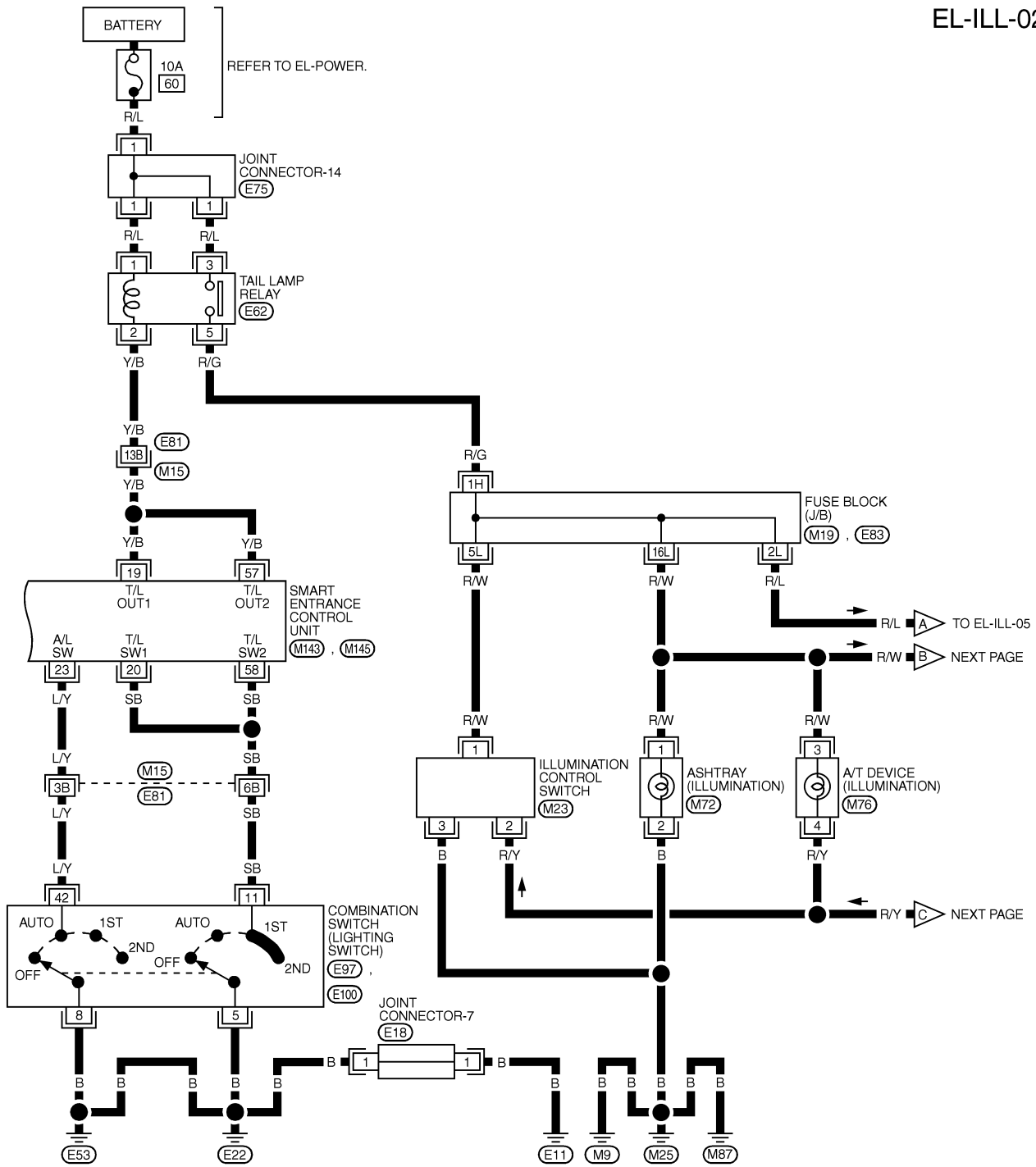


REFER TO THE FOLLOWING.
 ⊠M17, ⊠M19 - FUSE BLOCK-JUNCTION BOX (J/B)

ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

EL-ILL-02



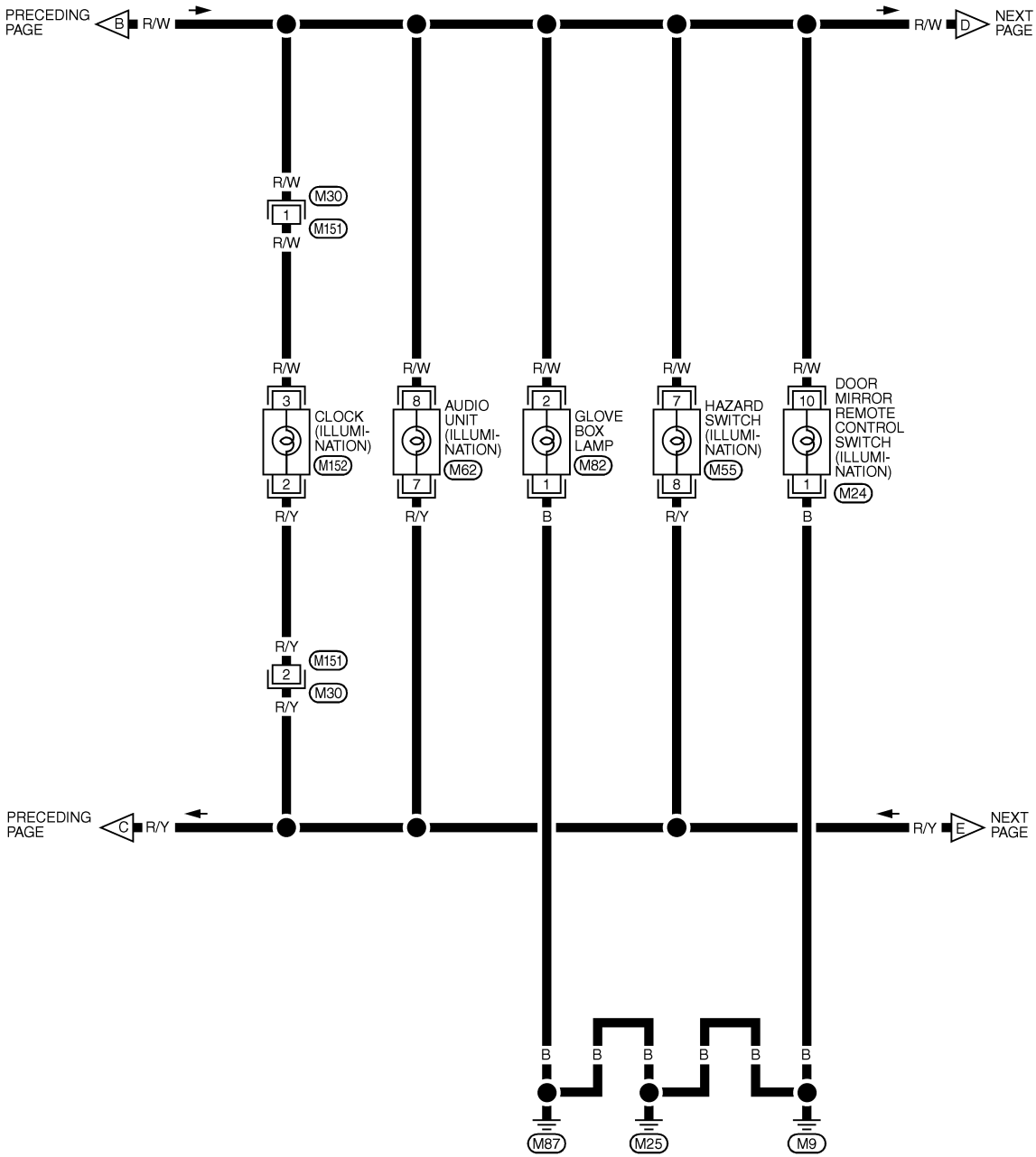
REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M19) , (E83) -FUSE BLOCK-
 JUNCTION BOX (J/B)

MEL420M

ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

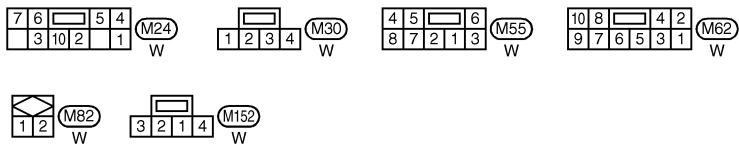
EL-ILL-03



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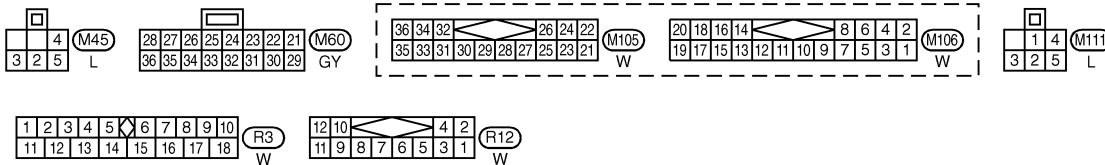
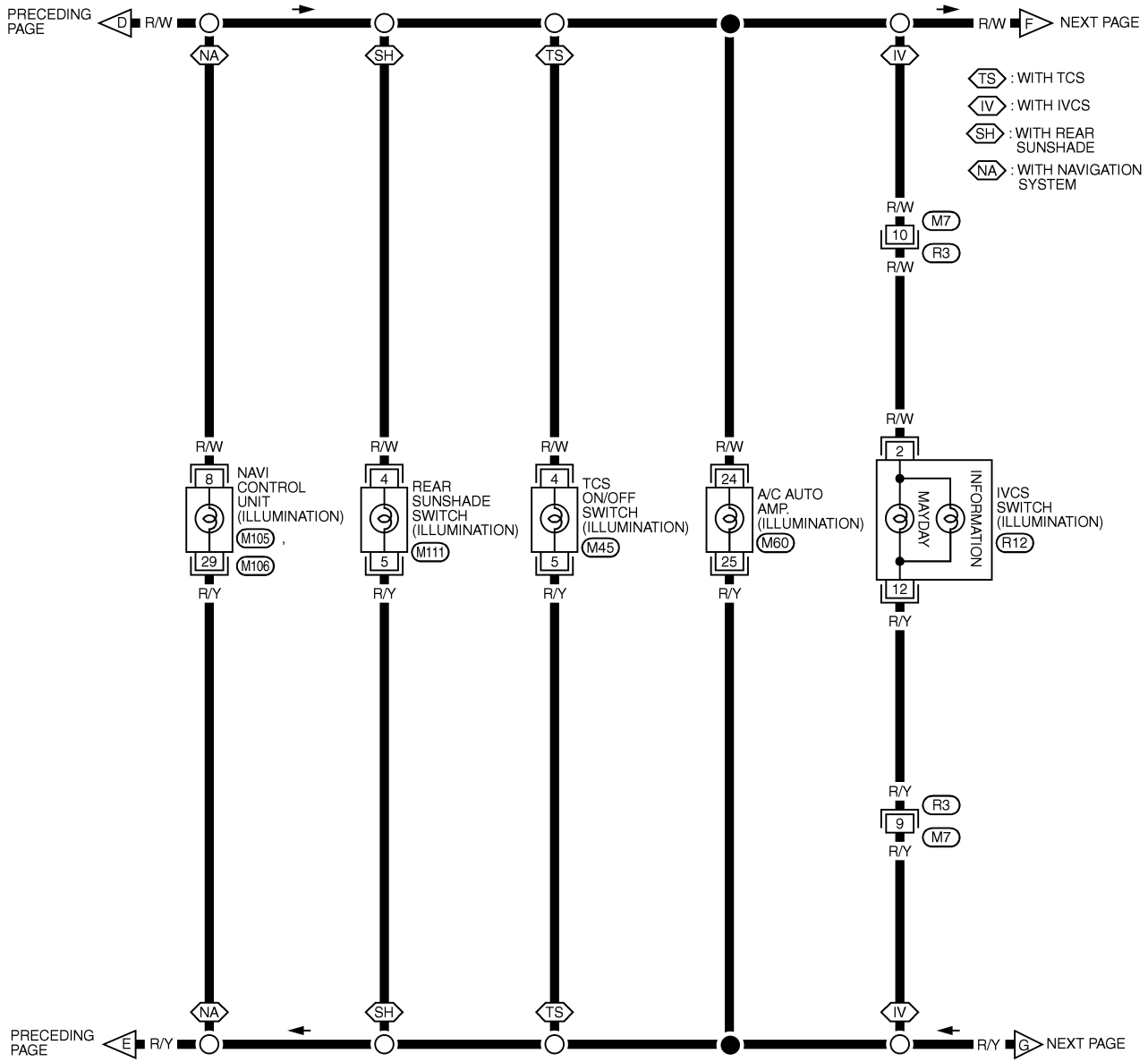


MEL421M

ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

EL-ILL-04

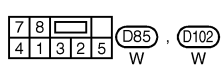
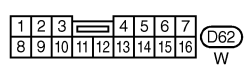
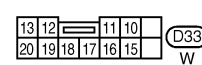
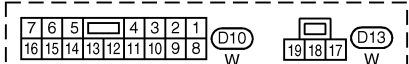
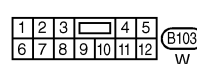
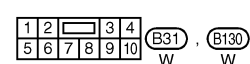
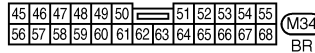
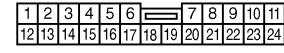
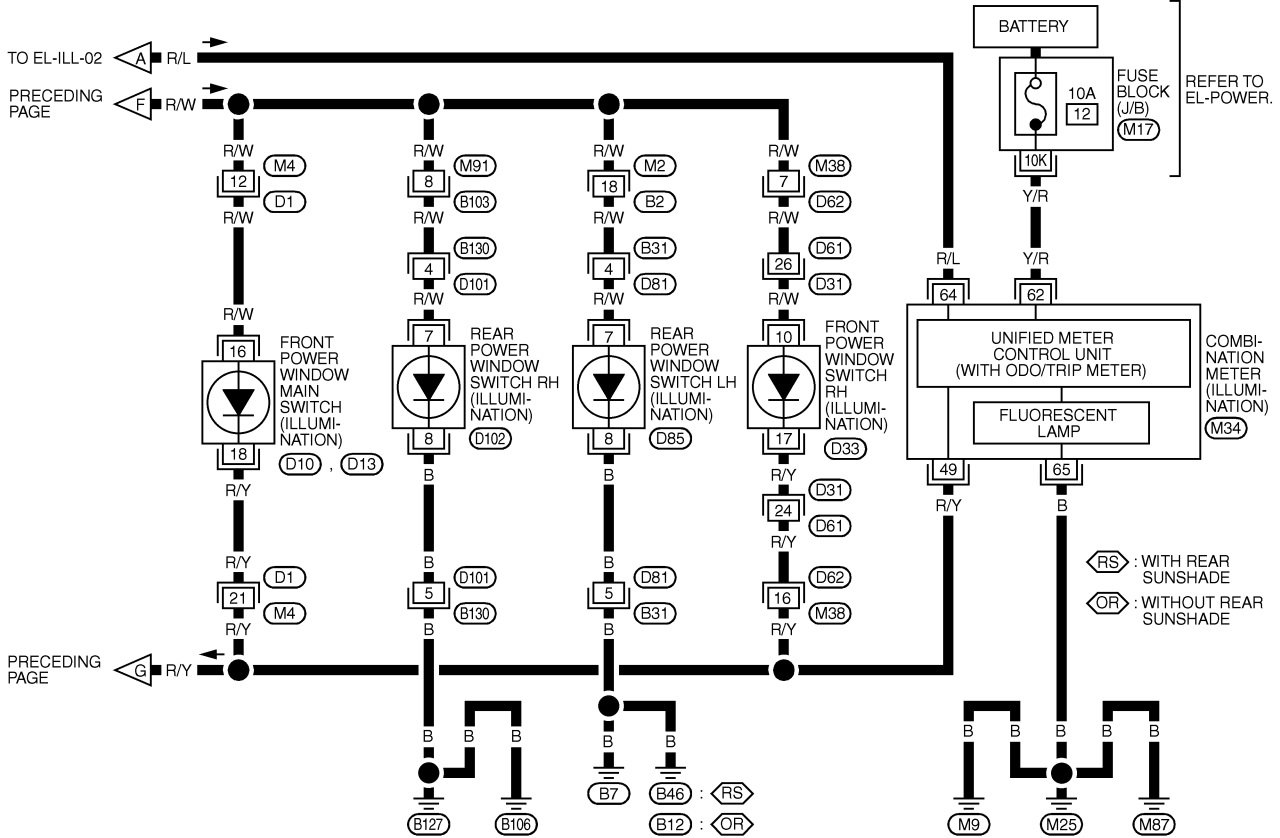


MEL422M

ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

EL-ILL-05



REFER TO THE FOLLOWING.
 (D1), (D31) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M17) -FUSE BLOCK-
 JUNCTION BOX (J/B)

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ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

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

TERMINAL	WIRE COLOR	ITEM	CONDITION		DATA (DC)	
1	SB	DRIVER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)		5V → 0V	
2	R/L	PASSENGER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)		5V → 0V	
19	Y/B	TAIL LAMP RELAY (Out put)	IGNITION SWITCH (WITH LIGHTING SWITCH 1ST OR 2ND)	OFF	MORE THAN 45 SECONDS	12V
				ON OR START	WITHIN 45 SECONDS	0V
			HEADLAMPS ILLUMINATE BY AUTO LIGHT CONTROL (OPERATE → NOT OPERATE)			0V → 12V
20	SB	TAIL LAMP SWITCH	LIGHT SWITCH (OFF → 1ST OR 2ND POSITION)		12V → 0V	
23	L/Y	HEADLAMP SWITCH	IGNITION SWITCH "ON" POSITION	LIGHTING SWITCH (EXCEPT AUTO → AUTO POSITION)	12V → 0V	
26	PU	IGNITION SWITCH (ACC)	"ACC" POSITION		12V	
27	G	IGNITION SWITCH (ON)	IGNITION KEY IS IN "ON" POSITION		12V	
43	B	GROUND	-		-	
49	R/B	POWER SOURCE (FUSE)	-		12V	
57	Y/B	TAIL LAMP RELAY	IGNITION SWITCH (WITH LIGHTING SWITCH 1ST OR 2ND)	OFF	MORE THAN 45 SECONDS	12V
				ON OR START	WITHIN 45 SECONDS	0V
			HEADLAMPS ILLUMINATE BY AUTO LIGHT CONTROL (OPERATE → NOT OPERATE)			LESS THAN 1.5V → 12V
58	SB	TAIL LAMP SWITCH	LIGHTING SWITCH OFF OR AUTO → 1ST OR 2ND		12V → 0V	
64	B	GROUND	-		-	

SEL974X

ILLUMINATION

Wiring Diagram — ILL — (Cont'd)

NOTE:

For CONSULT-II Inspection Procedure, refer to "PARKING, LICENSE AND TAIL LAMPS" (EL-90).

For CONSULT-II Application Items, refer to "PARKING, LICENSE AND TAIL LAMPS" (EL-91).

Trouble Diagnoses for battery saver control, refer to "PARKING, LICENSE AND TAIL LAMPS" (EL-91).

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INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

System Description

System Description

NHEL0165

NHEL0165S01

POWER SUPPLY AND GROUND

Power is supplied at all times:

- through 10A fuse [No. 13, located in the fuse block (J/B)]
- to key switch terminal 2 and
- to smart entrance control unit terminal 49.

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

- through key switch terminal 1
- to smart entrance control unit terminal 25.

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 27.

Ground is supplied:

- to smart entrance control unit terminal 43 and 64
- through body grounds terminals M9, M25 and M87.

When the front driver side door is opened, ground is supplied:

- through body grounds B7 and B46 (with rear sunshade) or B12 (without rear sunshade)
- to front door switch LH terminal 3
- from front door switch LH terminal 2
- to smart entrance control unit terminal 1.

When the front passenger side door is opened, ground is supplied:

- through body grounds B106 and B127
- to front door switch RH terminal 3
- from front door switch RH terminal 2
- to smart entrance control unit terminal 2.

When any other door (except front door) is opened, ground is supplied to smart entrance control unit terminal 3 in the same manner as the front door switch.

When the front driver side door is unlocked by the central switch, the smart entrance control unit receives a ground signal:

- through body grounds terminals M9, M25 and M87
- to door lock and unlock switch terminal 5 (LH) or 7 (RH)
- from door lock and unlock switch terminal 19 (LH) or 18 (RH)
- to smart entrance control unit terminal 4.

When the front driver side door is unlocked by the front door key cylinder switch, the smart entrance control unit receives a ground signal:

- through body grounds terminals M9, M25 and M87
- to front door key cylinder switch LH terminal 4 (with IVCS), 2 (without IVCS)
- from front door key cylinder switch LH terminal 1
- to smart entrance control unit terminal 10.

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

- through smart entrance control unit terminal 31
- to interior lamp terminal 2.

With power and ground supplied, the interior lamp illuminates.

SWITCH OPERATION

When interior lamp switch is ON, ground is supplied:

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

And power is supplied:

- to interior lamp terminal 1
- from smart entrance control unit terminal 50.

When spot lamp (LH and/or RH) is ON, ground is supplied:

NHEL0165S02

INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

System Description (Cont'd)

- through body grounds M9, M25 and M87
- to spot lamp terminal 2.

And power is supplied:

- to spot lamp terminal 1
- from smart entrance control unit terminal 50.

When vanity mirror illumination (LH and/or RH) is ON, ground is supplied:

- through body grounds M9, M25 and M87
- to vanity mirror illuminations (LH and RH) terminals 2.

And power is supplied:

- to vanity mirror illuminations (LH and RH) terminals 1
- from smart entrance control unit terminal 50.

When rear door switch LH and/or RH is ON (door is opened), the smart entrance control unit receives a ground signal:

- through case ground of the rear door switch
- from the rear door switch terminal 1
- to smart entrance control unit terminal 3.
- from smart entrance control unit terminal 32
- to from step lamp LH and RH terminal 1.

And power is supplied:

- to front step lamp LH and RH terminals 2
- from smart entrance control unit terminal 50.

When front door switch LH and/or RH is ON (door is opened), ground is supplied:

- through body grounds B7 and B12 (without rear sunshade) or B46 (with rear sunshade), and/or B106 and B127
- to the front door switch terminal 3
- from the front door switch terminal 2
- to smart entrance control unit terminal 1 and/or 2
- from smart entrance control unit terminal 32
- to front step lamp LH and RH terminals 1.

And power is supplied:

- to front step lamp LH and RH terminals 2
- from smart entrance control unit terminal 50.

When trunk room lamp switch is ON (trunk lid is opened), ground is supplied:

- through body grounds T6 and T8
- to trunk room lamp switch terminal 2
- from trunk room lamp switch terminal 1
- to trunk room lamp terminal 1

And power is supplied:

- to trunk room lamp terminal 2
- from smart entrance control unit terminal 50.

With power and ground supplied, interior lamps turn ON.

INTERIOR LAMP TIMER OPERATION

When interior lamp switch is in the "DOOR" position, the smart entrance control unit keeps the interior lamp illuminated for about 30 seconds when:

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

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NHLE0165S03

INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

System Description (Cont'd)

The timer is canceled when:

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

When driver's door is locked, interior room lamp timer is canceled as described before.

However, ignition key hole illumination remains on for about 30 seconds after driver's door has been locked.

ON-OFF CONTROL

When the driver side door, front passenger door, rear LH or RH door is opened, the interior room lamp turns on while the interior room lamp switch is in the "DOOR" position.

NH/EL0165S04

When any door is opened, step lamps turn ON.

BATTERY SAVER

The lamp turns off automatically when interior lamp, step lamp, trunk room lamp, spot lamp and/or vanity mirror illumination is illuminated with the ignition key is in OFF position, if the lamp remains lit by the door switch open signal or if the lamp switch is in ON position for more than 10 minutes.

NH/EL0165S05

After lamps turn OFF by the battery saver system, the lamps illuminate again when:

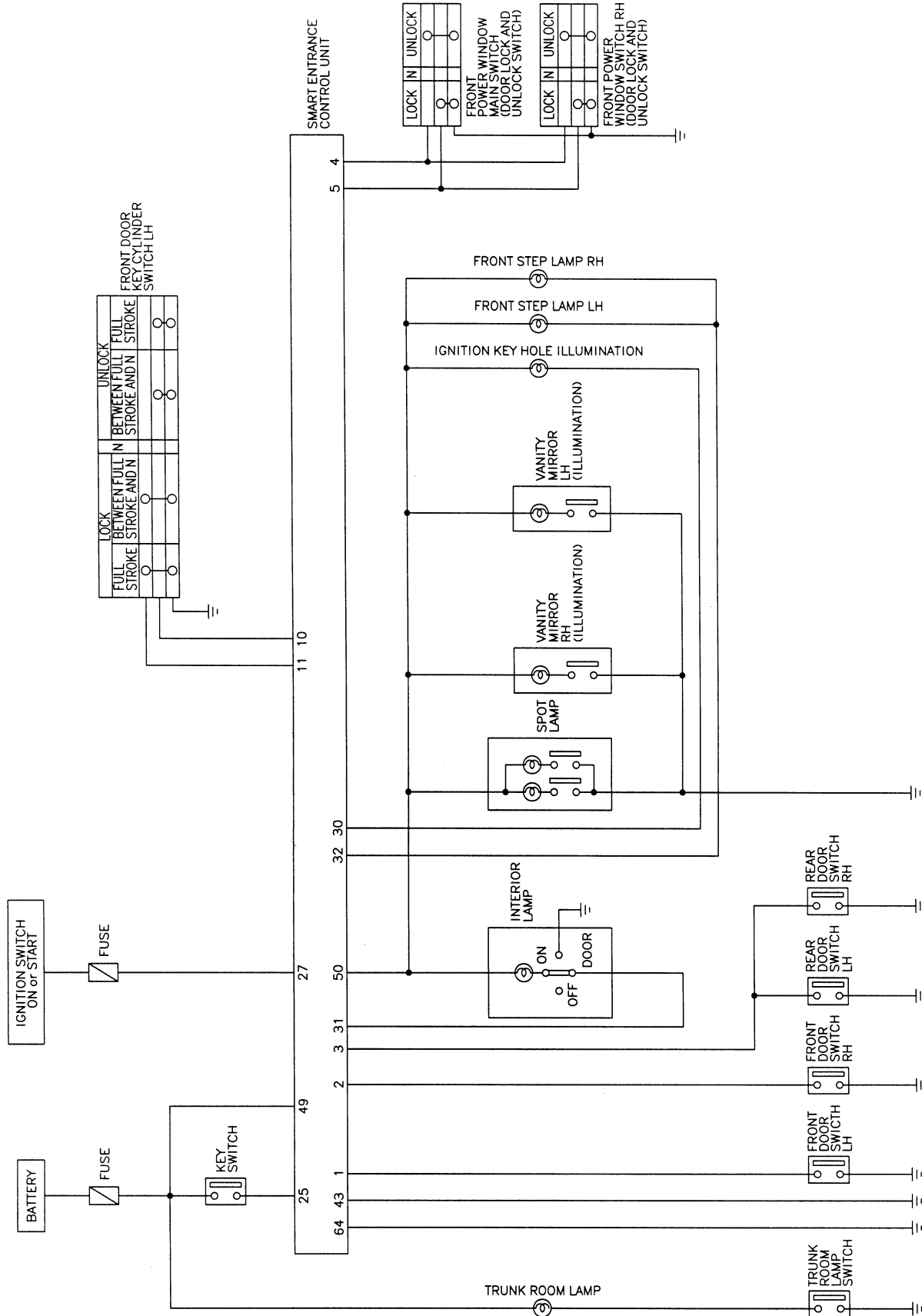
- driver's door is locked or unlocked,
- door is opened or closed,
- key is removed from ignition key cylinder or inserted in ignition key cylinder

INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

Schematic

Schematic

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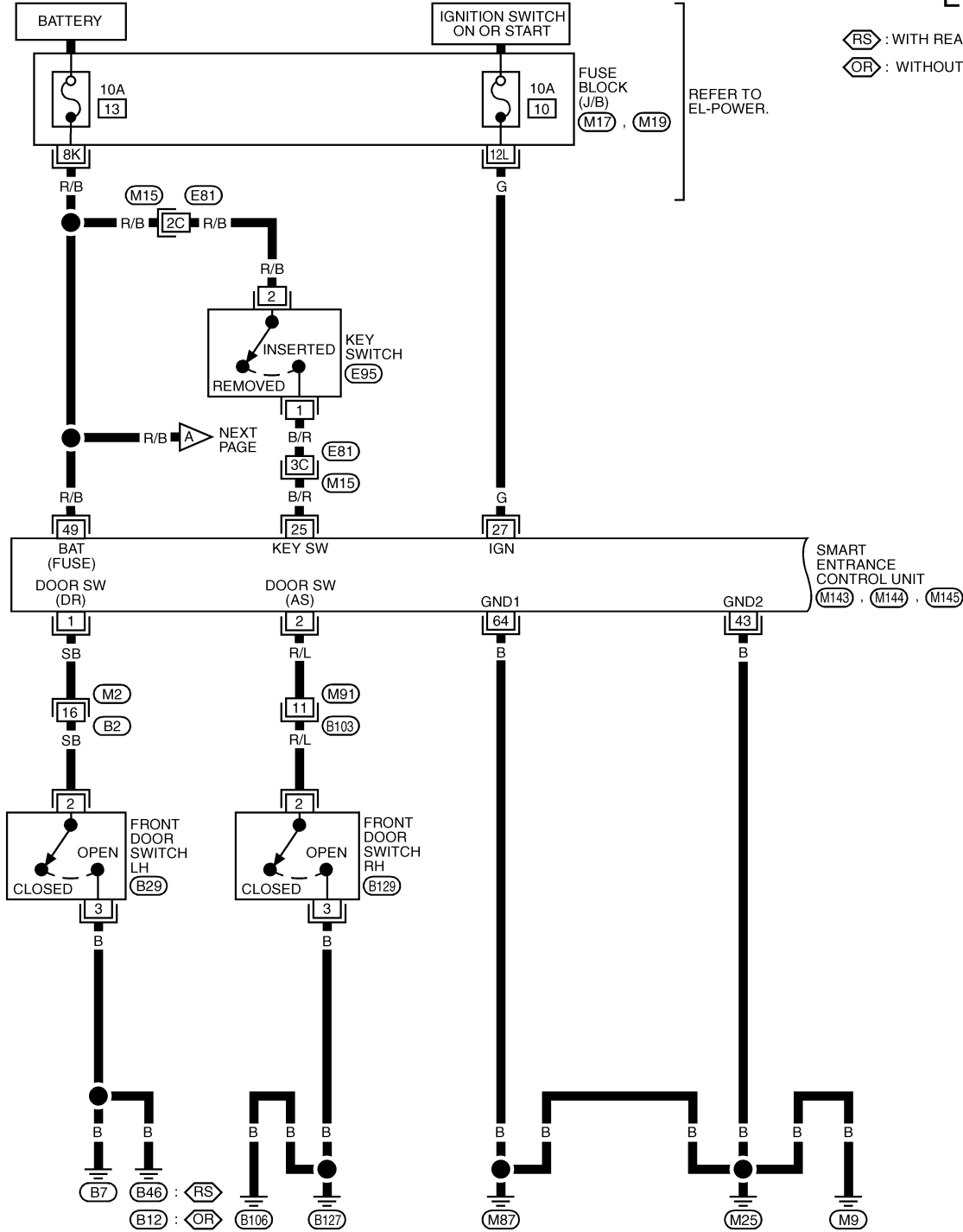
INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

Wiring Diagram — INT/L —

Wiring Diagram — INT/L —

NHEL0163

EL-INT/L-01

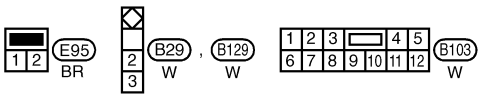
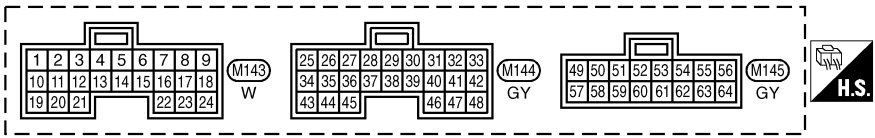
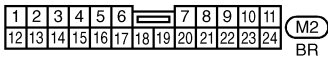


⬢RS : WITH REAR SUNSHADE

⬢OR : WITHOUT REAR SUNSHADE

REFER TO EL-POWER.

SMART ENTRANCE CONTROL UNIT (M143, M144, M145)



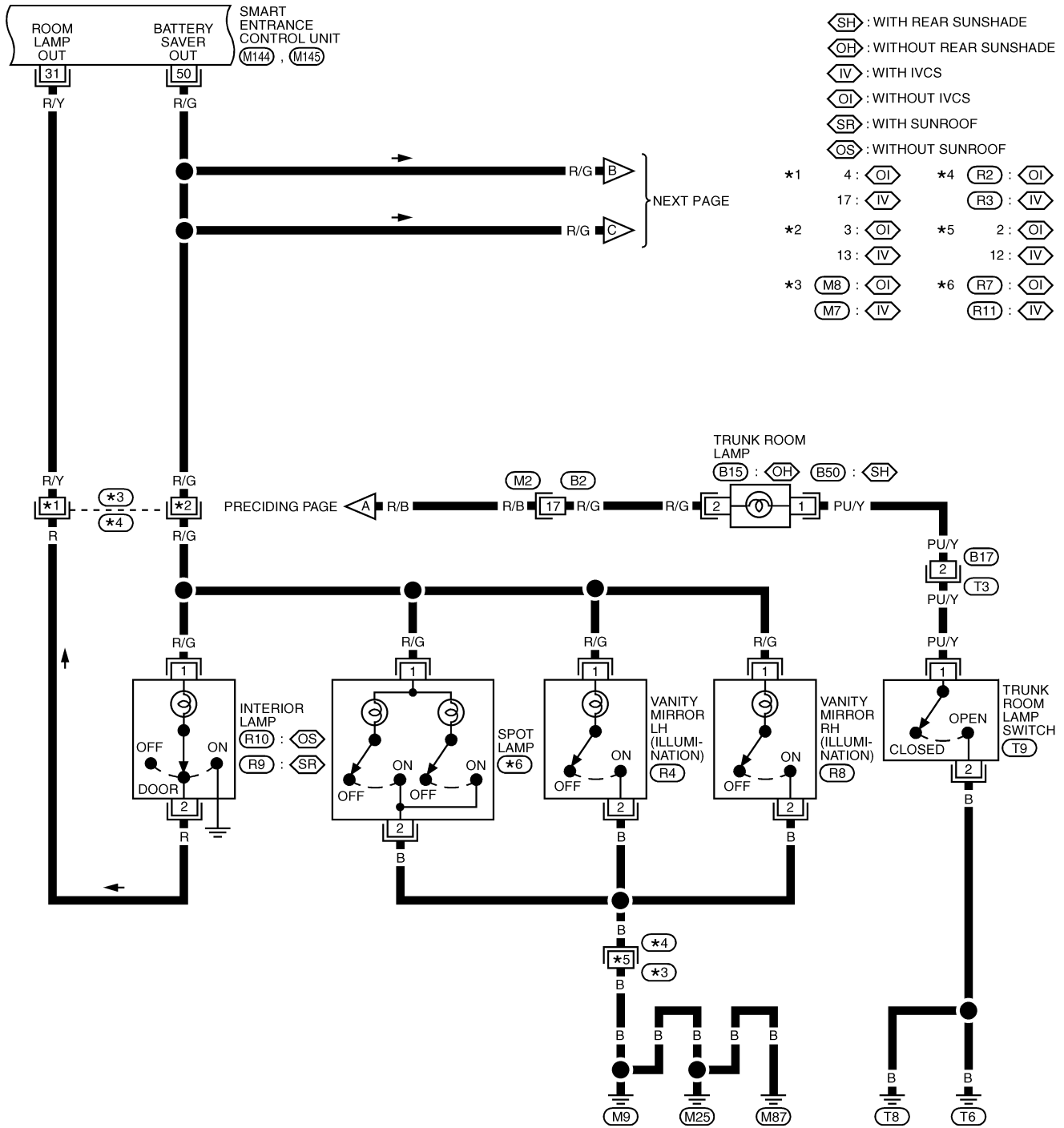
REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M17) , (M19) -FUSE BLOCK-JUNCTION BOX (J/B)

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INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

Wiring Diagram — INT/L — (Cont'd)

EL-INT/L-02

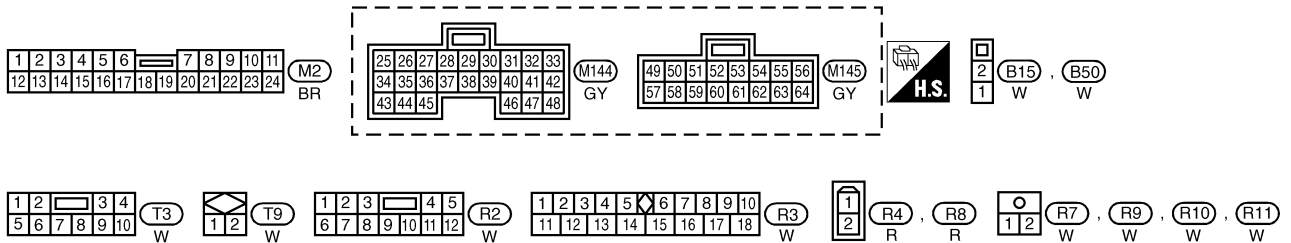


- (SH) : WITH REAR SUNSHADE
 - (OH) : WITHOUT REAR SUNSHADE
 - (IV) : WITH IVCS
 - (OI) : WITHOUT IVCS
 - (SR) : WITH SUNROOF
 - (OS) : WITHOUT SUNROOF
- | | | | |
|----|-------------|----|--------------|
| *1 | 4 : (OI) | *4 | (R2) : (OI) |
| | 17 : (IV) | | (R3) : (IV) |
| *2 | 3 : (OI) | *5 | 2 : (OI) |
| | 13 : (IV) | | 12 : (IV) |
| *3 | (M8) : (OI) | *6 | (R7) : (OI) |
| | (M7) : (IV) | | (R11) : (IV) |

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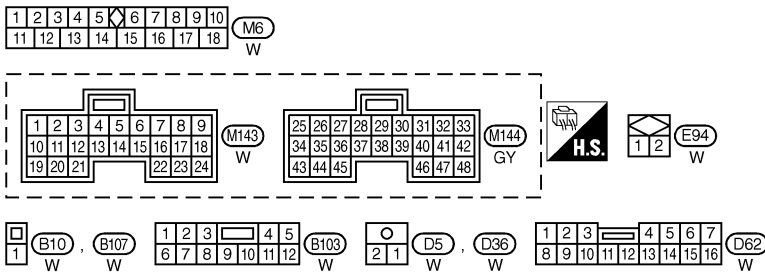
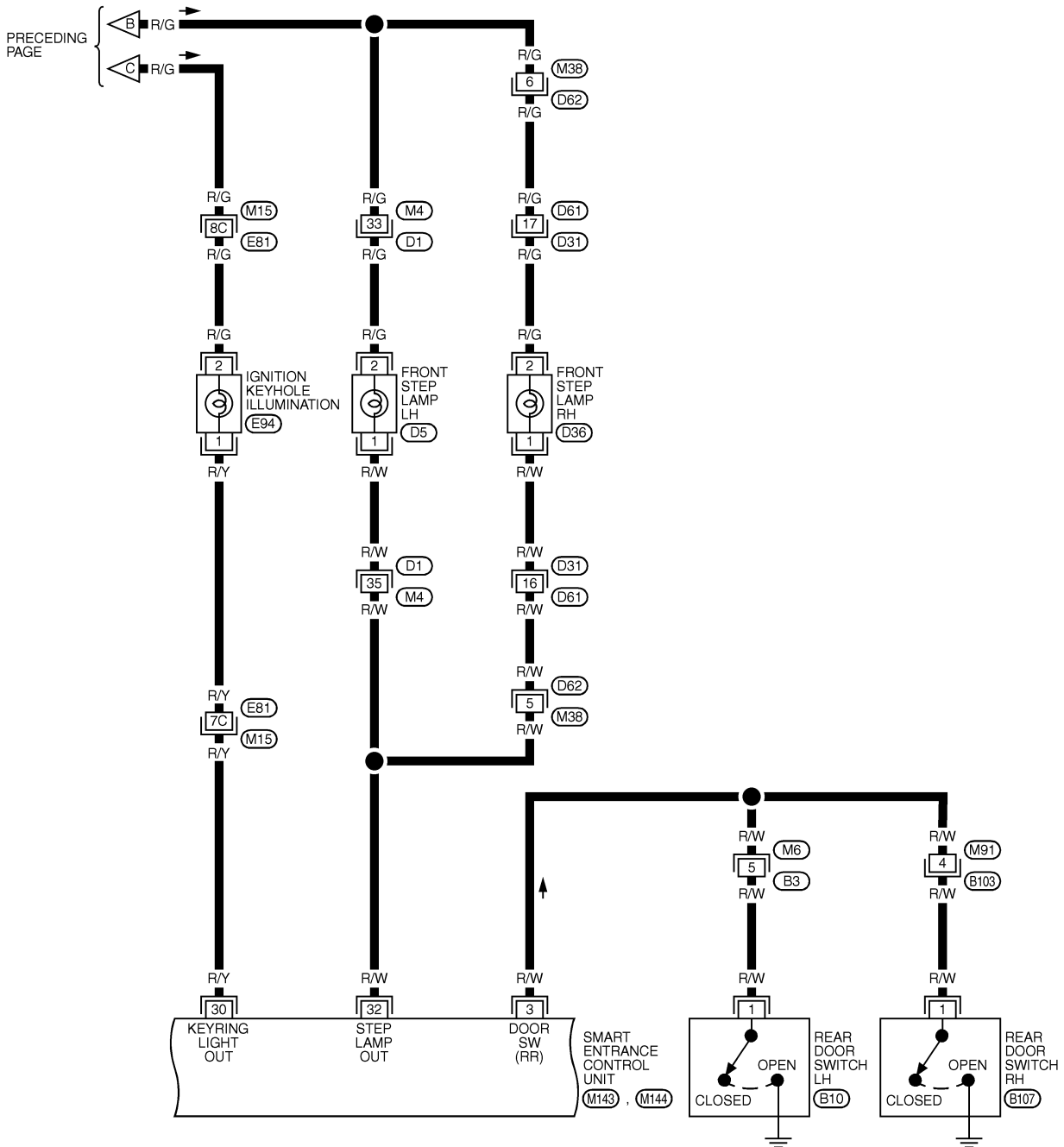


MEL926N

INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

Wiring Diagram — INT/L — (Cont'd)

EL-INT/L-03



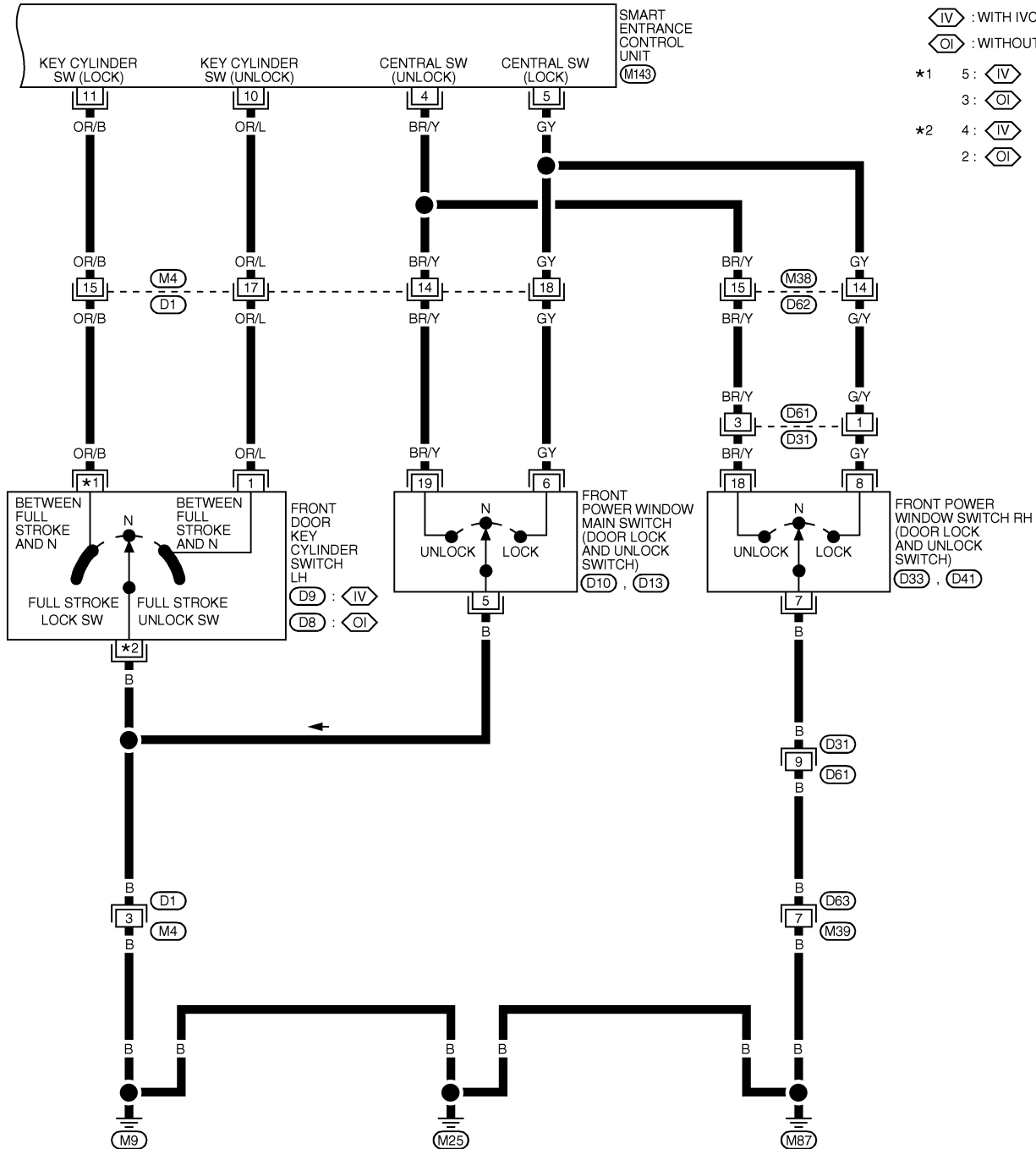
REFER TO THE FOLLOWING.
 (M15) . (D1) . (D31) -SUPER
 MULTIPLE JUNCTION (SMJ)

MEL927N

INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

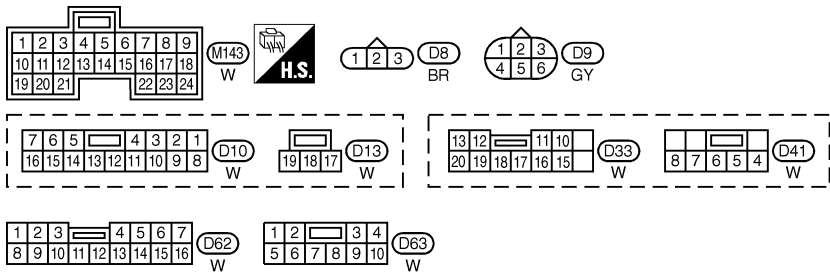
Wiring Diagram — INT/L — (Cont'd)

EL-INT/L-04



- (IV) : WITH IVCS
 (OI) : WITHOUT IVCS
 *1 5 : (IV)
 3 : (OI)
 *2 4 : (IV)
 2 : (OI)

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REFER TO THE FOLLOWING.
 (D1), (D31) -SUPER
 MULTIPLE JUNCTION (SMJ)

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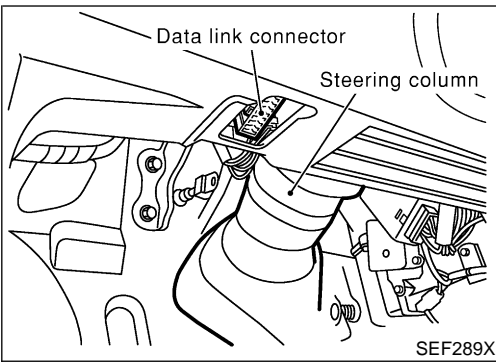
INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

Wiring Diagram — INT/L — (Cont'd)

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

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
1	SB	DRIVER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)	5V → 0V
2	R/L	PASSENGER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)	5V → 0V
3	R/W	REAR DOOR SWITCH	OFF (CLOSED) → ON (OPEN)	5V → 0V
4	BR/Y	DOOR LOCK & UNLOCK SWITCHES	NEUTRAL → UNLOCKS	5V → 0V
5	GY	DOOR LOCK & UNLOCK SWITCHES	NEUTRAL → LOCKS	5V → 0V
10	OR/L	DOOR KEY CYLINDER UNLOCK SWITCH	OFF (NEUTRAL) → ON (LOCKED)	5V → 0V
11	OR/B	DOOR KEY CYLINDER LOCK SWITCH	OFF (NEUTRAL) → ON (LOCKED)	5V → 0V
25	B/R	IGNITION KEY SWITCH (INSERT)	KEY INSERTED KEY REMOVED FROM IGN KEY CYLINDER	12V → 0V
27	G	IGNITION SWITCH (ON)	IGNITION KEY IS IN "ON" POSITION	12V
30	R/Y	IGNITION KEYHOLE ILLUMINATION	WHEN DOORS ARE UNLOCKED USING REMOTE CONTROLLER (OFF → UNLOCK)	12V → 0V
31	R/Y	INTERIOR LAMP	WHEN DOORS ARE LOCKED USING REMOTE CONTROLLER (LAMP SWITCH "DOOR" POSITION)	12V
32	R/W	FRONT STEP LAMP	ANY DOOR SWITCH ON (OPEN) → OFF (CLOSED)	0V → 12V
43	B	GROUND	-	-
49	R/B	POWER SOURCE (FUSE)	-	12V
50	R/G	BATTERY SAVER (INTERIOR LAMP)	BATTERY SAVER DOSE OPERATE → DOES NOT OPERATE (ON → OFF)	12V → 0V
64	B	GROUND	-	-

SEL975X



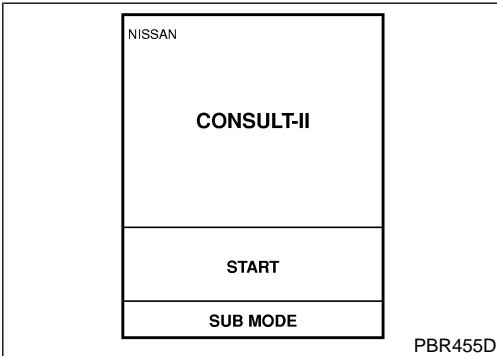
CONSULT-II Inspection Procedure

=NHLE0213

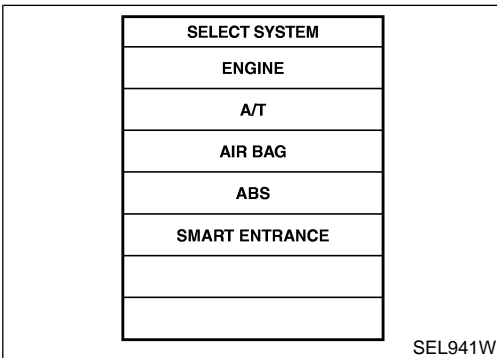
NHLE0213S01

“INT LAMP”/“BATTERY SAVER”

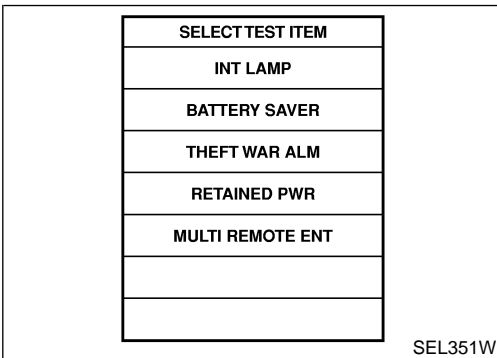
1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” to the data link connector.



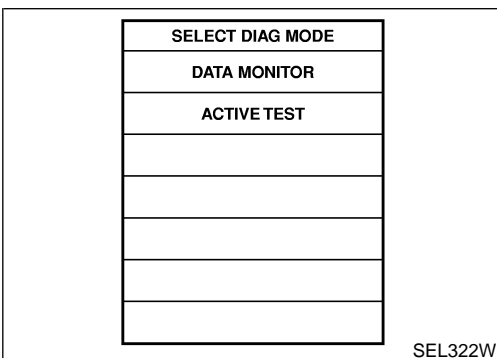
3. Turn ignition switch “ON”.
4. Touch “START”.



5. Touch “SMART ENTRANCE”.



6. Touch “INT LAMP” or “BATTERY SAVER”.



7. Select diagnosis mode.
“DATA MONITOR” and “ACTIVE TEST” are available for “INT LAMP” and “BATTERY SAVER”.

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INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

CONSULT-II Application Items

CONSULT-II Application Items

NHEL0214

NHEL0214S01

NHEL0214S0101

“INT LAMP” Data Monitor

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
DOOR SW-RR	Indicates [ON/OFF] condition of ignition switch.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.
LOCK SW DR/AS	Indicates [ON/OFF] condition of front door lock switch.
UNLK SW DR/AS	Indicates [ON/OFF] condition of front door lock switch.
KEY CYL LK-SW	Indicates [ON/OFF] condition of front door key cylinder switch.
KEY CYL UN-SW	Indicates [ON/OFF] condition of front door key cylinder switch.
LK BUTTON/SIG	Indicates [ON/OFF] condition of unlock signal from remote controller.
UN BUTTON/SIG	Indicates [ON/OFF] condition of unlock signal from remote controller.

Active Test

NHEL0214S0102

Test Item	Description
INT LAMP	This test enables to check interior lamp operation. When “ON” on CONSULT-II screen is touched: <ul style="list-style-type: none"> Interior lamp turns on when the switch is at DOOR. (Smart entrance control unit supplies power and ground to interior lamp.)
IGN ILLUM	This test enables to check ignition key hole illumination operation. The illumination turns on when “ON” on CONSULT-II screen is touched.
STEP LAMP	This test enables to check step lamp operation. The illumination turns on when “ON” on CONSULT-II screen is touched.

“BATTERY SAVER” Data Monitor

NHEL0214S02

NHEL0214S0201

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
DOOR SW-RR	Indicates [ON/OFF] condition of ignition switch.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.
LOCK SW DR/AS	Indicates [ON/OFF] condition of front door lock switch.
UNLK SW DR/AS	Indicates [ON/OFF] condition of front door lock switch.
KEY CYL LK-SW	Indicates [ON/OFF] condition of front door key cylinder switch.
KEY CYL UN-SW	Indicates [ON/OFF] condition of front door key cylinder switch.
LK BUTTON/SIG	Indicates [ON/OFF] condition of unlock signal from remote controller.
UN BUTTON/SIG	Indicates [ON/OFF] condition of unlock signal from remote controller.

INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

CONSULT-II Application Items (Cont'd)

Active Test

NHEL0214S0202

Test Item	Description	
BATTERY SAVER	<p>This test enables to check interior lamp, front step lamps, spot lamp, vanity mirror illuminations and trunk room lamp operations.</p> <p>When touch "ON" on CONSULT-II screen.</p> <ul style="list-style-type: none"> ● Interior lamp turns on when the switch is in ON. (Smart entrance control unit supplies power to interior lamp.) ● Front step lamps turn on when any doors are open. (Smart entrance control unit supplies power to front step lamps.) ● Spot lamp, vanity mirror illuminations, trunk room lamp turn on when the switch is in ON. (Smart entrance control unit supplies power to Spot lamp, vanity mirror illuminations, trunk room lamp.) 	<p>GI</p> <p>MA</p> <p>EM</p> <p>LC</p>
		EC
		FE
		AT
		AX
		SU
		BR
		ST
		RS
		BT
		HA
		SC
		EL
		IDX

INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer




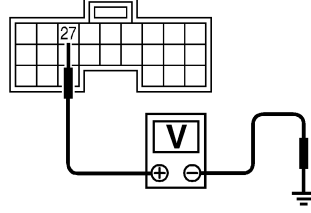
Trouble Diagnoses for Interior Lamp Timer

=NHLE0215

DIAGNOSTIC PROCEDURE 1



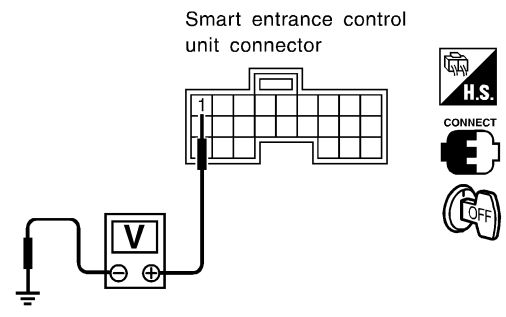
NHLE0215S01

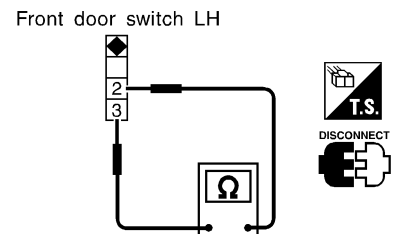
SYMPTOM: Interior lamp timer does not operate.

1	CHECK IGNITION ON SIGNAL															
<p> With CONSULT-II Check ignition switch ON signal ("IGN ON SW") in "DATA MONITOR" mode with CONSULT-II.</p>																
<table border="1" style="margin: auto;"> <thead> <tr> <th colspan="2">DATA MONITOR</th> </tr> <tr> <th>MONITOR</th> <th></th> </tr> </thead> <tbody> <tr> <td>IGN ON SW</td> <td>ON</td> </tr> </tbody> </table>		DATA MONITOR		MONITOR		IGN ON SW	ON									
DATA MONITOR																
MONITOR																
IGN ON SW	ON															
<p>When ignition switch is ON: IGN ON SW ON</p> <p>When ignition switch is OFF: IGN ON SW OFF</p>																
SEL318W																
<p> Without CONSULT-II Check voltage between smart entrance control unit harness connector M144 terminal 27 (G) and ground.</p>																
<div style="display: flex; align-items: center;"> <div style="margin-right: 20px;">  <p>Smart entrance control unit connector</p>  </div> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">Terminals</th> <th colspan="3">Ignition switch position</th> </tr> <tr> <th>(+)</th> <th>(-)</th> <th>OFF</th> <th>ACC</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>27</td> <td>Ground</td> <td>0V</td> <td>0V</td> <td>Battery voltage</td> </tr> </tbody> </table> </div>		Terminals		Ignition switch position			(+)	(-)	OFF	ACC	ON	27	Ground	0V	0V	Battery voltage
Terminals		Ignition switch position														
(+)	(-)	OFF	ACC	ON												
27	Ground	0V	0V	Battery voltage												
SEL003Y																
OK or NG																
OK	▶▶ GO TO 2.															
NG	▶▶ Check the following. <ul style="list-style-type: none"> ● 10A fuse [No. 10, located in fuse block (J/B)] ● Harness for open or short between smart entrance control unit and fuse 															

INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)



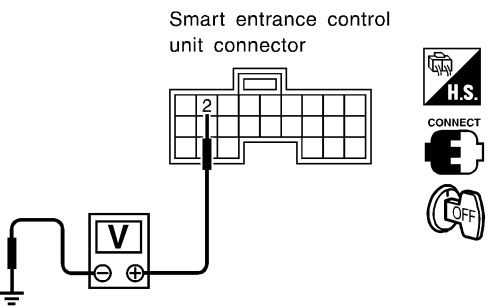



2	CHECK FRONT LH DOOR SWITCH INPUT SIGNAL						
<p> With CONSULT-II Check driver door switch signal ("DOOR SW-DR") in "DATA MONITOR" mode with CONSULT-II.</p>							
<table border="1" style="margin: auto;"> <tr><th colspan="2">DATA MONITOR</th></tr> <tr><th colspan="2">MONITOR</th></tr> <tr><td>DOOR SW-DR</td><td>OFF</td></tr> </table>		DATA MONITOR		MONITOR		DOOR SW-DR	OFF
DATA MONITOR							
MONITOR							
DOOR SW-DR	OFF						
<p>When front LH door is open: DOOR SW-DR ON</p> <p>When driver's door is closed: DOOR SW-DR OFF</p>							
SEL319WA							
<p> Without CONSULT-II Check voltage between smart entrance control unit harness connector M143 terminal 1 (SB) and ground.</p>							
<p>Smart entrance control unit connector</p> 							
<p>Voltage [V]: Condition of driver's door: CLOSED Approx. 5 Condition of driver's door: OPENED 0</p>							
SEL004Y							
OK or NG							
OK	▶ GO TO 4.						
NG	▶ GO TO 3.						

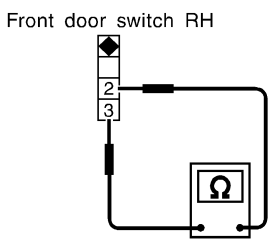


3	CHECK FRONT LH DOOR SWITCH
Check continuity between door switch connector B29 terminals 2 and 3.	
<p>Front door switch LH</p> 	
<p>Continuity: Door switch is pushed. No Door switch is released. Yes</p>	
SEL325WB	
OK or NG	
OK	▶ Check the following. ● Front LH door switch ground circuit and condition ● Harness for open or short between smart entrance control unit and front LH door switch
NG	▶ Replace front LH door switch.

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INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS



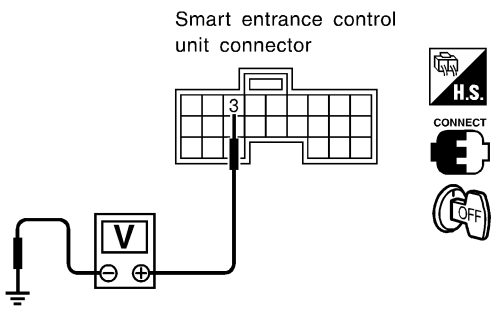
Trouble Diagnoses for Interior Lamp Timer (Cont'd)

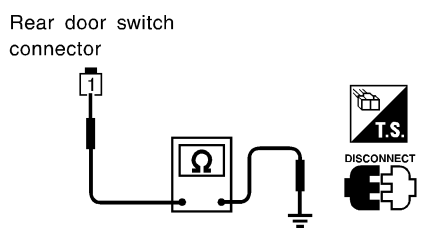
4	CHECK FRONT RH DOOR SWITCH INPUT SIGNAL						
<p> With CONSULT-II Check driver door switch signal ("DOOR SW-AS") in "DATA MONITOR" mode with CONSULT-II.</p>							
<table border="1" style="margin: auto;"> <tr><th colspan="2">DATA MONITOR</th></tr> <tr><th colspan="2">MONITOR</th></tr> <tr><td>DOOR SW-AS</td><td>OFF</td></tr> </table>		DATA MONITOR		MONITOR		DOOR SW-AS	OFF
DATA MONITOR							
MONITOR							
DOOR SW-AS	OFF						
<p>When front RH door is open: DOOR SW-AS ON</p> <p>When driver's door is closed: DOOR SW-AS OFF</p>							
SEL153Y							
<p> Without CONSULT-II Check voltage between smart entrance control unit harness connector M143 terminal 2 (R/L) and ground.</p>							
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p style="text-align: center;">Smart entrance control unit connector</p>  </div> <div style="flex: 1; text-align: center;">    </div> <div style="flex: 1;"> <p>Voltage [V]: Condition of front RH door: CLOSED Approx. 5 Condition of front RH door: OPENED 0</p> </div> </div>							
SEL152Y							
OK or NG							
OK	▶	GO TO 6.					
NG	▶	GO TO 5.					

5	CHECK FRONT RH DOOR SWITCH	
Check continuity between door switch connector B129 terminals 2 and 3.		
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p style="text-align: center;">Front door switch RH</p>  </div> <div style="flex: 1; text-align: center;">   </div> <div style="flex: 1;"> <p>Continuity: Door switch is pushed. No Door switch is released. Yes</p> </div> </div>		
SEL325WC		
OK or NG		
OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● Front RH door switch ground circuit and condition ● Harness for open or short between smart entrance control unit and front RH door switch
NG	▶	Replace front RH door switch.

INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)



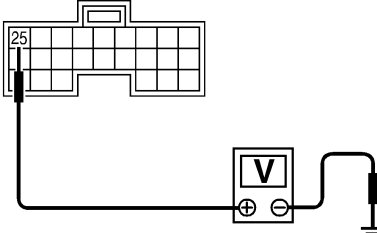



6	CHECK REAR LH AND RH DOOR SWITCHES INPUT SIGNAL							
<p> With CONSULT-II Check door switches ("DOOR SW-RR") in "DATA MONITOR" mode with CONSULT-II.</p>								
<table border="1" style="margin: auto;"> <tr><th colspan="2">DATA MONITOR</th></tr> <tr><th colspan="2">MONITOR</th></tr> <tr><td>DOOR SW-RR</td><td>OFF</td></tr> </table>			DATA MONITOR		MONITOR		DOOR SW-RR	OFF
DATA MONITOR								
MONITOR								
DOOR SW-RR	OFF							
		<p>When rear door LH and/or RH is open: DOOR SW-RR ON</p> <p>When driver's door is closed: DOOR SW-RR OFF</p>						
SEL154Y								
<p> Without CONSULT-II Check voltage between smart entrance control unit harness connector M143 terminals 3 (R/W) and ground.</p>								
<p>Smart entrance control unit connector</p> 								
		<p>Voltage [V]: Condition of rear LH and/or RH door: CLOSED Approx. 5 Condition of rear LH and/or RH door: OPENED 0</p>						
SEL155Y								
OK or NG								
OK	▶	GO TO 8.						
NG	▶	GO TO 7.						

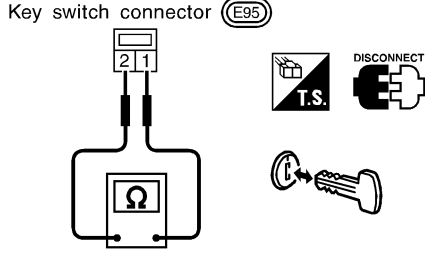
7	CHECK REAR LH AND RH DOOR SWITCHES	
<p>1. Disconnect door switch harness connector. 2. Check continuity between door switch terminal 1 and ground.</p>		
<p>Rear door switch connector</p> 		
		<p>Continuity: Door switch is pushed. No Door switch is released. Yes</p>
SEL156Y		
OK or NG		
OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● Rear LH and/or RH door switch ground circuit or door switch ground condition ● Harness for open or short between smart entrance control unit and rear LH and/or RH door switch
NG	▶	Replace rear LH and/or RH door switch.

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INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

8	CHECK KEY SWITCH INPUT SIGNAL						
<p> With CONSULT-II Check key switch ("KEY ON SW") in "DATA MONITOR" mode with CONSULT-II.</p> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr><th colspan="2">DATA MONITOR</th></tr> <tr><th colspan="2">MONITOR</th></tr> </thead> <tbody> <tr><td>KEY ON SW</td><td>ON</td></tr> </tbody> </table> </div> <div style="margin-left: 20px;"> <p>When key is inserted to ignition key cylinder: KEY ON SW ON</p> <p>When key is removed from ignition key cylinder: KEY ON SW OFF</p> </div> </div> <p style="text-align: right; font-size: small;">SEL315W</p>		DATA MONITOR		MONITOR		KEY ON SW	ON
DATA MONITOR							
MONITOR							
KEY ON SW	ON						
<p> Without CONSULT-II Check voltage between smart entrance control unit harness connector M144 terminal 25 (B/R) and ground.</p> <p>Smart entrance control unit connector</p> <div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p> CONNECT</p> <p> : Approx. 12V</p> <p> : 0V</p> </div> <div style="margin-left: 20px;"> <p>Voltage [V]:</p> <p>Condition of key switch: Key is inserted. Approx. 12</p> <p>Condition of key switch: Key is removed. 0</p> </div> </div> <p style="text-align: right; font-size: small;">SEL011Y</p> <p style="text-align: center; margin-top: 10px;">OK or NG</p>							
OK	▶	GO TO 10.					
NG	▶	GO TO 9.					

9	CHECK KEY SWITCH (INSERT)	
<p>Check continuity between terminals 1 and 2.</p> <div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>Continuity:</p> <p>Condition of key switch: Key is inserted. Yes</p> <p>Condition of key switch: Key is removed. No</p> </div> </div> <p style="text-align: right; font-size: small;">SEL311W</p> <p style="text-align: center; margin-top: 10px;">OK or NG</p>		
OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse [No. 13, 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.

INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

10	CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL													
<p>Ⓟ With CONSULT-II Check door lock/unlock switch (“LOCK SW DR/AS”/“UNLK SW DR/AS”) in “DATA MONITOR” mode with CONSULT-II.</p>														
<table border="1" style="margin: auto;"> <tr><th colspan="2">DATA MONITOR</th></tr> <tr><th colspan="2">MONITOR</th></tr> <tr><td>LOCK SW DR/AS</td><td>OFF</td></tr> <tr><td>UNLK SW DR/AS</td><td>OFF</td></tr> </table>		DATA MONITOR		MONITOR		LOCK SW DR/AS	OFF	UNLK SW DR/AS	OFF					
DATA MONITOR														
MONITOR														
LOCK SW DR/AS	OFF													
UNLK SW DR/AS	OFF													
<p>When lock/unlock switch is turned to LOCK: LOCK SW DR/AS ON</p> <p>When lock/unlock switch is turned to UNLOCK: UNLK SW DR/AS ON</p>														
SEL341W														
<p>⊗ Without CONSULT-II</p> <ol style="list-style-type: none"> 1. Disconnect smart entrance control unit harness connector . 2. Check continuity between smart entrance control unit harness connector M143 terminal 4 (B/R Y) or 5 (GY) and ground. 														
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>Smart entrance control unit connector</p> </div> <div style="flex: 0.5; text-align: center;"> </div> <div style="flex: 1;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Terminals</th> <th>Door lock/unlock switch (LH or RH) condition</th> <th>Continuity</th> </tr> </thead> <tbody> <tr> <td rowspan="2">4 - Ground</td> <td>Lock</td> <td>Yes</td> </tr> <tr> <td>N and Unlock</td> <td>No</td> </tr> <tr> <td rowspan="2">5 - Ground</td> <td>Unlock</td> <td>Yes</td> </tr> <tr> <td>N and Lock</td> <td>No</td> </tr> </tbody> </table> </div> </div>		Terminals	Door lock/unlock switch (LH or RH) condition	Continuity	4 - Ground	Lock	Yes	N and Unlock	No	5 - Ground	Unlock	Yes	N and Lock	No
Terminals	Door lock/unlock switch (LH or RH) condition	Continuity												
4 - Ground	Lock	Yes												
	N and Unlock	No												
5 - Ground	Unlock	Yes												
	N and Lock	No												
SEL157Y														
OK or NG														
OK	▶	GO TO 12.												
NG	▶	GO TO 11.												

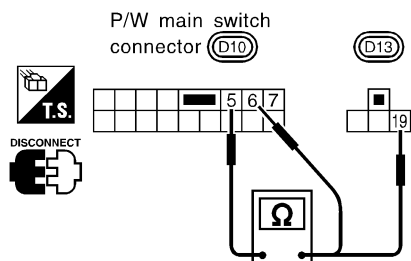
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INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

11 CHECK DOOR LOCK/UNLOCK SWITCH

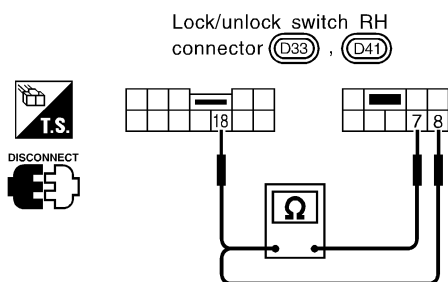
1. Disconnect door lock/unlock switch harness connector.
2. Check continuity between each door lock/unlock switch terminals.
 - Power window main switch (Door lock/unlock switch LH)



Condition	Terminals		
	19	6	5
Lock		○	○
N	No continuity		
Unlock	○	○	○

SEL648W

- Door lock/unlock switch RH



Condition	Terminals		
	18	8	7
Lock		○	○
N	No continuity		
Unlock	○	○	○

SEL649W

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.

INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

12 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.

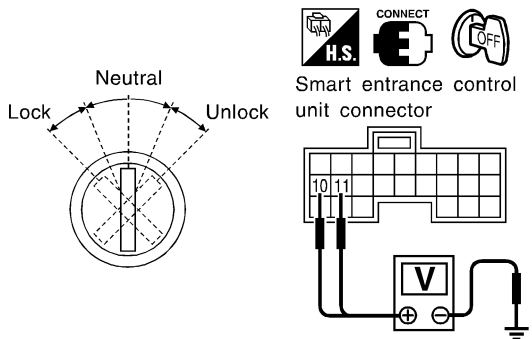
DATA MONITOR	
MONITOR	
KEY CYL LK-SW	OFF
KEY CYL UN-SW	OFF

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 M143 terminals 10 (OR/L) or 11 (OR/B) and ground.



Terminals		Key position	Voltage V
(+)	(-)		
11	Ground	Neutral/Unlock	Approx. 5
		Lock	0
10	Ground	Neutral/Lock	Approx. 5
		Unlock	0

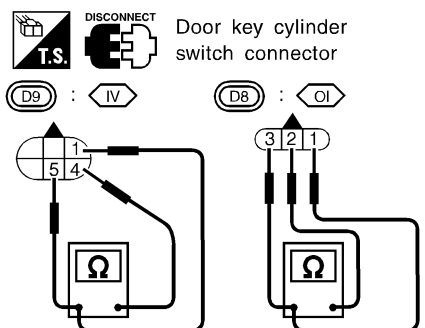
SEL158Y

OK or NG

OK	▶	Replace smart entrance control unit.
NG	▶	GO TO 13.

13 CHECK DOOR KEY CYLINDER SWITCH

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



Terminals	Key position	Continuity
⑤ - ④ : ◊IV	Neutral/Unlock	No
③ - ② : ◊OI	Lock	Yes
① - ④ : ◊IV	Neutral/Lock	No
① - ② : ◊OI	Unlock	Yes

SEL650W

OK or NG

OK	▶	Check the following. <ul style="list-style-type: none"> • 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.

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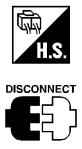
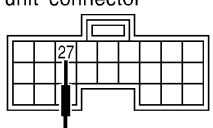
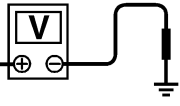
INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

DIAGNOSTIC PROCEDURE 2



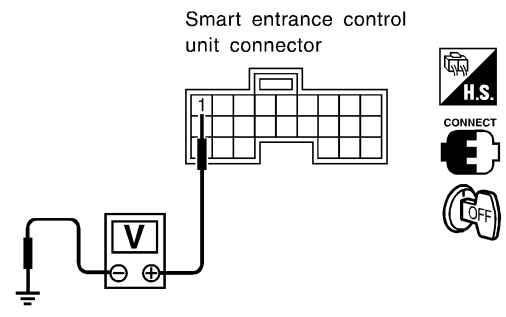
NHLE0215S02

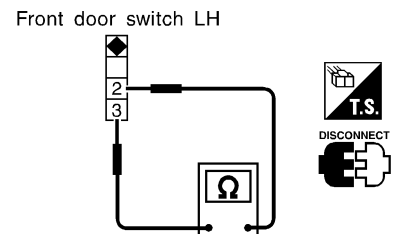
SYMPTOM: Interior lamp timer does not cancel properly.

1	CHECK IGNITION ON SIGNAL																
<p> With CONSULT-II Check ignition switch ON signal ("IGN ON SW") in "DATA MONITOR" mode with CONSULT-II.</p>																	
<table border="1" style="margin: auto;"> <thead> <tr> <th colspan="2">DATA MONITOR</th> </tr> <tr> <th>MONITOR</th> <th></th> </tr> </thead> <tbody> <tr> <td>IGN ON SW</td> <td>ON</td> </tr> </tbody> </table>			DATA MONITOR		MONITOR		IGN ON SW	ON									
DATA MONITOR																	
MONITOR																	
IGN ON SW	ON																
<p>When ignition switch is ON: IGN ON SW ON</p> <p>When ignition switch is OFF: IGN ON SW OFF</p>																	
SEL318W																	
<p> Without CONSULT-II Check voltage between smart entrance control unit harness connector M144 terminal 27 (G) and ground.</p>																	
<div style="display: flex; align-items: center;"> <div style="margin-right: 20px;">  </div> <div style="margin-right: 20px;"> <p>Smart entrance control unit connector</p>  </div> <div style="margin-right: 20px;">  </div> <table border="1" style="margin-left: auto;"> <thead> <tr> <th colspan="2">Terminals</th> <th colspan="3">Ignition switch position</th> </tr> <tr> <th>(+)</th> <th>(-)</th> <th>OFF</th> <th>ACC</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>27</td> <td>Ground</td> <td>0V</td> <td>0V</td> <td>Battery voltage</td> </tr> </tbody> </table> </div>			Terminals		Ignition switch position			(+)	(-)	OFF	ACC	ON	27	Ground	0V	0V	Battery voltage
Terminals		Ignition switch position															
(+)	(-)	OFF	ACC	ON													
27	Ground	0V	0V	Battery voltage													
SEL995X																	
OK or NG																	
OK	▶	GO TO 2.															
NG	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse [No. 10, located in fuse block (J/B)] ● Harness for open or short between smart entrance control unit and fuse 															

INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)



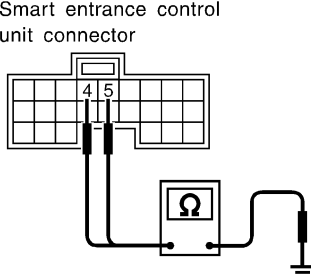
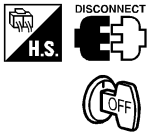
2	CHECK FRONT LH DOOR SWITCH INPUT SIGNAL						
<p> With CONSULT-II Check driver door switch signal ("DOOR SW-DR") in "DATA MONITOR" mode with CONSULT-II.</p>							
<table border="1" style="margin: auto;"> <tr><th colspan="2">DATA MONITOR</th></tr> <tr><th colspan="2">MONITOR</th></tr> <tr><td>DOOR SW-DR</td><td>OFF</td></tr> </table>		DATA MONITOR		MONITOR		DOOR SW-DR	OFF
DATA MONITOR							
MONITOR							
DOOR SW-DR	OFF						
<p>When front LH door is open: DOOR SW-DR ON</p> <p>When driver's door is closed: DOOR SW-DR OFF</p>							
SEL319WA							
<p> Without CONSULT-II Check voltage between smart entrance control unit harness connector M143 terminal 1 (SB) and ground.</p>							
<p>Smart entrance control unit connector</p> 							
<p>Voltage [V]: Condition of driver's door: CLOSED Approx. 5 Condition of driver's door: OPENED 0</p>							
SEL004Y							
OK or NG							
OK	▶ GO TO 4.						
NG	▶ GO TO 3.						

3	CHECK FRONT LH DOOR SWITCH
Check continuity between door switch connector B29 terminals 2 and 3.	
<p>Front door switch LH</p> 	
<p>Continuity: Door switch is pushed. No Door switch is released. Yes</p>	
SEL325WB	
OK or NG	
OK	▶ Check the following. ● Front LH door switch ground circuit and condition ● Harness for open or short between smart entrance control unit and front LH door switch
NG	▶ Replace front LH door switch.

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INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

4	CHECK DOOR LOCK/UNLOCK SWITCH INPUT SIGNAL														
<p> With CONSULT-II Check door lock/unlock switch (“LOCK SW DR/AS”/“UNLK SW DR/AS”) in “DATA MONITOR” mode with CONSULT-II.</p>															
<table border="1" style="margin: auto;"> <tr><th colspan="2">DATA MONITOR</th></tr> <tr><th colspan="2">MONITOR</th></tr> <tr><td>LOCK SW DR/AS</td><td>OFF</td></tr> <tr><td>UNLK SW DR/AS</td><td>OFF</td></tr> </table>			DATA MONITOR		MONITOR		LOCK SW DR/AS	OFF	UNLK SW DR/AS	OFF					
DATA MONITOR															
MONITOR															
LOCK SW DR/AS	OFF														
UNLK SW DR/AS	OFF														
<p>When lock/unlock switch is turned to LOCK: LOCK SW DR/AS ON</p> <p>When lock/unlock switch is turned to UNLOCK: UNLK SW DR/AS ON</p>															
SEL341W															
<p> Without CONSULT-II</p> <ol style="list-style-type: none"> 1. Disconnect smart entrance control unit harness connector . 2. Check continuity between smart entrance control unit harness connector M143 terminal 4 (B/R Y) or 5 (GY) and ground. 															
<div style="display: flex; align-items: flex-start;"> <div style="flex: 1;"> <p>Smart entrance control unit connector</p>  </div> <div style="flex: 0.5; text-align: center;">  </div> <div style="flex: 2;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Terminals</th> <th>Door lock/unlock switch (LH or RH) condition</th> <th>Continuity</th> </tr> </thead> <tbody> <tr> <td rowspan="2">4 - Ground</td> <td>Lock</td> <td>Yes</td> </tr> <tr> <td>N and Unlock</td> <td>No</td> </tr> <tr> <td rowspan="2">5 - Ground</td> <td>Unlock</td> <td>Yes</td> </tr> <tr> <td>N and Lock</td> <td>No</td> </tr> </tbody> </table> </div> </div>			Terminals	Door lock/unlock switch (LH or RH) condition	Continuity	4 - Ground	Lock	Yes	N and Unlock	No	5 - Ground	Unlock	Yes	N and Lock	No
Terminals	Door lock/unlock switch (LH or RH) condition	Continuity													
4 - Ground	Lock	Yes													
	N and Unlock	No													
5 - Ground	Unlock	Yes													
	N and Lock	No													
SEL157Y															
OK or NG															
OK	▶	GO TO 6.													
NG	▶	GO TO 5.													

INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

5	CHECK DOOR LOCK/UNLOCK SWITCH	<p>1. Disconnect door lock/unlock switch harness connector.</p> <p>2. Check continuity between each door lock/unlock switch terminals.</p> <ul style="list-style-type: none"> ● Power window main switch (Door lock/unlock switch LH) <div style="display: flex; justify-content: space-around; align-items: flex-start; margin-top: 10px;"> <div style="text-align: center;"> <p>P/W main switch connector (D10) (D13)</p> </div> <div style="margin-top: 10px;"> <table border="1" style="border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">Condition</th> <th colspan="3">Terminals</th> </tr> <tr> <th>19</th> <th>6</th> <th>5</th> </tr> </thead> <tbody> <tr> <td>Lock</td> <td></td> <td>○</td> <td>○</td> </tr> <tr> <td>N</td> <td colspan="3">No continuity</td> </tr> <tr> <td>Unlock</td> <td>○</td> <td>○</td> <td>○</td> </tr> </tbody> </table> </div> </div> <div style="text-align: right; margin-top: 10px;">SEL648W</div>	Condition	Terminals			19	6	5	Lock		○	○	N	No continuity			Unlock	○	○	○
Condition	Terminals																				
	19	6	5																		
Lock		○	○																		
N	No continuity																				
Unlock	○	○	○																		
		<ul style="list-style-type: none"> ● Door lock/unlock switch RH <div style="display: flex; justify-content: space-around; align-items: flex-start; margin-top: 10px;"> <div style="text-align: center;"> <p>Lock/unlock switch RH connector (D33) (D41)</p> </div> <div style="margin-top: 10px;"> <table border="1" style="border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">Condition</th> <th colspan="3">Terminals</th> </tr> <tr> <th>18</th> <th>8</th> <th>7</th> </tr> </thead> <tbody> <tr> <td>Lock</td> <td></td> <td>○</td> <td>○</td> </tr> <tr> <td>N</td> <td colspan="3">No continuity</td> </tr> <tr> <td>Unlock</td> <td>○</td> <td>○</td> <td>○</td> </tr> </tbody> </table> </div> </div> <div style="text-align: right; margin-top: 10px;">SEL649W</div>	Condition	Terminals			18	8	7	Lock		○	○	N	No continuity			Unlock	○	○	○
Condition	Terminals																				
	18	8	7																		
Lock		○	○																		
N	No continuity																				
Unlock	○	○	○																		
OK or NG																					
OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 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.																			

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INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS

Trouble Diagnoses for Interior Lamp Timer (Cont'd)

6 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.

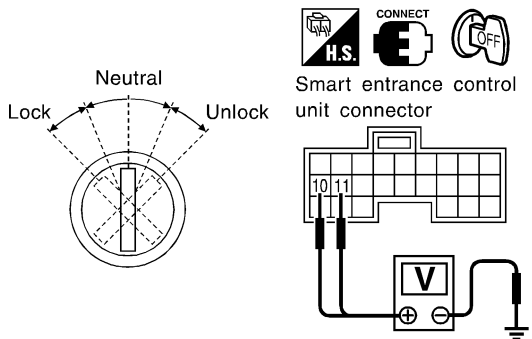
DATA MONITOR	
MONITOR	
KEY CYL LK-SW	OFF
KEY CYL UN-SW	OFF

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 M143 terminals 10 (OR/L) or 11 (OR/B) and ground.



Terminals		Key position	Voltage V
(+)	(-)		
11	Ground	Neutral/Unlock	Approx. 5
		Lock	0
10	Ground	Neutral/Lock	Approx. 5
		Unlock	0

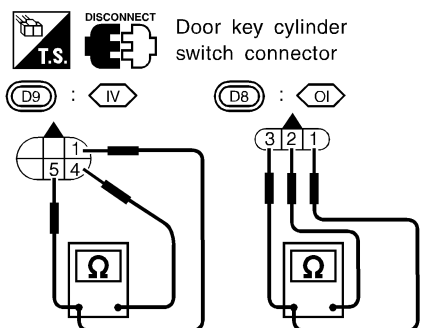
SEL158Y

OK or NG

OK	▶	Replace smart entrance control unit.
NG	▶	GO TO 7.

7 CHECK DOOR KEY CYLINDER SWITCH

- Disconnect door key cylinder switch harness connector.
- Check continuity between door key cylinder switch terminals.



Terminals	Key position	Continuity
⑤ - ④ : ◊IV	Neutral/Unlock	No
③ - ② : ◊OI	Lock	Yes
① - ④ : ◊IV	Neutral/Lock	No
① - ② : ◊OI	Unlock	Yes

SEL650W

OK or NG

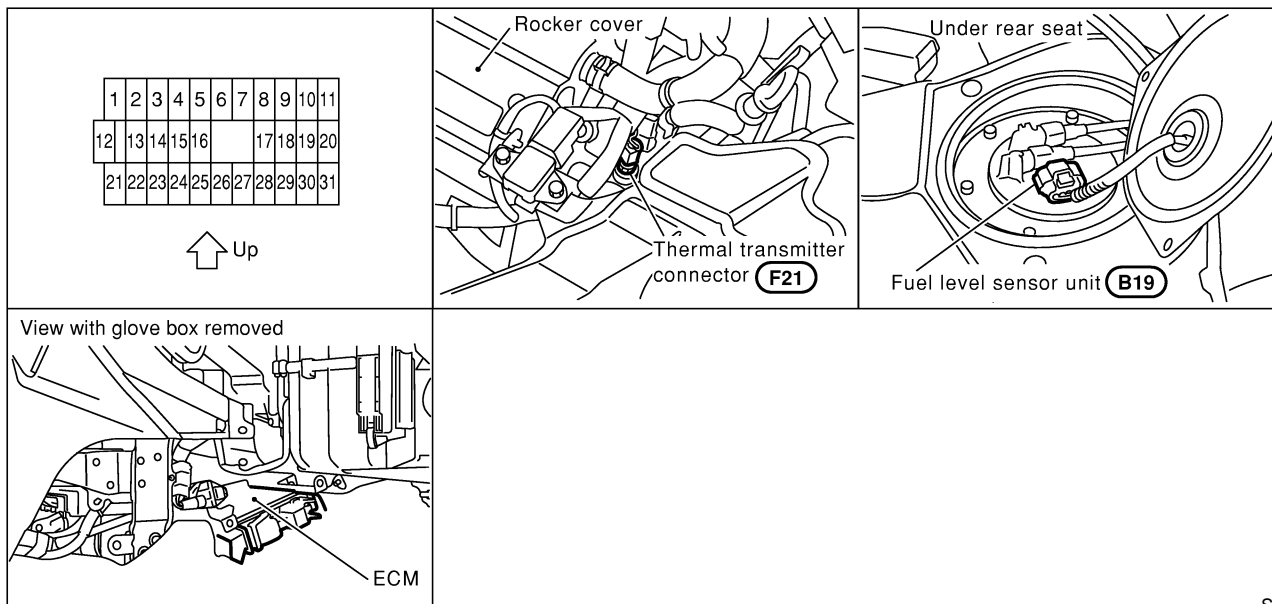
OK	▶	Check the following. <ul style="list-style-type: none"> Door key cylinder switch ground circuit Harness for open or short between smart entrance control unit and door key cylinder switch
NG	▶	Replace door key cylinder switch.

METERS AND GAUGES

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NHEL0041



SEL168W

System Description

NHEL0042

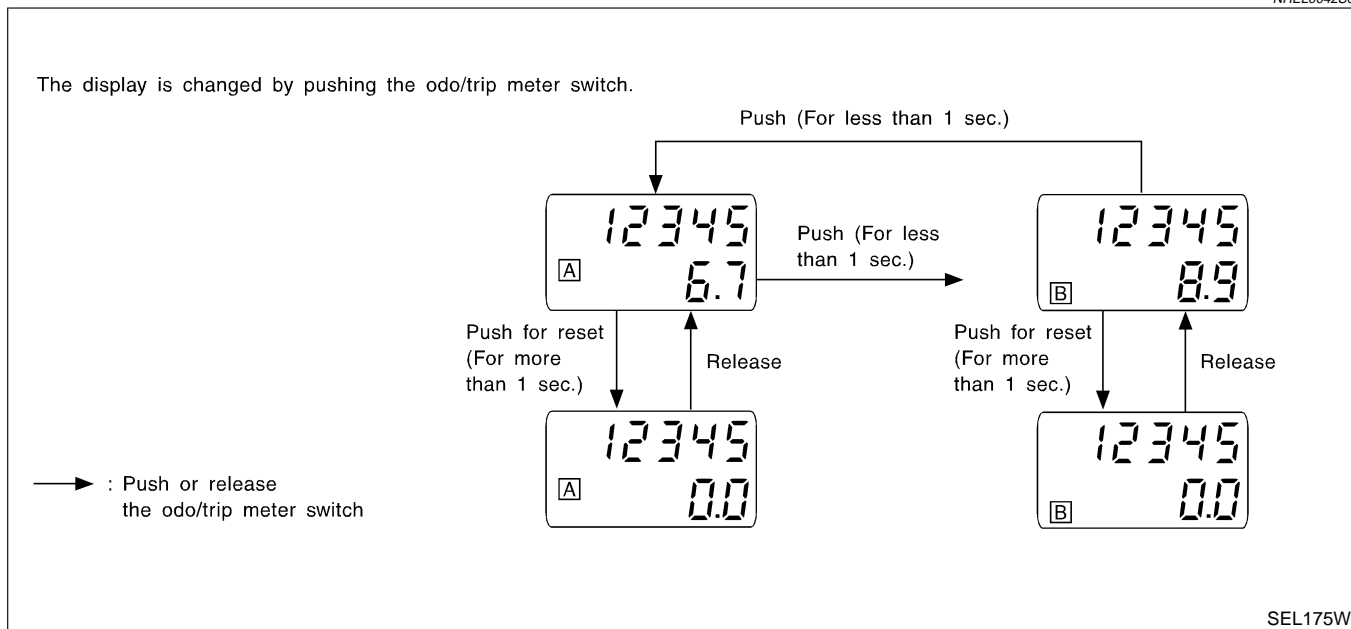
UNIFIED CONTROL METER

NHEL0042S06

- Speedometer, odo/trip meter, tachometer, fuel gauge and water temperature gauge are controlled totally by control unit built-in combination meter.
- Digital meter is adopted for odo/trip meter.*
*The record of the odo meter is kept even if the battery cable is disconnected. The record of the trip meter is erased when the battery cable is disconnected.
- Odo/trip meter is indicated for about 30 seconds after ignition switch has been turned OFF.
- Odo/trip meter segment can be checked in diagnosis mode.
- Meter/gauge can be checked in diagnosis mode.

HOW TO CHANGE THE DISPLAY FOR ODO/TRIP METER

NHEL0042S07



SEL175W

NOTE:

Turn ignition switch to the "ON" position to operate odo/trip meter.

METERS AND GAUGES

System Description (Cont'd)

POWER SUPPLY AND GROUND CIRCUIT

NHEL0042S08

Power is supplied at all times

- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to combination meter terminal 62.

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 combination meter terminal 31.

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

- through 10A fuse [No. 30, located in the fuse block (J/B)]
- to combination meter terminal 66.

Ground is supplied

- to combination meter terminal 59
- through body grounds M9, M25 and M87.

WATER TEMPERATURE GAUGE

NHEL0042S01

The water temperature gauge indicates the engine coolant temperature. The reading on the gauge is based on the resistance of the thermal transmitter.

As the temperature of the coolant increases, the resistance of the thermal transmitter decreases. A variable ground is supplied to terminal 18 of the combination meter for the water temperature gauge. The needle on the gauge moves from "C" to "H".

TACHOMETER

NHEL0042S02

The tachometer indicates engine speed in revolutions per minute (rpm).

The tachometer is regulated by a signal

- from terminal 25 of the ECM
- to combination meter terminal 16 for the tachometer.

FUEL GAUGE

NHEL0042S03

The fuel gauge indicates the approximate fuel level in the fuel tank.

The fuel gauge is regulated by a variable ground signal supplied

- to combination meter terminal 17 for the fuel gauge
- from terminal 2 of the fuel level sensor unit
- through terminal 5 of the fuel level sensor unit and
- through body ground B7 and B12 (without rear sunshade) or B46 (with rear sunshade)

SPEEDOMETER

NHEL0042S04

The combination meter provides a voltage signal to the vehicle speed sensor for the speedometer.

The voltage is supplied

- from combination meter terminal 15 for the speedometer
- to terminal 1 of the vehicle speed sensor (with TCS)
- to terminal 19 of ABS actuator and electric unit (without TCS)

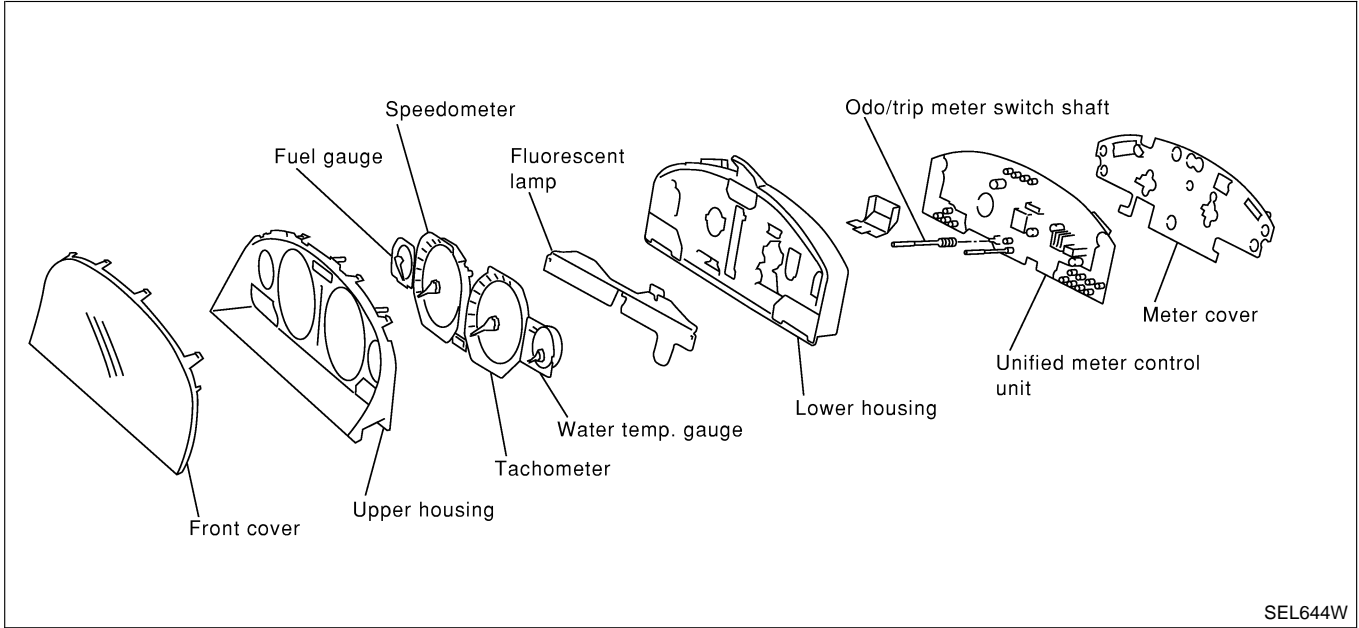
The speedometer converts the voltage into the vehicle speed displayed.

METERS AND GAUGES

Combination Meter (Cont'd)

CONSTRUCTION

NHEL0043S02



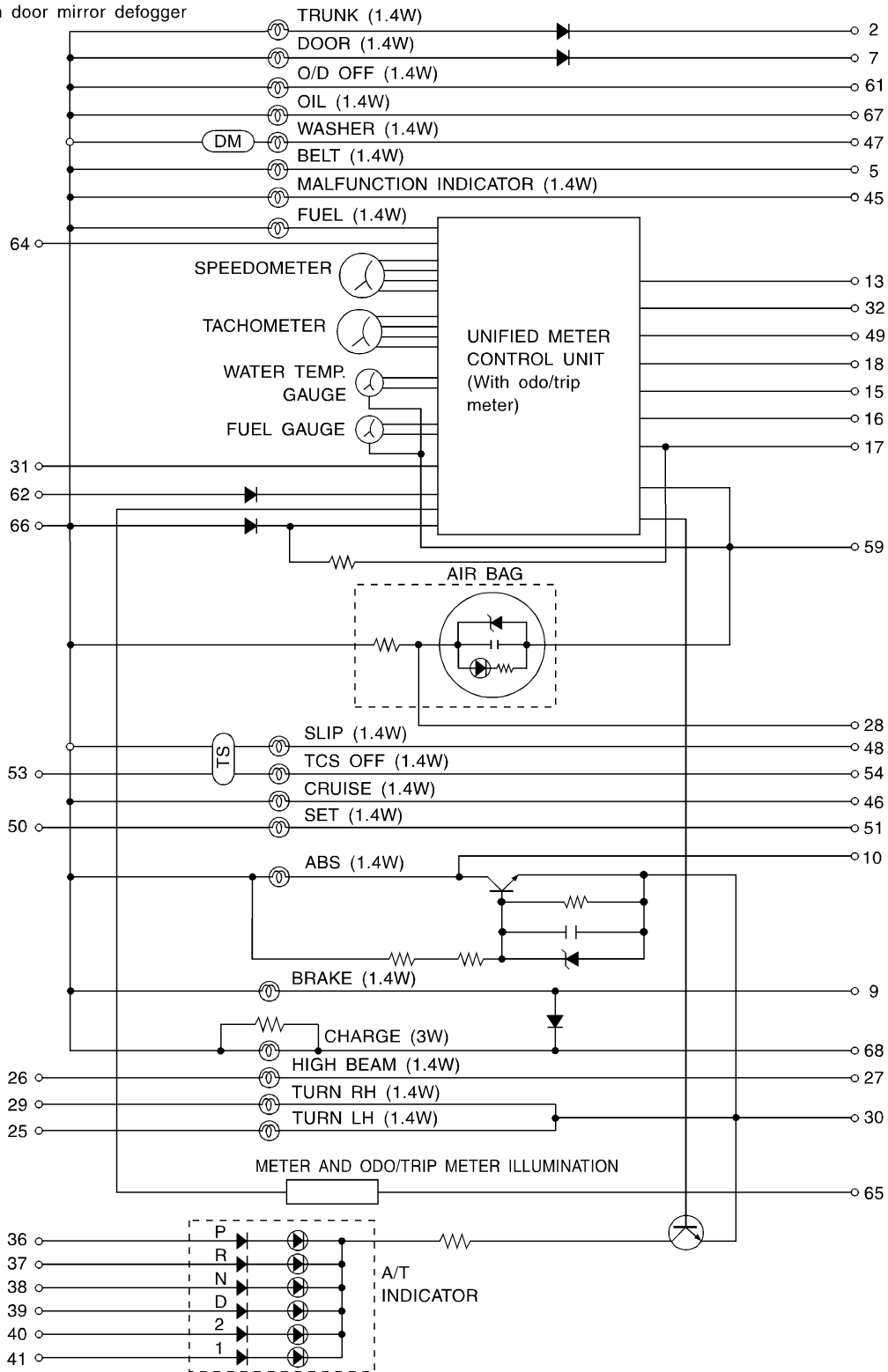
SEL644W

Schematic

NHEL0293

(TS) : With TCS

(DM) : With door mirror defogger



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METERS AND GAUGES

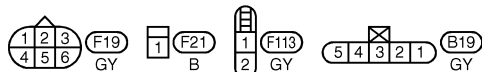
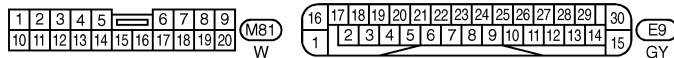
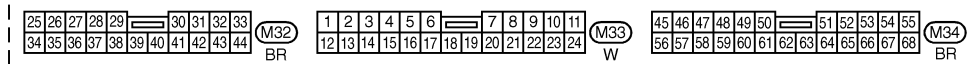
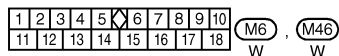
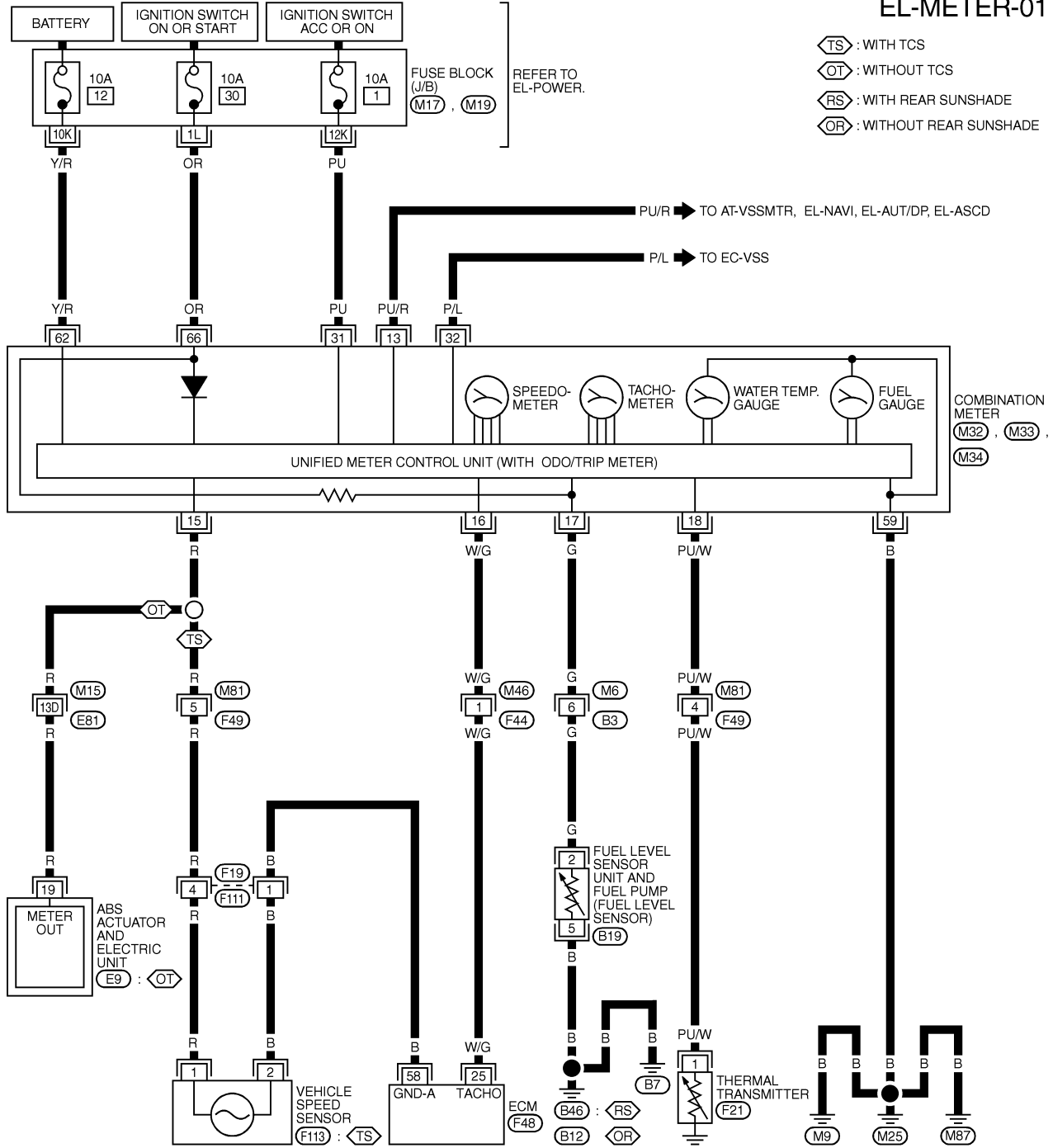
Wiring Diagram — METER —

Wiring Diagram — METER —

NHEL0045

EL-METER-01

- ⬡TS : WITH TCS
- ⬡OT : WITHOUT TCS
- ⬡RS : WITH REAR SUNSHADE
- ⬡OR : WITHOUT REAR SUNSHADE



- REFER TO THE FOLLOWING.
- (M15) -SUPER MULTIPLE JUNCTION (SMJ)
 - (M17), (M19) -FUSE BLOCK-JUNCTION BOX (J/B)
 - (F48) -ELECTRICAL UNITS-

MEL429M

METERS AND GAUGES

Meter/Gauge Operation and Odo/Trip Meter Segment Check in Diagnosis Mode

Meter/Gauge Operation and Odo/Trip Meter Segment Check in Diagnosis Mode

NHEL0151

DIAGNOSIS FUNCTION

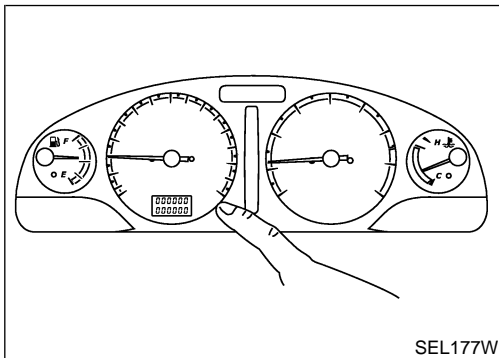
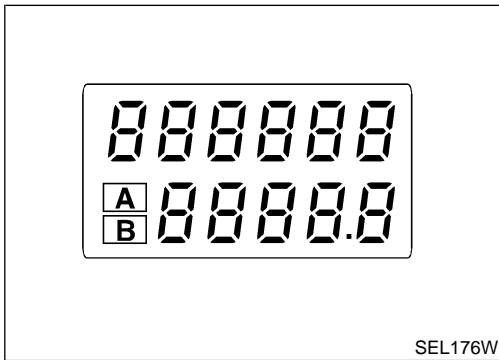
NHEL0151S01

- Odo/trip meter segment can be checked in diagnosis mode.
- Meters/gauges can be checked in diagnosis mode.

HOW TO ALTERNATE DIAGNOSIS MODE

NHEL0151S02

1. Turn ignition switch to ON and change odo/trip meter to "TRIP A".
2. Turn ignition switch to OFF.
3. Turn ignition switch to ON when pushing odo/trip meter switch.
4. Release odo/trip meter switch 1 second after ignition switch is turned ON.
5. Push odo/trip meter switch more than three times within 5 seconds.



6. All odo/trip meter segments should be turned on.

NOTE:

If some segments are not turned on, unified meter control unit with odo/trip meter should be replaced.

At this point, the unified control meter is turned to diagnosis mode.

7. Push odo/trip meter switch. Indication of each meter/gauge should be as shown left during pushing odo/trip meter switch if it is no malfunctioning.

NOTE:

It takes about a few seconds for indication of fuel gauge and water temperature gauge to become stable.

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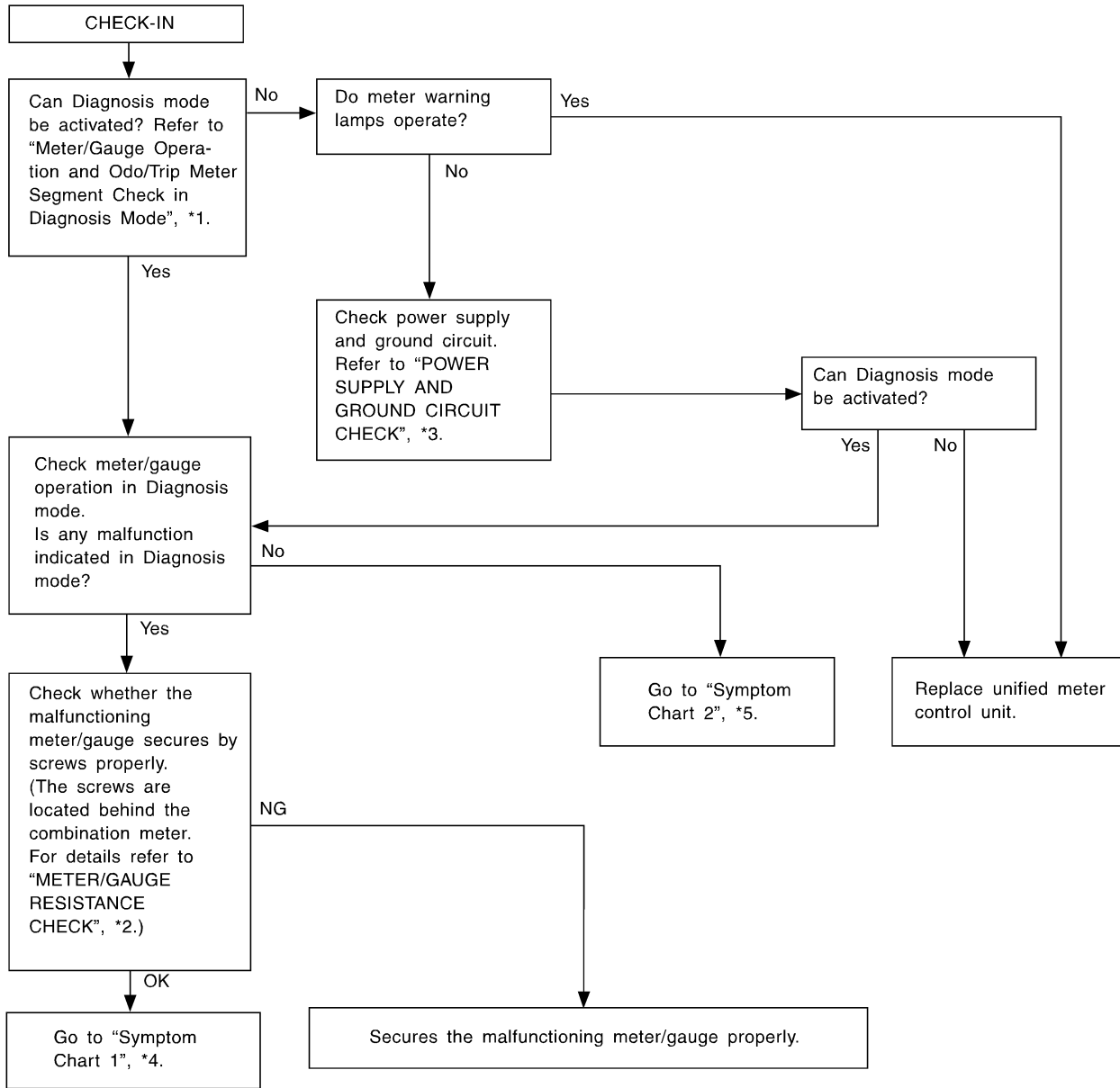
IDX

METERS AND GAUGES

Trouble Diagnoses PRELIMINARY CHECK

NHEL0046

NHEL0046S04



SEL361W

*1: Meter/Gauge Operation and Odo/ Trip Meter Segment Check in Diagnosis Mode (EL-153)
*2: METER/GAUGE RESISTANCE CHECK (EL-162)

*3: POWER SUPPLY AND GROUND CIRCUIT CHECK (EL-156)
*4: Symptom Chart 1 (EL-155)

*5: Symptom Chart 2 (EL-155)

METERS AND GAUGES

Trouble Diagnoses (Cont'd)

SYMPTOM CHART

Symptom Chart 1 (Malfunction is Indicated in Diagnosis Mode)

NHLE0046S10

NHLE0046S1001

Symptom	Possible causes	Repair order
Odo/trip meter indicate(s) malfunction in Diagnosis mode.	Unified meter control unit	Replace unified meter control unit.
Multiple meter/gauge indicate malfunction in Diagnosis mode.		
One of speedometer/tachometer/fuel gauge/water temp. gauge indicates malfunction in Diagnosis mode.	<ol style="list-style-type: none"> Meter/Gauge Unified meter control unit 	<ol style="list-style-type: none"> Check resistance of meter/gauge indicating malfunction. If the resistance is NG, replace the meter/gauge. Refer to "METER/GAUGE RESISTANCE CHECK", EL-162. If the resistance of meter/gauge is OK, replace unified meter control unit.

Symptom Chart 2 (No Malfunction is Indicated in Diagnosis Mode)

NHLE0046S1002

Symptom	Possible causes	Repair order
One of speedometer/tachometer/fuel gauge/water temp. gauge is malfunctioning.	<ol style="list-style-type: none"> Sensor signal <ul style="list-style-type: none"> Vehicle speed signal Engine revolution signal Fuel gauge Water temp. gauge Unified meter control unit 	<ol style="list-style-type: none"> Check the sensor for malfunctioning meter/gauge. INSPECTION/VEHICLE SPEED SENSOR (Refer to EL-157.) INSPECTION/ENGINE REVOLUTION SIGNAL (Refer to EL-159.) INSPECTION/FUEL LEVEL SENSOR UNIT (Refer to EL-160.) INSPECTION/THERMAL TRANSMITTER (Refer to EL-161.) Replace unified meter control unit.
Multiple meter/gauge are malfunctioning. (except odo/trip meter)		

Before starting trouble diagnoses below, perform PRELIMINARY CHECK, EL-154.

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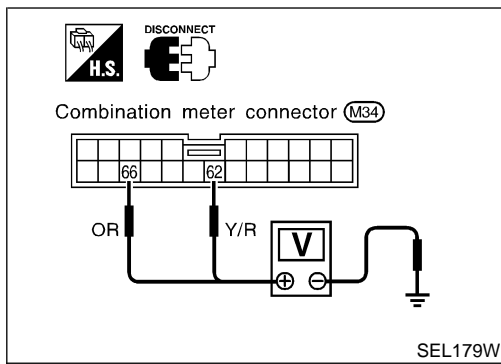
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METERS AND GAUGES

Trouble Diagnoses (Cont'd)



POWER SUPPLY AND GROUND CIRCUIT CHECK

=NHHEL0046S07

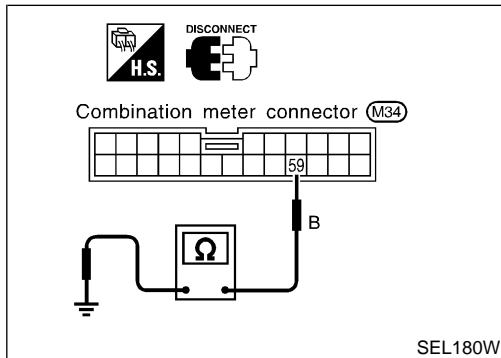
Power Supply Circuit Check

NHHEL0046S0701

Terminals		Ignition switch position		
(+)	(-)	OFF	ACC	ON
62	Ground	Battery voltage	Battery voltage	Battery voltage
66	Ground	0V	0V	Battery voltage

If NG, check the following.

- 10A fuse [No. 12, located in fuse block (J/B)]
- 10A fuse [No. 30, located in fuse block (J/B)]
- Harness for open or short between fuse and combination meter



Ground Circuit Check

NHHEL0046S0702

Terminals	Continuity
59 - Ground	Yes

METERS AND GAUGES

Trouble Diagnoses (Cont'd)

INSPECTION/VEHICLE SPEED SIGNAL With TCS

=NH0046S03

NH0046S0301

1	CHECK VEHICLE SPEED SENSOR OUTPUT	<p>1. Remove vehicle speed sensor from transmission. 2. Check voltage between combination meter terminal 15 and ECM terminal 58 while quickly turning speed sensor pinion.</p>	
<p style="text-align: right;">Voltage: Approx. 0.5V</p> <p style="text-align: center;">NOTE: Vehicle speed sensor connector should remain connected.</p>		SEL181W	
OK or NG			
OK	▶	Vehicle speed sensor is OK.	
NG	▶	GO TO 2.	

2	CHECK VEHICLE SPEED SENSOR	<p>Check resistance between vehicle speed sensor terminals 1 and 2.</p>	
<p style="text-align: right;">Resistance: Approx. 250 Ω</p>		SEL645W	
OK or NG			
OK	▶	Check harness or connector between speedometer, vehicle speed sensor and ECM.	
NG	▶	Replace vehicle speed sensor.	

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METERS AND GAUGES

Trouble Diagnoses (Cont'd)

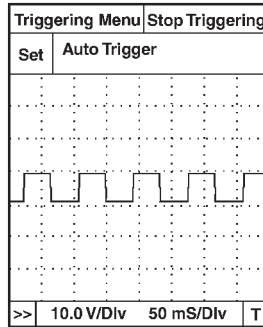
Without TCS

NHEL0046S0302

1 CHECK ABS CONTROL UNIT OUTPUT SIGNAL

With CONSULT-II

1. Lift up drive wheels.
2. Start engine.
3. Check signal between combination meter terminal 15 and ground when rotating wheels with engine at idle. (Use "SIMPLE OSCILLOSCOPE" in "SUB MODE" with CONSULT-II.)



SEL938W

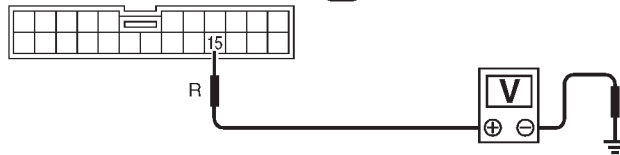
Without CONSULT-II

1. Lift up drive wheels.
2. Start engine.
3. Check voltage between combination meter terminal 15 and ground when rotating wheels with engine at idle.



combination meter harness connector (M33)

Voltage: Approx. 0 - 5V



SEL939W

OK or NG

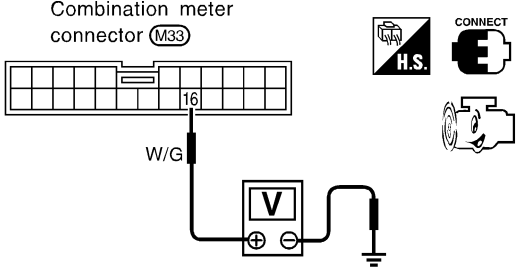
OK ► ABS control unit is OK.

NG ► **Check the following.**

- Harness for open or short between ABS actuator and electric unit and combination meter.
- ABS actuator and electric unit. Refer to BR-107, "Wheel Sensor or Rotor".

INSPECTION/ENGINE REVOLUTION SIGNAL

NHREL0046S02

1	CHECK ECM OUTPUT		
	<p>1. Start engine. 2. Check voltage between combination meter terminals 16 and ground at idle and 2,000 rpm.</p>		
	 <p style="text-align: right;">Higher rpm = Higher voltage Lower rpm = Lower voltage Voltage should change with rpm.</p>		<p>GI MA EM LC EC FE AT AX SU BR ST RS BT HA SC</p>
	OK or NG		<p>SEL364W</p>
OK	▶	Engine revolution signal is OK.	<p>FE AT AX SU BR ST RS BT HA SC</p>
NG	▶	Harness for open or short between ECM and combination meter	<p>EL IDX</p>

METERS AND GAUGES

Trouble Diagnoses (Cont'd)

INSPECTION/FUEL LEVEL SENSOR UNIT

=NHHEL0046S08

1	CHECK GROUND CIRCUIT FOR FUEL LEVEL SENSOR UNIT	
<p>Check harness continuity between fuel level sensor unit and fuel pump connector terminal 5 and ground.</p>		
<p>Fuel level sensor unit and fuel pump connector (B19)</p> <p>Continuity should exist.</p>		
SEL182W		
OK or NG		
OK	▶	GO TO 2.
NG	▶	Repair harness or connector.

2	CHECK FUEL LEVEL SENSOR UNIT	
<p>Refer to "FUEL LEVEL SENSOR UNIT CHECK" (EL-162).</p>		
OK or NG		
OK	▶	GO TO 3.
NG	▶	Replace fuel level sensor unit.

3	CHECK HARNESS FOR OPEN OR SHORT	
<ol style="list-style-type: none"> Disconnect combination meter connector and fuel level sensor unit and fuel pump connector. Check continuity between combination meter terminal 17 and fuel level sensor unit and fuel pump connector terminal 2. Continuity should exist. Check continuity between combination meter terminal 17 and ground. Continuity should not exist. 		
<p>Combination meter connector (M33)</p> <p>Fuel level sensor unit and fuel pump connector (B19)</p> <p>Continuity should exist.</p>		
SEL183W		
OK or NG		
OK	▶	Fuel level sensor unit is OK.
NG	▶	Repair harness or connector.

METERS AND GAUGES

Trouble Diagnoses (Cont'd)

INSPECTION/THERMAL TRANSMITTER

=NH/EL0046S09

1	CHECK THERMAL TRANSMITTER	
Refer to "THERMAL TRANSMITTER CHECK" (EL-162).		
OK or NG		
OK	▶	GO TO 2.
NG	▶	Replace.

GI

MA

2	CHECK HARNESS FOR OPEN OR SHORT	
<ol style="list-style-type: none"> 1. Disconnect combination meter connector and thermal transmitter connector. 2. Check continuity between combination meter terminal 18 and thermal transmitter terminal 1. Continuity should exist. 3. Check continuity between combination meter terminal 18 and ground. Continuity should not exist. 		
SEL184W		
OK or NG		
OK	▶	Thermal transmitter is OK.
NG	▶	Repair harness or connector.

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METERS AND GAUGES

Electrical Components Inspection

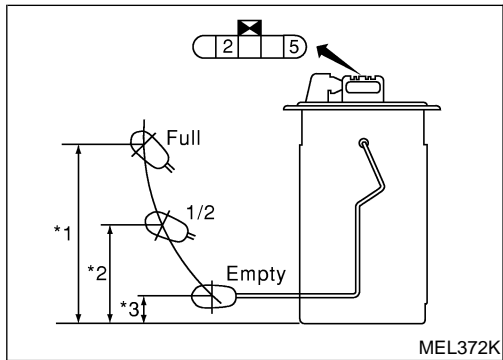
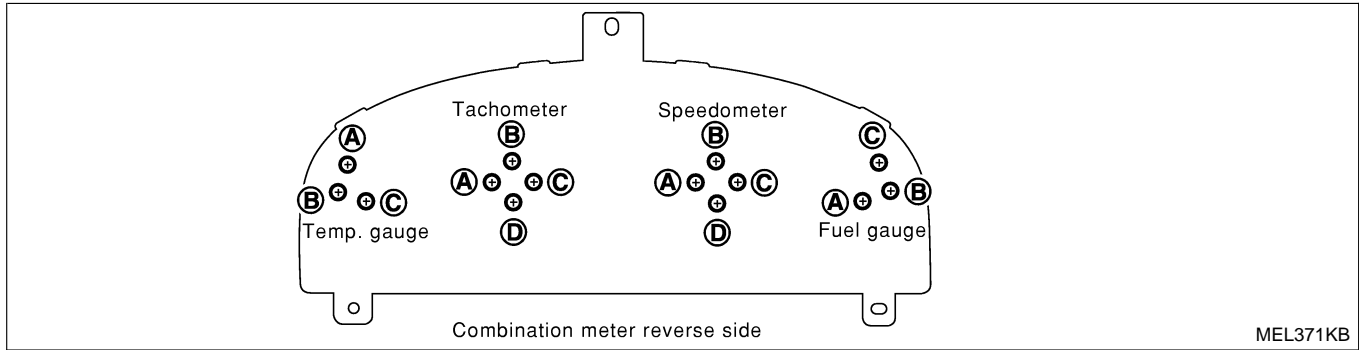
=NHLE0047

METER/GAUGE RESISTANCE CHECK

NHLE0047S04

Check resistance between installation screws of meter/gauge.

Screws		Resistance Ω
Tacho/Speedometer	Fuel/Temp. gauge	
A - C	A - C	Approx. 190 - Approx. 260
B - D	B - C	Approx. 230 - Approx. 310



FUEL LEVEL SENSOR UNIT CHECK

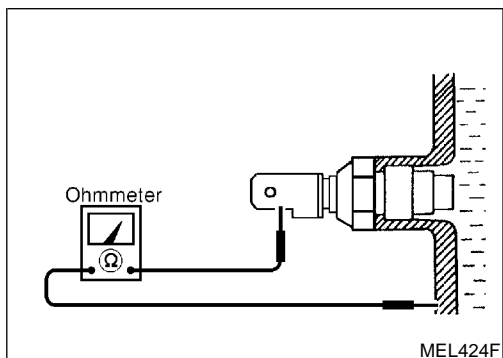
NHLE0047S01

- For removal, refer to FE-6, "REMOVAL".

Check the resistance between terminals 2 and 5.

Ohmmeter		Float position		mm (in)	Resistance value Ω
(+)	(-)				
2	5	*1	Full	152 (5.98)	Approx. 4 - 6
		*2	1/2	87 (3.43)	
		*3	Empty	22 (0.87)	

*1 and *3: When float rod is in contact with stopper.

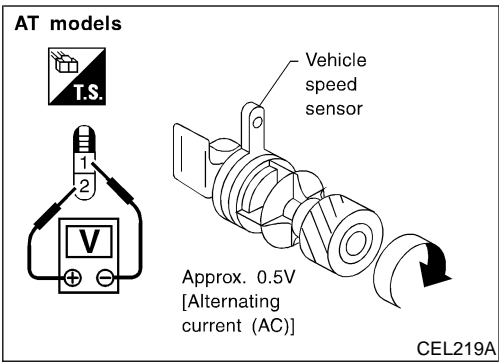


THERMAL TRANSMITTER CHECK

NHLE0047S02

Check the resistance between the terminals of thermal transmitter and body ground.

Water temperature	Resistance
60°C (140°F)	Approx. 170 - 210 Ω
100°C (212°F)	Approx. 47 - 53 Ω



VEHICLE SPEED SENSOR SIGNAL CHECK

NHEL0047S03

1. Remove vehicle speed sensor from transmission.
2. Turn vehicle speed sensor pinion quickly and measure voltage across 1 and 2.

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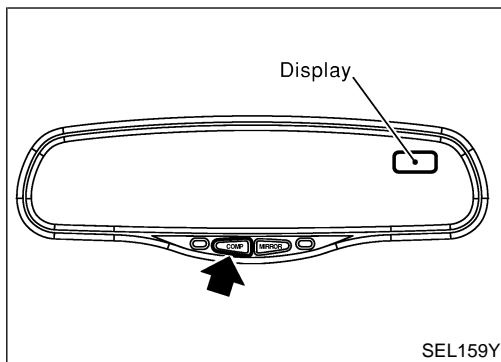
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COMPASS

System Description



System Description

This unit displays earth magnetism and heading direction of vehicle. NHEL0307

DIRECTION DISPLAY

Push the "COMP" switch when the ignition key is in the "ACC" or "ON" position. The direction will be displayed. NHEL0307S02

Pushing the "COMP" switch a second time will turn off the display.

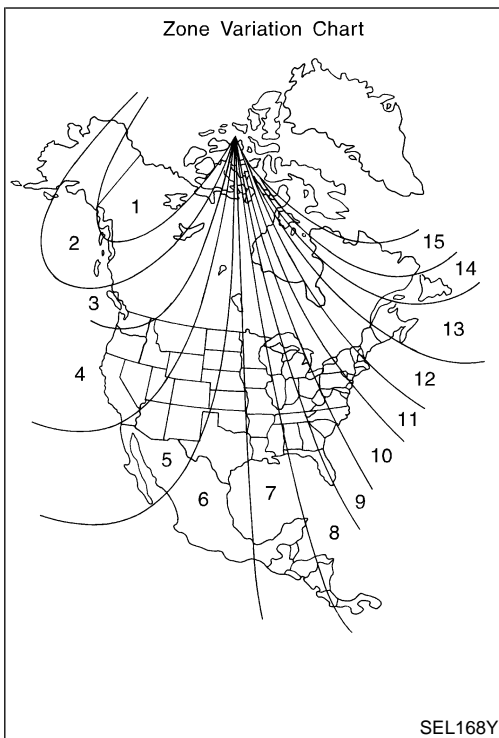
1. If the display reads "C", calibrate the compass by driving the vehicle in 3 complete circles at less than 5 MPH.

2. To adjust for Compass Variance:

- a. Press the "COMP" button for more than 3 seconds. The current zone number will appear in the display.
- b. Find your current location and variance zone number on the zone map.
- c. Press the "COMP" button until the new zone number appears in the display. After you stop pressing the button in, the display will show a compass direction within a few seconds.

NOTE:

- 1) Do not install the ski rack, antenna, etc. which are attached to the vehicle by means of a magnet. They affect the operation of the compass.
 - 2) If the compass deviates from the correct indication soon after repeated adjustment, have the compass checked at an authorized dealer.
 - 3) The compass may not indicate the correct compass point in tunnels or while driving up or down a steep hill. (The compass returns to the correct compass point when the vehicle moves to an area where the geomagnetism is stabilized.)
3. Cleaning the Mirror
When cleaning the mirror, use a paper towel or similar material dampened with glass cleaner. Do not spray glass cleaner directly on the mirror as that may cause the liquid cleaner to enter the mirror housing.



“C” is displayed in the compass window.

The compass needs to be calibrated. Drive the vehicle in 3 circles at 5 MPH or less until the display reads a direction. You can also calibrate the compass by driving your vehicle on your everyday routine. The compass will be calibrated once it has tracked 3 complete circles.

Inaccurate compass direction

- a. With the display turned on, push the “COMP” button for 3 seconds, until the Zone selection comes up (a number will be displayed in the mirror compass window).
- b. Toggle until correct zone is found and release switch.
- c. The display will show all segments, and return to the normal compass mode within 10 seconds of no switch activity.
- d. If the vehicle changes zone, repeat steps 1 thru 3. See map.

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COMPASS

Wiring Diagram — COMPAS —

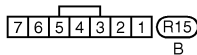
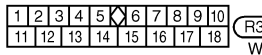
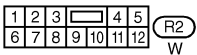
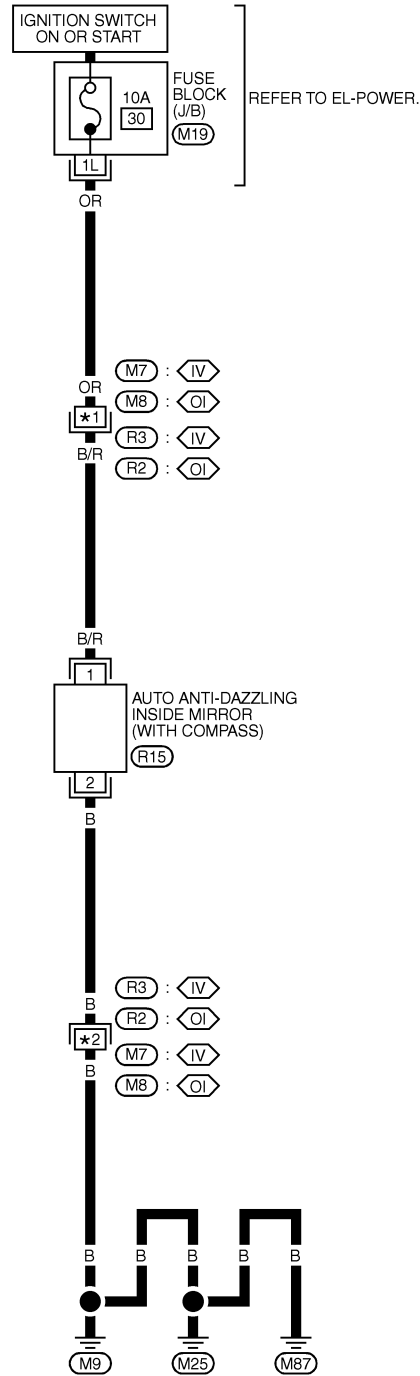
Wiring Diagram — COMPAS —

NHEL0308

EL-COMPAS-01

◊IV : WITH IVCS
 ◊OI : WITHOUT IVCS

- *1 18 : ◊IV
 5 : ◊OI
- *2 12 : ◊IV
 2 : ◊OI



REFER TO THE FOLLOWING.

(M19) - FUSE BLOCK - JUNCTION BOX (J/B)

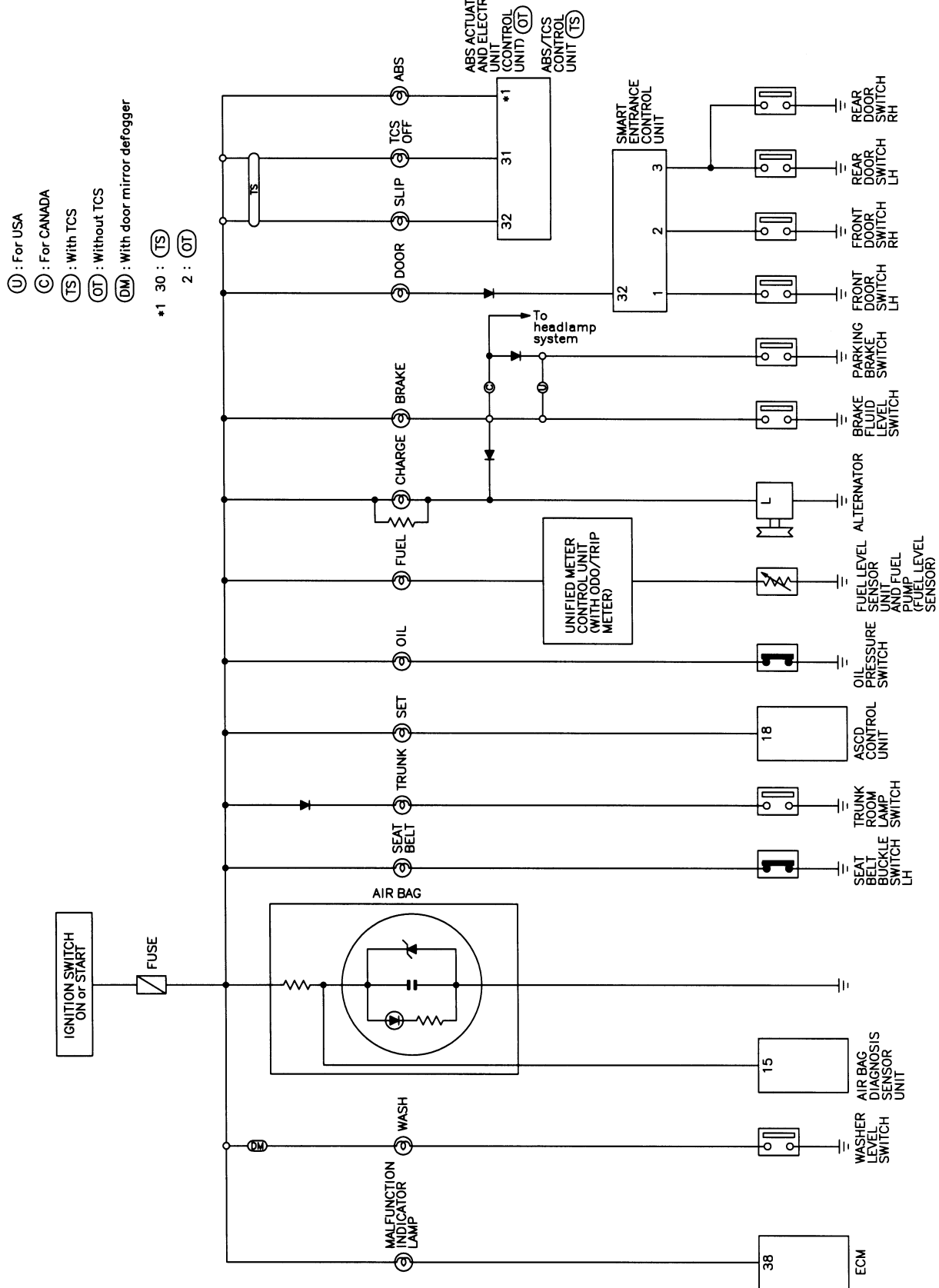
MEL087N

WARNING LAMPS

Schematic

NHEL0049

Schematic



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MEL940N

WARNING LAMPS

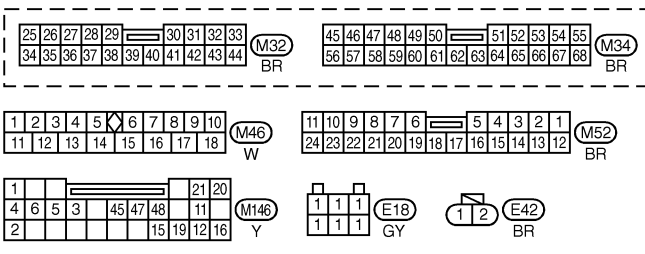
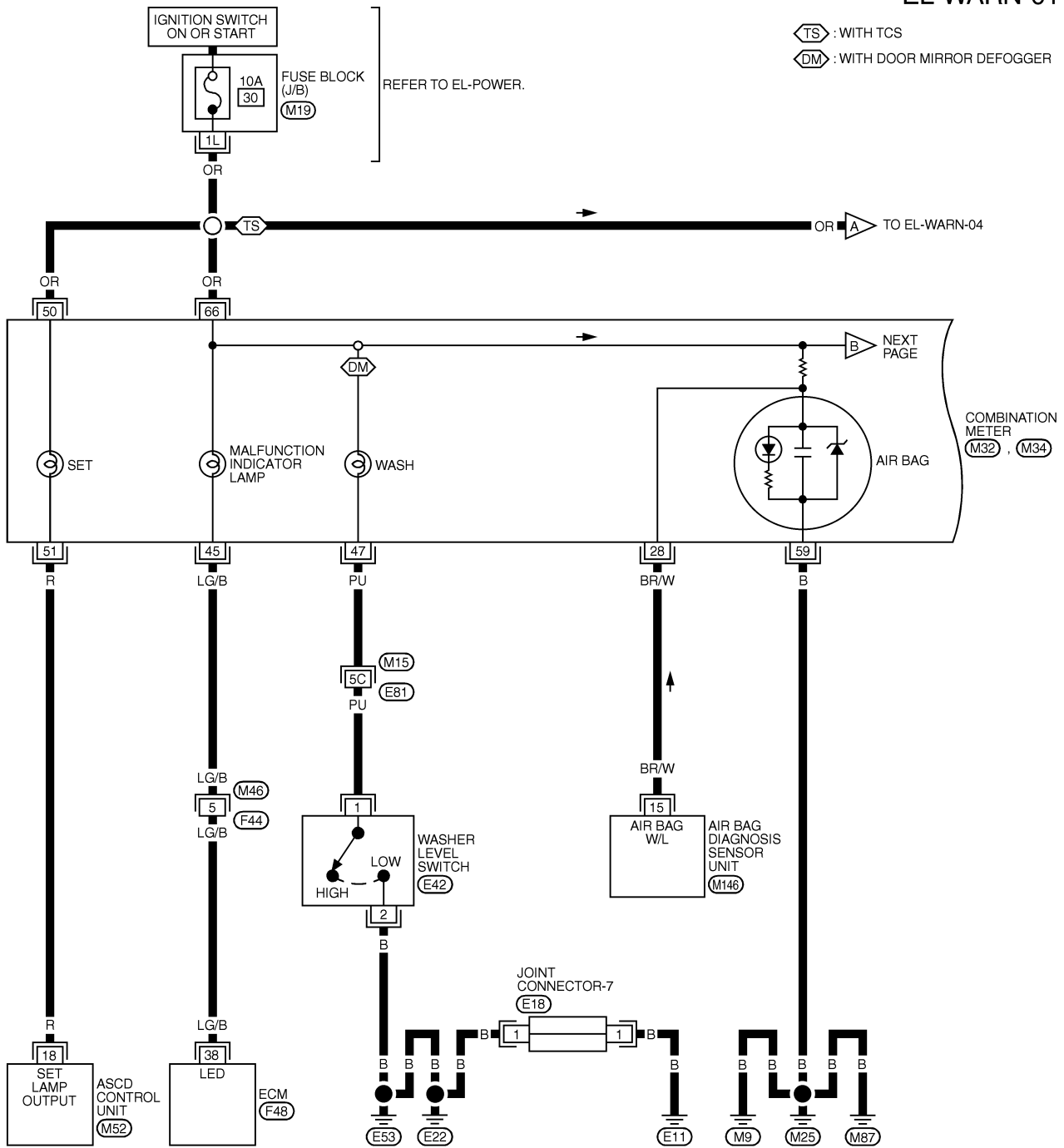
Wiring Diagram — WARN —

Wiring Diagram — WARN —

NHEL0050

EL-WARN-01

- TS : WITH TCS
- DM : WITH DOOR MIRROR DEFOGGER



REFER TO THE FOLLOWING.

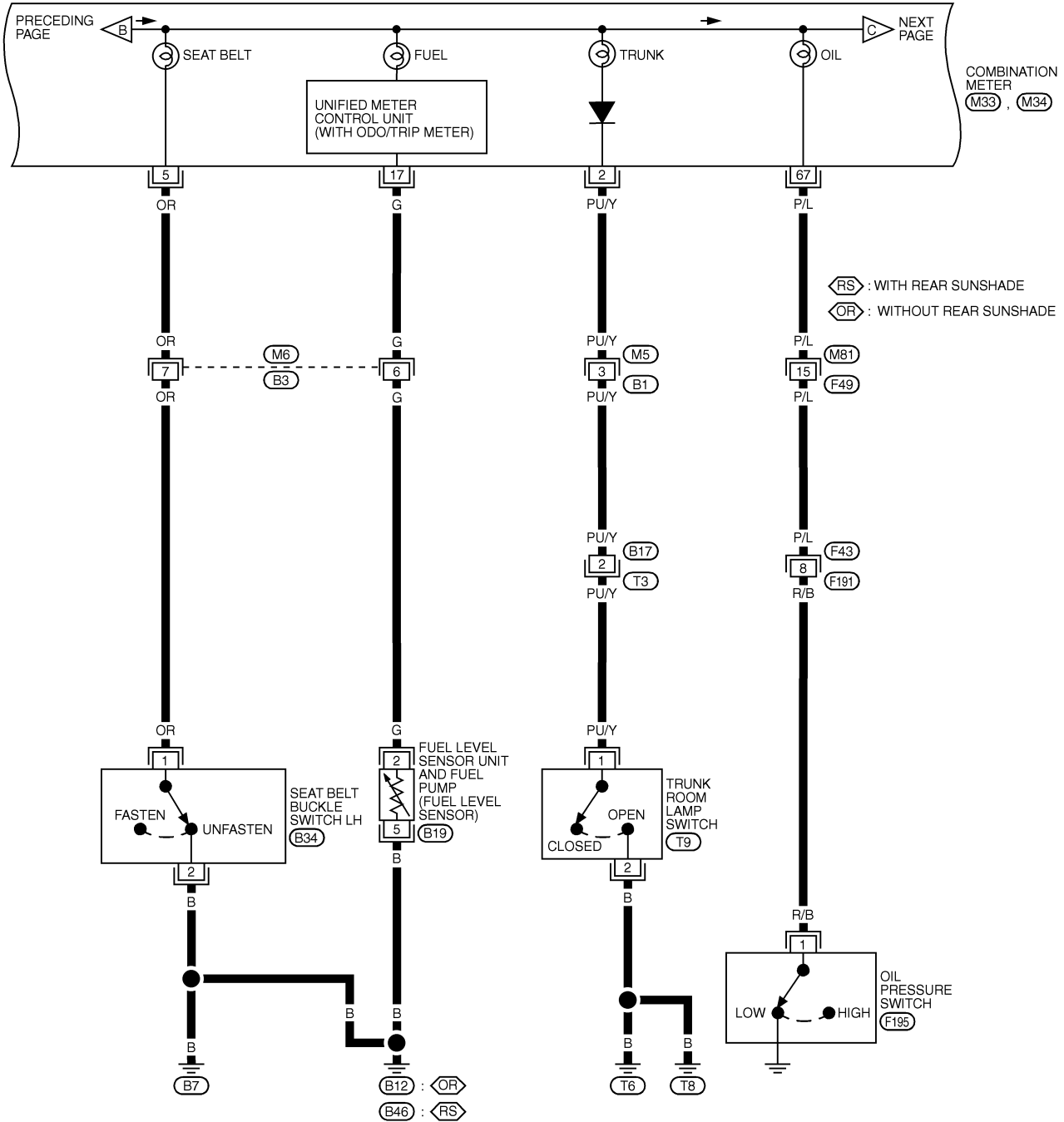
- M15 -SUPER MULTIPLE JUNCTION (SMJ)
- M19 -FUSE BLOCK-JUNCTION BOX (J/B)
- F48 -ELECTRICAL UNITS-

MEL941N

WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

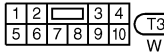
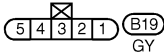
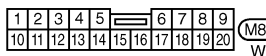
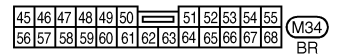
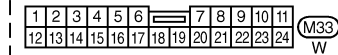
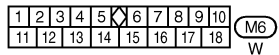
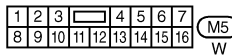
EL-WARN-02



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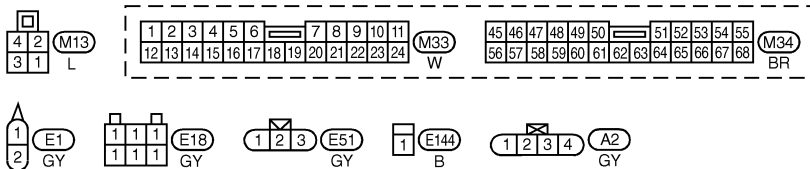
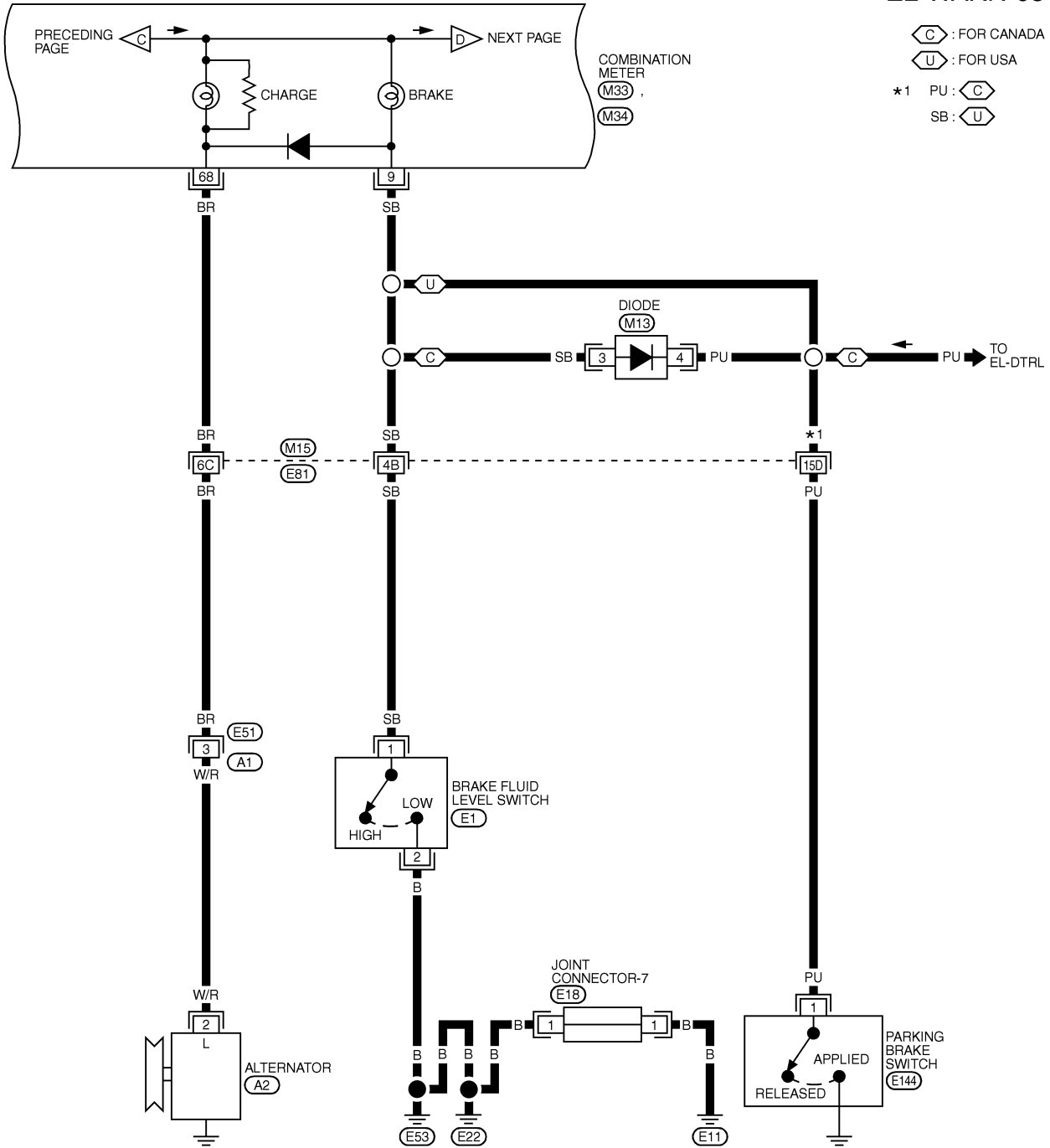


MEL928N

WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-03



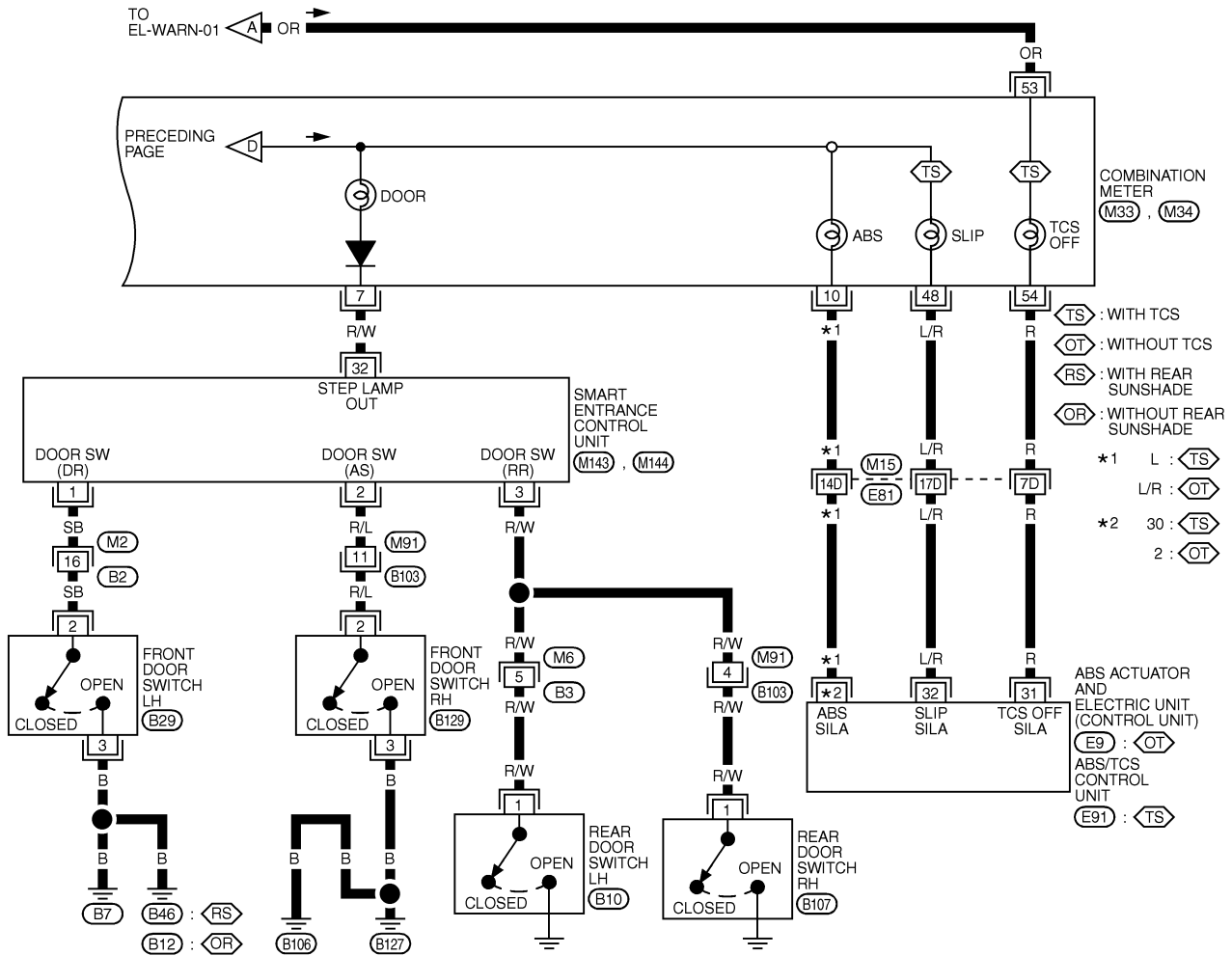
REFER TO THE FOLLOWING.
(M15) -SUPER
 MULTIPLE JUNCTION (SMJ)

MEL929N

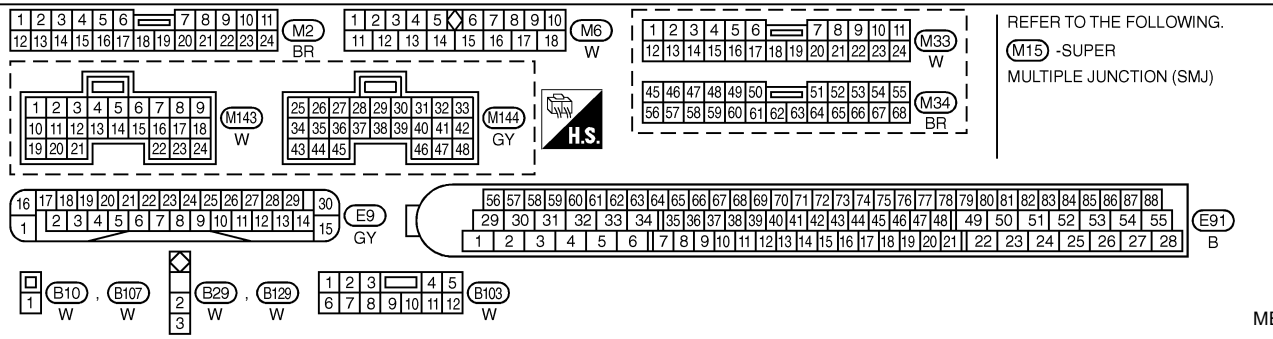
WARNING LAMPS

Wiring Diagram — WARN — (Cont'd)

EL-WARN-04



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MEL434M

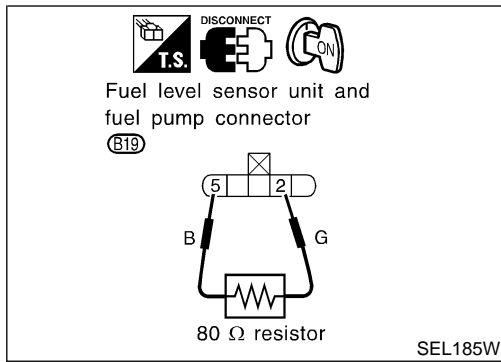
SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE BETWEEN EACH TERMINAL AND GROUND

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
1	SB	DRIVER DOOR SWITCH	OFF (CLOSED) \rightarrow ON (OPEN)	5V \rightarrow 0V
2	R/L	PASSENGER DOOR SWITCH	OFF (CLOSED) \rightarrow ON (OPEN)	5V \rightarrow 0V
3	R/W	REAR DOOR SWITCH	OFF (CLOSED) \rightarrow ON (OPEN)	5V \rightarrow 0V
32	R/W	FRONT STEP LAMP	ANY DOOR SWITCH ON (OPEN) \rightarrow OFF (CLOSED)	0V \rightarrow 12V

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SEL976X

WARNING LAMPS



Electrical Components Inspection FUEL WARNING LAMP OPERATION CHECK

NHEL0051

NHEL0051S01

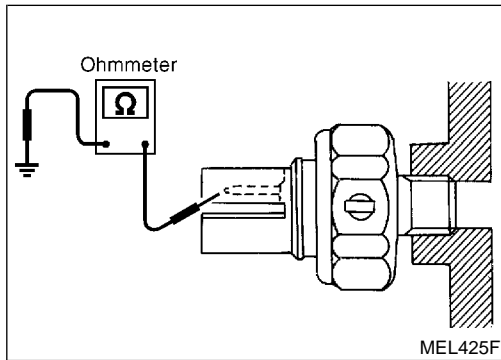
1. Turn ignition switch "OFF".
2. Disconnect fuel level sensor unit and fuel pump harness connector B19.
3. Connect a resistor (80Ω) between fuel level sensor unit and fuel pump harness connector terminals 2 and 5.
4. Turn ignition switch "ON".

The fuel warning lamp should come on.

NOTE:

ECM might store the 1st trip DTC P0180 and the 1st trip DTC P0464 during this inspection.

If the DTC is stored in ECM memory, erase the DTC after reconnecting fuel level sensor unit and fuel pump harness connector. Refer to EC-80, "HOW TO ERASE EMISSION-RELATED DIAGNOSTIC INFORMATION".

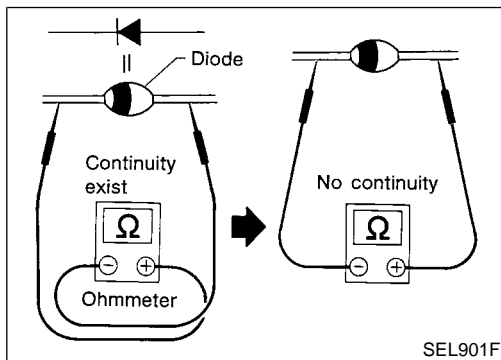


OIL PRESSURE SWITCH CHECK

NHEL0051S02

	Oil pressure kPa (kg/cm ² , psi)	Continuity
Engine running	More than 10 - 20 (0.1 - 0.2, 1 - 3)	No
Engine not running	Less than 10 - 20 (0.1 - 0.2, 1 - 3)	Yes

Check the continuity between the terminals of oil pressure switch and body ground.



DIODE CHECK

NHEL0051S03

- Check continuity using an ohmmeter.
- Diode is functioning properly if test results are as shown in the figure at left.
- Check diodes at the combination meter harness connector instead of on the combination meter assembly. Refer to EL-168, "WARNING LAMP" wiring diagrams.

NOTE:

Specification may vary depending on the type of tester. Before performing this inspection, be sure to refer to the instruction manual for the tester to be used.

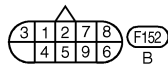
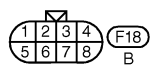
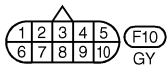
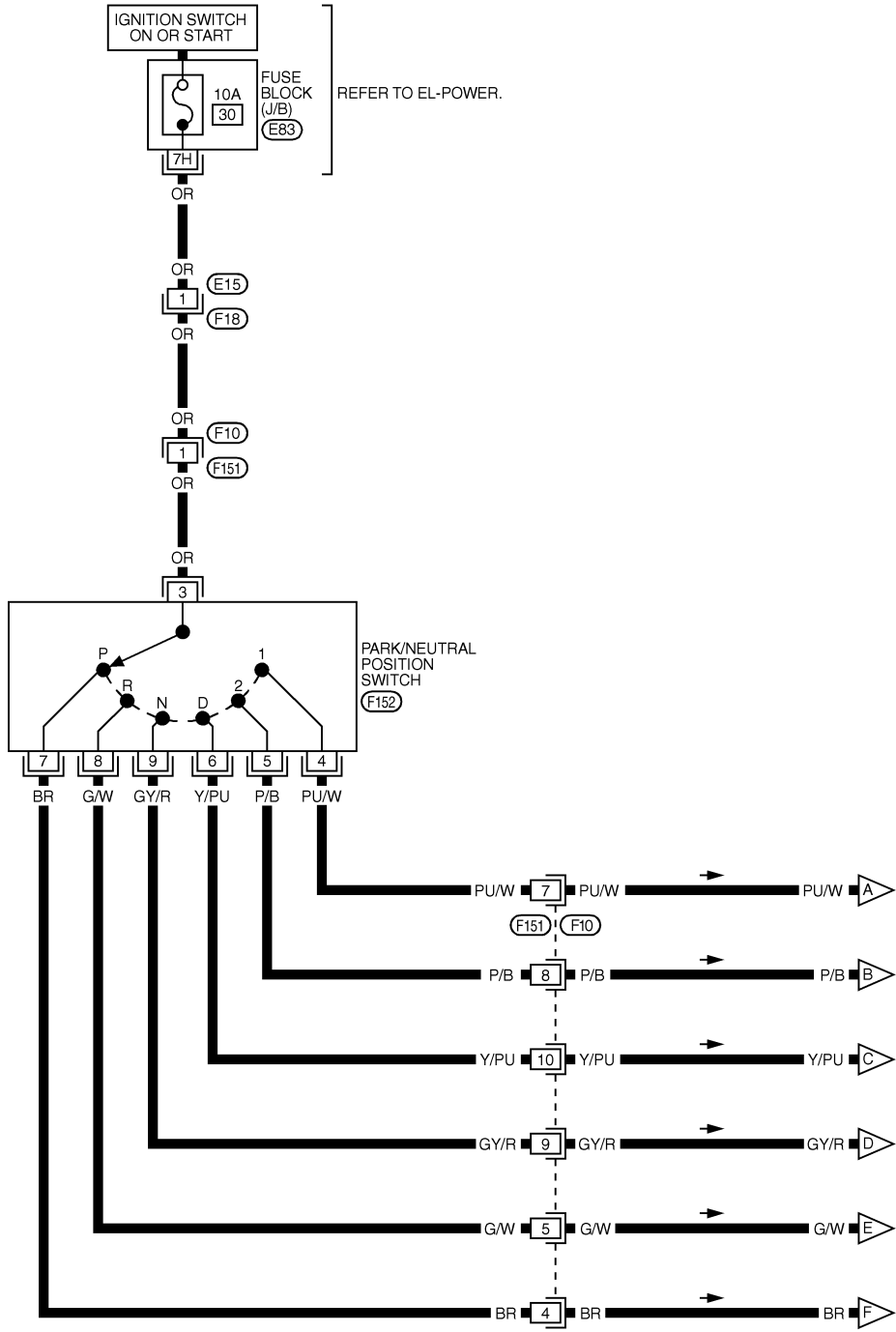
A/T INDICATOR

Wiring Diagram — AT/IND —

Wiring Diagram — AT/IND —

NHEL0159

EL-AT/IND-01



REFER TO THE FOLLOWING.
(E83) - FUSE BLOCK-
JUNCTION BOX (J/B)

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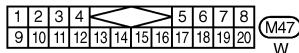
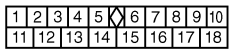
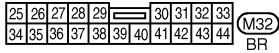
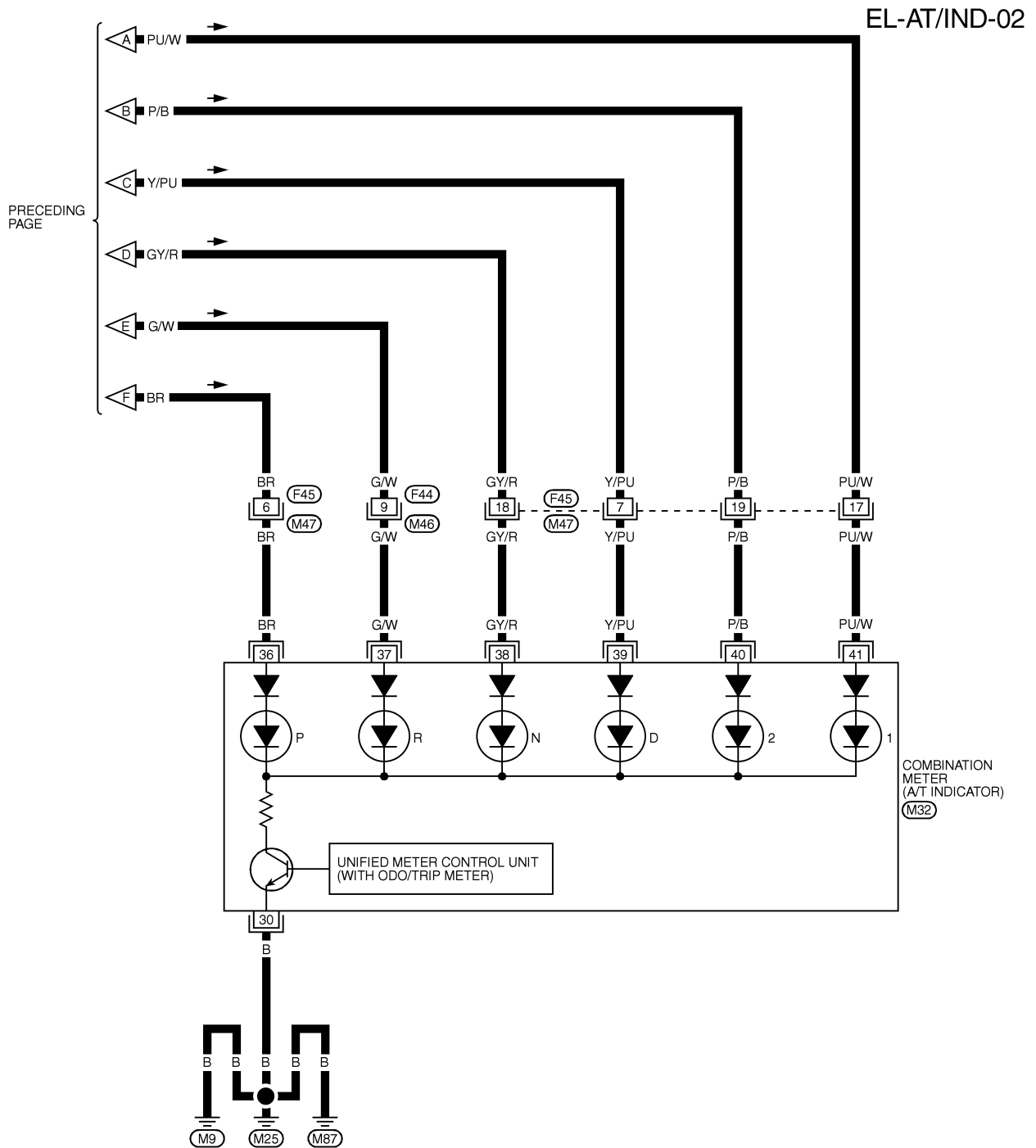
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A/T INDICATOR

Wiring Diagram — AT/IND — (Cont'd)



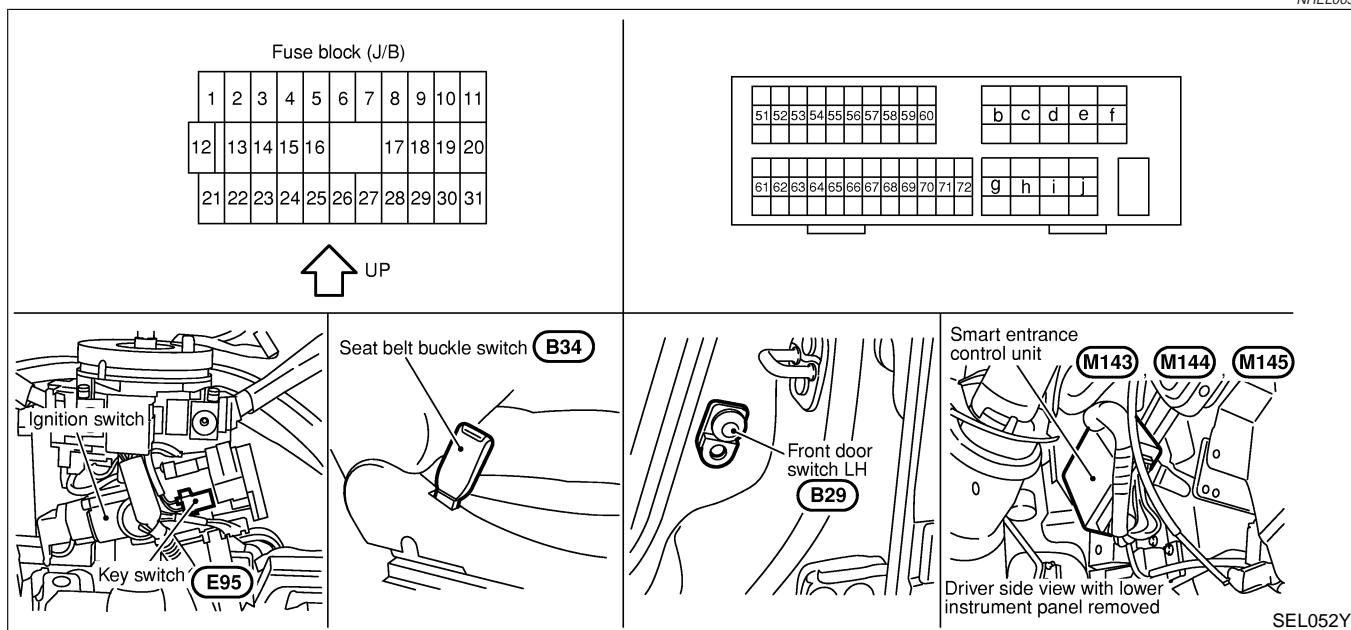
MEL461K

WARNING CHIME

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NHEL0052



GI

MA

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AT

System Description

NHEL0053

The warning chime is controlled by the smart entrance control unit.

The warning chime is located in the smart entrance control unit.

Power is supplied at all times

- through 10A fuse [No. 13, located in fuse block (J/B)]
- to smart entrance control unit terminal 49 and
- to key switch terminal 2,
- through 10A fuse (No. 60, located in the fuse and fusible link box
- to tail lamp relay terminals 1 and 3.

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 27.

Ground is supplied to smart entrance control unit terminal 43 and 64 through body grounds M9, M25 and M87. When a signal, or combination of signals, is received by the smart entrance control unit, the warning chime will sound.

IGNITION KEY WARNING CHIME

NHEL0053S01

With the key in the ignition switch in the OFF position, and the driver's door open, the warning chime will sound.

Power is supplied

- from key switch terminal 1
- to smart entrance control unit terminal 25.

Ground is supplied

- from front door switch (driver side) terminal 2
- to smart entrance control unit terminal 1.

Front door switch (driver side) terminal 3 is grounded through body grounds B7 and B12 (without rear sunshade) or B46 (with rear sunshade).

LIGHT WARNING CHIME

NHEL0053S02

With ignition switch OFF, driver's door open, and lighting switch in 1ST or 2ND position, warning chime will sound. Power is supplied.

- from tail lamp relay terminal 2
- to smart entrance control unit terminal 19 and 57.

Ground is supplied

AX

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WARNING CHIME

System Description (Cont'd)

- from front door switch (driver side) terminal 2
- to smart entrance control unit terminal 1.

Front door switch (driver side) terminal 3 is grounded through body grounds B7 and B12 (without rear sunshade) or B46 (with rear sunshade).

SEAT BELT WARNING CHIME

With ignition switch turned ON and seat belt unfastened (seat belt switch ON), warning chime will sound for approximately 6 seconds.

NHELO063S03

Ground is supplied

- from seat belt switch terminal 1
- to smart entrance control unit terminal 28.

Seat belt switch terminal 2 is grounded through body grounds B7 and B12 (without rear sunshade) or B46 (with rear sunshade).

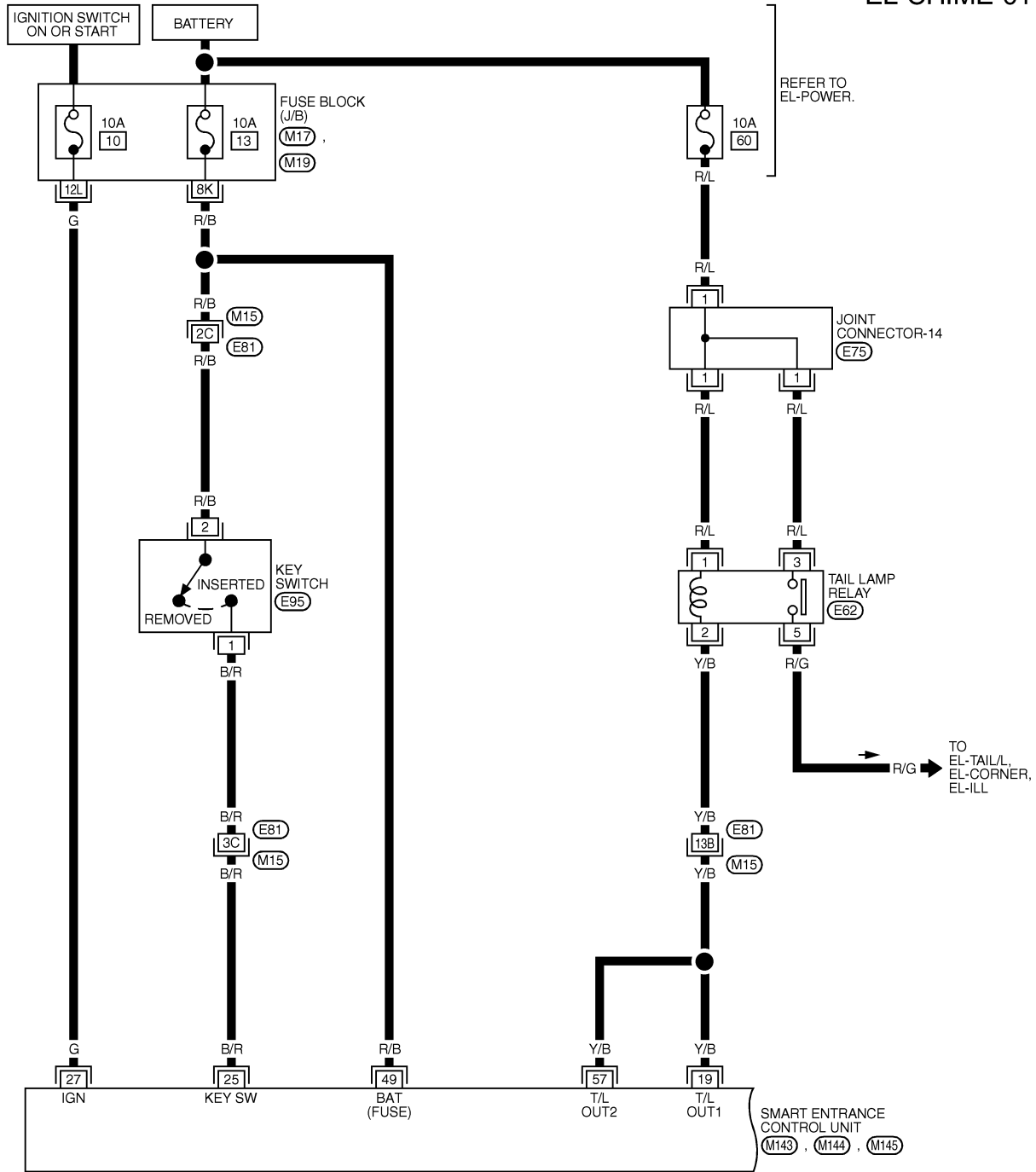
WARNING CHIME

Wiring Diagram — CHIME —

Wiring Diagram — CHIME —

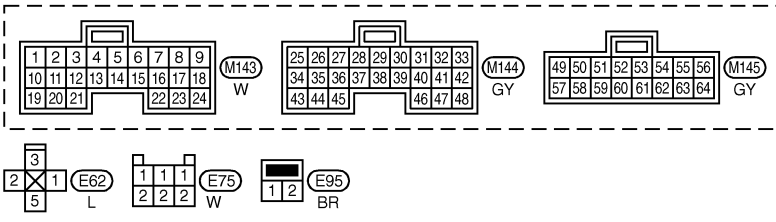
NHEL0054

EL-CHIME-01



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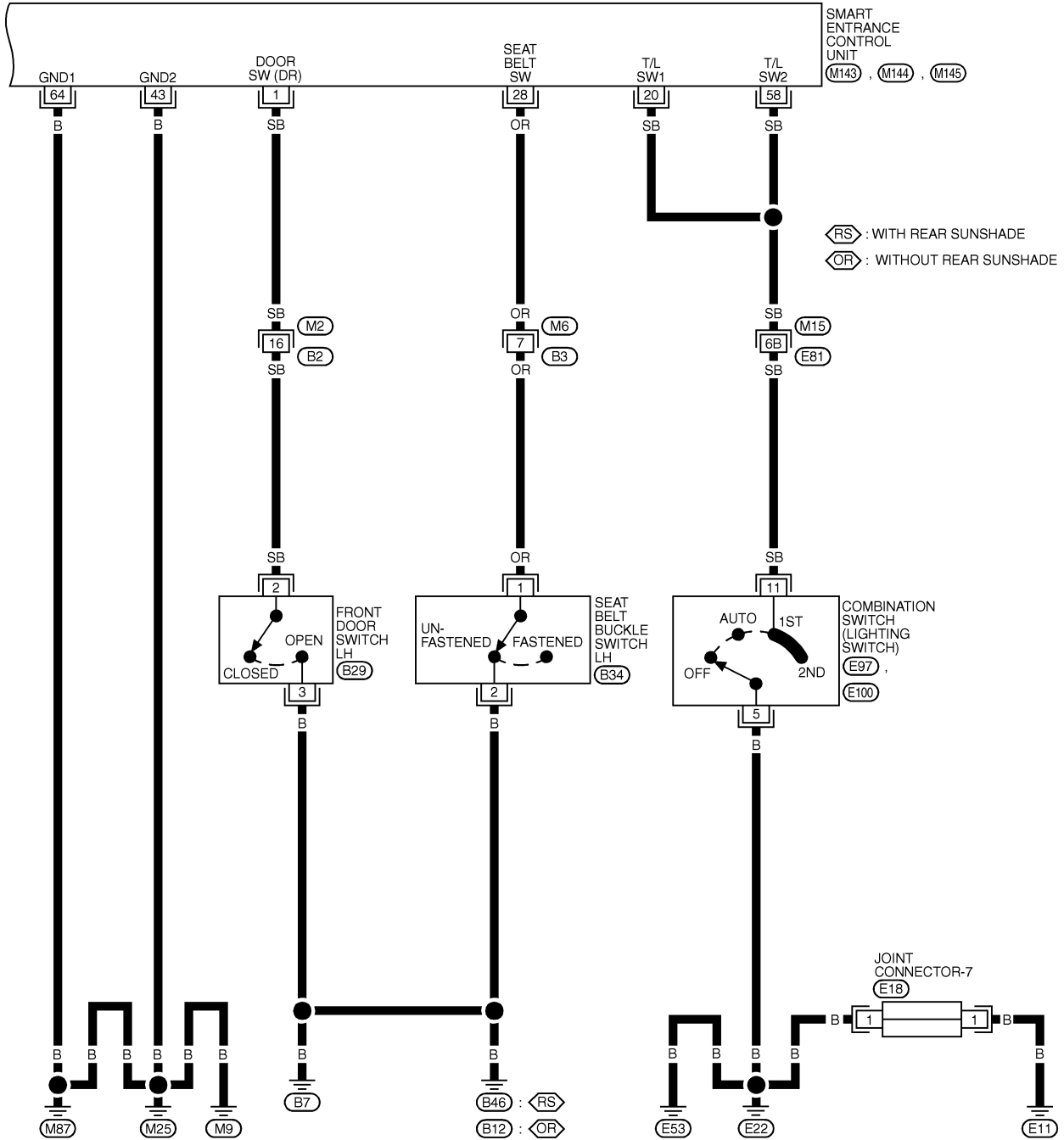
REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M17) (M19)
 -FUSE BLOCK-
 JUNCTION BOX (J/B)

MEL435M

WARNING CHIME

Wiring Diagram — CHIME — (Cont'd)

EL-CHIME-02

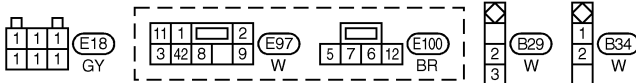
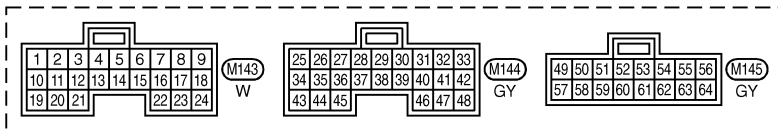


1	2	3	4	5	6	7	8	9	10	11		
12	13	14	15	16	17	18	19	20	21	22	23	24

(M2) BR

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18		

(M6) W



REFER TO THE FOLLOWING.
(M15) -SUPER
MULTIPLE JUNCTION (SMJ)

MEL436M

WARNING CHIME

Wiring Diagram — CHIME — (Cont'd)

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

TERMINAL	WIRE COLOR	ITEM	CONDITION		DATA (DC)			
1	SB	DRIVER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)		5V → 0V			
19	Y/B	TAIL LAMP RELAY	IGNITION SWITCH (WITH LIGHTING SWITCH 1ST OR 2ND)	OFF	MORE THAN 45 SECONDS	12V		
				ON OR START	WITHIN 45 SECONDS	0V		
			HEADLAMPS ILLUMINATE BY AUTO LIGHT CONTROL (OPERATE → NOT OPERATE)					0V
								LESS THAN 1.5V → 12V
20	SB	TAIL LAMP SWITCH	LIGHT SWITCH (OFF → 1ST OR 2ND POSITION)		12V → 0V			
25	B/R	IGNITION KEY SWITCH (INSERT)	KEY INSERTED → KEY REMOVED FROM IGN KEY CYLINDER		12V → 0V			
27	G	IGNITION SWITCH (ON)	IGNITION KEY IS IN "ON" POSITION		12V			
28	OR	SEAT BELT BUCKLE SWITCH	UNFASTENED → FASTENED (IGNITION KEY IS IN "ON" POSITION)		0V → 12V			
43	B	GROUND	-		-			
49	R/B	POWER SOURCE (FUSE)	-		12V			
57	Y/B	TAIL LAMP RELAY	IGNITION SWITCH (WITH LIGHTING SWITCH 1ST OR 2ND)	OFF	MORE THAN 45 SECONDS	12V		
				ON OR START	WITHIN 45 SECONDS	0V		
			HEADLAMPS ILLUMINATE BY AUTO LIGHT CONTROL (OPERATE → NOT OPERATE)					0V
								LESS THAN 1.5V → 12V
58	SB	TAIL LAMP SWITCH	LIGHTING SWITCH OFF OR AUTO → 1ST OR 2ND		12V → 0V			
64	B	GROUND	-		-			

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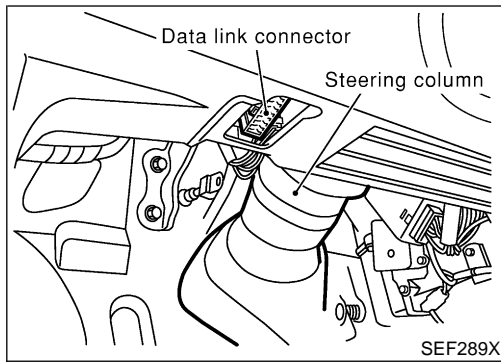
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SEL977X

WARNING CHIME

CONSULT-II Inspection Procedure

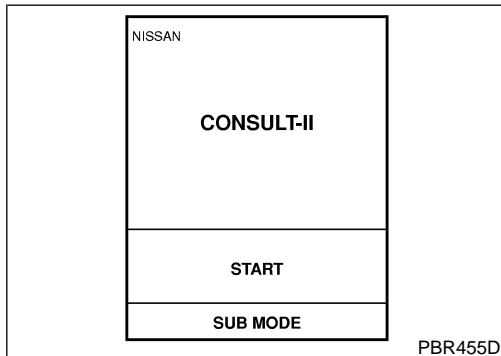


CONSULT-II Inspection Procedure “KEY WARN ALM”/“LIGHT WARN ALM”/“SEAT BELT ALM”

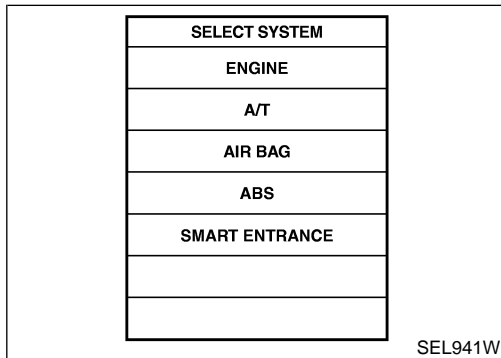
=NH0216

NH0216S01

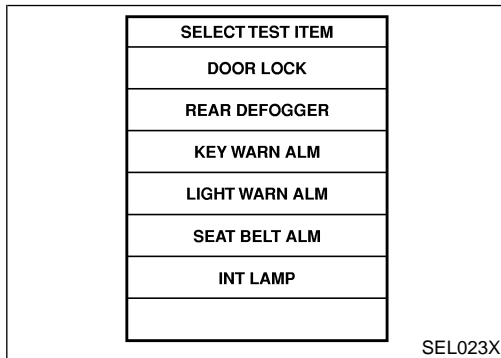
1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” to the data link connector.



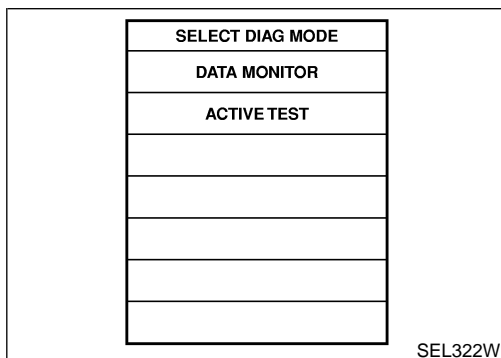
3. Turn ignition switch “ON”.
4. Touch “START”.



5. Touch “SMART ENTRANCE”.



6. Touch “KEY WARN ALM”, “LIGHT WARN ALM” or “SEAT BELT ALM”.



- DATA MONITOR and ACTIVE TEST are available for the warning chime.

WARNING CHIME

CONSULT-II Application Items

CONSULT-II Application Items

“KEY WARNING ALARM”

NHEL0217

Data Monitor

NHEL0217S01

NHEL0217S0101

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
DOOR SW DR	Indicates [ON/OFF] condition of front door switch LH.

GI

MA

EM

Active Test

NHEL0217S0102

Test Item	Description
CHIME	This test is able to check key warning chime operation. Key warning chime sounds for 2 when touching “ON” on CONSULT-II screen.

LC

EC

“LIGHT WARN ALM”

NHEL0217S02

Data Monitor

NHEL0217S0201

Monitored Item	Description
LIGHT SW 1ST	Indicates [ON/OFF] condition of lighting switch.
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.

FE

AT

AX

Active Test

NHEL0217S0202

Test Item	Description
CHIME	This test is able to check light warning chime operation. Light warning chime sounds for 2 when touching “ON” on CONSULT-II screen.

SU

BR

“SEAT BELT WARM ALM”

NHEL0217S03

Data Monitor

NHEL0217S0301

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
SEAT BELT SW	Indicates [ON/OFF] condition of seat belt switch.

ST

RS

BT

Active Test

NHEL0217S0302

Test Item	Description
CHIME	This test is able to check seat belt warning chime operation. Seat belt warning chime sounds when touching “ON” on CONSULT-II screen.

HA

SC

EL

IDX

WARNING CHIME

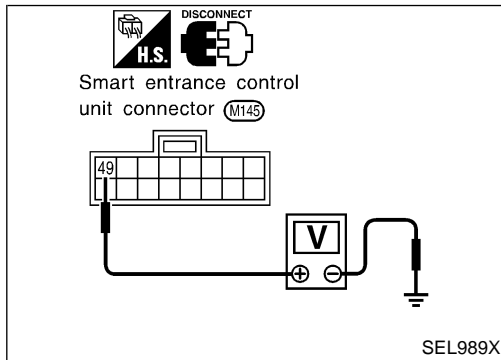
Trouble Diagnoses

Trouble Diagnoses SYMPTOM CHART

NHEL0055

NHEL0055S01

REFERENCE PAGE (EL-)	182	184	185	186	187
SYMPTOM	POWER SUPPLY AND GROUND CIRCUIT CHECK	DIAGNOSTIC PROCEDURE 1 (LIGHTING SWITCH INPUT SIGNAL CHECK)	DIAGNOSTIC PROCEDURE 2 (KEY SWITCH INSERT SIGNAL CHECK)	DIAGNOSTIC PROCEDURE 3 (SEAT BELT BUCKLE SWITCH CHECK)	DIAGNOSTIC PROCEDURE 4
Light warning chime does not activate.	X	X			X
Ignition key warning chime does not activate.	X		X		X
Seat belt warning chime does not activate.	X			X	X
All warning chimes do not activate.	X				X



POWER SUPPLY AND GROUND CIRCUIT CHECK Power Supply Circuit Check

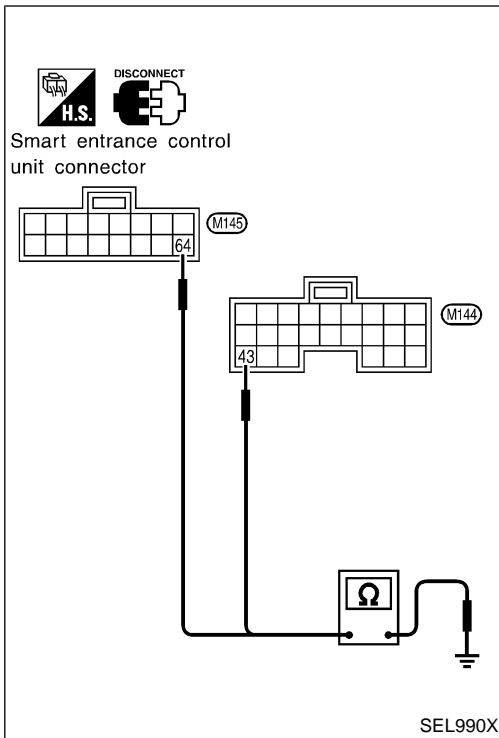
NHEL0055S02

NHEL0055S0201

Terminals	Voltage
46 - Ground	Battery voltage

WARNING CHIME

Trouble Diagnoses (Cont'd)



Ground Circuit Check

NHEL0055S0202

Terminals	Continuity
43 - Ground	Yes
64 - Ground	Yes

GI

MA

EM

LC

EC

FE

AT

AX

SU

BR

ST

RS

BT

HA

SC

EL



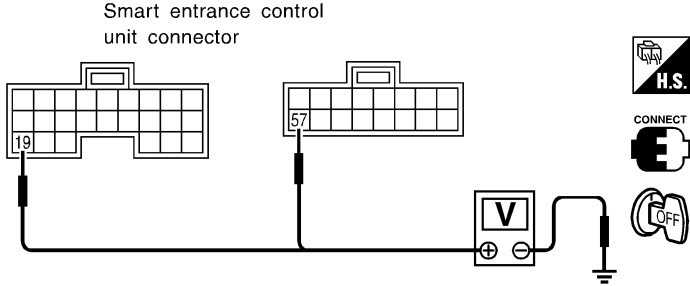
IDX

WARNING CHIME

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 1 (LIGHTING SWITCH INPUT SIGNAL CHECK)

=NH0055S03



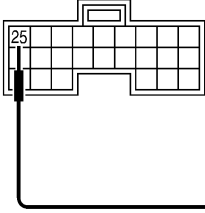


1	CHECK LIGHTING SWITCH INPUT SIGNAL							
<p> With CONSULT-II Check lighting switch ("LIGHT SW 1ST") in "DATA MONITOR" mode with CONSULT-II.</p>								
<table border="1" style="margin: auto;"> <tr><th colspan="2">DATA MONITOR</th></tr> <tr><th colspan="2">MONITOR</th></tr> <tr><td>LIGHT SW 1ST</td><td>OFF</td></tr> </table>			DATA MONITOR		MONITOR		LIGHT SW 1ST	OFF
DATA MONITOR								
MONITOR								
LIGHT SW 1ST	OFF							
		<p>When lighting switch is in 1st or 2nd position: LIGHT SW 1ST ON</p> <p>When lighting switch is in OFF position: LIGHT SW 1ST OFF</p>						
		SEL991X						
<p> Without CONSULT-II Check voltage between smart entrance control unit terminal 19 (M143, Y/B) or 57 (M145, GY) and ground.</p>								
<p>Smart entrance control unit connector</p> 								
		<p>Voltage [V]: Condition of lighting switch: 1ST or 2ND Approx. 12 Condition of lighting switch: OFF 0</p>						
		SEL992X						
OK or NG								
OK	▶	Lighting switch is OK.						
NG	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse (No. 60, located in the fuse and fusible link box) ● Harness for open or short between smart entrance control unit and tail lamp relay 						


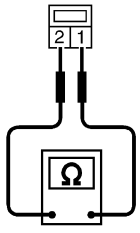


WARNING CHIME

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2 (KEY SWITCH INSERT SIGNAL CHECK)

=NHLE0055S04

1	CHECK KEY SWITCH INPUT SIGNAL								
		<p> With CONSULT-II Check key switch ("KEY ON SW") in "DATA MONITOR" mode with CONSULT-II.</p> <div style="display: flex; align-items: flex-start;"> <div style="border: 1px solid black; padding: 5px; margin-right: 20px;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">DATA MONITOR</th> </tr> <tr> <th style="width: 50%;">MONITOR</th> <th style="width: 50%;"></th> </tr> </thead> <tbody> <tr> <td>KEY ON SW</td> <td style="text-align: center;">ON</td> </tr> </tbody> </table> </div> <div> <p>When key is inserted to ignition key cylinder: KEY ON SW ON</p> <p>When key is removed from ignition key cylinder: KEY ON SW OFF</p> </div> </div>	DATA MONITOR		MONITOR		KEY ON SW	ON	<p>GI</p> <p>MA</p> <p>EM</p> <p>LC</p> <p>EC</p>
DATA MONITOR									
MONITOR									
KEY ON SW	ON								
		SEL315W							
		<p> Without CONSULT-II Check voltage between smart entrance control unit terminal 25 (M143, B/R) and ground.</p> <p>Smart entrance control unit connector</p> <div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p> CONNECT</p> <p></p> <p>Approx. 12V</p> <p>Approx. 0V</p> </div> </div> <p>Voltage [V]: Condition of key switch: Key is inserted. Approx. 12 Condition of key switch: Key is removed. 0</p>	<p>FE</p> <p>AT</p> <p>AX</p> <p>SU</p> <p>BR</p>						
		SEL011Y							
		OK or NG							
OK	▶	Key switch is OK.	<p>ST</p> <p>RS</p>						
NG	▶	GO TO 2.							



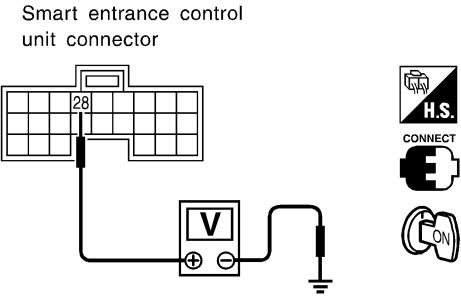
2	CHECK KEY SWITCH (INSERT)		
		<p>Check continuity between terminals 1 and 2.</p> <div style="display: flex; align-items: center;"> <div style="margin-right: 20px;"> <p>Key switch connector </p>  </div> <div> <p> DISCONNECT</p> <p></p> </div> </div> <p>Continuity: Condition of key switch: Key is inserted. Yes Condition of key switch: Key is removed. No</p>	<p>BT</p> <p>HA</p> <p>SC</p>
		SEL311W	
		OK or NG	
OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse [No. 13, 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 	<p>EL</p> <p>IDX</p>
NG	▶	Replace key switch.	

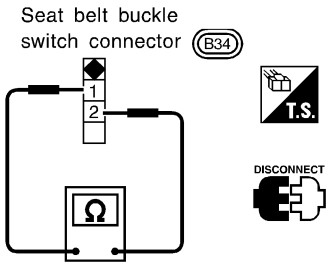
WARNING CHIME

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3 (SEAT BELT BUCKLE SWITCH CHECK)

=NHLE0055S05

1	CHECK SEAT BELT BUCKLE SWITCH INPUT SIGNAL						
<p> With CONSULT-II Check seat belt buckle switch ("SEAT BELT SW") in "DATA MONITOR" mode with CONSULT-II.</p> <div style="display: flex; align-items: flex-start;"> <div style="border: 1px solid black; padding: 5px; margin-right: 20px;"> <table border="1" style="width: 100%; text-align: center;"> <thead> <tr><th colspan="2">DATA MONITOR</th></tr> <tr><th colspan="2">MONITOR</th></tr> </thead> <tbody> <tr><td>SEAT BELT SW</td><td>ON</td></tr> </tbody> </table> </div> <div> <p>When seat belt is fastened: SEAT BELT SW ON</p> <p>When seat belt is released: SEAT BELT SW OFF</p> </div> </div>		DATA MONITOR		MONITOR		SEAT BELT SW	ON
DATA MONITOR							
MONITOR							
SEAT BELT SW	ON						
SEL317W							
<p> Without CONSULT-II</p> <ol style="list-style-type: none"> Turn ignition switch "ON". Check voltage between smart entrance control unit terminal 28 (M144, OR) and ground. <div style="display: flex; align-items: flex-start;"> <div style="margin-right: 20px;"> <p>Smart entrance control unit connector</p>  </div> <div> <p>Voltage [V]:</p> <p>Condition of seat belt buckle switch: Fastened Approx. 5</p> <p>Condition of seat belt buckle switch: Unfastened 0</p> </div> </div>							
SEL994X							
OK or NG							
OK	▶ Seat belt buckle switch is OK.						
NG	▶ GO TO 2.						

2	CHECK SEAT BELT BUCKLE SWITCH
<p>Check continuity between terminals 1 and 2 when seat belt is fastened and unfastened.</p> <div style="display: flex; align-items: flex-start;"> <div style="margin-right: 20px;"> <p>Seat belt buckle switch connector (B34)</p>  </div> <div> <p>Continuity:</p> <p>Seat belt is fastened. No</p> <p>Seat belt is unfastened. Yes</p> </div> </div>	
SEL313W	
OK or NG	
OK	▶ Check the following.
	<ul style="list-style-type: none"> ● Seat belt buckle switch ground circuit ● Harness for open or short between smart entrance control unit and seat belt buckle switch
NG	▶ Replace seat belt buckle switch.

WARNING CHIME

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

NHKL0055S06

1 CHECK IGNITION ON SIGNAL

With CONSULT-II

Check ignition switch ON signal ("IGN ON SW") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
IGN ON SW	ON

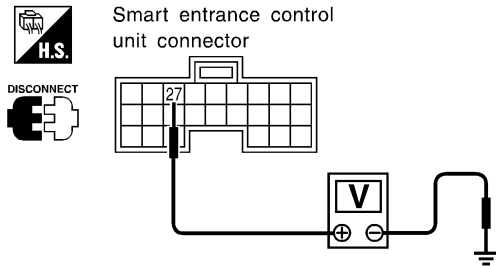
When ignition switch is ON:
IGN ON SW ON

When ignition switch is OFF:
IGN ON SW OFF

SEL318W

Without CONSULT-II

Check voltage between smart entrance control unit terminal 27 (M144, G) and ground.



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

SEL995X

OK or NG

OK ► GO TO 2.

NG ► **Check the following.**

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

GI

MA

EM

LC

EC

FE

AT

AX

SU

BR

ST

RS

BT

HA

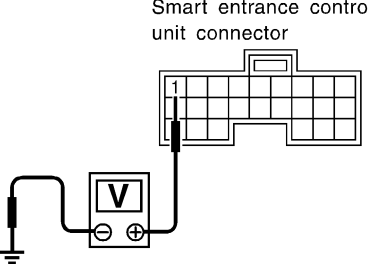



SC

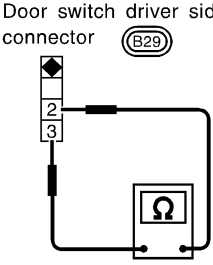

EL

IDX

WARNING CHIME


Trouble Diagnoses (Cont'd)

2	CHECK DOOR SWITCH INPUT SIGNAL	<p>With CONSULT-II Check driver door switch signal ("DOOR SW-DR") in "DATA MONITOR" mode with CONSULT-II.</p> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <table border="1" style="border-collapse: collapse; text-align: center;"> <thead> <tr><th colspan="2">DATA MONITOR</th></tr> <tr><th colspan="2">MONITOR</th></tr> </thead> <tbody> <tr><td>DOOR SW-DR</td><td>OFF</td></tr> </tbody> </table> <div style="margin-left: 20px;"> <p>When driver's door is open: DOOR SW-DR ON</p> <p>When driver's door is closed: DOOR SW-DR OFF</p> </div> </div>		DATA MONITOR		MONITOR		DOOR SW-DR	OFF
DATA MONITOR									
MONITOR									
DOOR SW-DR	OFF								
		SEL319W							
		<p>Without CONSULT-II Check voltage between smart entrance control unit terminal 1 (M143, SB) and ground.</p> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: center;"> <p>Smart entrance control unit connector</p>  </div> <div style="margin-left: 20px;">    </div> <div style="margin-left: 20px;"> <p>Voltage [V]: Condition of driver's door: CLOSED Approx. 5 Condition of driver's door: OPENED 0</p> </div> </div>							
		SEL996X							
OK or NG									
OK	▶	GO TO 4.							
NG	▶	GO TO 3.							

3	CHECK DRIVER SIDE DOOR SWITCH	<p>Check continuity between terminals 2 and 3.</p> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: center;"> <p>Door switch driver side connector (B29)</p>  </div> <div style="margin-left: 20px;">  </div> <div style="margin-left: 20px;"> <p>Continuity: Door switch is pushed. No Door switch is released. Yes</p> </div> </div>	
		SEL325W	
OK or NG			
OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● Driver side door switch ground circuit and condition ● Harness for open or short between smart entrance control unit and driver side door switch 	
NG	▶	Replace driver side door switch.	

WARNING CHIME

Trouble Diagnoses (Cont'd)

4	CHECK WARNING CHIME							
<p> With CONSULT-II Perform "CHIME" in "ACTIVE TEST" mode with CONSULT-II.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <table border="1"> <tr><th colspan="2">ACTIVE TEST</th></tr> <tr><td>CHIME</td><td>OFF</td></tr> <tr><td>ON</td><td></td></tr> </table> </div> <div style="text-align: center;"> <p>Warning chime should operate.</p> <p>SEL320W</p> </div> </div> <p style="text-align: center;">OK or NG</p>			ACTIVE TEST		CHIME	OFF	ON	
ACTIVE TEST								
CHIME	OFF							
ON								
OK	▶	System is OK.						
NG	▶	Replace smart entrance control unit.						

GI

MA

EM

LC

EC

FE

AT

AX

SU

BR

ST

RS

BT

HA

SC

EL

IDX

FRONT WIPER AND WASHER

System Description

System Description

NHEL0057

NHEL0057S01

WIPER OPERATION

The wiper switch is controlled by a lever built into the combination switch. There are three wiper switch positions:

- LO speed
- HI speed
- INT (Intermittent)

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

- through 20A fuse [No. 25, located in the fuse block (J/B)]
- to wiper motor terminal 4.

Low and High Speed Wiper Operation

NHEL0057S0101

Ground is supplied to wiper switch terminal 17 through body grounds E11, E22 and E53.

When the wiper switch is placed in the LO position, ground is supplied

- through terminal 14 of the wiper switch
- to wiper motor terminal 3.

With power and ground supplied, the wiper motor operates at low speed.

When the wiper switch is placed in the HI position, ground is supplied

- through terminal 16 of the wiper switch
- to wiper motor terminal 1.

With power and ground supplied, the wiper motor operates at high speed.

Auto Stop Operation

NHEL0057S0102

With wiper switch turned OFF, wiper motor will continue to operate until wiper arms reach windshield base.

When wiper arms are not located at base of windshield with wiper switch OFF, ground is provided

- from terminal 14 of the wiper switch
- to wiper motor terminal 3, in order to continue wiper motor operation at low speed.

Ground is also supplied

- through terminal 13 of the wiper switch
- to wiper motor terminal 2
- through terminal 6 of the wiper motor, and
- through body grounds E11, E22 and E53.

When wiper arms reach base of windshield, wiper motor terminals 2 and 4 are connected instead of terminals 2 and 6. Wiper motor will then stop wiper arms at the STOP position.

Intermittent Operation

NHEL0057S0103

The wiper motor operates the wiper arms one time at low speed at a set interval of approximately 3 to 13 seconds. This feature is controlled by the wiper amplifier (INT SW) combined with wiper switch.

When the wiper switch is placed in the INT position, ground is supplied to wiper amplifier.

The desired interval time is input to wiper amplifier (INT VR) from wiper volume switch combined with wiper switch.

Then intermittent ground is supplied

- to wiper motor terminal 3
- from terminal 14 of wiper switch
- through wiper amplifier (OUTPUT).

The wiper motor operates at low speed at the desired interval.

WASHER OPERATION

NHEL0057S02

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

- through 20A fuse [No. 25, located in the fuse block (J/B)]
- to washer motor terminal 1.

When the lever is pulled to the WASH position, ground is supplied

- to washer motor terminal 2, and
- from terminal 18 of the wiper switch
- through terminal 17 of the wiper switch, and

FRONT WIPER AND WASHER

System Description (Cont'd)

- through body grounds E11, E22 and E53.

With power and ground supplied, the washer motor operates.

When the lever is pulled to the WASH position for one second or more, the wiper motor operates at low speed for approximately 3 seconds to clean windshield. This feature is controlled by the wiper amplifier in the same manner as the intermittent operation.

GI

MA

EM

LC

EC

FE

AT

AX

SU

BR

ST

RS

BT

HA

SC

EL

IDX

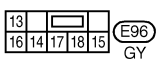
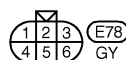
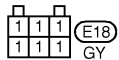
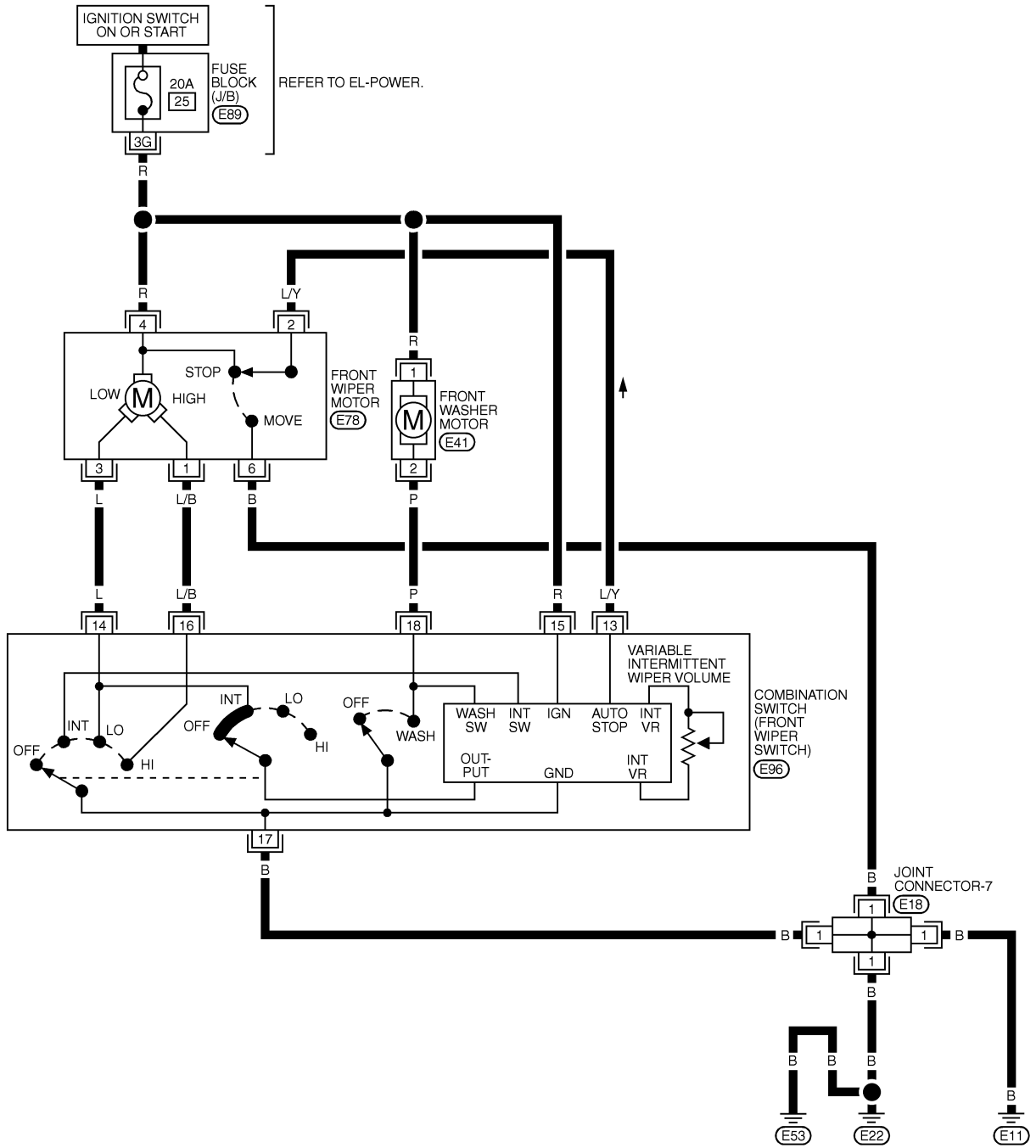
FRONT WIPER AND WASHER

Wiring Diagram — WIPER —

Wiring Diagram — WIPER —

NHEL0058

EL-WIPER-01

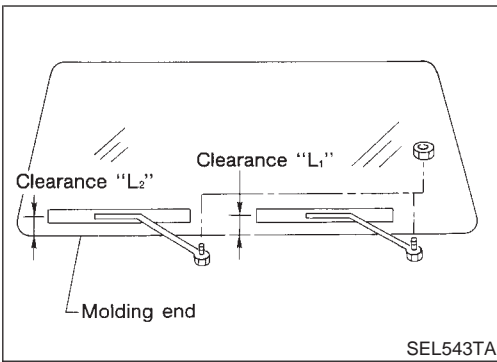


REFER TO THE FOLLOWING.
 (E89) - FUSE BLOCK-
 JUNCTION BOX (J/B)

MEL274K

NHEL0060

NHEL0060S01



Removal and Installation

WIPER ARMS

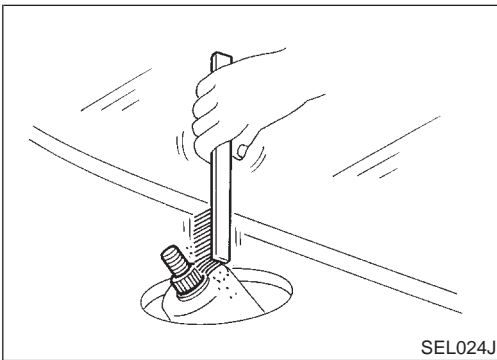
1. Prior to wiper arm installation, turn on wiper switch to operate wiper motor and then turn it "OFF" (Auto Stop).
2. Lift the blade up and then set it down onto glass surface to set the blade center to clearance "L₁" & "L₂" immediately before tightening nut.
3. Eject washer fluid. Turn on wiper switch to operate wiper motor and then turn it "OFF".
4. Ensure that wiper blades stop within clearance "L₁" & "L₂".

Clearance "L₁": 48 - 64 mm (1.89 - 2.52 in)

Clearance "L₂": 40 - 56 mm (1.57 - 2.20 in)

- Tighten wiper arm nuts to specified torque.

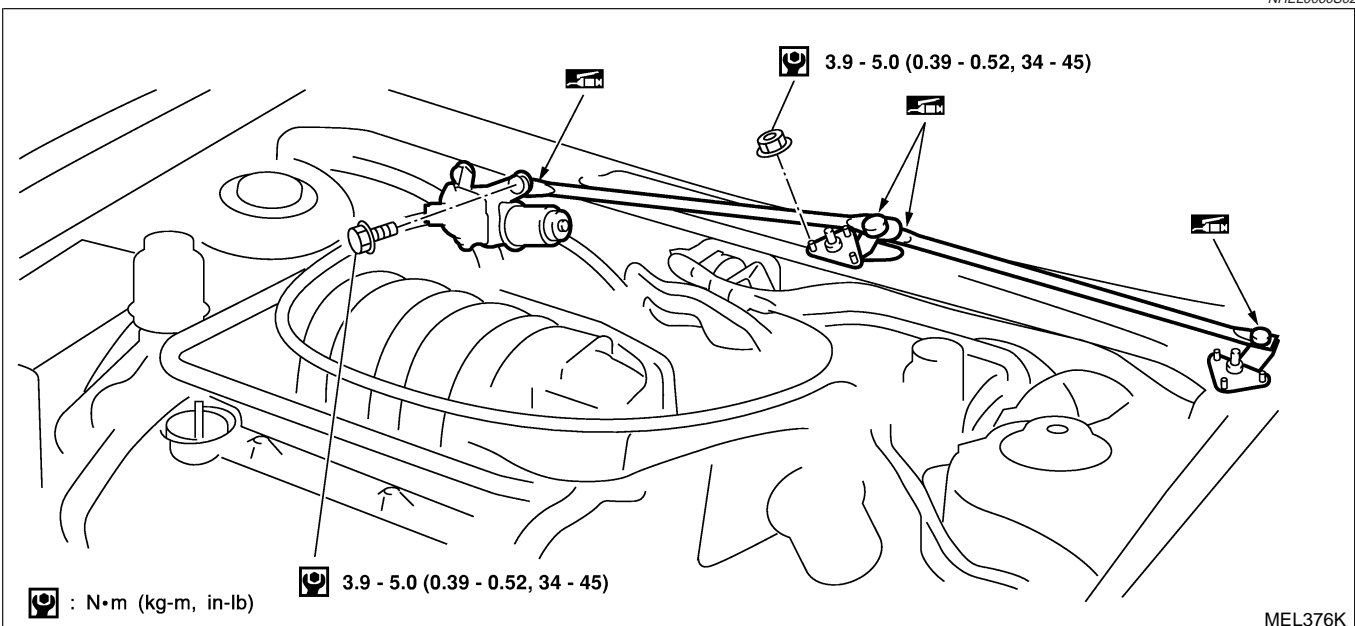
Front wiper: 21 - 26 N·m (2.1 - 2.7 kg·m, 16 - 19 ft·lb)



- Before reinstalling wiper arm, clean up the pivot area as illustrated. This will reduce possibility of wiper arm looseness.

WIPER LINKAGE

NHEL0060S02



GI

MA

EM

LC

EC

FE

AT

AX

SU

BR

ST

RS

BT

HA

SC

EL

IDX

FRONT WIPER AND WASHER

Removal and Installation (Cont'd)

Removal

NHEL0060S0201

1. Remove 4 bolts that secure wiper motor.
2. Detach wiper motor from wiper linkage at ball joint.
3. Remove wiper linkage.

Be careful not to break ball joint rubber boot.

Installation

NHEL0060S0202

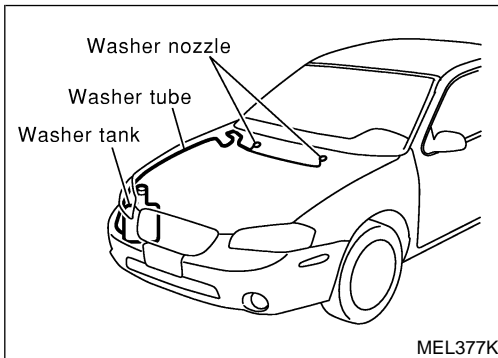
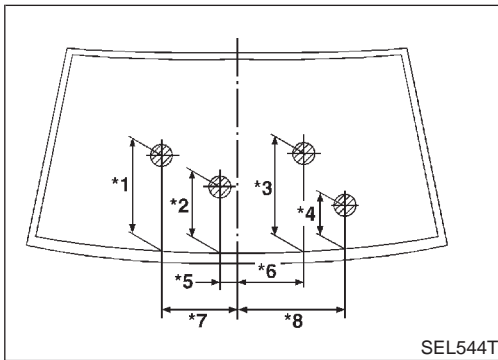
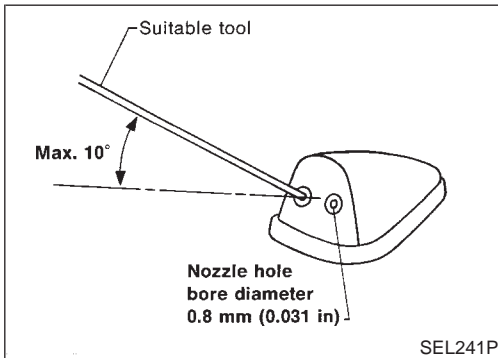
- Grease ball joint portion before installation.
1. Installation is the reverse order of removal.

Washer Nozzle Adjustment

NHEL0061

- Adjust washer nozzle with suitable tool as shown in the figure at left.

Adjustable range: $\pm 10^\circ$



Washer Tube Layout

NHEL0062

Unit: mm (in)

*1	341 (13.43)	*5	154 (6.06)
*2	286 (11.26)	*6	203 (7.99)
*3	285 (11.22)	*7	382 (15.04)
*4	152 (5.98)	*8	385 (15.16)

*: The diameters of these circles are less than 80 mm (3.15 in).

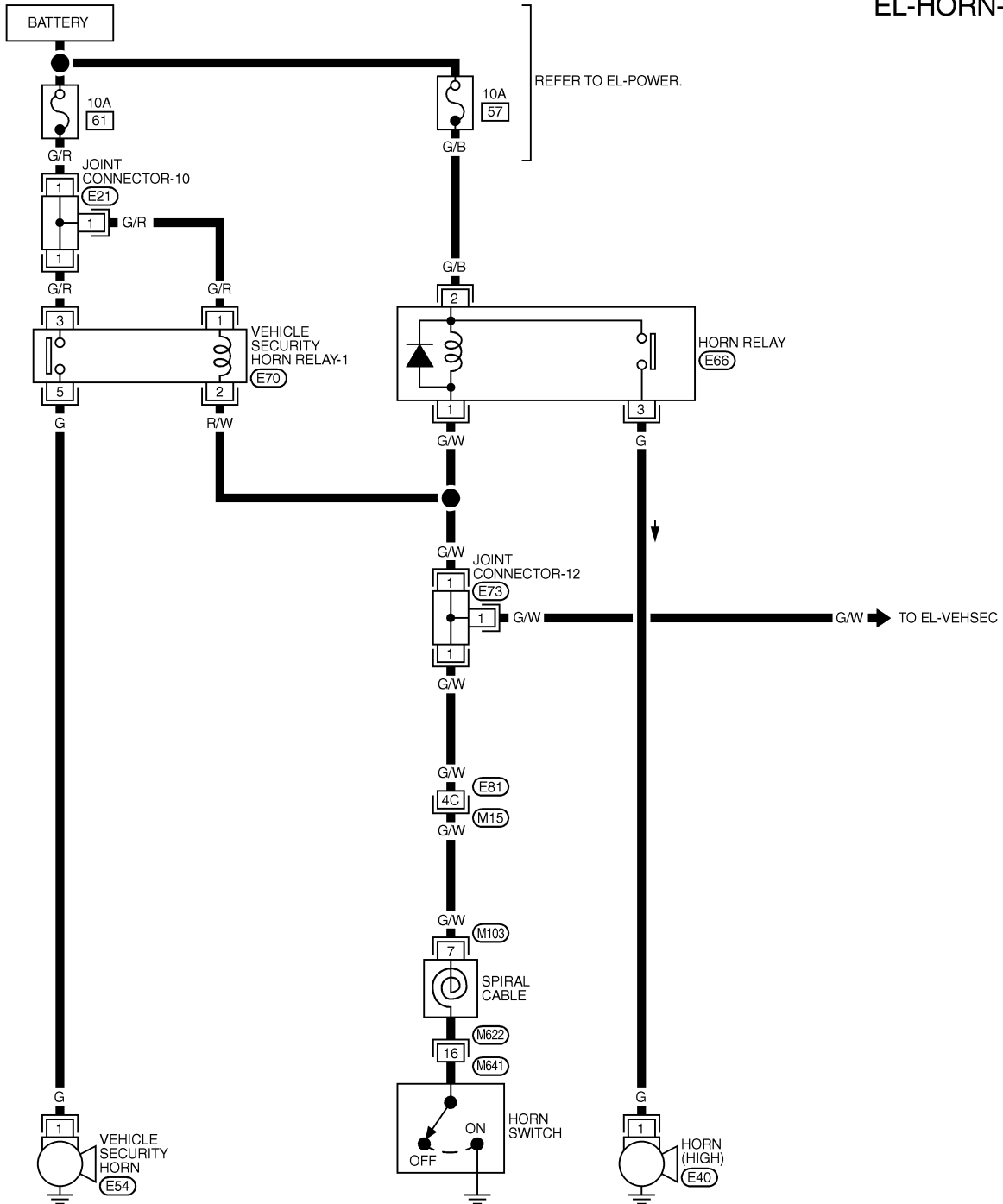
HORN

Wiring Diagram — HORN —

Wiring Diagram — HORN —

NHEL0071

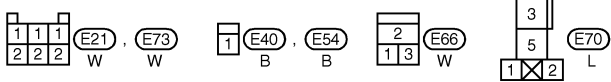
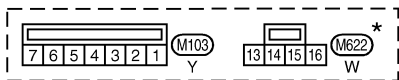
EL-HORN-01



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

REFER TO THE FOLLOWING.
(M15) -SUPER
MULTIPLE JUNCTION (SMJ)

MEL5190

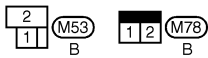
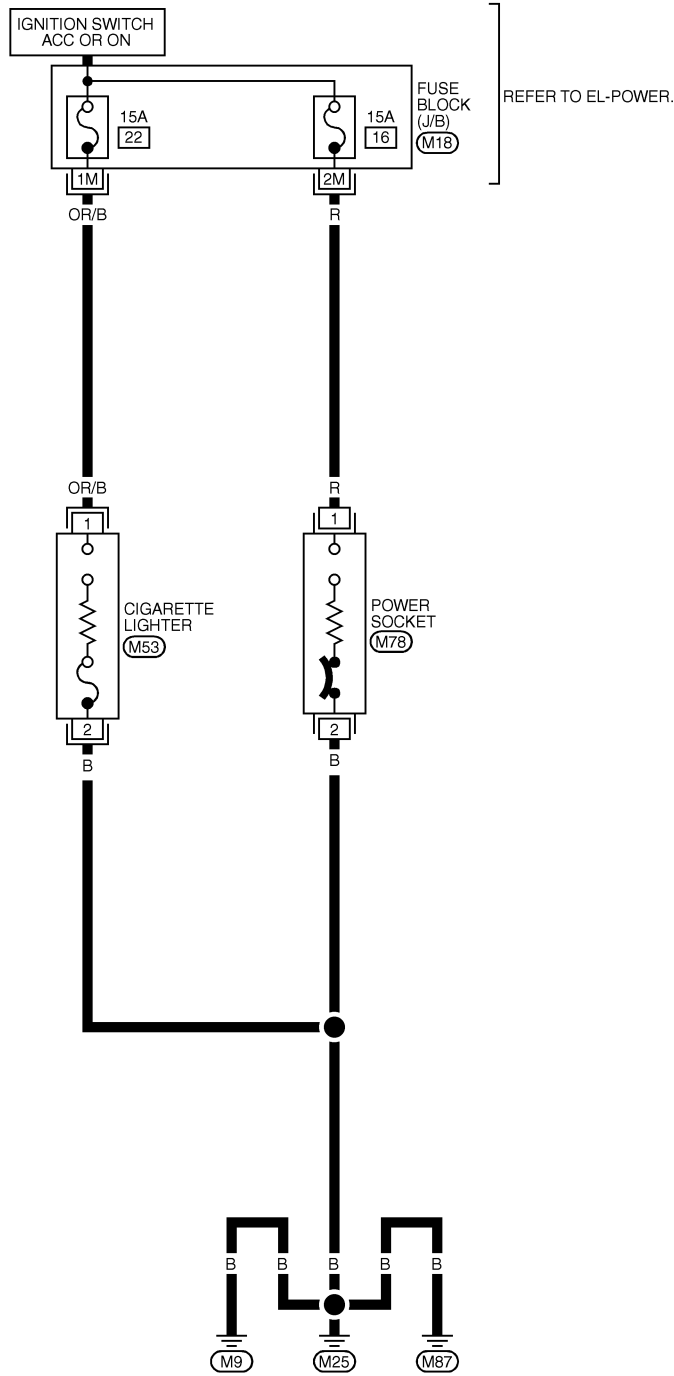
CIGARETTE LIGHTER

Wiring Diagram — CIGAR —

Wiring Diagram — CIGAR —

NHEL0156

EL-CIGAR-01



REFER TO THE FOLLOWING.

(M18) - FUSE BLOCK -
JUNCTION BOX (J/B)

MEL465K

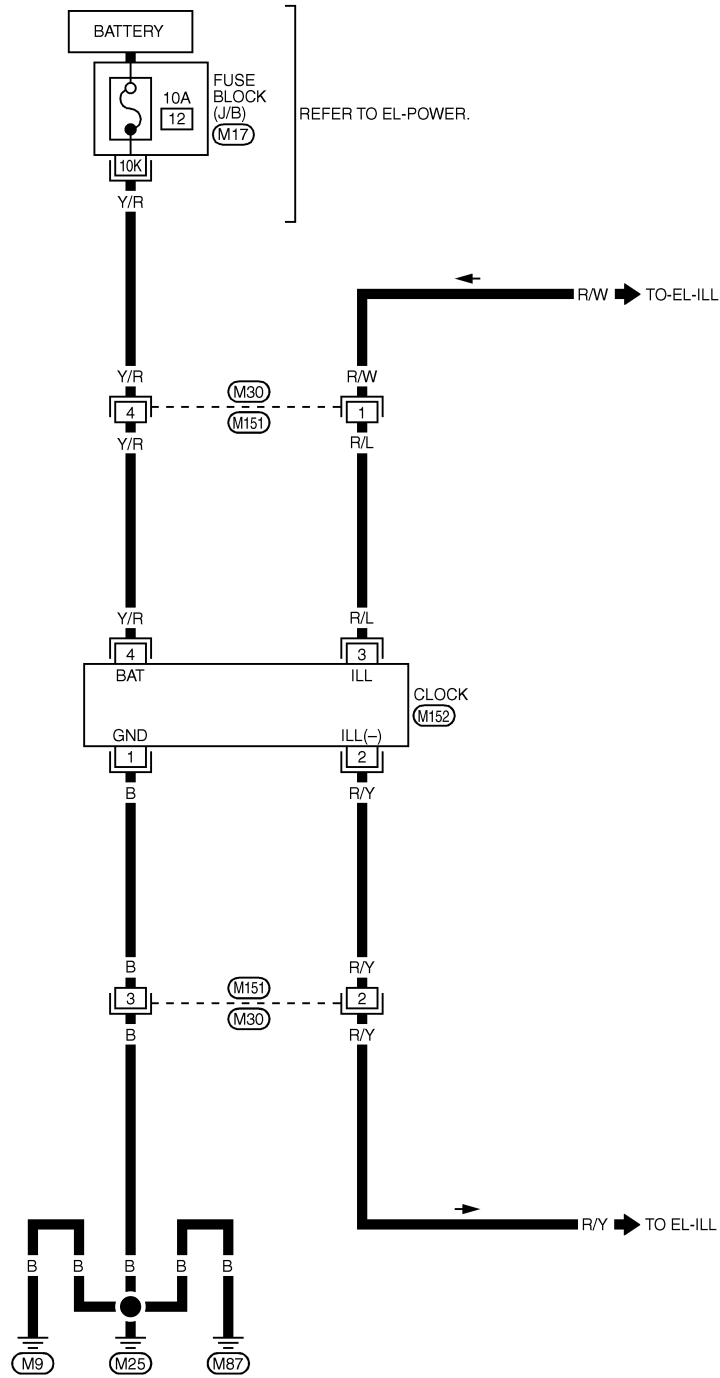
CLOCK

Wiring Diagram — CLOCK —

Wiring Diagram — CLOCK —

NHEL0166

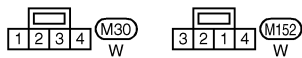
EL-CLOCK-01



REFER TO EL-POWER.

TO-EL-ILL

TO EL-ILL



REFER TO THE FOLLOWING.
 (M17) - FUSE BLOCK -
 JUNCTION BOX (J/B)

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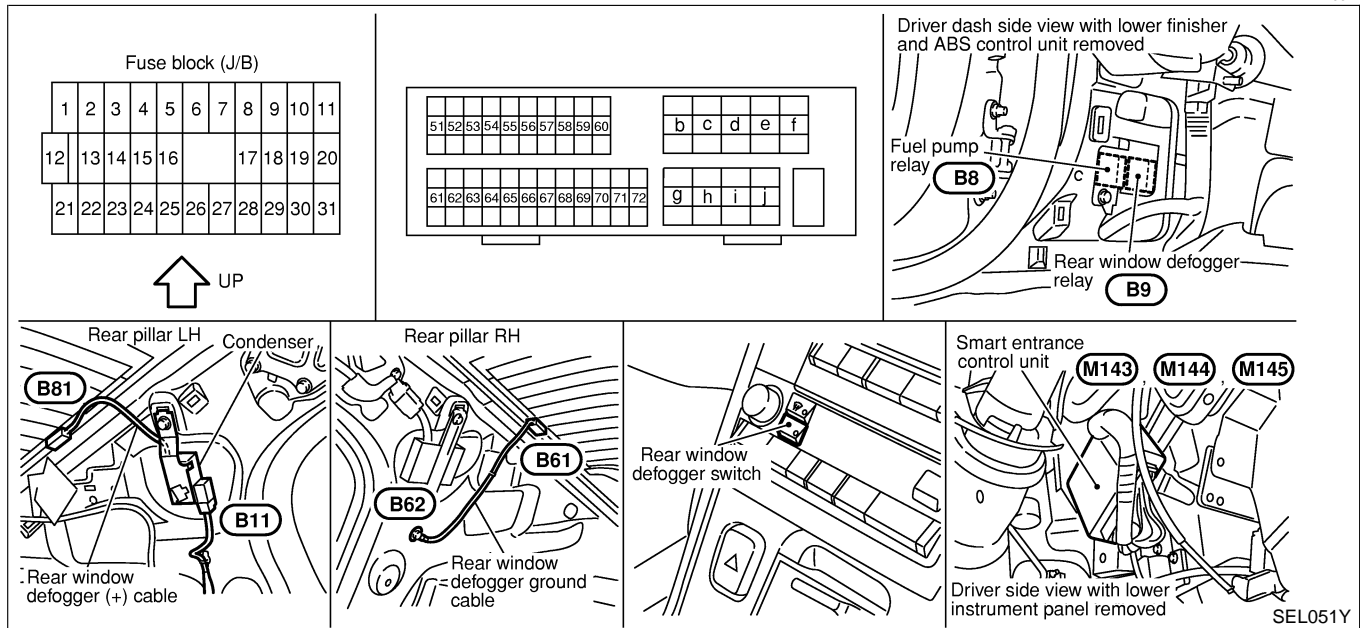
MEL466K

REAR WINDOW DEFOGGER

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NHEL0072



SEL051Y

System Description

NHEL0073

The rear window defogger system is controlled by the smart entrance control unit. The rear window defogger operates only for approximately 15 minutes.

Power is supplied at all times

- to rear window defogger relay terminal 3
- through 20A fuse (No. 7, located in the fuse and fusible link box) and
- to rear window defogger relay terminal 6
- through 20A fuse (No. 4, located in the fuse and fusible link box).
- to smart entrance control unit terminal 49
- through 10A fuse (No. 13, located in the fuse and fusible link box).

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 the rear window defogger relay terminal 1 and
- to smart entrance control unit terminal 27.

Ground is supplied to terminal 32 of the rear defogger switch (built-in A/C control unit or A/C auto amp.) through body grounds M9, M25 and M87.

When the rear defogger switch is turned ON, ground is supplied

- through terminal 31 of the rear defogger switch
- to smart entrance control unit terminal 14.

Terminal 37 of the smart entrance control unit then supplies ground to the rear window defogger relay terminal 2.

With power and ground supplied, the rear window defogger relay is energized.

Power is supplied

- through terminals 5 and 7 of the rear window defogger relay
- to the rear window defogger.

The rear window defogger has an independent ground.

With power and ground supplied, the rear window defogger filaments heat and defog the rear window.

When the system is activated, the rear window defogger indicator illuminates in the rear window defogger switch.

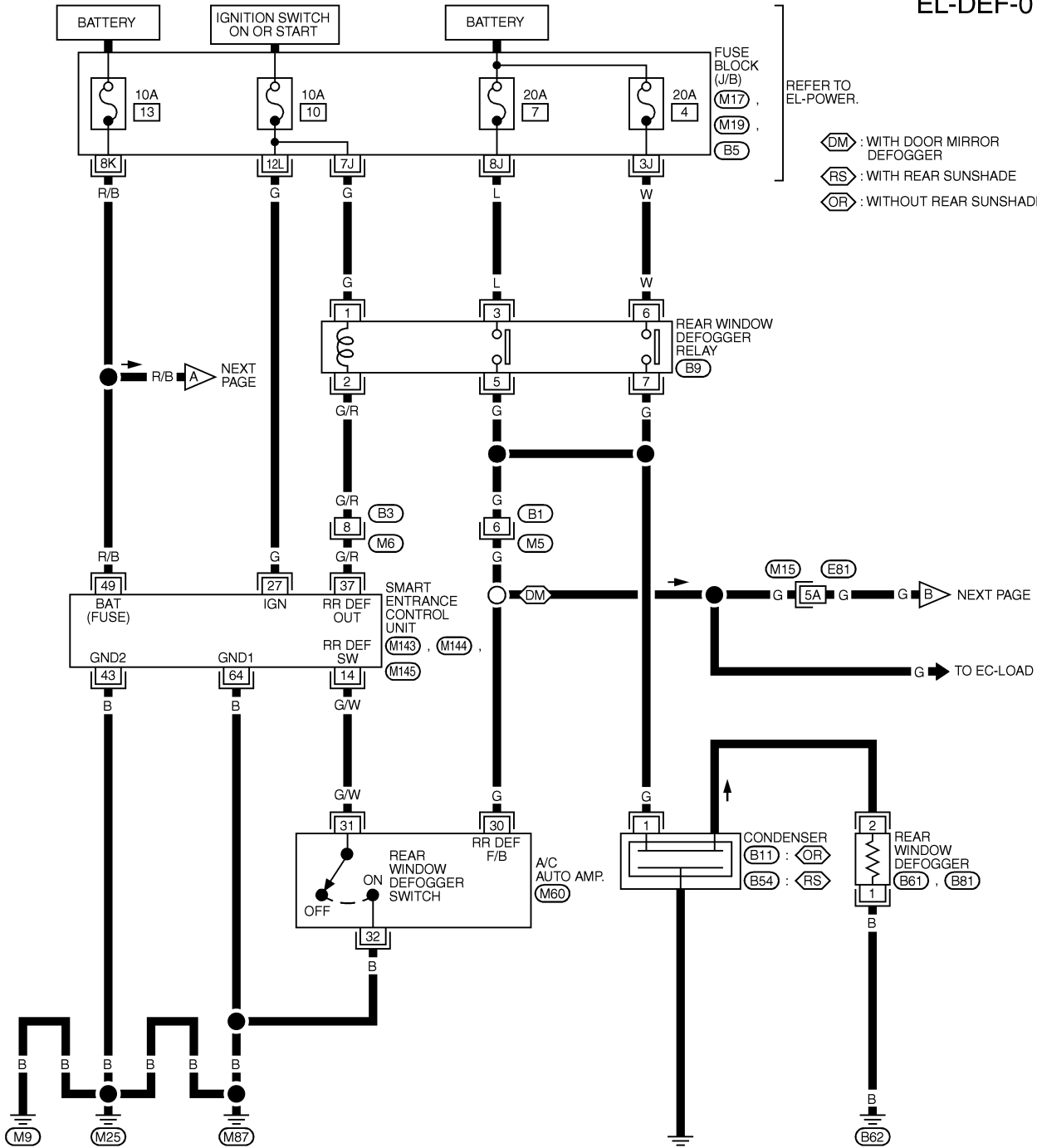
REAR WINDOW DEFOGGER

Wiring Diagram — DEF —

Wiring Diagram — DEF —

=NH0074

EL-DEF-01



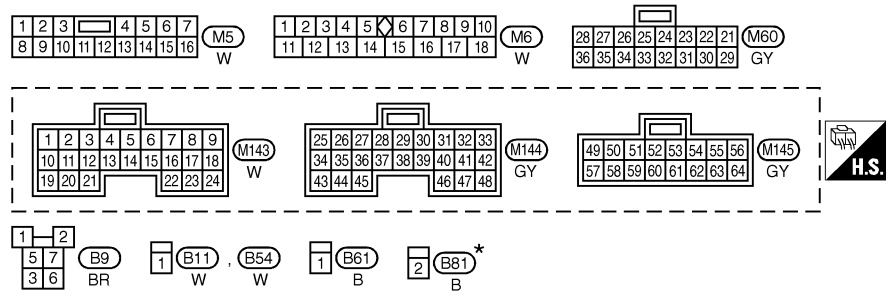
REFER TO EL-POWER.

- ◊DM : WITH DOOR MIRROR DEFOGGER
- ◊RS : WITH REAR SUNSHADE
- ◊OR : WITHOUT REAR SUNSHADE

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REFER TO THE FOLLOWING.
 (M15) - SUPER
 MULTIPLE JUNCTION (SMJ)
 (M17, M19, B5)
 - FUSE BLOCK -
 JUNCTION BOX (J/B)

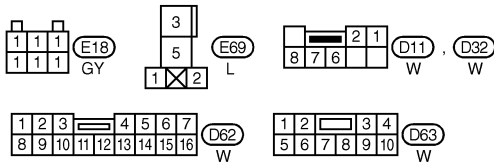
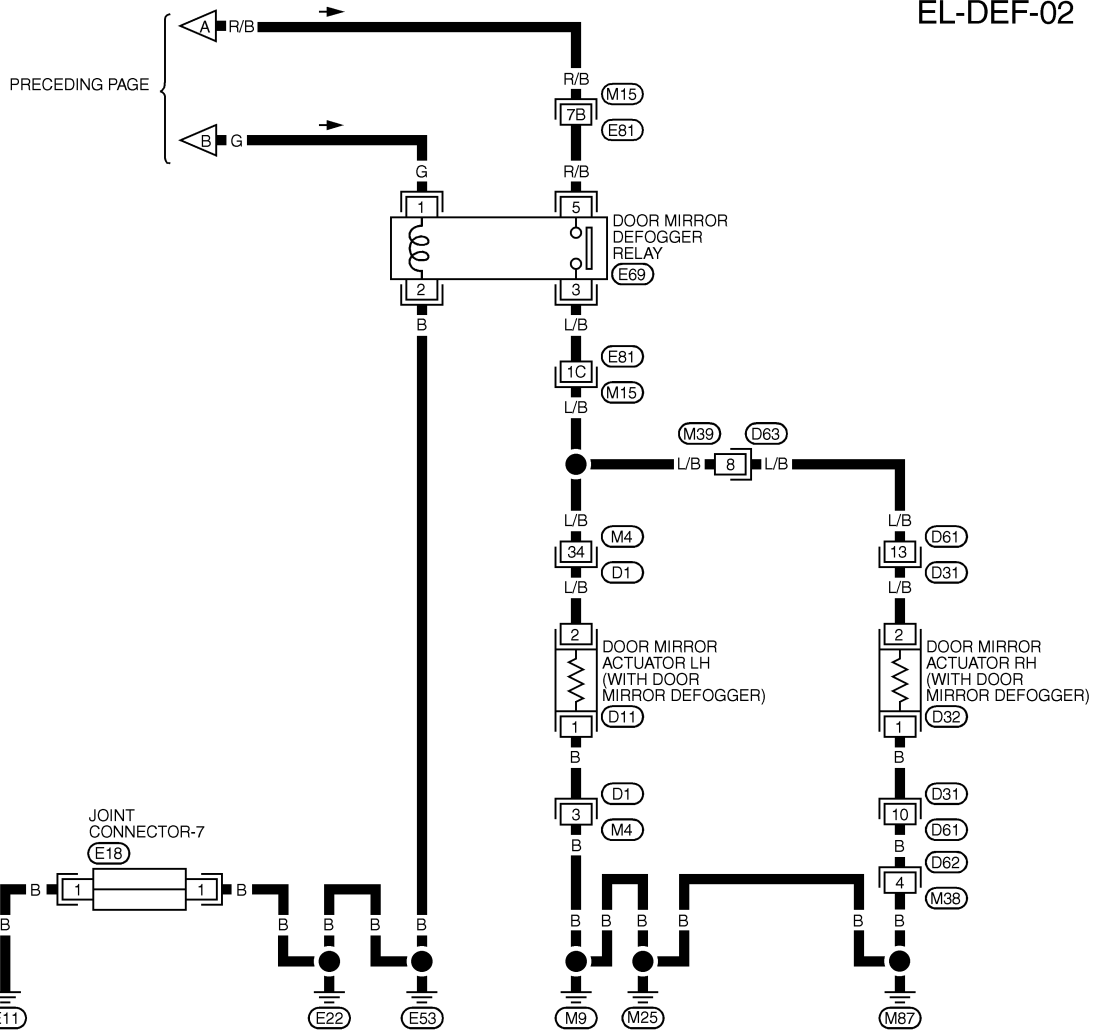
* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

MEL438M

REAR WINDOW DEFOGGER

Wiring Diagram — DEF — (Cont'd)

EL-DEF-02



REFER TO THE FOLLOWING.
 (M15), (D1), (D31) -SUPER
 MULTIPLE JUNCTION (SMJ)

MEL118N

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

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
14	G/W	REAR WINDOW DEFOGGER SWITCH	OFF → ON (WHEN ONLY PUSHED)	5V → 0V
27	G	IGNITION SWITCH (ON)	IGNITION KEY IS IN "ON" POSITION	12V
37	G/R	REAR WINDOW DEFOGGER RELAY	OFF → ON (IGNITION KEY IS IN "ON" POSITION)	12V → 0V
43	B	GROUND	-	-
49	R/B	POWER SOURCE (FUSE)	-	12V
64	B	GROUND	-	-

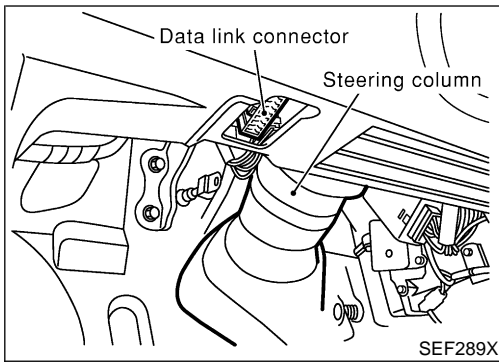
SEL978X

REAR WINDOW DEFOGGER

CONSULT-II Inspection Procedure

NHEL0218

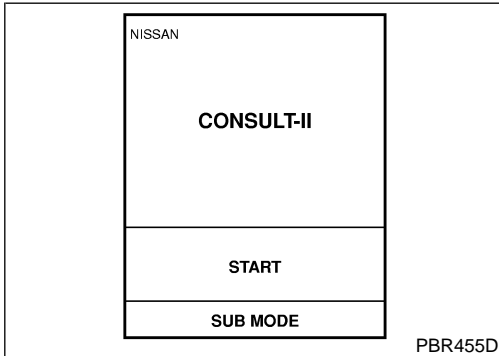
NHEL0218S01



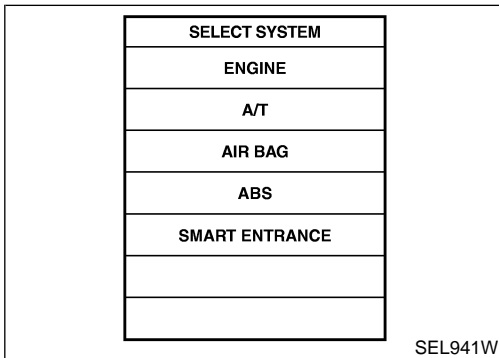
CONSULT-II Inspection Procedure

“REAR DEFOGGER”

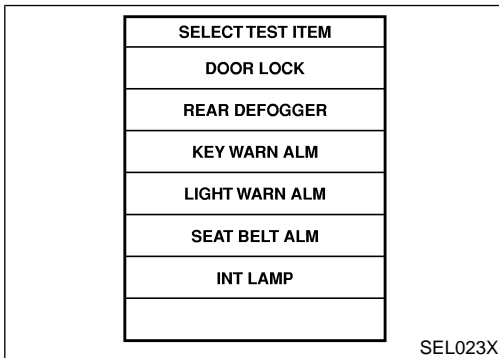
1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” to the data link connector.



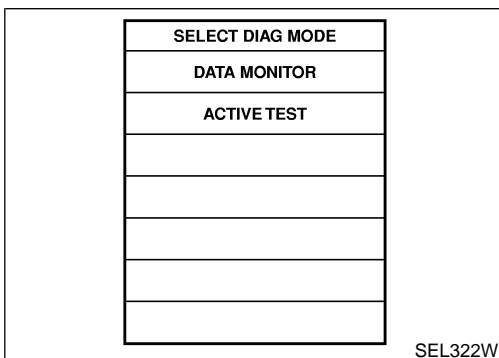
3. Turn ignition switch “ON”.
4. Touch “START”.



5. Touch “SMART ENTRANCE”.



6. Touch “REAR DEFOGGER”.



7. Select diagnosis mode.
“DATA MONITOR” and “ACTIVE TEST” are available.

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LC

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REAR WINDOW DEFOGGER

CONSULT-II Application Items

CONSULT-II Application Items

NHEL0219

“REAR DEFOGGER”

NHEL0219S01

Data Monitor

NHEL0219S0101

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
REAR DEF SW	Indicates [ON/OFF] condition of rear window defogger switch.

Active Test

NHEL0219S0102

Test Item	Description
REAR DEFOGGER	This test is able to check rear window defogger operation. Rear window defogger activates when “ON” on CONSULT-II screen is touched.

REAR WINDOW DEFOGGER



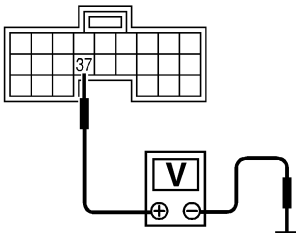

Trouble Diagnoses

Trouble Diagnoses DIAGNOSTIC PROCEDURE

SYMPTOM: Rear window defogger does not activate, or does not go off after activating.

NHEL0075

NHEL0075S01

1	CHECK REAR WINDOW DEFOGGER OUTPUT SIGNAL		
<p> With CONSULT-II Select "ACTIVE TEST" in "REAR DEFOGGER" with CONSULT-II.</p> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border: 1px solid black; padding: 5px; width: 150px;"> <p style="text-align: center; margin: 0;">ACTIVE TEST</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">REAR DEFOGGER</td> <td style="padding: 2px; text-align: right;">OFF</td> </tr> </table> <div style="background-color: black; color: white; text-align: center; padding: 2px; margin-top: 5px;">ON</div> </div> <div style="margin-left: 20px;"> <p>Rear window defogger and rear window defogger switch indicator should operate when the "ON" button on the CONSULT-II screen is touched.</p> </div> </div> <p style="text-align: right; margin-top: 10px;">SEL353W</p>		REAR DEFOGGER	OFF
REAR DEFOGGER	OFF		
<p> Without CONSULT-II</p> <ol style="list-style-type: none"> 1. Turn ignition switch to ON position. 2. Check voltage between smart entrance control unit harness connector M144 terminal 37 (G/R) and ground. <div style="display: flex; align-items: center; margin-top: 10px;"> <div style="flex: 1;"> <p style="font-size: small;">Smart entrance control unit connector</p>  </div> <div style="flex: 1; text-align: center;">  </div> <div style="flex: 2;"> <p>Voltage [V]:</p> <p>Rear window defogger switch is "OFF". Approx. 12</p> <p>Rear window defogger switch is "ON". 0</p> </div> </div> <p style="text-align: right; margin-top: 10px;">SEL997X</p> <p style="text-align: center; margin-top: 10px;">OK or NG</p>			
OK	<p>Check the following.</p> <ul style="list-style-type: none"> • Rear window defogger relay (Refer to EL-206.) • Rear window defogger circuit • Rear window defogger filament (Refer to EL-207.) 		
NG	GO TO 2.		

GI

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REAR WINDOW DEFOGGER

Trouble Diagnoses (Cont'd)

2	CHECK DEFOGGER RELAY COIL SIDE CIRCUIT	
	<p>1. Disconnect control unit connector. 2. Turn ignition switch to ON position. 3. Check voltage between smart entrance control unit harness connector M144 terminal 37 (G/R) and ground.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div> <p>Smart entrance control unit connector</p> </div> <div> </div> <div> <p>Battery voltage should exist.</p> </div> </div> <p style="text-align: right;">SEL998X</p> <p style="text-align: center;">OK or NG</p>	
OK	▶	GO TO 3.
NG	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse [No. 10, located in the fuse block (J/B)] ● Rear window defogger relay ● Harness for open or short between 10A fuse [No. 10, located in the fuse block (J/B)] and rear window defogger relay ● Harness for open or short between rear window defogger relay and smart entrance control unit

REAR WINDOW DEFOGGER

Trouble Diagnoses (Cont'd)

3 CHECK REAR WINDOW DEFOGGER SWITCH INPUT SIGNAL

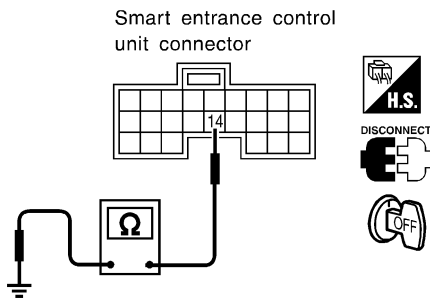
With CONSULT-II
Select "REAR DEF SW" in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
REAR DEF SW	ON

When rear window defogger switch is pushed:
REAR DEF SW should be ON.

SEL352W

Without CONSULT-II
Check continuity between smart entrance control unit harness connector M143 terminal 14 (G/W) and ground.



Continuity:
Rear window defogger switch is pushed.
Continuity should exist.
Rear window defogger switch is released.
Continuity should not exist.

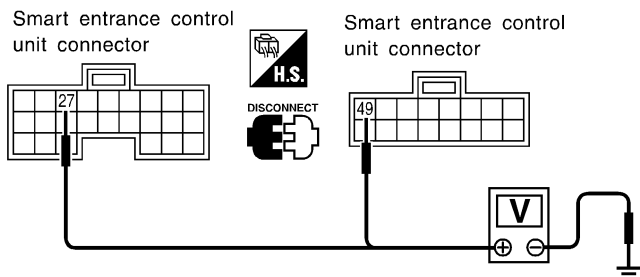
SEL999X

OK or NG

OK	▶	GO TO 4.
NG	▶	Check the following. <ul style="list-style-type: none"> • Rear window defogger switch (Refer to EL-206.) • Harness for open or short between smart entrance control unit and rear window defogger switch • Rear window defogger switch ground circuit

4 CHECK POWER SUPPLY AND IGNITION INPUT SIGNAL

Check voltage between smart entrance control unit terminals 27 (M144, G), 49 (M145, R/B) and ground.



Terminals		Ignition switch position		
(+)	(-)	OFF	ACC	ON
49	Ground	Battery voltage	Battery voltage	Battery voltage
27	Ground	0V	0V	Battery voltage

SEL001Y

OK or NG

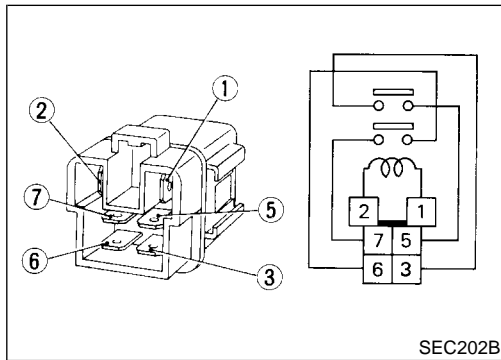
OK	▶	GO TO 5.
NG	▶	Check the following. <ul style="list-style-type: none"> • 10A fuse [No. 10 or No. 13, located in the fuse block (J/B)] • Harness for open or short between smart entrance control unit and fuse

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REAR WINDOW DEFOGGER

Trouble Diagnoses (Cont'd)

5	CHECK CONTROL UNIT GROUND CIRCUIT
<p>Check continuity between smart entrance control unit harness connector M144 terminal 43 (B), M145 terminal 64 (B) and ground.</p>	
Continuity should exist.	
<small>SEL002Y</small>	
Yes	▶ Replace smart entrance control unit.
No	▶ Repair harness or connectors.



Electrical Components Inspection

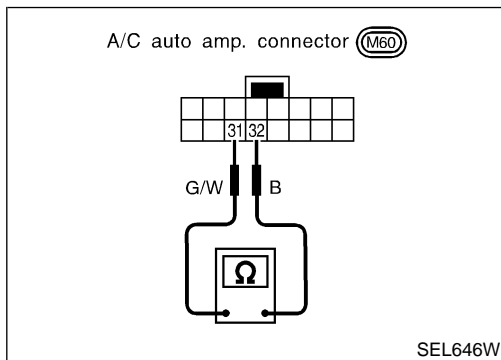
NHEL0076

REAR WINDOW DEFOGGER RELAY

NHEL0076S01

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



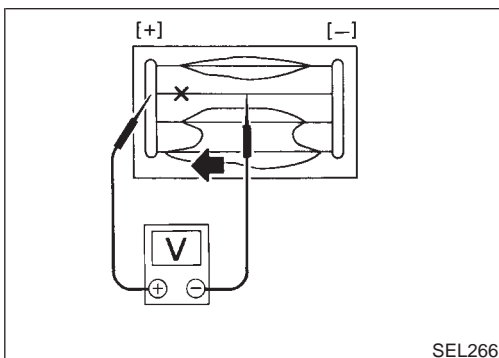
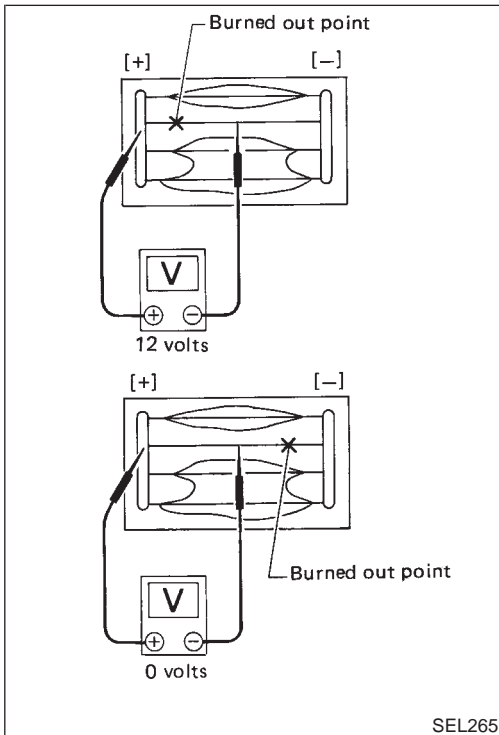
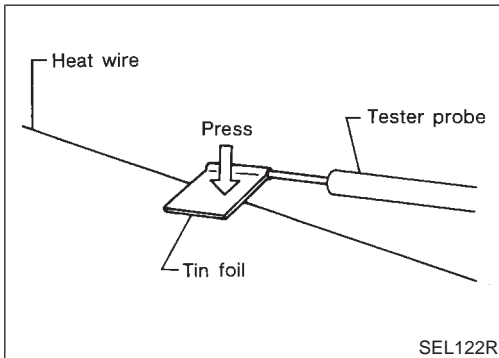
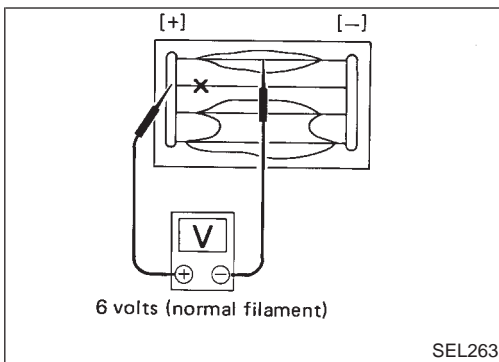
REAR WINDOW DEFOGGER SWITCH

NHEL0076S02

Check continuity between terminals when rear window defogger switch is pushed and released.

Terminals	Condition	Continuity
31 - 32	Rear window defogger switch is pushed.	Yes
	Rear window defogger switch is released.	No

=NHEL0077



Filament Check

1. Attach probe circuit tester (in volt range) to middle portion of each filament.

- When measuring voltage, wrap tin foil around the top of the negative probe. Then press the foil against the wire with your finger.

2. If a filament is burned out, circuit tester registers 0 or 12 volts.

3. To locate burned out point, move probe to left and right along filament. Test needle will swing abruptly when probe passes the point.

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REAR WINDOW DEFOGGER

Filament Repair

REPAIR EQUIPMENT

NHEL0078

NHEL0078S01

- 1) Conductive silver composition (Dupont No. 4817 or equivalent)
- 2) Ruler 30 cm (11.8 in) long
- 3) Drawing pen
- 4) Heat gun
- 5) Alcohol
- 6) Cloth

REPAIRING PROCEDURE

NHEL0078S02

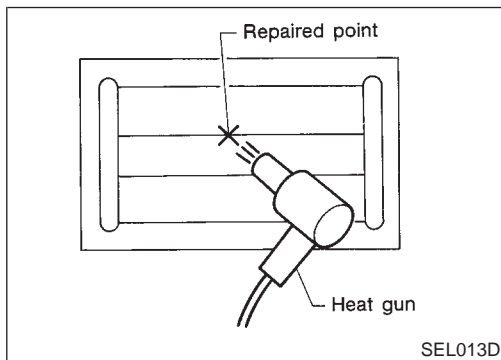
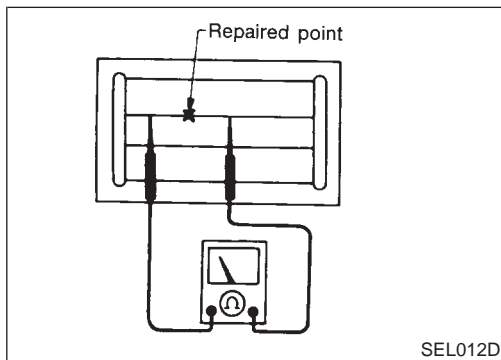
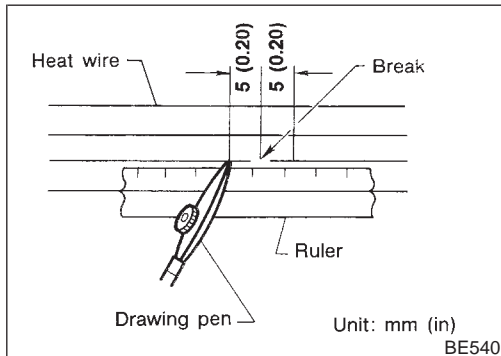
1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
2. Apply a small amount of conductive silver composition to tip of drawing pen.

Shake silver composition container before use.

3. Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.
4. After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited.

Do not touch repaired area while test is being conducted.

5. Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet. If a heat gun is not available, let the repaired area dry for 24 hours.



System Description

NHEL0079

Refer to Owner's Manual for audio system operating instructions.

Power is supplied at all times

- through 15A fuse [No. 56, located in the fuse block (J/B)]
- to speaker amp. terminal 27, and
- to audio unit terminal 6.
- through 15A fuse [No. 67, located in the fuse block (J/B)]
- to woofer terminal 48.

GI

MA

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 audio unit terminal 10.

EM

LC

Ground is supplied through the case of the audio unit.

Ground is supplied

- to speaker amp. terminal 40, and
- to woofer terminal 47
- through body grounds B106 and B127.

EC

FE

Audio signals are supplied

- through audio unit terminals 1, 2, 3, 4, 13, 14, 15 and 16
- to speaker amp. terminals 20, 21, 22, 23, 25, 33, 34, 35 and 36.

AT

Audio signals are amplified by the speaker amp.

The amplified audio signals are supplied

- through speaker amp. terminals 17, 18, 24, 28, 29, 30, 31, 37, 41 and 42
- to terminals 1 and 2 of the front door speaker LH and RH
- to terminals 1 and 2 of the tweeter LH and RH
- to terminals 1 and 2 of the rear speaker LH and RH
- to terminals 43 and 44 of the woofer.

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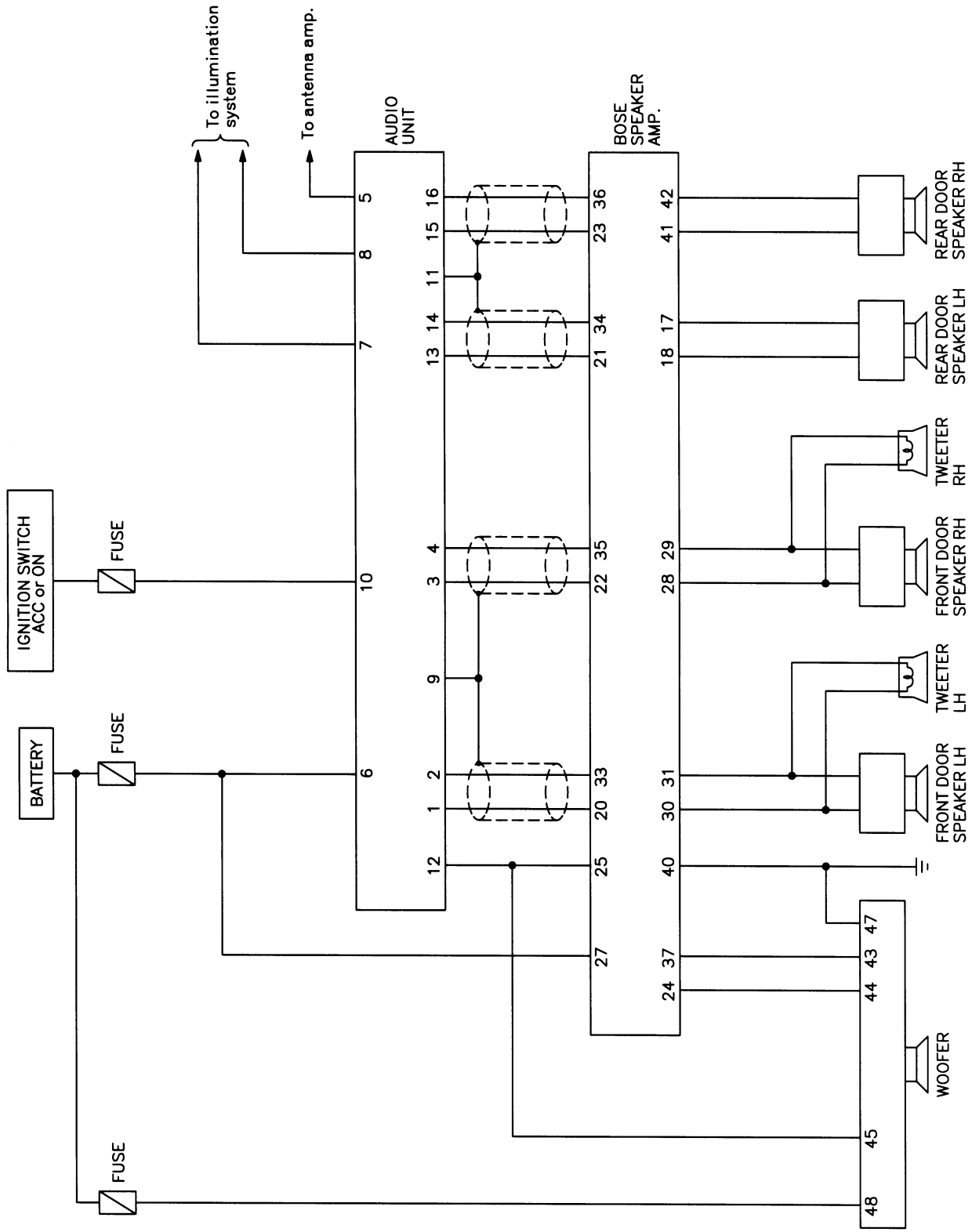
IDX

AUDIO

Schematic

Schematic

NHEL0167



MEL930N

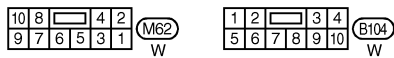
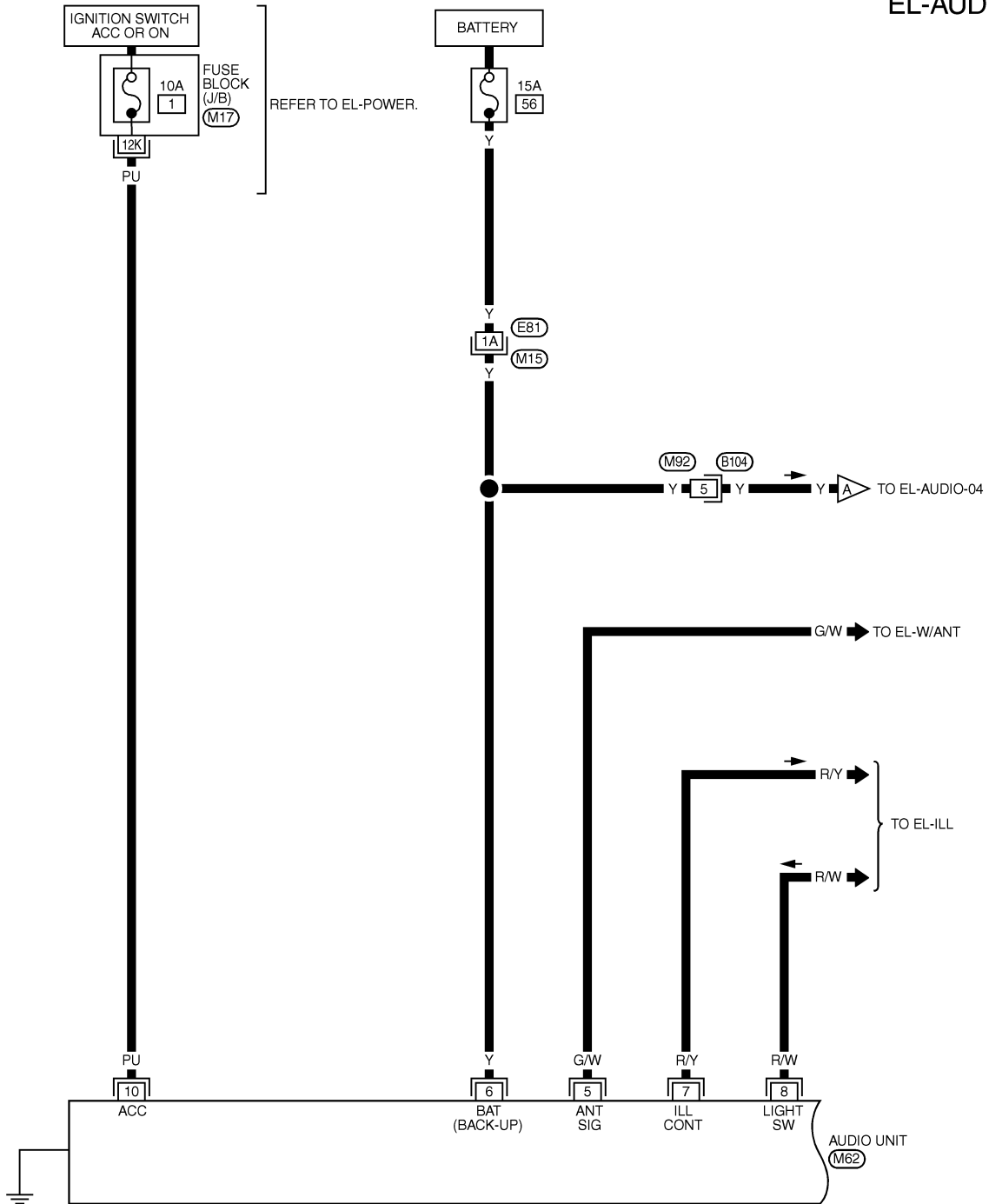
AUDIO

Wiring Diagram — AUDIO —

Wiring Diagram — AUDIO —

NHEL0081

EL-AUDIO-01



REFER TO THE FOLLOWING.
 (M15), (E81) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M17) -FUSE BLOCK-
 JUNCTION BOX (J/B)

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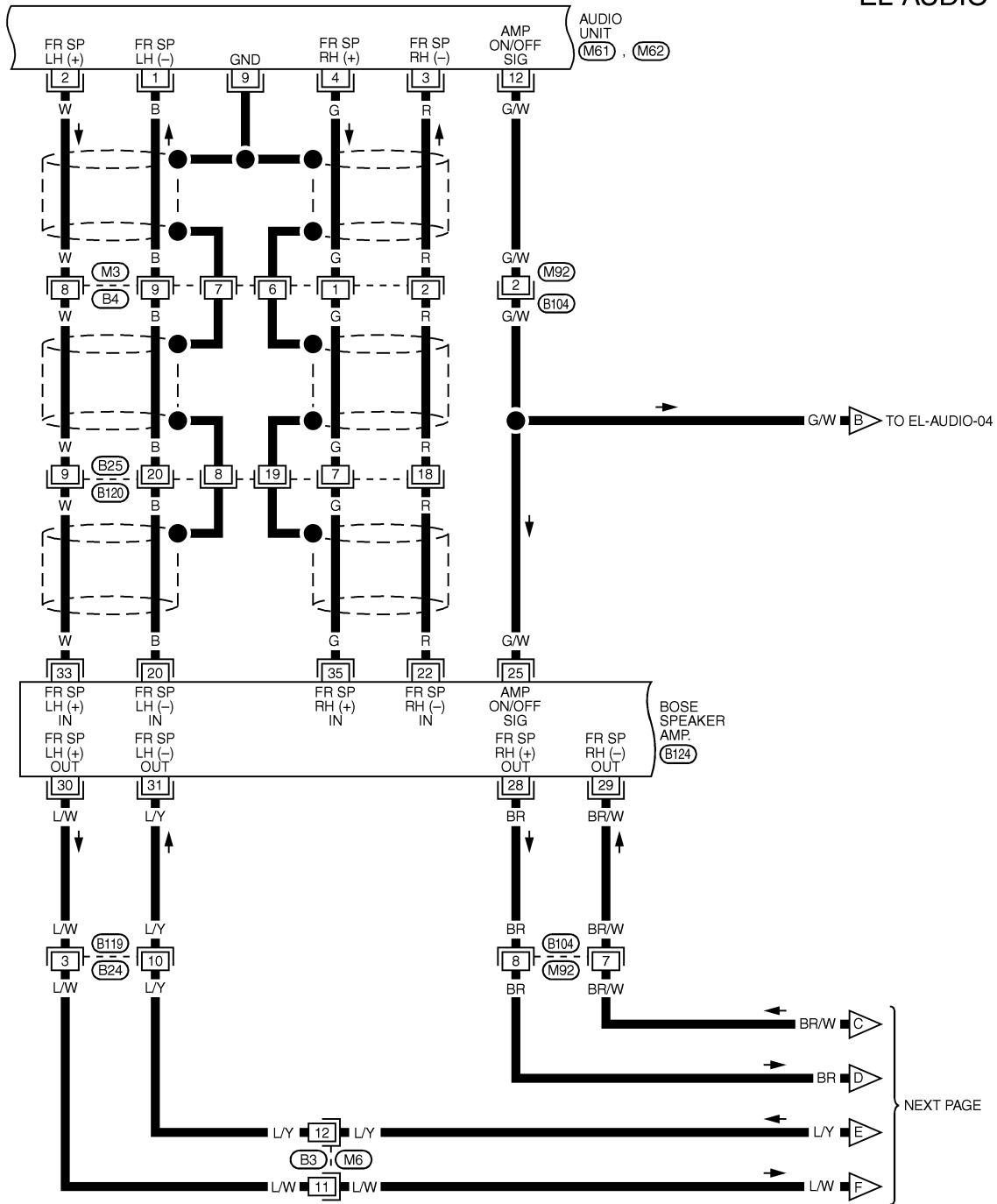
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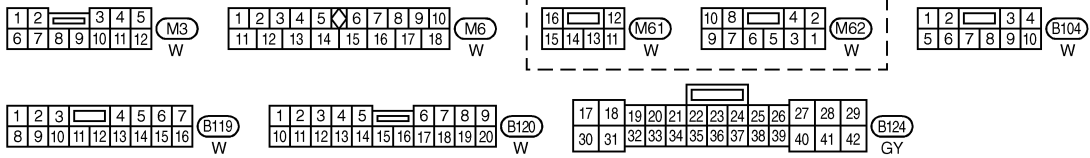
AUDIO

Wiring Diagram — AUDIO — (Cont'd)

EL-AUDIO-02



NEXT PAGE



MEL439M

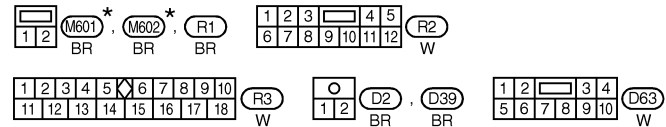
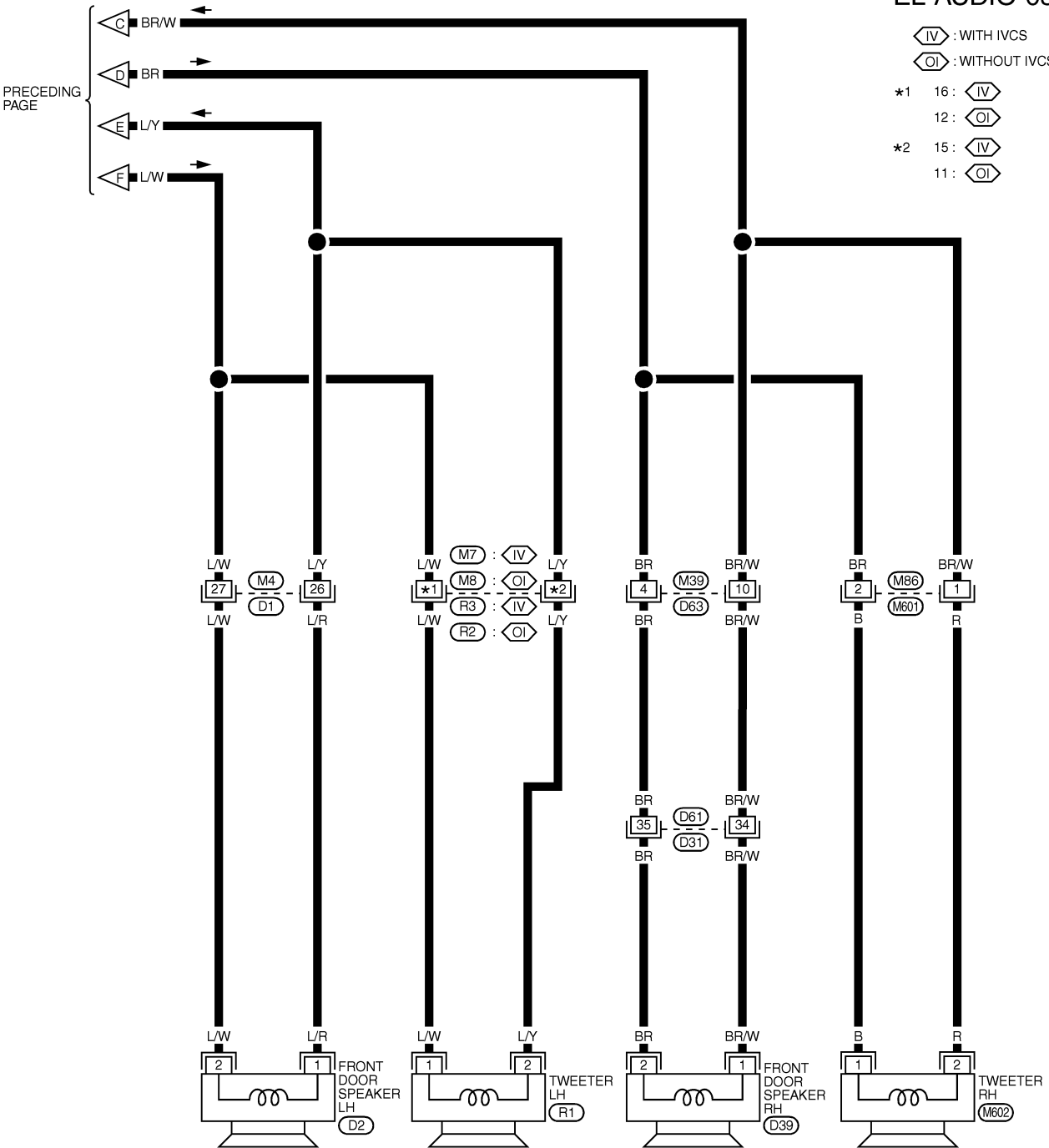
AUDIO

Wiring Diagram — AUDIO — (Cont'd)

EL-AUDIO-03

IV : WITH IVCS
 OI : WITHOUT IVCS

- *1 16 : IV
- 12 : OI
- *2 15 : IV
- 11 : OI



REFER TO THE FOLLOWING.
 (D1), (D31) - SUPER
 MULTIPLE JUNCTION (SMJ)

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

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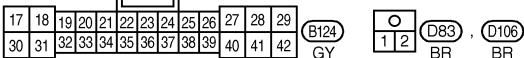
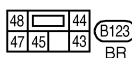
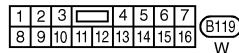
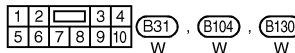
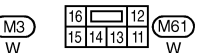
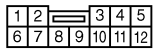
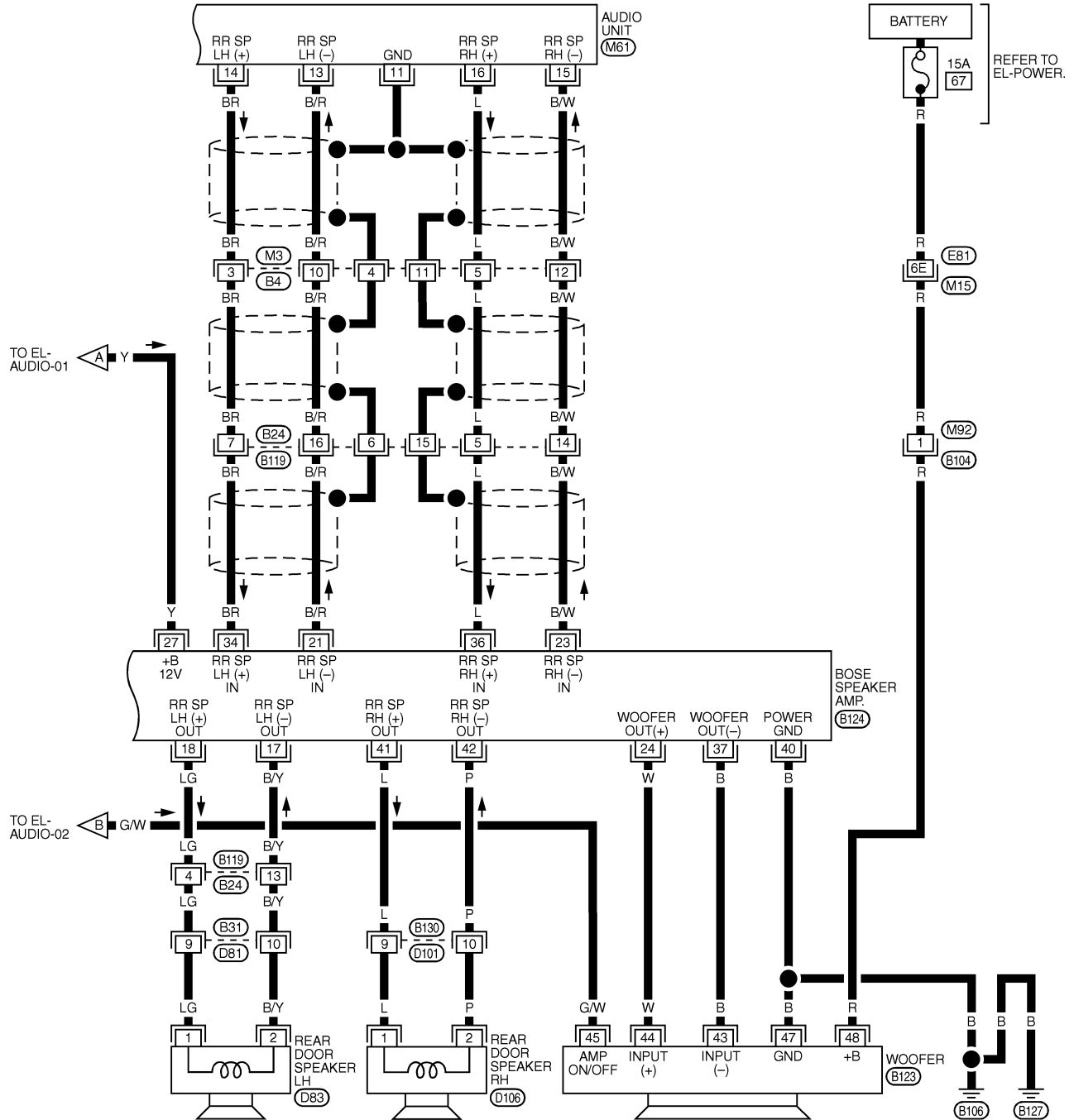
EL

IDX

AUDIO

Wiring Diagram — AUDIO — (Cont'd)

EL-AUDIO-04



REFER TO THE FOLLOWING.
(M15) -SUPER
MULTIPLE JUNCTION (SMJ)

MEL931N

Trouble Diagnoses

NHLE0220

NHLE0220S01

AUDIO UNIT

Symptom	Possible causes	Repair order
Audio unit inoperative (no digital display and no sound from speakers).	<ol style="list-style-type: none"> 1. 10A fuse 2. Poor audio unit case ground 3. Audio unit 	<ol style="list-style-type: none"> 1. Check 10A fuse [No. 1, located in fuse block (J/B)]. Turn ignition switch ON and verify that battery positive voltage is present at terminal 10 of audio unit. 2. Check audio unit case ground. 3. Remove audio unit for repair.
Audio unit presets are lost when ignition switch is turned OFF.	<ol style="list-style-type: none"> 1. 15A fuse 2. Audio unit 	<ol style="list-style-type: none"> 1. Check 15A fuse [No. 56, located in fuse block (J/B)] and verify that battery positive voltage is present at terminal 6 of audio unit. 2. Remove audio unit for repair.
Audio unit controls are operational, but no sound is heard from any speaker.	<ol style="list-style-type: none"> 1. 15A fuse 2. Amp. ON/OFF signal circuit 3. Speaker amp. ground 	<ol style="list-style-type: none"> 1. Check 15A fuse [No. 56, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 27 of speaker amp. 2. Check harness continuity between audio unit terminal 12 and speaker amp. terminal 25. 3. Check harness continuity between speaker amp. terminal 40 and ground.
Individual speaker is noisy or inoperative.	<ol style="list-style-type: none"> 1. Each speaker 2. Output circuit to each speaker 	<ol style="list-style-type: none"> 1. Check speaker. 2. Check the output circuits to each speaker <ul style="list-style-type: none"> ● between audio unit and speaker amp. ● between speaker amp. and each speaker.
Woofer does not operate.	<ol style="list-style-type: none"> 1. Power supply to woofer 2. Amp. ON/OFF signal circuit 3. Speaker amp. ground 4. Output circuit to woofer 	<ol style="list-style-type: none"> 1. Check 15A fuse [No. 67, located in fuse block (J/B)]. Verify battery positive voltage is present at terminal 48 of woofer. 2. Check harness continuity between audio unit terminal 12 and woofer terminal 45. 3. Check harness continuity between woofer terminal 47 and ground. 4. Check the output circuits to woofer from speaker amp.
AM/FM stations are weak or noisy.	<ol style="list-style-type: none"> 1. Window antenna 2. Audio unit ground 3. Audio unit 	<ol style="list-style-type: none"> 1. Check window antenna. 2. Check audio unit ground condition. 3. Remove audio unit for repair.
Audio unit generates noise in AM and FM modes with engine running.	<ol style="list-style-type: none"> 1. Poor audio unit ground 2. Loose or missing ground bonding straps 3. Ignition condenser or rear window defogger noise suppressor condenser 4. Ignition coil or secondary wiring 5. Audio unit 	<ol style="list-style-type: none"> 1. Check audio unit ground. 2. Check ground bonding straps. 3. Replace ignition condenser or rear window defogger noise suppressor condenser. 4. Check ignition coil and secondary wiring. 5. Remove audio unit for repair.
Audio unit generates noise in AM and FM modes with accessories on (switch pops and motor noise).	<ol style="list-style-type: none"> 1. Poor audio unit ground 2. Antenna 3. Accessory ground 4. Faulty accessory 	<ol style="list-style-type: none"> 1. Check audio unit ground. 2. Check antenna. 3. Check accessory ground. 4. Replace accessory.

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AUDIO

Inspection

Inspection

=NHLE0221

AUDIO UNIT AND AMP.

NHLE0221S01

All voltage inspections are made with:

- Ignition switch ON or ACC
- Audio unit ON
- Audio unit and amps. connected (If audio unit or amp. is removed for inspection, supply a ground to the case using a jumper wire.)

ANTENNA

NHLE0221S02

Using a jumper wire, clip an auxiliary ground between antenna and body.

- If reception improves, check antenna ground (at body surface).
- If reception does not improve, check main feeder cable for short circuit or open circuit.

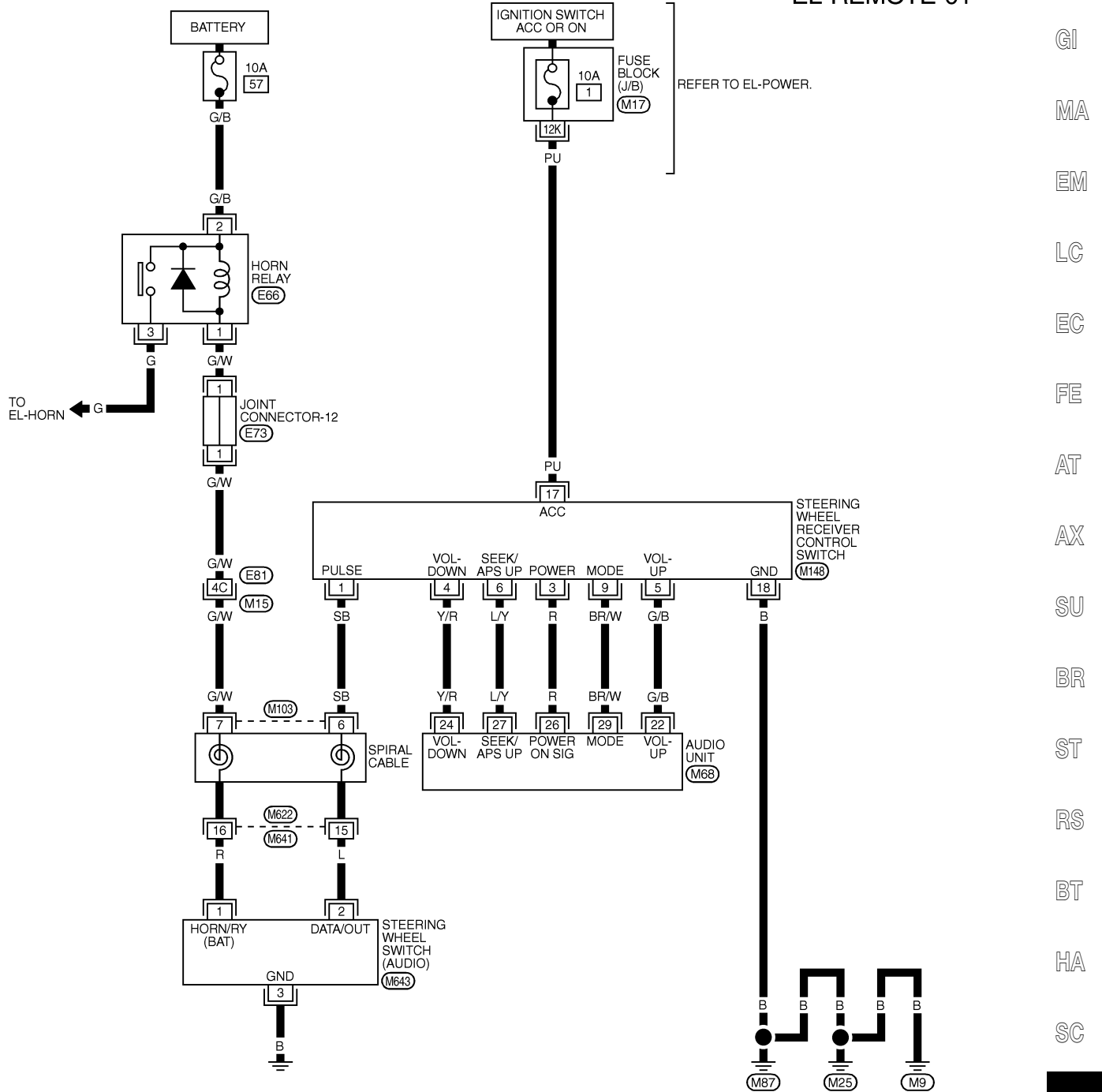
AUDIO

Wiring Diagram — REMOTE —

Wiring Diagram — REMOTE —

NHEL0306

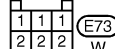
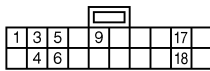
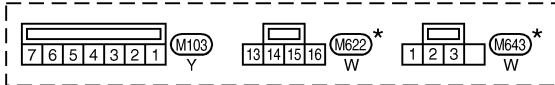
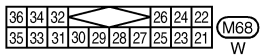
EL-REMOTE-01



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REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M17) -FUSE BLOCK-
 JUNCTION BOX (J/B)

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

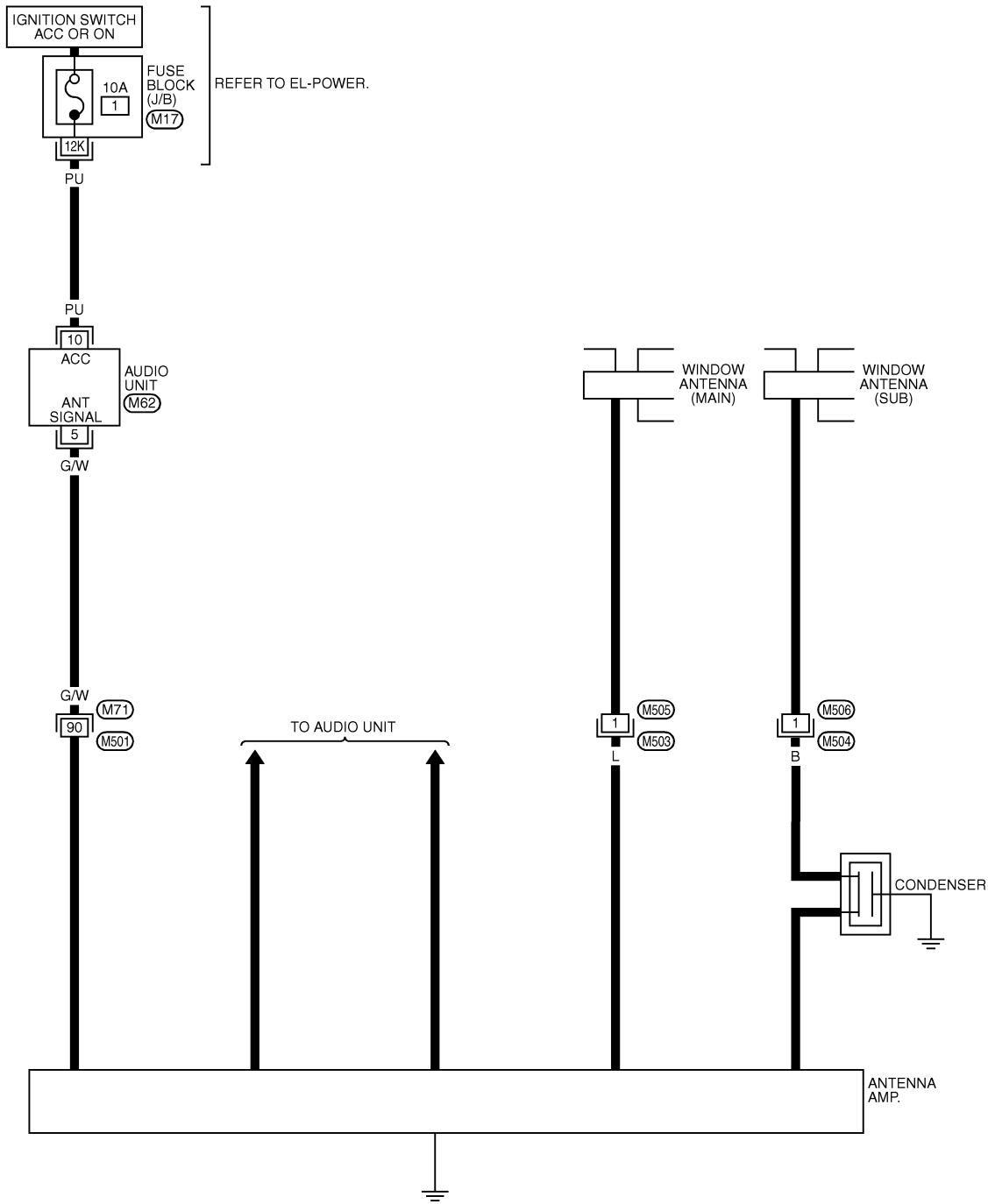
AUDIO ANTENNA

Wiring Diagram — W/ANT —

Wiring Diagram — W/ANT —

NHEL0085

EL-W/ANT-01



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

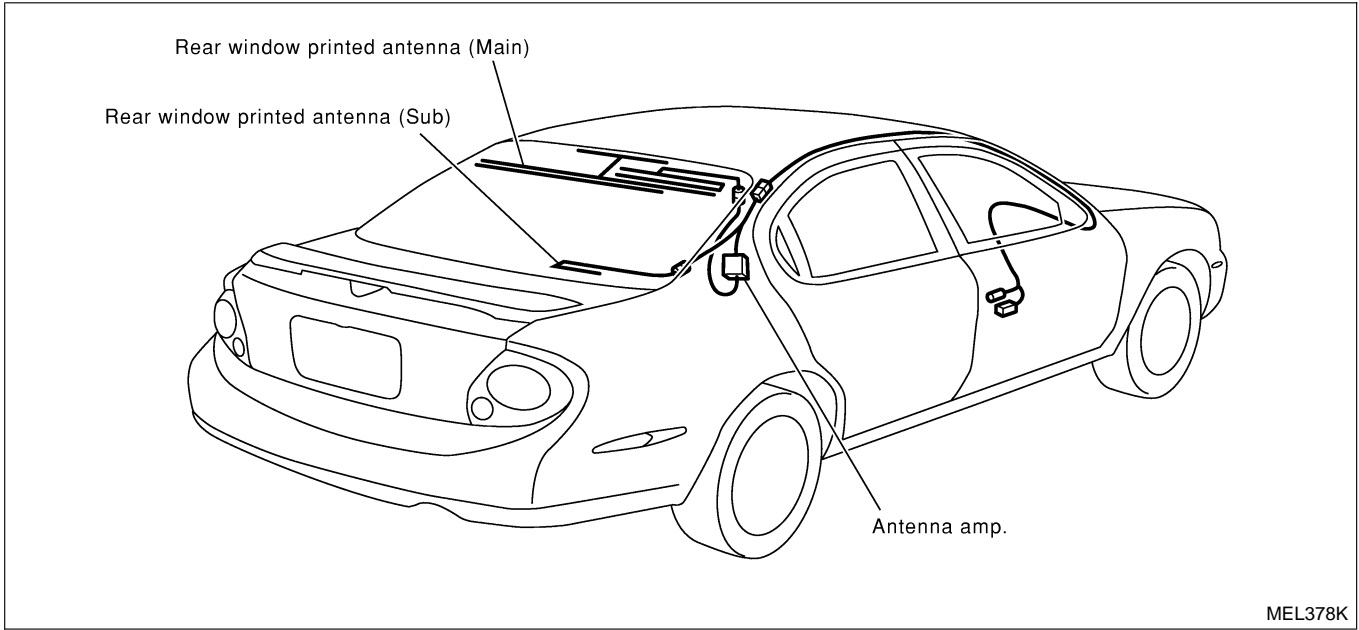
REFER TO THE FOLLOWING.

(M17) -FUSE BLOCK-
JUNCTION BOX (J/B)

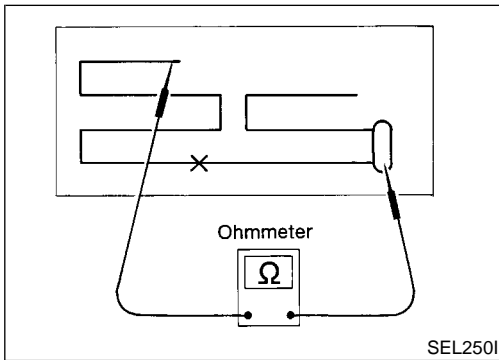
MEL624L

Location of Antenna

NHEL0087



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Window Antenna Repair

NHEL0250

ELEMENT CHECK

NHEL0250S01

1. Attach probe circuit tester (in ohm range) to antenna terminal on each side.
If an element is OK, continuity should exist.
If an element is broken, no continuity should exist. Go to step 2.

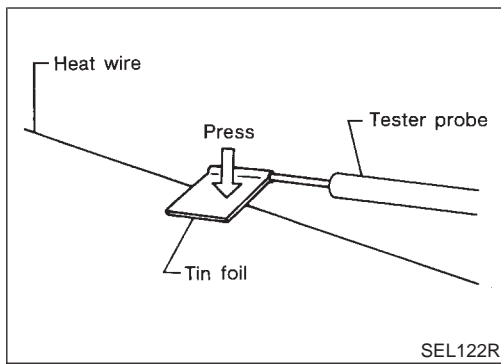
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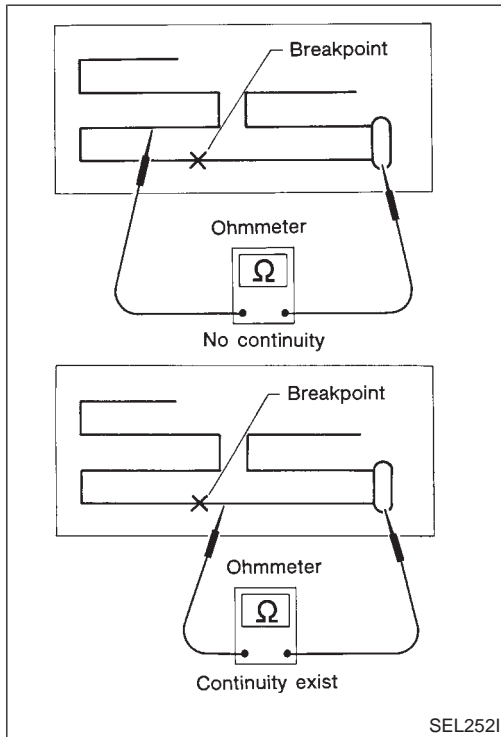
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AUDIO ANTENNA

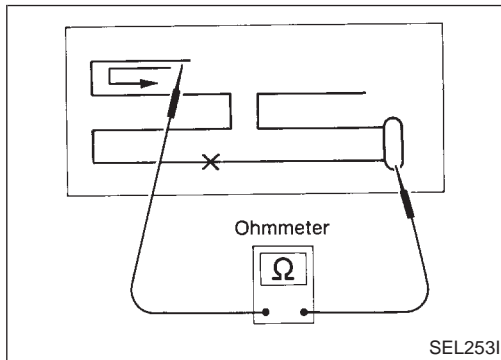
Window Antenna Repair (Cont'd)



- When measuring continuity, wrap tin foil around the top of probe. Then press the foil against the wire with your finger.



2. To locate broken point, move probe along element. Tester needle will swing abruptly when probe passes the point.



ELEMENT REPAIR

Refer to "Filament Repair", "REAR WINDOW DEFOGGER"^{NHELO250S02} (EL-207).

System Description

OUTLINE

Electric sunroof system consists of

- Sunroof switch
- Sunroof motor
- Smart entrance control unit

Smart entrance control unit controls retained power operation.

OPERATION

The sunroof can be opened or closed and tilted up or down with the sunroof switch.

AUTO OPERATION

The power sunroof AUTO feature makes it possible to open and close the sunroof without holding the sunroof switch in the down or up position.

RETAINED POWER OPERATION

When the ignition switch is turned to OFF position from ON or START position, power is supplied for 45 seconds

- to sunroof motor terminal 6
- from smart entrance control unit terminal 46.

When power is supplied, the electrical sunroof can be operated.

The retained power operation is canceled when the driver or passenger side door is opened.

INTERRUPTION DETECTION FUNCTION

The CPU of sunroof motor monitors the sunroof motor operation and the sunroof position (full closed or other) for sunroof by the signals from encoder and limit switch in sunroof motor.

When sunroof motor detects interruption during the following close operation,

- automatic close operation when ignition switch is in the “ON” position
- automatic close operation during retained power operation

sunroof switch controls the motor for open and the sunroof will operate about 150 mm (5.91 in).

NHEL0222

NHEL0222S01

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NHEL0222S05

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NHEL0222S02

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NHEL0222S04

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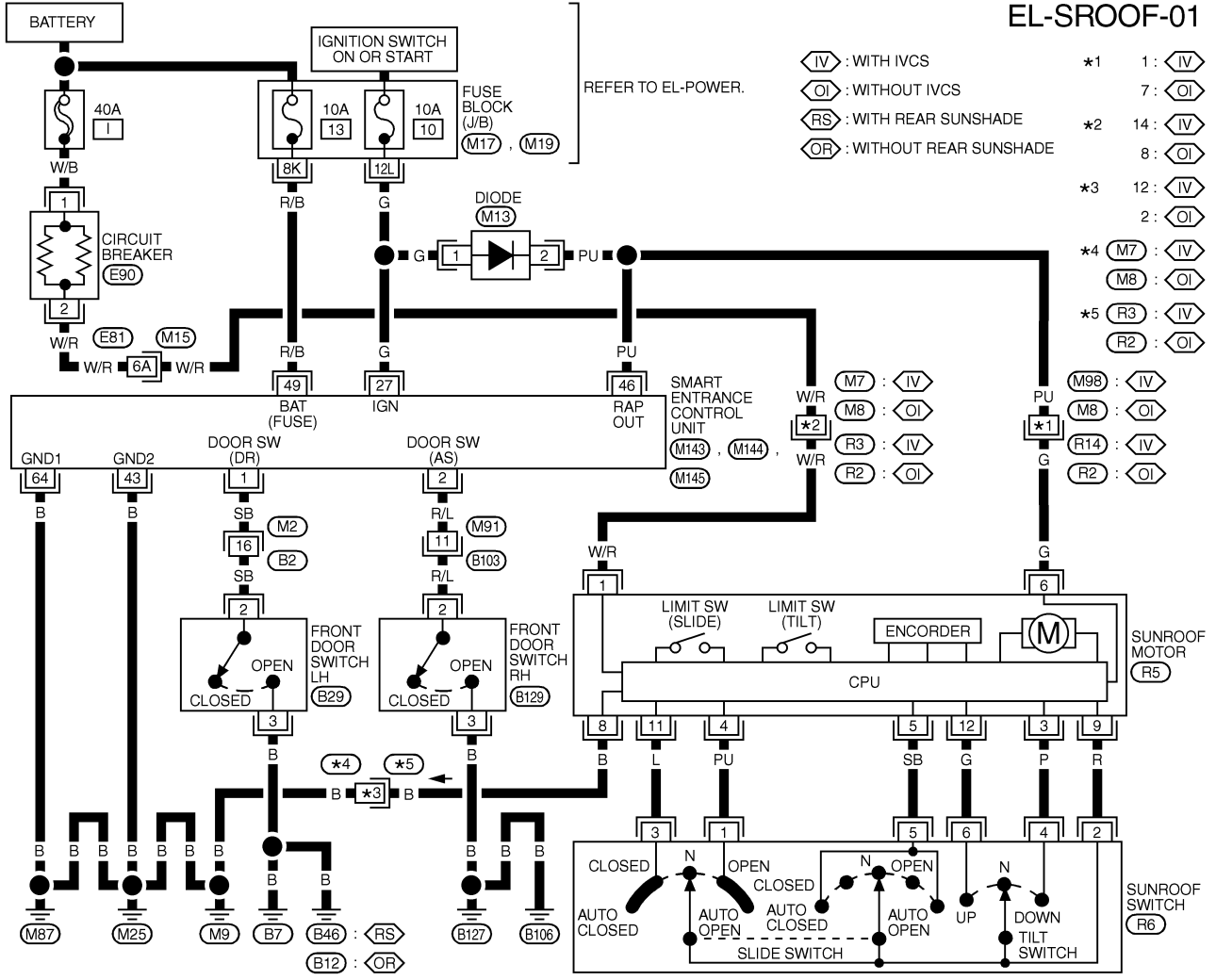
IDX

POWER SUNROOF

Wiring Diagram — SROOF —

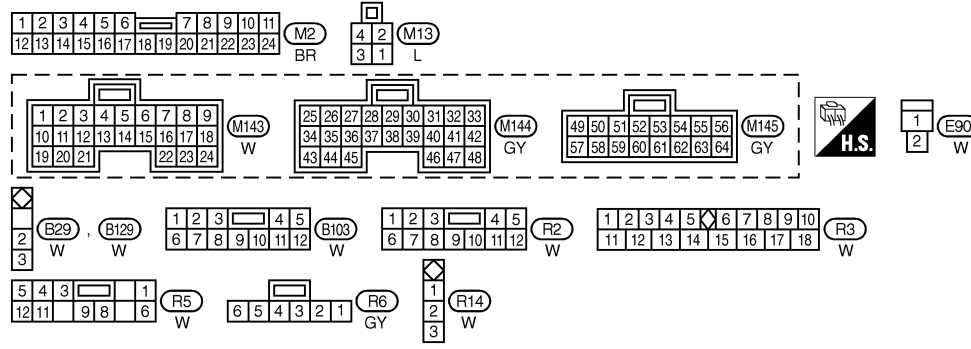
Wiring Diagram — SROOF —

NHEL0089



EL-SROOF-01

- IV : WITH IVCS
 - OI : WITHOUT IVCS
 - RS : WITH REAR SUNSHADE
 - OR : WITHOUT REAR SUNSHADE
- *1 1: IV
 - 7: OI
 - *2 14: IV
 - 8: OI
 - *3 12: IV
 - 2: OI
 - *4 M7: IV
 - M8: OI
 - *5 R3: IV
 - R2: OI
 - M98: IV
 - M8: OI
 - R14: IV
 - R2: OI



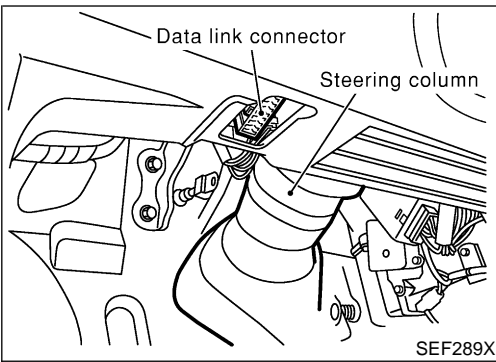
REFER TO THE FOLLOWING.
 (M15) - SUPER MULTIPLE JUNCTION (SMJ)
 (M17), (M19) - FUSE BLOCK - JUNCTION BOX (J/B)

MEL448M

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

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
1	SB	DRIVER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)	5V → 0V
2	R/L	PASSENGER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)	5V → 0V
27	G	IGNITION SWITCH (ON)	IGNITION KEY IS IN "ON" POSITION	12V
43	B	GROUND	-	-
46	PU	SUNROOF MOTOR	RETAINED POWER OPERATION IS OPERATED (ON → OFF)	12V → 0V
49	R/B	POWER SOURCE (FUSE)	-	12V
64	B	GROUND	-	-

SEL986X



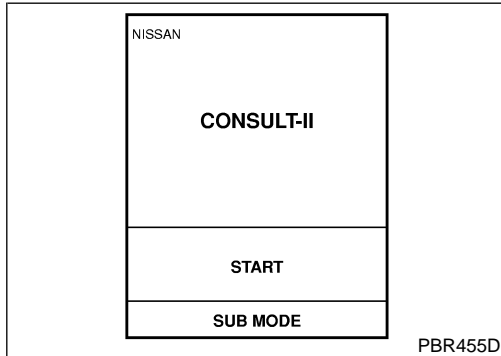
CONSULT-II Inspection Procedure

=NHLE0223

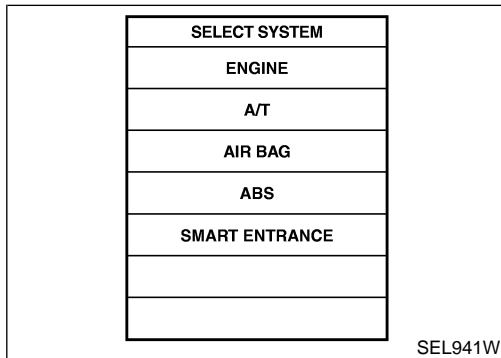
NHLE0223S01

“RETAINED PWR”

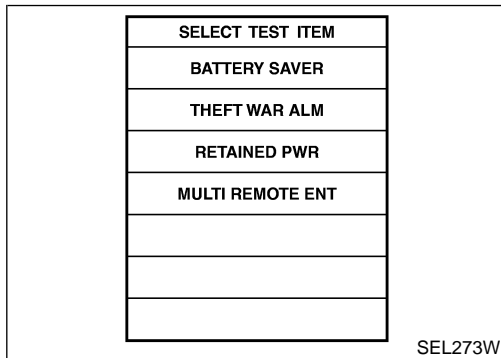
1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” to the data link connector.



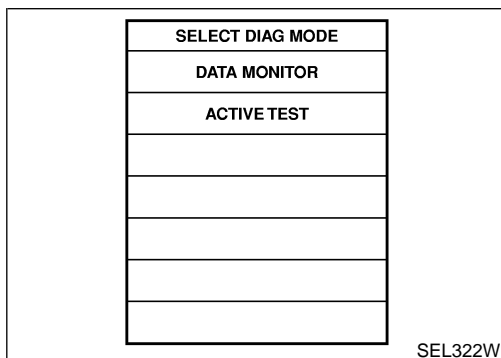
3. Turn ignition switch “ON”.
4. Touch “START”.



5. Touch “SMART ENTRANCE”.



6. Touch “RETAINED PWR”.



7. Select diagnosis mode.
“DATA MONITOR” and “ACTIVE TEST” are available.

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POWER SUNROOF

CONSULT-II Application Items

CONSULT-II Application Items

NHEL0224

NHEL0224S01

NHEL0224S0101

“RETAINED PWR”

Data Monitor

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.

Active Test

NHEL0224S0102

Test Item	Description
RETAINED PWR	<p>This test is able to supply RAP signal (power) from smart entrance control unit to power window system, power sunroof system. Those systems can be operated when turning on “RETAINED PWR” on CONSULT-II screen even if the ignition switch is tuned OFF.</p> <p>NOTE: During this test, CONSULT-II can be operated with ignition switch “OFF” position. “RETAINED PWR” should be turned “ON” or “OFF” on CONSULT-II screen when ignition switch is ON. Then turn ignition switch OFF for checking retained power operation. CONSULT-II might be stuck if “RETAINED PWR” is turned “ON” or “OFF” on CONSULT-II screen when ignition switch is OFF.</p>

Trouble Diagnoses

NHEL0225

Symptom	Possible cause	Repair order
Power sunroof cannot be operated using any switch.	<ol style="list-style-type: none"> 10A fuse, 40A fusible link and E90 circuit breaker Grounds M9, M25 and M87 Sunroof switch Sunroof switch circuit Sunroof motor 	<ol style="list-style-type: none"> Check 10A fuse [No. 10, located in fuse block (J/B)], 40A fusible link (letter i, located in fuse and fusible link box) and E90 circuit breaker. Turn ignition switch “ON” and verify battery positive voltage is present at terminals 1 and 6 of sunroof motor. Check grounds M9, M25, M87. Check sunroof switch. Check harness between sunroof switch and sunroof motor. Replace sunroof motor.
Power sunroof cannot be operated using one of the sunroof switches.	<ol style="list-style-type: none"> Sunroof switch Sunroof switch circuit 	<ol style="list-style-type: none"> Check sunroof switch. Check the harness between sunroof motor and sunroof switch.
Power sunroof auto function cannot be operated properly.	<ol style="list-style-type: none"> Sunroof slide mechanism Sunroof switch Sunroof switch circuit Sunroof motor 	<ol style="list-style-type: none"> Check the following. <ol style="list-style-type: none"> Check obstacles in sunroof, etc. Check worn or deformed sunroof. Check sunroof sash tilted too far inward or outward. Check sunroof switch. Check harness between sunroof motor and sunroof switch. Replace sunroof motor.

POWER SUNROOF

Trouble Diagnoses (Cont'd)

Symptom	Possible cause	Repair order
Retained power operation does not operate properly.	<ol style="list-style-type: none"> 1. RAP signal circuit 2. Driver or passenger side door switch circuit 3. Smart entrance control unit 	<ol style="list-style-type: none"> 1. Check RAP signal. <ol style="list-style-type: none"> a. (With CONSULT-II) <p>Check RAP signal with CONSULT-II. Use "ACTIVE TEST" mode, "RETAINED PWR" in "SMART ENTRANCE". (Refer to EL-223.)</p> <p>If NG, go to the step b. below.</p> b. Verify 12 positive voltage from smart entrance control unit is present at terminal 6 of sunroof motor: <ul style="list-style-type: none"> ● Within 45 seconds after ignition switch turns off. ● When front door LH and RH is closed. 2. Check harness between smart entrance control unit and driver or passenger side door switch. <p>Check driver or passenger.</p> <p>Check driver or passenger side door switch.</p> 3. Check smart entrance control unit. (EL-406)
		GI
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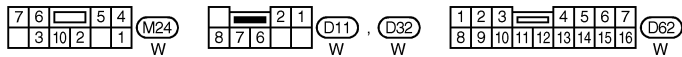
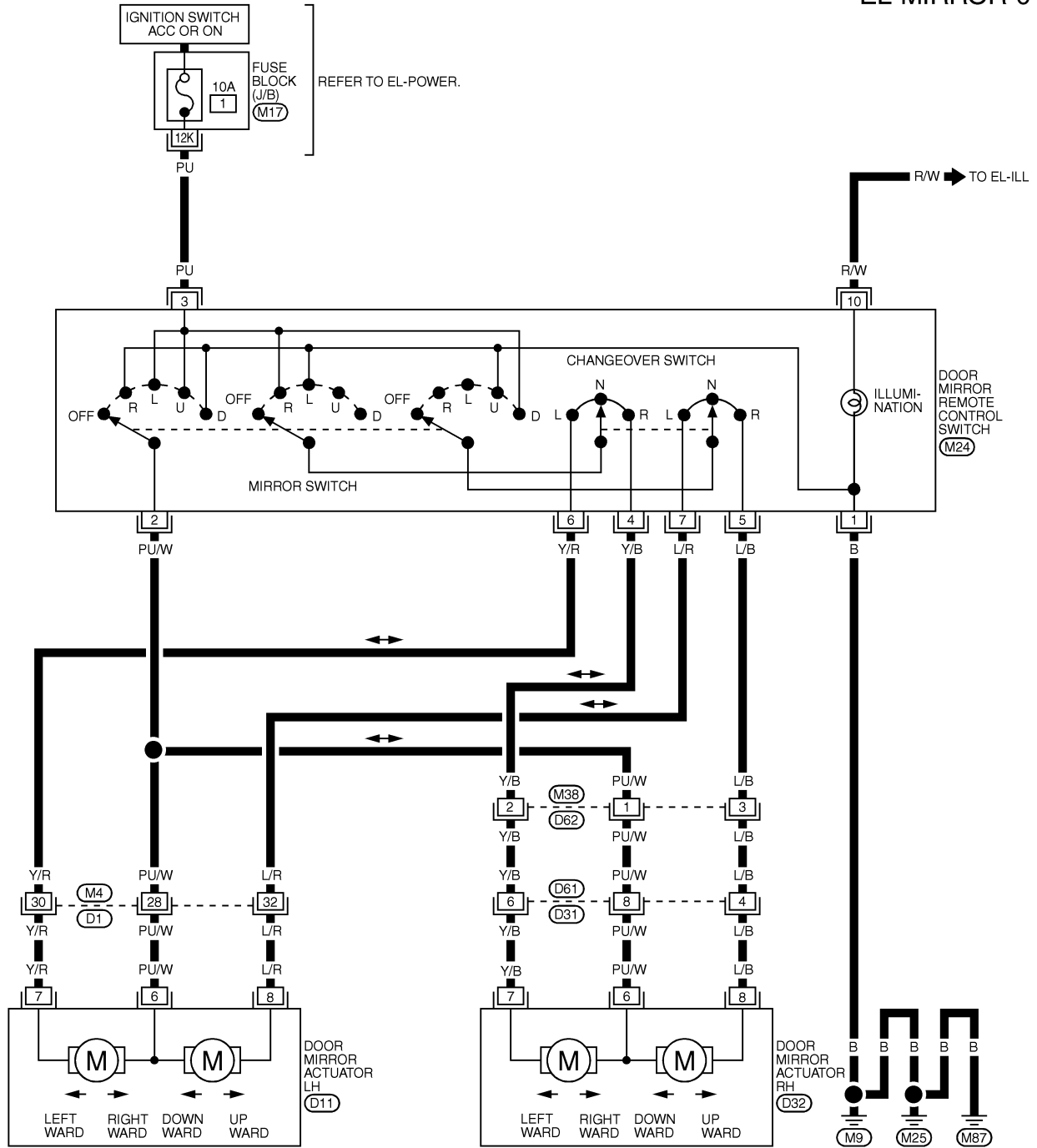
DOOR MIRROR

Wiring Diagram — MIRROR —

Wiring Diagram — MIRROR —

NHEL0090

EL-MIRROR-01



REFER TO THE FOLLOWING.

(M4) , (D1) -SUPER
MULTIPLE JUNCTION (SMJ)

(D31) , (D61) -SUPER
MULTIPLE JUNCTION (SMJ)

(M17) -FUSE BLOCK-
JUNCTION BOX (J/B)

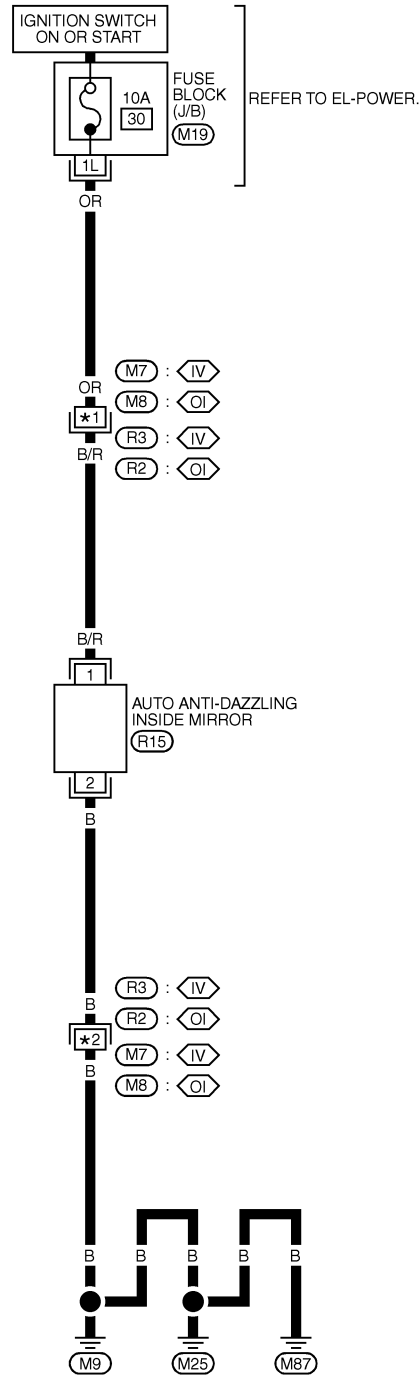
MEL291K

AUTO ANTI-DAZZLING INSIDE MIRROR

Wiring Diagram — I/MIRR —

Wiring Diagram — I/MIRR —

NHEL0271



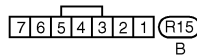
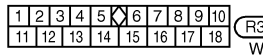
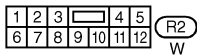
EL-I/MIRR-01

IV : WITH IVCS

OI : WITHOUT IVCS

- *1 18 : IV
- 5 : OI
- *2 12 : IV
- 2 : OI

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REFER TO THE FOLLOWING.

(M19) - FUSE BLOCK - JUNCTION BOX (J/B)

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MEL449M

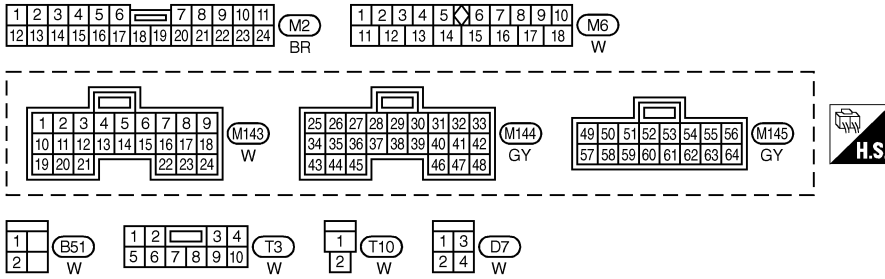
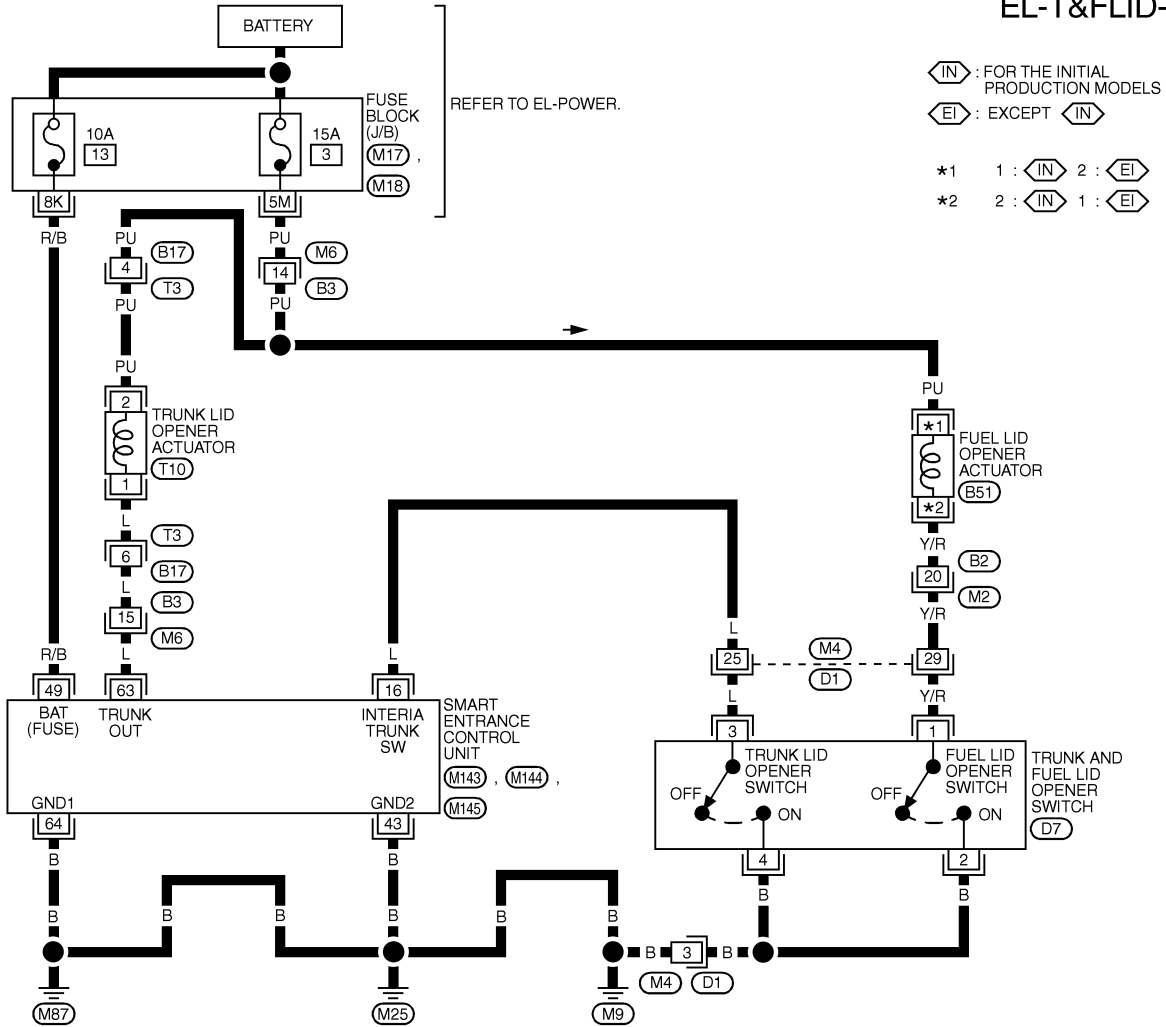
TRUNK LID AND FUEL FILLER LID OPENER

Wiring Diagram — T&FLID —

Wiring Diagram — T&FLID —

NHEL0168

EL-T&FLID-01



MEL932N

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

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
16	L	TRUNK AND FUEL LID OPENER SWITCH	OFF → ON (when only pulled)	12V → 0V
43	B	GROUND	-	-
49	R/B	POWER SOURCE (FUSE)	-	12V
63	L	TRUNK LID OPENER ACTUATOR	WHEN TRUNK LID OPENER ACTUATOR IS OPERATED USING REMOTE CONTROLLER (ON → OFF)	0V → 12V
64	B	GROUND	-	-

SEL987X

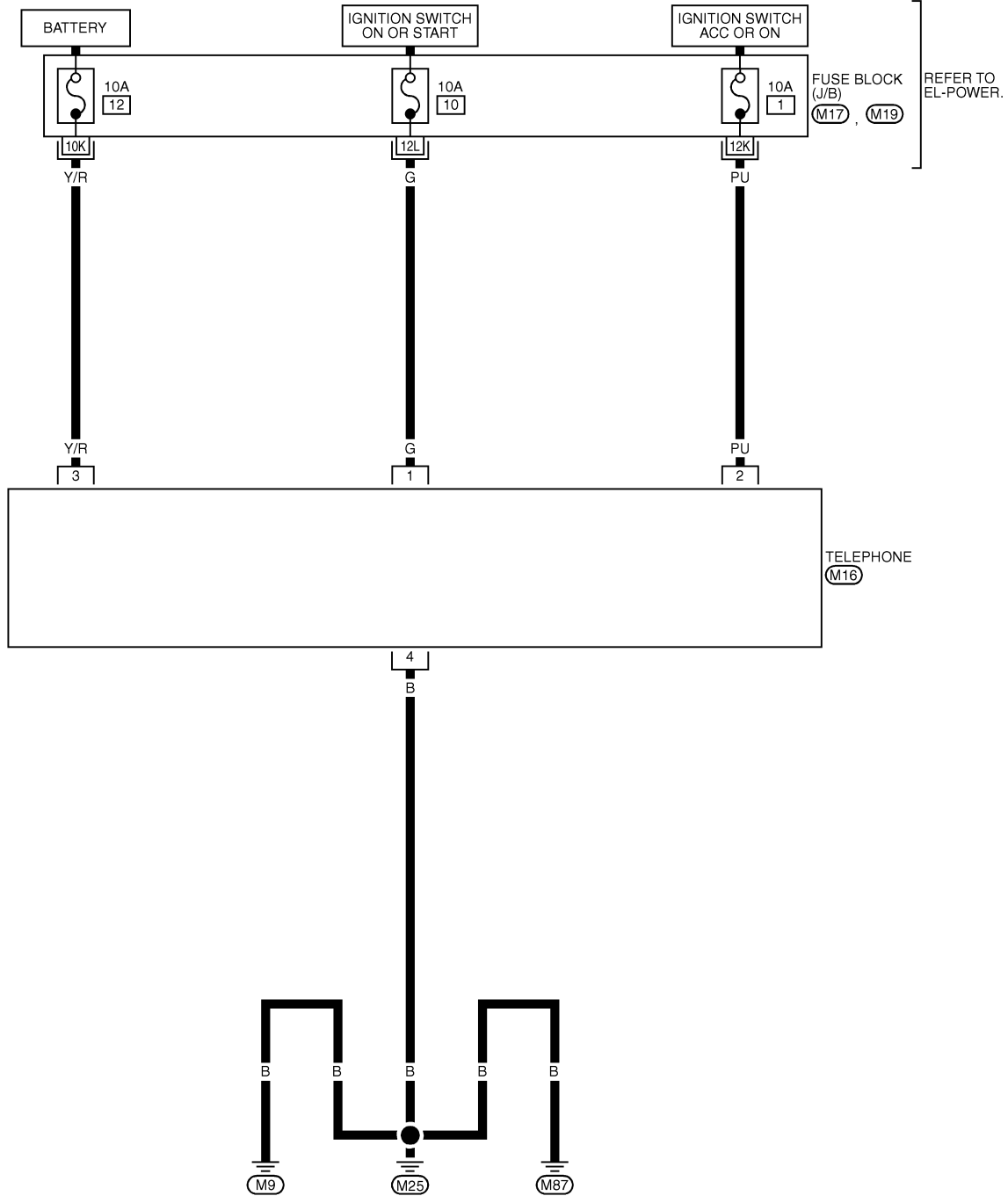
TELEPHONE (PRE WIRE)

Wiring Diagram — PHONE —

Wiring Diagram — PHONE —

NHEL0170

EL-PHONE-01



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REFER TO THE FOLLOWING.
 (M17) - FUSE BLOCK-JUNCTION BOX (J/B)
 (M19) - FUSE BLOCK-JUNCTION BOX (J/B)

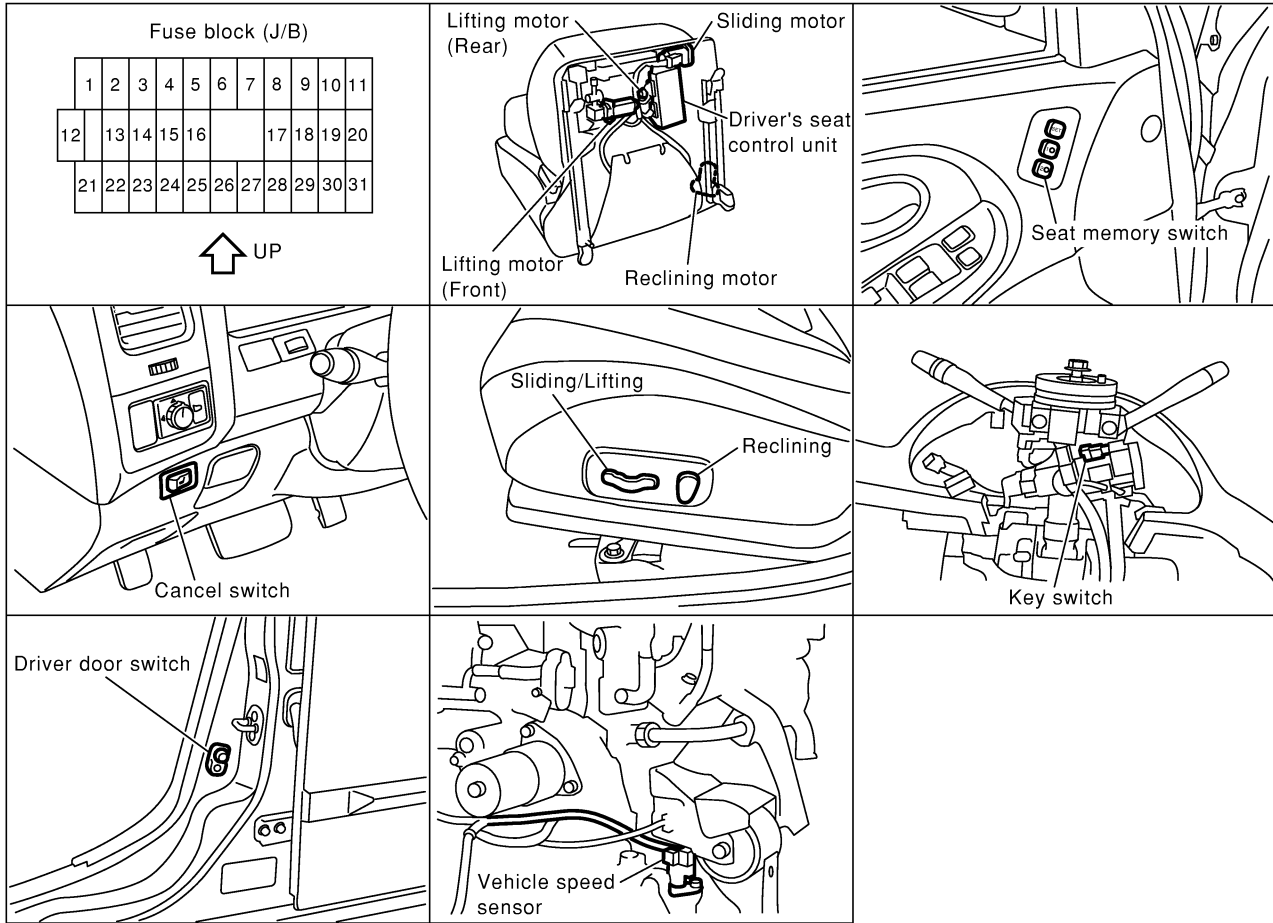
MEL295K

AUTOMATIC DRIVE POSITIONER

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NHEL0272



SEL591W

System Description

OPERATIVE CONDITION

The drive position can be set in 2 ways, manually and automatically.

=NH0273

NH0273S01

Manual Operation

The driver's seat can be adjusted for sliding, reclining, front cushion height and rear cushion height with the LH power seat switches. The manual operation can be adjusted with the IGN key in any position.

NH0273S0101

Automatic Operation

The driver's seat is adjusted to the proper positions for the driver automatically, in 3 different ways: MEMORY AUTOMATIC SET, AUTOMATIC EXITING SETTING and AUTOMATIC SET RETURN. (Automatic Drive Positioner = ADP)

NH0273S0102

CONDITIONS INHIBITING AUTOMATIC OPERATION

Automatic memory setting procedures are suspended under any of the following conditions:

NH0273S02

- 1) When vehicle speed is more than 7 km/h (4 MPH).
- 2) When driver's side power seat switch is turned on.
- 3) When any two of the switches (set switch and memory switches 1 and 2) are turned ON.
- 4) When cancel switch is turned on.
- 5) When selector lever is in any position other than "P".
- 6) When ignition switch is turned to "START" position.
(Operation resumes when ignition switch is returned to "ON".)
- 7) When detention switch malfunction is detected:
 - Detention switch failure is sensed when detention switch remains off for at least 2 seconds at a vehicle speed of greater than 7 km/h (4 MPH).

FAIL-SAFE SYSTEM

Output Failure

When the ignition switch is in the ON position, if any of the parts (indicated in the following chart) move more than the specified amount within a period "T2" when no "ON" input is sent from any of the switches (indicated in the following chart), or an output from the automatic drive positioner is not produced, an output failure is sensed. Motor operation will be suspended automatically, and all automatic operations will be ineffective. (In this case, the motor will not operate manually.)

NH0273S03

NH0273S0301

OPERATED PORTION	T2	Allowable measurement
Seat sliding	Approx. 2.5 sec.	Within 6 mm (0.24 in)
Seat reclining	Same as above	Change angle within 1°

Absolving

When moving selector lever back to "P" position after having moved it to any position except "P", fail-safe operation will be canceled.

NH0273S0302

INITIALIZATION

After reconnecting battery cable, perform initialization procedure A or B. If initialization has not been performed, automatic drive positioner will not operate.

NH0273S04

PROCEDURE A

- 1) Insert key in the ignition key cylinder. (Ignition switch is in "OFF" position.)
- 2) Open → close → open driver side door. (Do not perform with the door switch operation.)
- 3) End

PROCEDURE B

- 1) Drive the vehicle at more than 25 km/h (16 MPH).
- 2) End

GI

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AUTOMATIC DRIVE POSITIONER

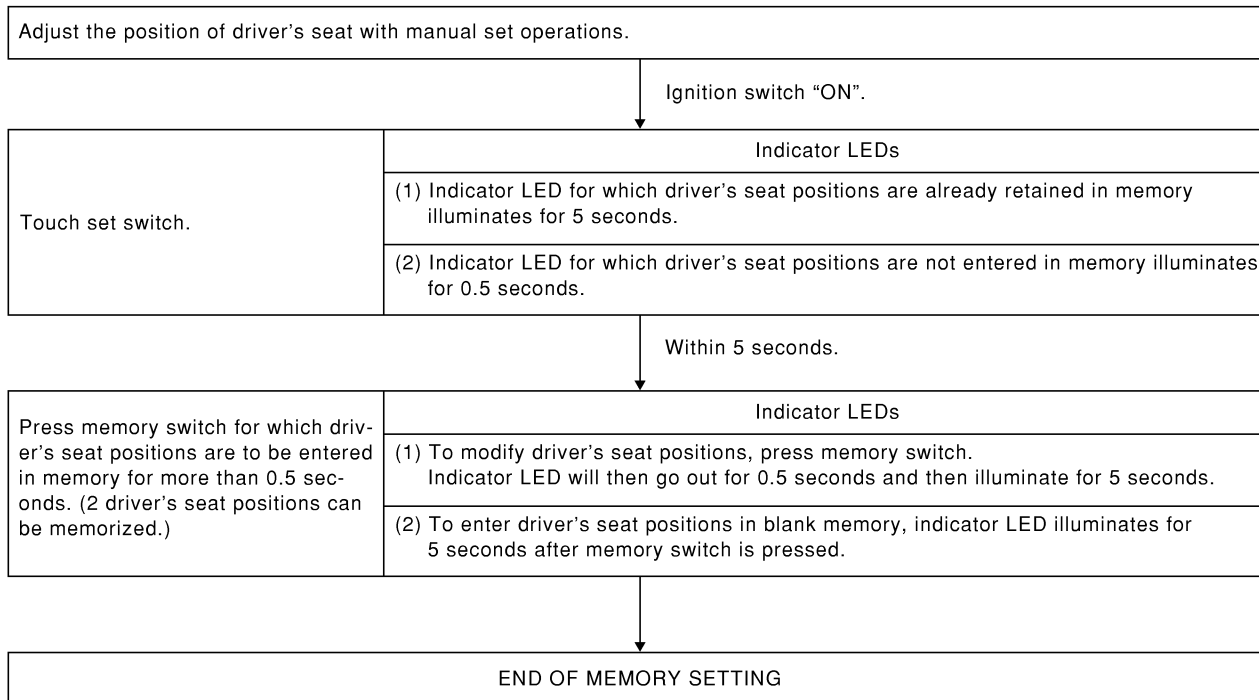
System Description (Cont'd)

MEMORY AUTOMATIC SET

=NHLE0273S05

Two drive positions can be retained in the memory. Press memory switch to set driver's seat to preset position.

PROCEDURE FOR STORING MEMORY

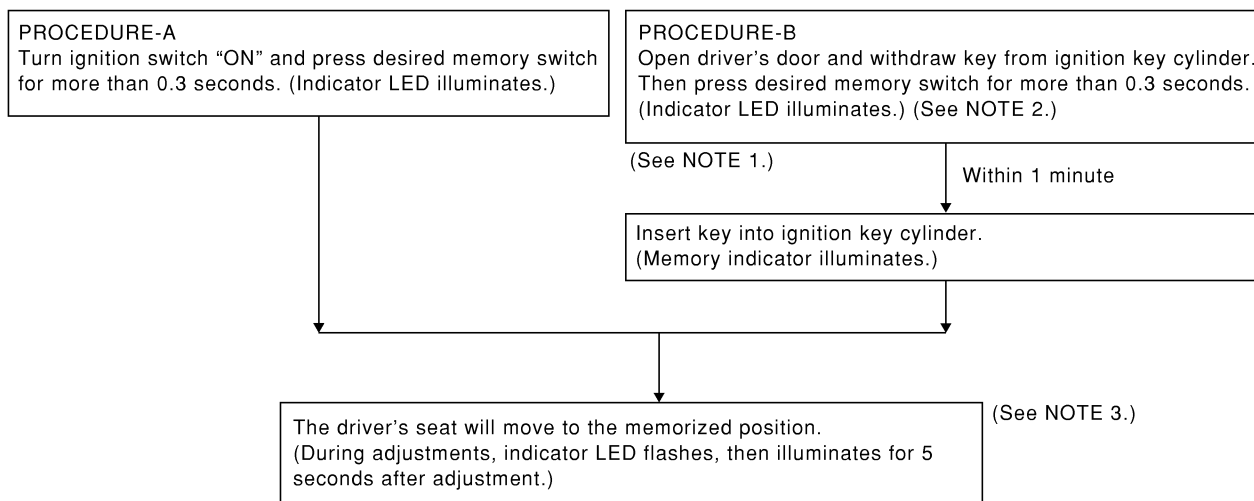


SEL592W

NOTE:

- When memory switch for which driver's seat positions are already retained in memory is pressed, new seat positions will be retained in memory in place of the previously set positions.
- Drive position is erased from the memory when battery cable is disconnected more than 30 seconds. After connecting battery cable, perform initialization procedures.

SELECTING THE MEMORIZED POSITION



SEL593W

AUTOMATIC DRIVE POSITIONER

System Description (Cont'd)

NOTE:

- 1) Do not keep cancel switch pressed as it will not operate.
- 2) Automatic exiting setting will be performed.
- 3) The driver's seat position (see the following Table) operates in the order of priority.

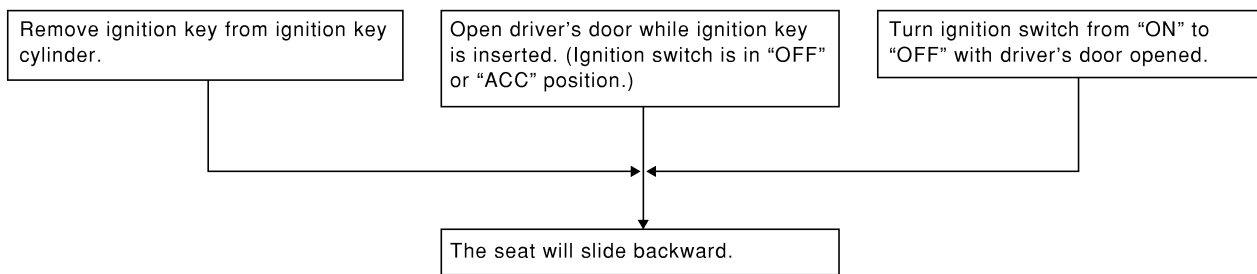
The order of priority	Operated portion
1	Seat sliding
2	Seat reclining
3	Seat front lifting
4	Seat rear lifting

AUTOMATIC EXITING SETTING

NHEL0273S06

“Exiting” positions:

Driver's seat ... Slides about 40 mm (1.57 in) rear from normal sitting position.

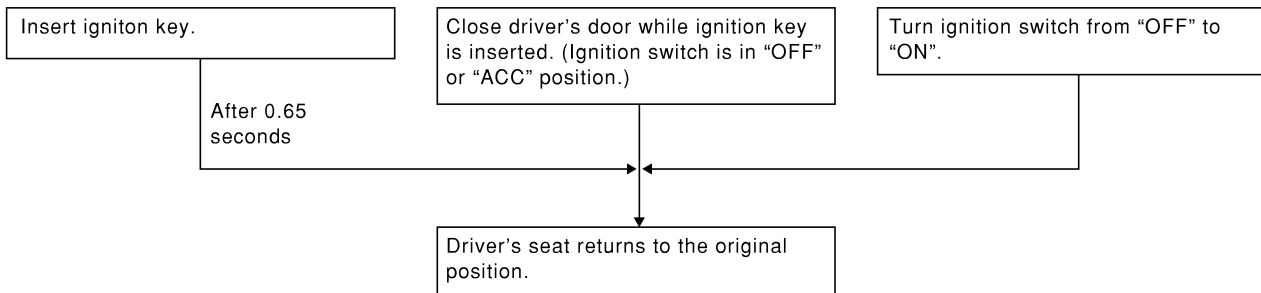


SEL594W

AUTOMATIC SET RETURN

NHEL0273S07

With driver's seat set to the “exiting” position, operating one of the following procedures moves it to the position previously retained in memory.



SEL595W

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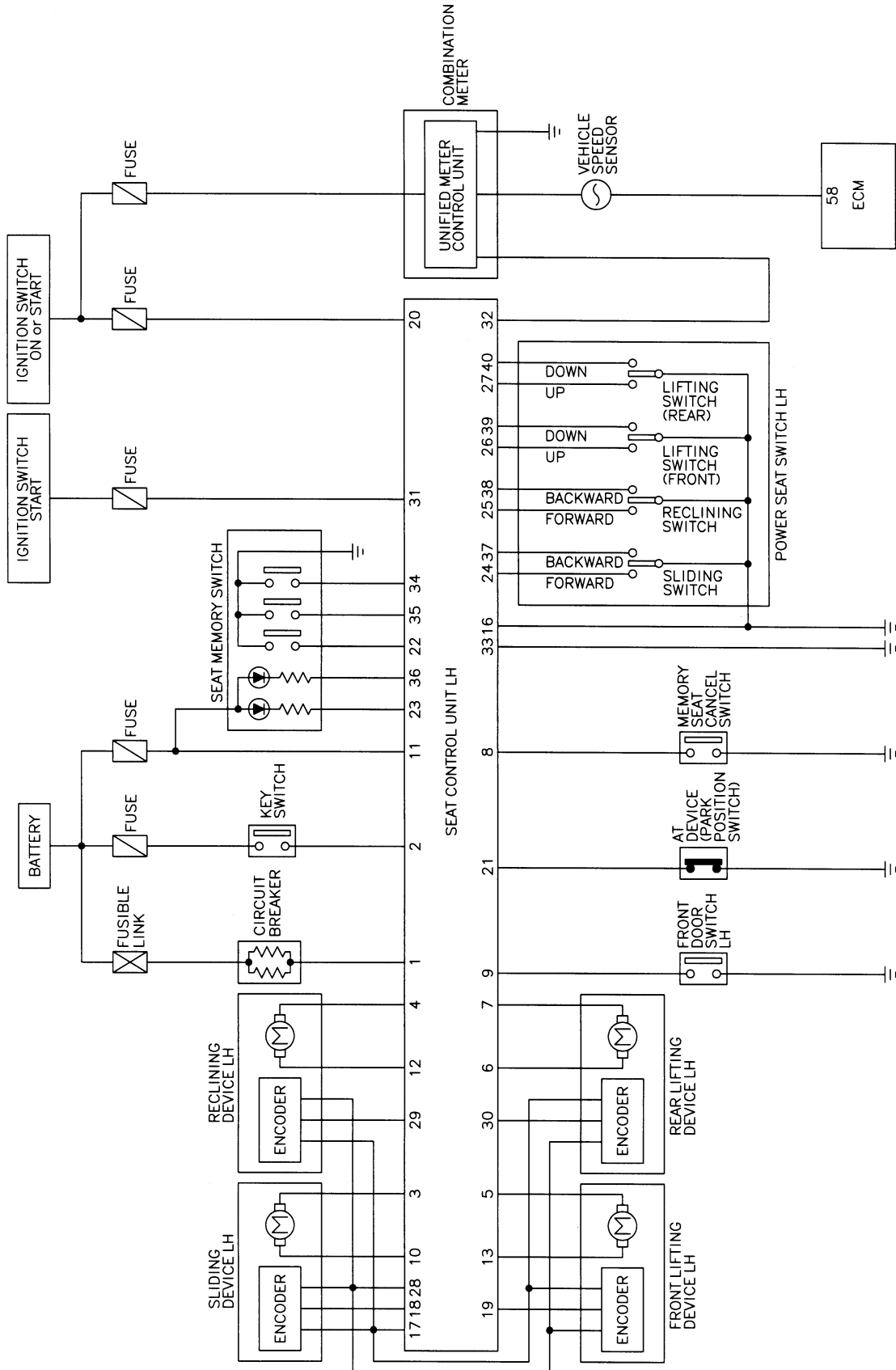
IDX

AUTOMATIC DRIVE POSITIONER

Schematic

NHEL0274

Schematic



MEL451M

AUTOMATIC DRIVE POSITIONER

Wiring Diagram — AUT/DP —

Wiring Diagram — AUT/DP —

NHEL0275

EL-AUT/DP-01

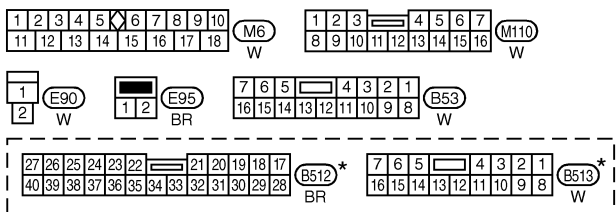
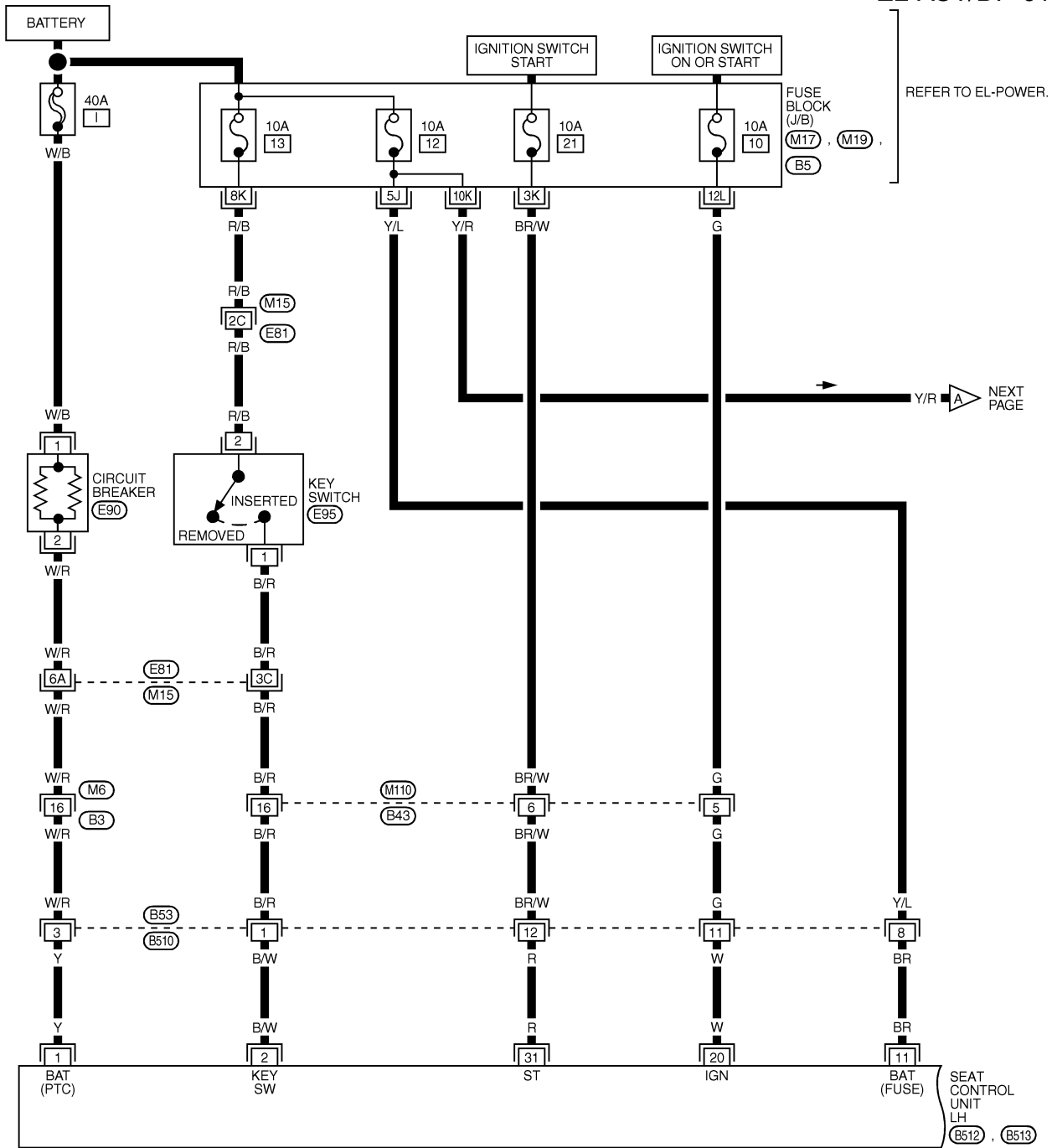
GI
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MEL452M



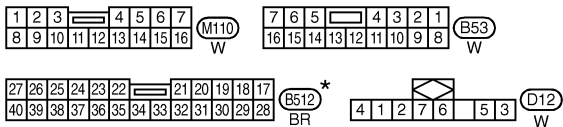
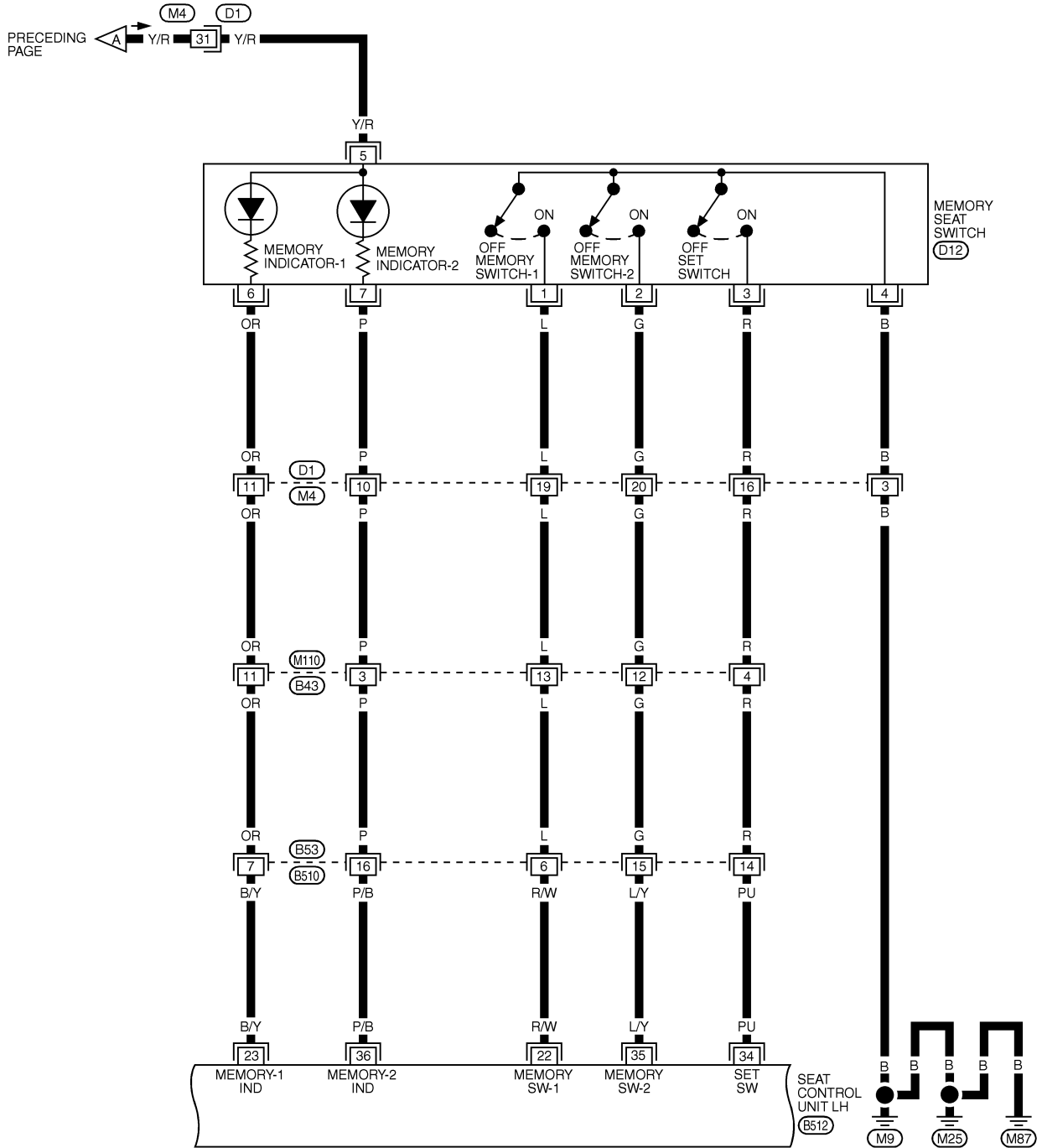
REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M17) , (M19) , (B5)
 -FUSE BLOCK-
 JUNCTION BOX (J/B)

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

AUTOMATIC DRIVE POSITIONER

Wiring Diagram — AUT/DP — (Cont'd)

EL-AUT/DP-02



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

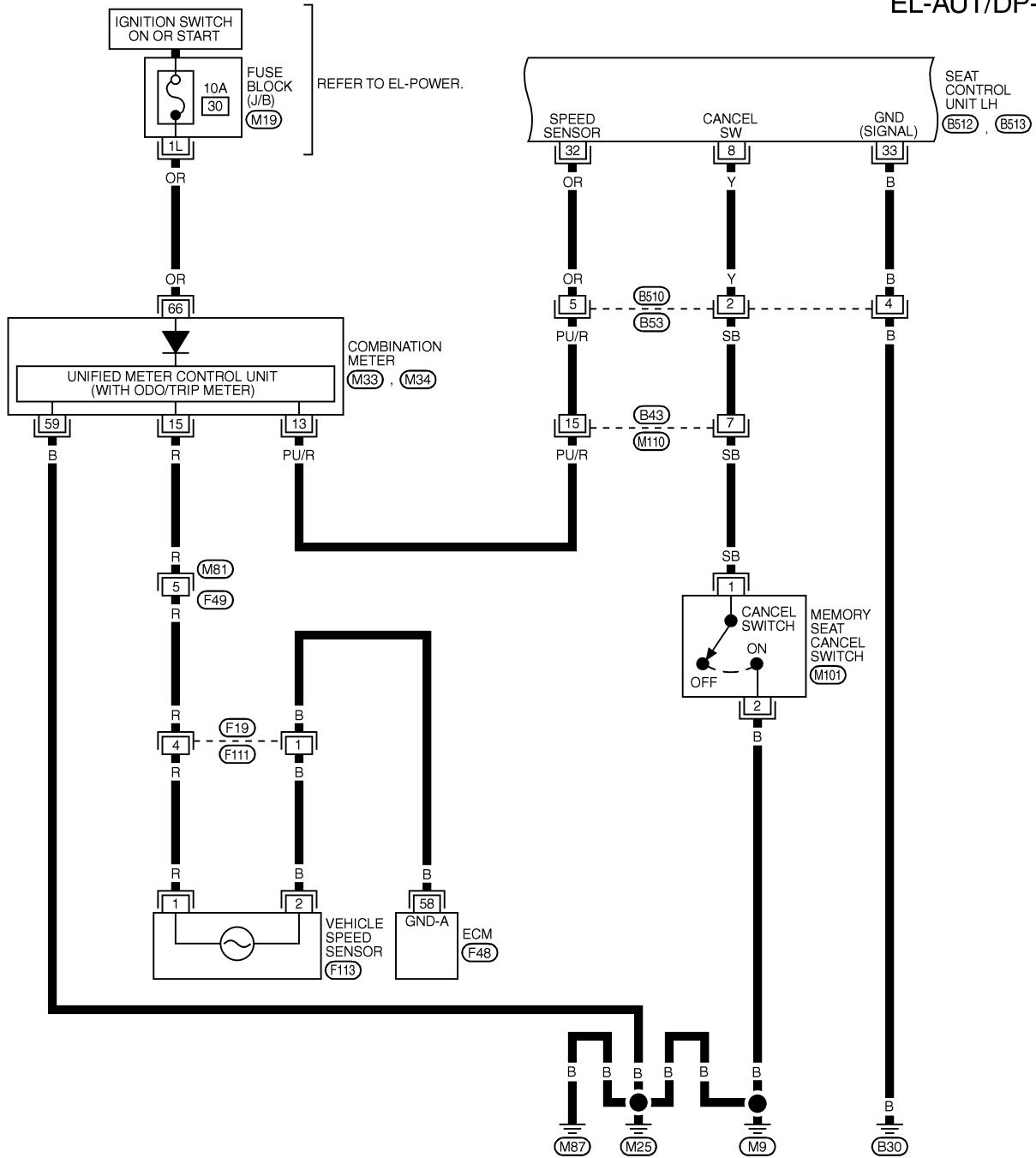
REFER TO THE FOLLOWING.
 (D1) -SUPER
 MULTIPLE JUNCTION (SMJ)

MEL453M

AUTOMATIC DRIVE POSITIONER

Wiring Diagram — AUT/DP — (Cont'd)

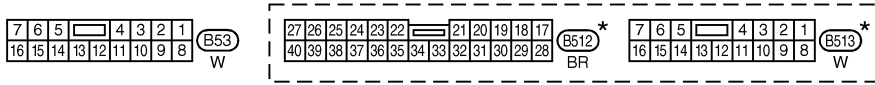
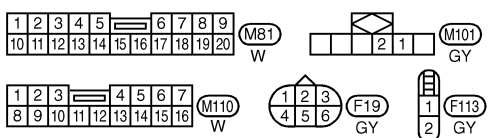
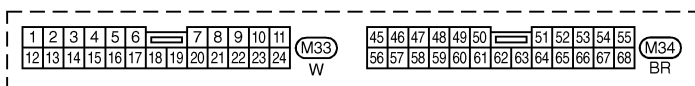
EL-AUT/DP-03



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REFER TO THE FOLLOWING.
(M19) - FUSE BLOCK-JUNCTION BOX (J/B)
(F48) - ELECTRICAL UNITS-

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

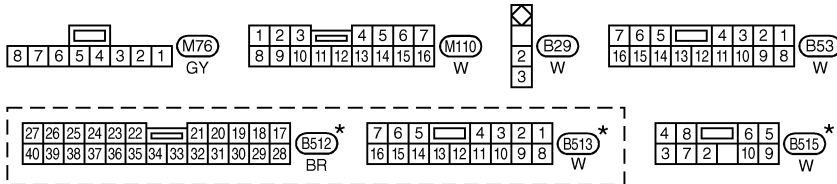
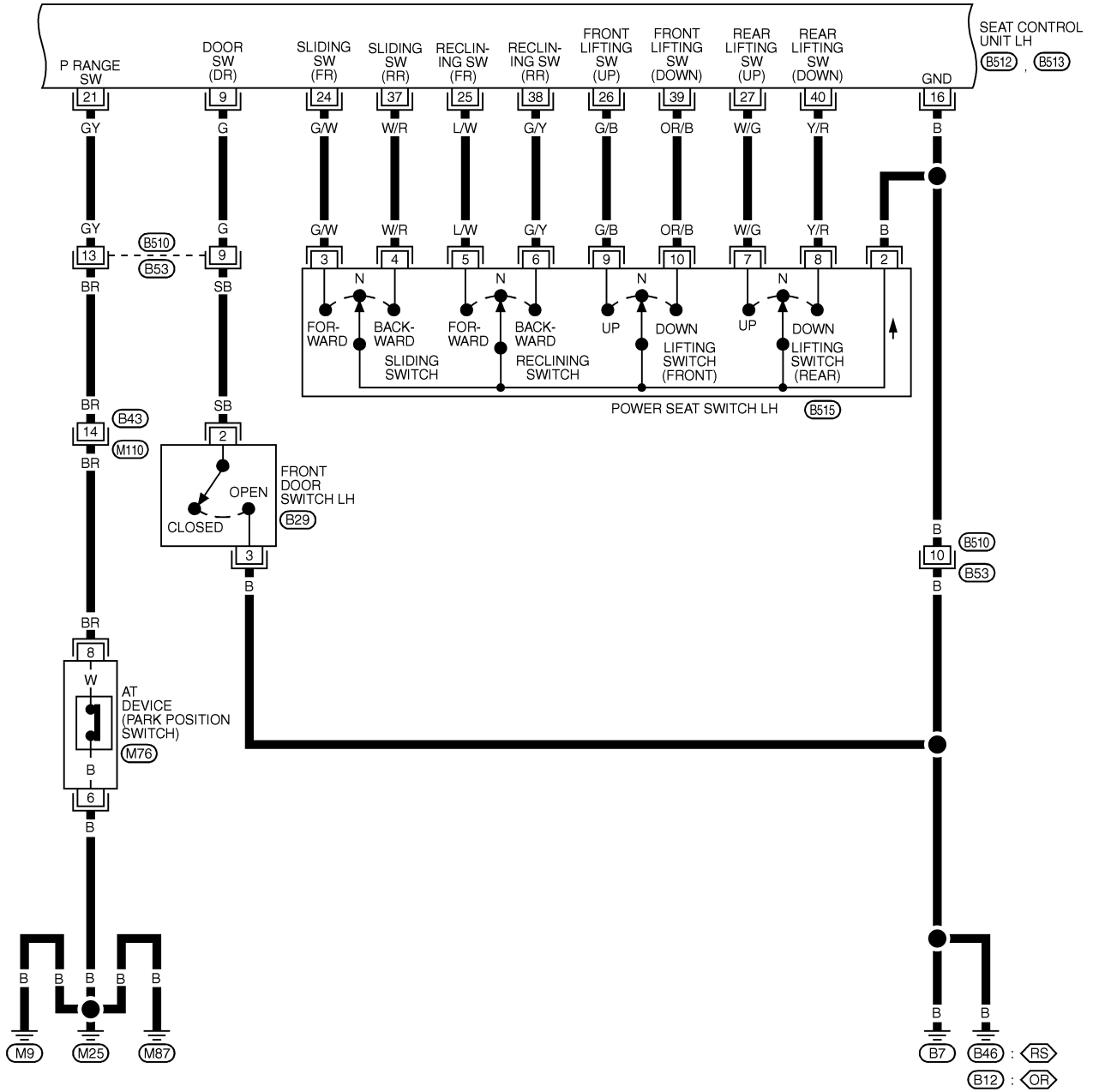
MEL454M

AUTOMATIC DRIVE POSITIONER

Wiring Diagram — AUT/DP — (Cont'd)

EL-AUT/DP-04

RS : WITH REAR SUNSHADE
OR : WITHOUT REAR SUNSHADE



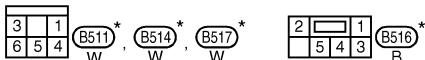
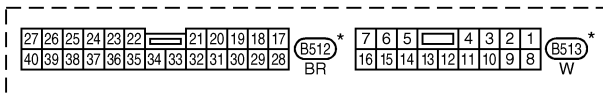
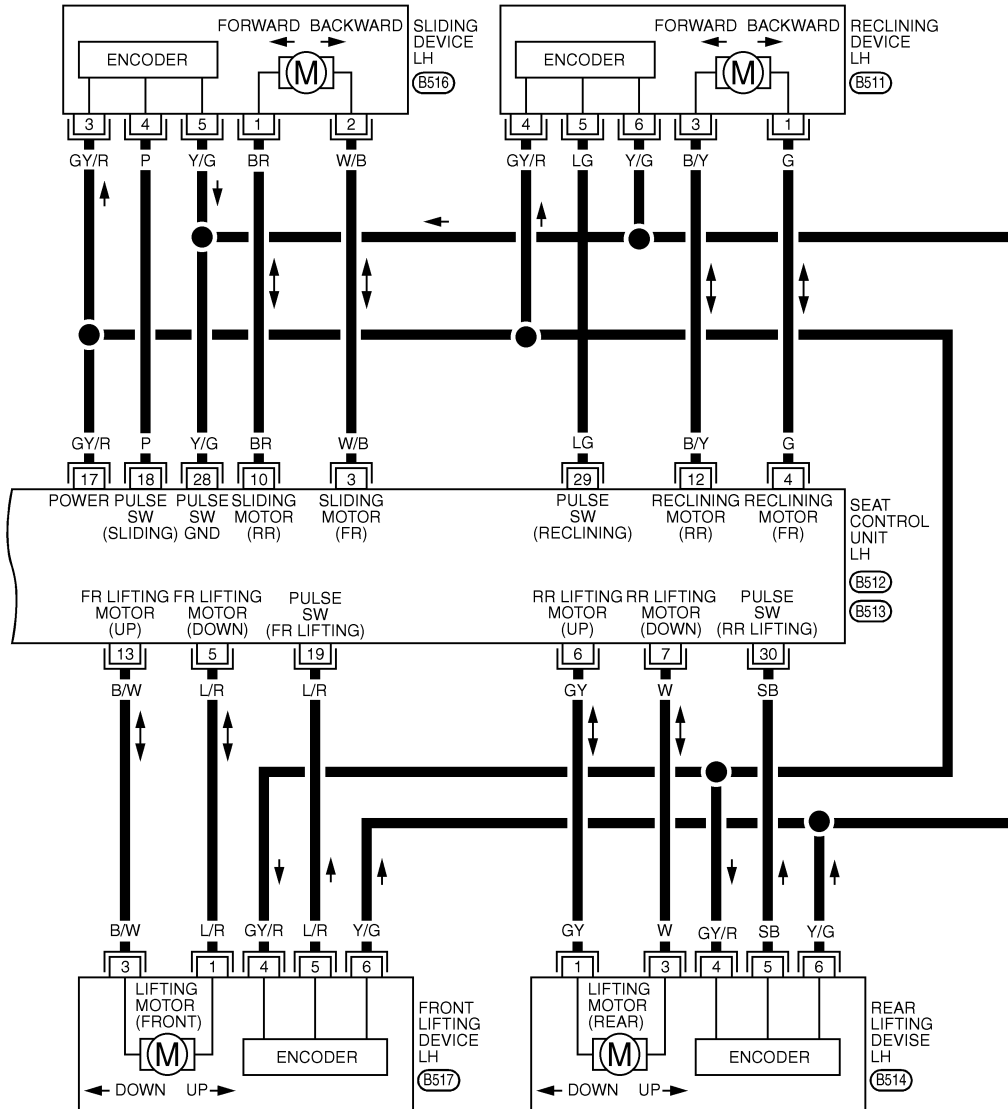
* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

MEL455M

AUTOMATIC DRIVE POSITIONER

Wiring Diagram — AUT/DP — (Cont'd)

EL-AUT/DP-05



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

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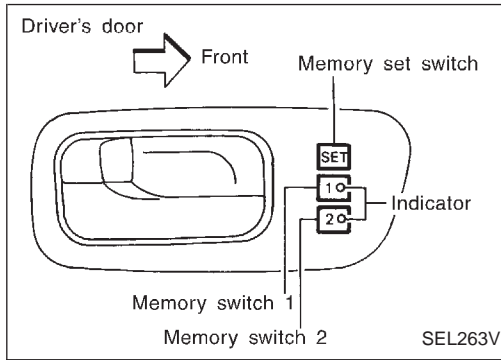
MEL651K

AUTOMATIC DRIVE POSITIONER

On Board Diagnosis

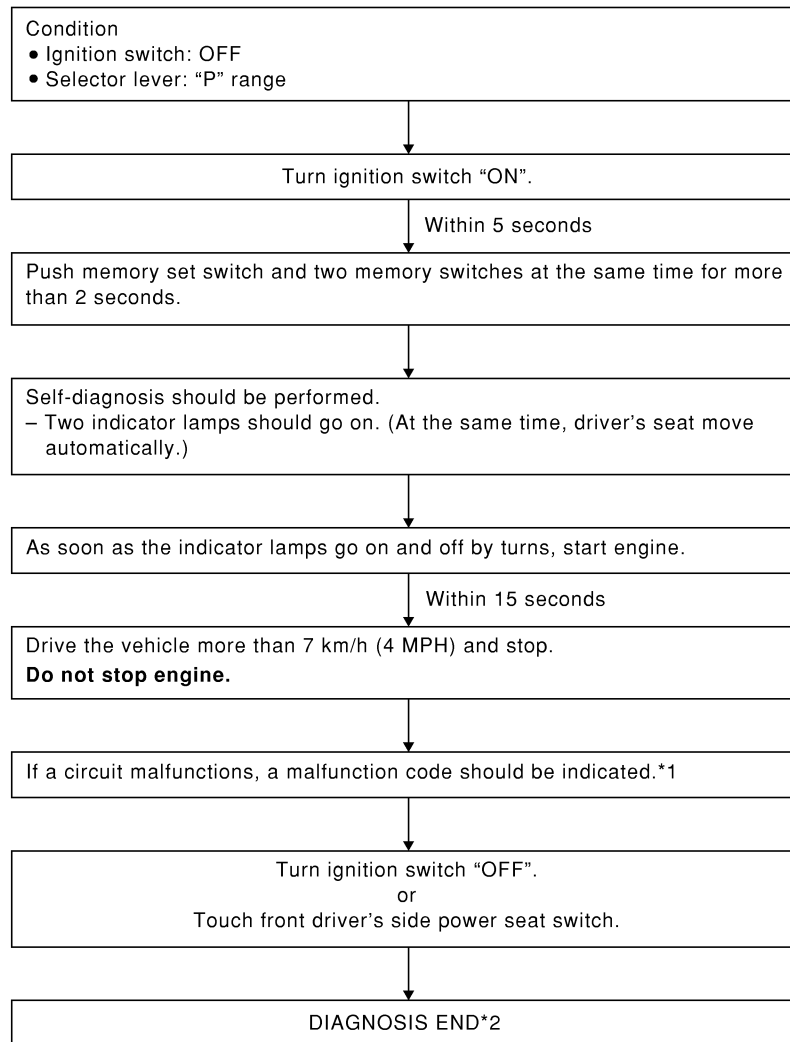
On Board Diagnosis

NHEL0276



HOW TO PERFORM SELF-DIAGNOSIS

NHEL0276S01



SEL596W

*1: If no malfunction is indicated, self-diagnosis will end after the vehicle speed sensor diagnosis is performed.

*2: Diagnosis ends after self-diagnostic results have been indicated for 10 minutes if left unattended.

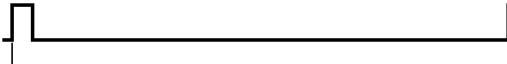
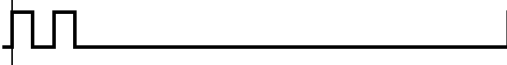

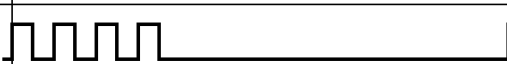
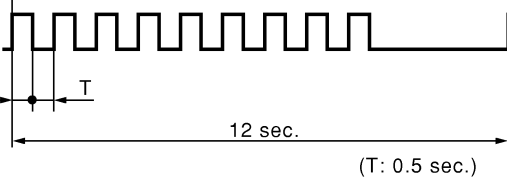
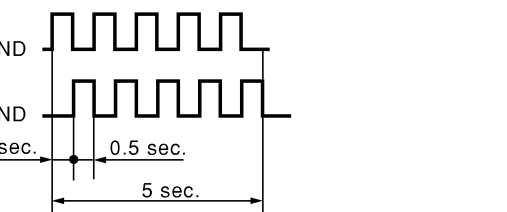
AUTOMATIC DRIVE POSITIONER

On Board Diagnosis (Cont'd)

MALFUNCTION CODE TABLE

=NHLEL0276S02

In this mode, a malfunction code is indicated by the number of flashes from the automatic drive positioner indicator lamps (indicator lamp 1, indicator lamp 2) as shown below.

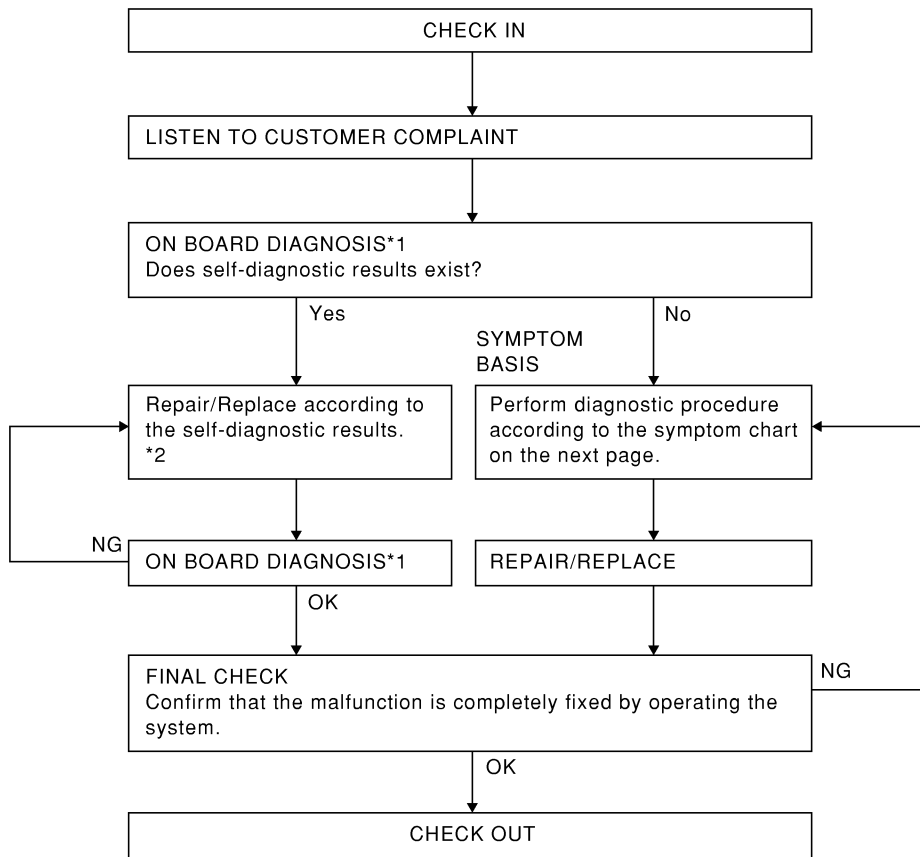
Code No.	Detected items	Indication of seat memory switches 1 and 2	Explanation
1	Seat sliding	IND1, IND2 	While the seat motors are moving for 2.5 seconds, if the number of seat sliding/reclining/lifting encoder pulses changes 2 times or less, the seat device is determined to be malfunctioning.
2	Seat reclining	IND1, IND2 	
3	Seat lifting front	IND1, IND2 	
4	Seat lifting rear	IND1, IND2 	
9	Vehicle speed sensor circuit	IND1, IND2 	If the vehicle speed sensor output of less than 7 km/h (4 MPH) is detected, the vehicle speed sensor is determined to be malfunctioning.
-	No malfunction in the above items	SW1 IND 	—

SEL597W

Code No.	Detected items	Diagnostic procedure	Reference page	Code No.	Detected items	Diagnostic procedure	Reference page
1	Seat sliding	PROCEDURE 2 (Sliding encoder check) PROCEDURE 6 (Sliding motor check)	EL-247 EL-255	4	Seat lifting rear	PROCEDURE 5 [Lifting encoder (rear) check] PROCEDURE 9 [Lifting motor (rear) check]	EL-253 EL-258
2	Seat reclining	PROCEDURE 3 (Reclining encoder check) PROCEDURE 7 (Reclining motor check)	EL-249 EL-256	9	Vehicle speed sensor	PROCEDURE 12 (Vehicle speed sensor check)	EL-260
3	Seat lifting front	PROCEDURE 4 [Lifting encoder (front) check] PROCEDURE 8 [Lifting motor (front) check]	EL-251 EL-257				

AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses WORK FLOW



*1 EL-240

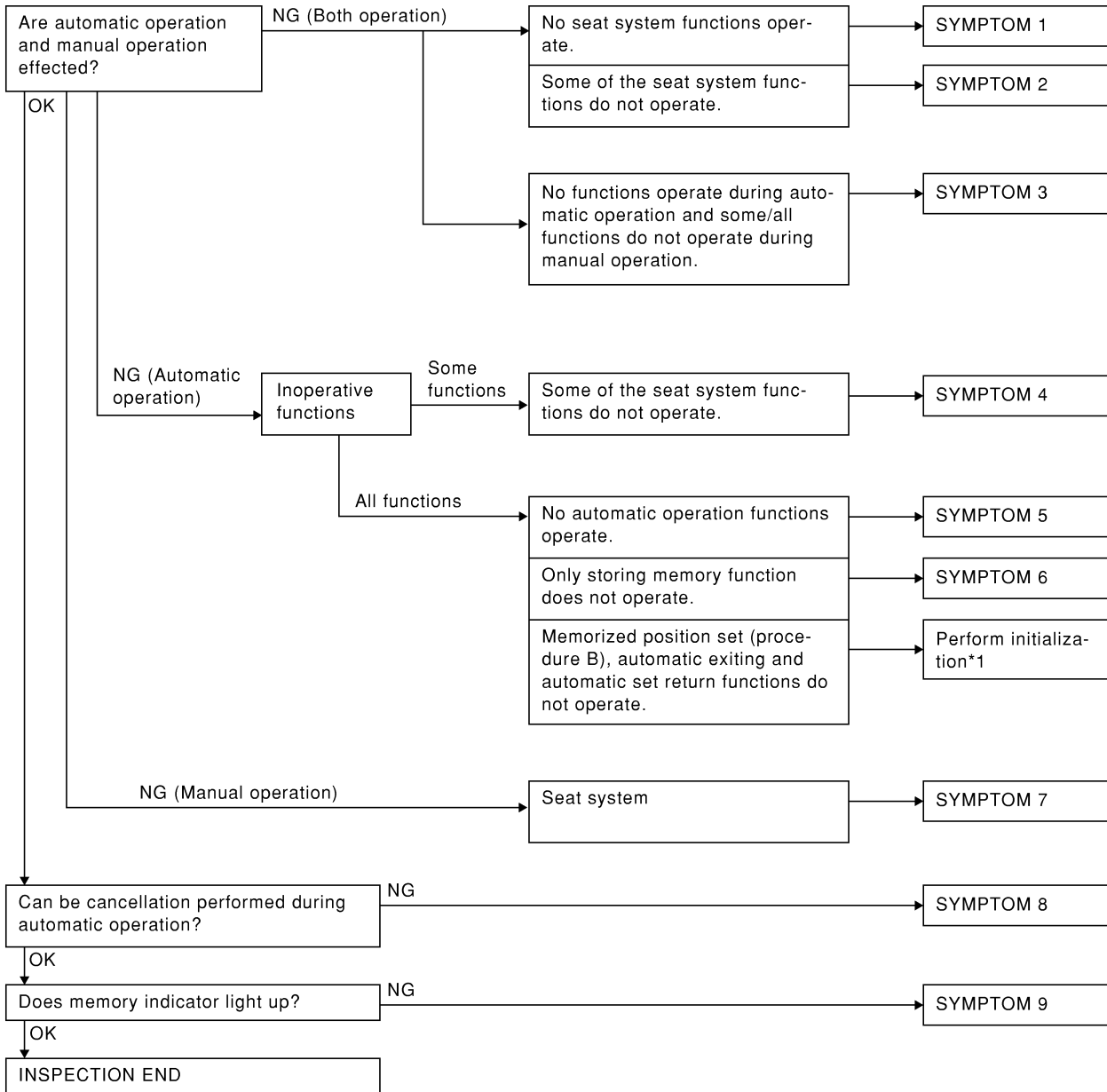
*2 EL-241

AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

PRELIMINARY CHECK

NHKL0277S02



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SEL600W

*1: After reconnecting battery cable, perform initialization procedure A or B.

If initialization has not been performed, automatic drive positioner will not operate.

PROCEDURE A

- 1) Insert key in the ignition key cylinder. (Ignition switch is in "OFF" position.)
- 2) Open → close → open driver side door. (Do not perform with the door switch operation.)
- 3) End

PROCEDURE B

- 1) Drive the vehicle at more than 25 km/h (16 MPH).

EL
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AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

2) End

After performing preliminary check, go to symptom chart below.

Before starting trouble diagnoses below, perform preliminary check, EL-243. Symptom numbers in the symptom chart correspond with those of preliminary check.

SYMPTOM CHART

NHLE0277S03

PROCEDURE		Diagnostic procedure						
REFERENCE PAGE (EL-)		246	247	249	251	253	255	256
SYMPTOM		DIAGNOSTIC PROCEDURE 1 (Power supply and ground circuit for Driver's seat control unit)	DIAGNOSTIC PROCEDURE 2 (Sliding encoder check)	DIAGNOSTIC PROCEDURE 3 (Reclining encoder check)	DIAGNOSTIC PROCEDURE 4 [Lifting encoder (front) check]	DIAGNOSTIC PROCEDURE 5 [Lifting encoder (rear) check]	DIAGNOSTIC PROCEDURE 6 (Sliding motor check)	DIAGNOSTIC PROCEDURE 7 (Reclining motor check)
1	No seat system functions operate.	X						
2	Some of the seat system functions do not operate during automatic/manual operation.	Sliding					X	
		Reclining						X
		Lifting (Front)						
		Lifting (Rear)						
3	No functions operate during automatic operation, and some/all functions do not during manual operation.							
4	Some of the seat system functions do not operate during automatic operation.	Sliding	X					
		Reclining		X				
		Lifting (Front)			X			
		Lifting (Rear)					X	
5	No automatic operation functions operate.							
6	Drive position cannot be retained in the memory.							
7	Does not operate during manual operation. (Operates during automatic operation.)	Sliding						
		Reclining						
		Lifting (Front)						
		Lifting (Rear)						
8	Automatic operation cannot be canceled.							
9	Memory indicator does not light up.							

X : Applicable

AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

PROCEDURE		Diagnostic procedure						
REFERENCE PAGE (EL-)		257	258	259	259	260	262	263
SYMPTOM		DIAGNOSTIC PROCEDURE 8 [Lifting motor (front) check]	DIAGNOSTIC PROCEDURE 9 [Lifting motor (rear) check]	DIAGNOSTIC PROCEDURE 10 (Power seat switch check)	DIAGNOSTIC PROCEDURE 11 (Cancel switch check)	DIAGNOSTIC PROCEDURE 12 (Key, park position, door switch and vehicle speed sensor check)	DIAGNOSTIC PROCEDURE 13 (Seat memory switch check)	DIAGNOSTIC PROCEDURE 14 (Memory indicator check)
1	No seat system functions operate.							
2	Some of the seat system functions do not operate during automatic/manual operation.	Sliding						
		Reclining						
		Lifting (Front)	X					
		Lifting (Rear)		X				
3	No functions operate during automatic operation, and some/all functions do not during manual operation.			X		X (ACC, ON START signal)		
4	Some of the seat system functions do not operate during automatic operation.	Sliding						
		Reclining						
		Lifting (Front)						
		Lifting (Rear)						
5	No automatic operation functions operate.				X	X		
6	Drive position cannot be retained in the memory.					X (IGN ON signal)	X	
7	Does not operate during manual operation. (Operates during automatic operation.)	Sliding			X			
		Reclining			X			
		Lifting (Front)			X			
		Lifting (Rear)			X			
8	Automatic operation cannot be canceled.				X			
9	Memory indicator does not light up.							X

X : Applicable

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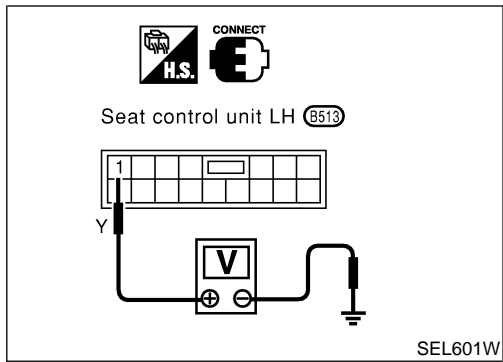
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AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)



DIAGNOSTIC PROCEDURE 1

(Power supply and ground circuit for driver's seat control unit) =NHHEL0277S04

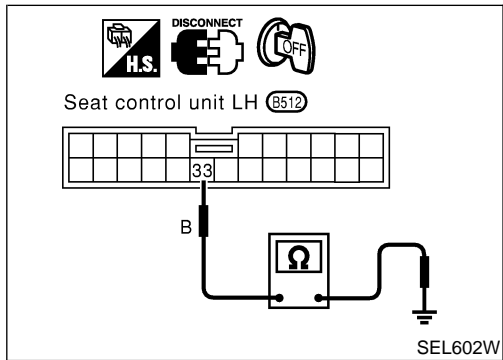
Power Supply Circuit Check

Check voltage between seat control unit LH terminal 1 and ground. NHHEL0277S0401
(Refer to wiring diagram in EL-235.)

Terminals	Ignition switch position			
	OFF	ACC	ON	START
1 - Ground	Battery voltage			

If NG, check the following.

- Circuit breaker
- Harness for open or short between circuit breaker and seat control unit LH



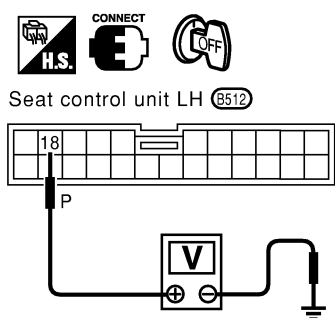
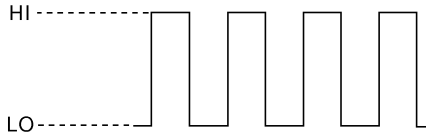
Ground Circuit Check

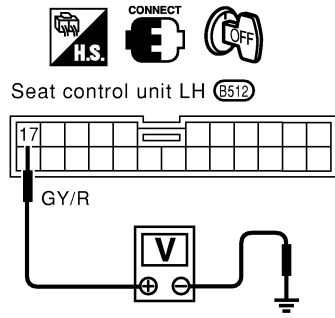
Check continuity between seat control unit LH terminal 33 and ground. NHHEL0277S0402
(Refer to wiring diagram in EL-235.)

Terminals	Continuity
33 - Ground	Yes

DIAGNOSTIC PROCEDURE 2 (Sliding encoder check)

=NHLE0277S05

1	CHECK SLIDING ENCODER OUTPUT SIGNAL	
<p>Measure voltage between seat control unit LH terminal 18 and ground with CONSULT-II or oscilloscope when power seat slide is operated.</p>		
		
 <p style="text-align: right;">HI: Approx. 5V LO: Approx. 0V</p>		
SEL603W		
OK or NG		
OK	▶	Sliding encoder is OK.
NG	▶	GO TO 2.

2	CHECK SLIDING ENCODER INPUT SIGNAL	
<p>Check voltage between seat control unit LH terminal 17 and ground.</p>		
		
Battery voltage should exist.		
SEL604W		
OK or NG		
OK	▶	GO TO 3.
NG	▶	Replace seat control unit LH.

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AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

3	CHECK SLIDING ENCODER OPEN CIRCUIT
<p>1. Disconnect seat control unit LH connector and sliding device LH connector.</p> <p>2. Check harness continuity between seat control unit LH connector and sliding device LH connector.</p>	
SEL605W	
OK or NG	
OK	▶ GO TO 4.
NG	▶ Repair harness.

Terminals		Continuity
Seat control unit LH	Sliding device LH (Sliding encoder)	
17	3	Yes
18	4	
28	5	

4	CHECK SLIDING ENCODER SHORT CIRCUIT
Check harness continuity between seat control unit LH connector and ground.	
SEL606W	
OK or NG	
OK	▶ Replace sliding encoder.
NG	▶ Repair harness.

Terminals	Continuity
17 - Ground	No
18 - Ground	
28 - Ground	

AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3 (Reclining encoder check)

=NHLE0277S06

1	CHECK RECLINING ENCODER OUTPUT SIGNAL	
<p>Measure voltage between seat control unit LH terminal 29 and ground with CONSULT-II or oscilloscope when power seat reclining is operated.</p>		
SEL607W		
OK or NG		
OK	▶	Reclining encoder is OK.
NG	▶	GO TO 2.

2	CHECK RECLINING ENCODER INPUT SIGNAL	
<p>Check voltage between seat control unit LH terminal 17 and ground.</p>		
SEL608W		
OK or NG		
OK	▶	GO TO 3.
NG	▶	Replace seat control unit LH.

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AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

3	CHECK RECLINING ENCODER OPEN CIRCUIT													
<p>1. Disconnect seat control unit LH connector and reclining device LH connector.</p> <p>2. Check harness continuity between seat control unit LH connector and reclining LH connector.</p>														
		<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">Terminals</th> <th rowspan="2">Continuity</th> </tr> <tr> <th>Seat control unit LH</th> <th>Reclining device LH (Reclining encoder)</th> </tr> </thead> <tbody> <tr> <td>17</td> <td>4</td> <td rowspan="3" style="text-align: center;">Yes</td> </tr> <tr> <td>28</td> <td>6</td> </tr> <tr> <td>29</td> <td>5</td> </tr> </tbody> </table>	Terminals		Continuity	Seat control unit LH	Reclining device LH (Reclining encoder)	17	4	Yes	28	6	29	5
Terminals		Continuity												
Seat control unit LH	Reclining device LH (Reclining encoder)													
17	4	Yes												
28	6													
29	5													
SEL609W														
OK or NG														
OK	▶	GO TO 4.												
NG	▶	Repair harness.												

4	CHECK RECLINING ENCODER SHORT CIRCUIT							
<p>Check harness continuity between seat control unit LH connector and ground.</p>								
		<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Terminals</th> <th>Continuity</th> </tr> </thead> <tbody> <tr> <td>17 - Ground</td> <td rowspan="3" style="text-align: center;">No</td> </tr> <tr> <td>28 - Ground</td> </tr> <tr> <td>29 - Ground</td> </tr> </tbody> </table>	Terminals	Continuity	17 - Ground	No	28 - Ground	29 - Ground
Terminals	Continuity							
17 - Ground	No							
28 - Ground								
29 - Ground								
SEL610W								
OK or NG								
OK	▶	Replace reclining encoder.						
NG	▶	Repair harness.						


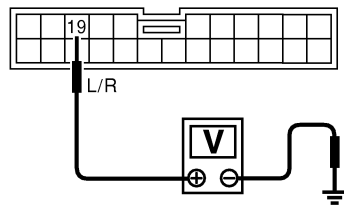
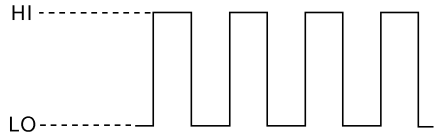
AUTOMATIC DRIVE POSITIONER


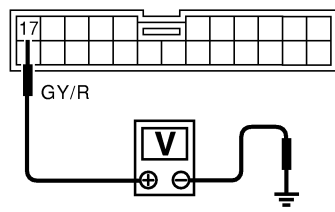
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

[Lifting encoder (front) check]

=NHLE0277S07

1	CHECK LIFTING ENCODER (FRONT) OUTPUT SIGNAL	<p>Measure voltage between seat control unit LH terminal 19 and ground with CONSULT-II or oscilloscope when power seat lifting (front) is operated.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>Seat control unit LH (B512)</p>  </div> <div style="text-align: center;">  <p>HI: Approx. 5V LO: Approx. 0V</p> </div> </div> <p style="text-align: right;">SEL611W</p> <p style="text-align: center;">OK or NG</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">OK</td> <td style="width: 5%; text-align: center;">▶</td> <td>Lifting encoder (front) is OK.</td> </tr> <tr> <td>NG</td> <td style="text-align: center;">▶</td> <td>GO TO 2.</td> </tr> </table>		OK	▶	Lifting encoder (front) is OK.	NG	▶	GO TO 2.
OK	▶	Lifting encoder (front) is OK.							
NG	▶	GO TO 2.							

2	CHECK LIFTING ENCODER (FRONT) INPUT SIGNAL	<p>Check voltage between seat control unit LH terminal 17 and ground.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>Seat control unit LH (B512)</p>  </div> <div style="text-align: center;"> <p>Battery voltage should exist.</p> </div> </div> <p style="text-align: right;">SEL612W</p> <p style="text-align: center;">OK or NG</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">OK</td> <td style="width: 5%; text-align: center;">▶</td> <td>GO TO 3.</td> </tr> <tr> <td>NG</td> <td style="text-align: center;">▶</td> <td>Replace seat control unit LH.</td> </tr> </table>		OK	▶	GO TO 3.	NG	▶	Replace seat control unit LH.
OK	▶	GO TO 3.							
NG	▶	Replace seat control unit LH.							

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AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

3	CHECK LIFTING ENCODER (FRONT) OPEN CIRCUIT	
<p>1. Disconnect seat control unit LH connector and front lifting device LH connector.</p> <p>2. Check harness continuity between seat control unit LH connector and front lifting device LH connector.</p>		
		SEL613W
OK or NG		
OK	▶	GO TO 4.
NG	▶	Repair harness.

Terminals		Continuity
Seat control unit LH	Front lifting device LH Lifting encoder (front)	
17	4	Yes
19	5	
28	6	

4	CHECK LIFTING ENCODER (FRONT) SHORT CIRCUIT	
Check harness continuity between seat control unit LH connector and ground.		
		SEL614W
OK or NG		
OK	▶	Replace lifting encoder (front).
NG	▶	Repair harness.

Terminals	Continuity
17 - Ground	No
19 - Ground	
28 - Ground	

DIAGNOSTIC PROCEDURE 5 [Lifting encoder (rear) check]

=NHLE0277S08

1	CHECK LIFTING ENCODER (REAR) OUTPUT SIGNAL	
<p>Measure voltage between seat control unit LH terminal 30 and ground with CONSULT-II or oscilloscope when power seat lifting (rear) is operated.</p>		
SEL615W		
OK or NG		
OK	▶	Lifting encoder (rear) is OK.
NG	▶	GO TO 2.

2	CHECK LIFTING ENCODER (REAR) INPUT SIGNAL	
<p>Check voltage between seat control unit LH terminal 17 and ground.</p>		
SEL616W		
OK or NG		
OK	▶	GO TO 3.
NG	▶	Replace seat control unit LH.

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AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

3	CHECK LIFTING ENCODER (REAR) OPEN CIRCUIT	
<p>1. Disconnect seat control unit LH connector and rear lifting device LH connector.</p> <p>2. Check harness continuity between seat control unit LH connector and rear lifting device LH connector.</p>		
		SEL617W
OK or NG		
OK	▶	GO TO 4.
NG	▶	Repair harness.

Terminals		Continuity
Seat control unit LH	Rear lifting device LH Lifting encoder (rear)	
17	4	Yes
28	6	
30	5	

4	CHECK LIFTING ENCODER (REAR) SHORT CIRCUIT	
<p>Check harness continuity between seat control unit LH connector and ground.</p>		
		SEL618W
OK or NG		
OK	▶	Replace lifting encoder (rear).
NG	▶	Repair harness.


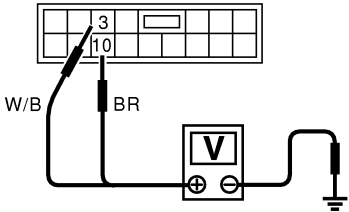
Terminals	Continuity
17 - Ground	No
28 - Ground	
30 - Ground	

AUTOMATIC DRIVE POSITIONER


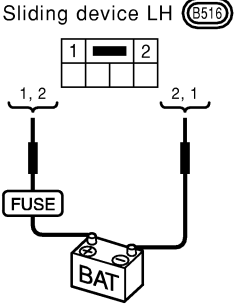
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6 (Sliding motor check)

=NHLE0277S09

1	CHECK OUTPUT SIGNAL TO SLIDING MOTOR															
<p>Check voltage between seat control unit LH terminals 3 or 10 and ground.</p> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: center;">  <p>Seat control unit LH (B513)</p>  </div> <table border="1" style="border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">Condition of sliding switch</th> <th colspan="2">Terminals</th> <th rowspan="2">Voltage [V]</th> </tr> <tr> <th>+</th> <th>-</th> </tr> </thead> <tbody> <tr> <td>Forward</td> <td>3</td> <td>Ground</td> <td>Approx. 12</td> </tr> <tr> <td>Backward</td> <td>10</td> <td>Ground</td> <td>Approx. 12</td> </tr> </tbody> </table> </div>			Condition of sliding switch	Terminals		Voltage [V]	+	-	Forward	3	Ground	Approx. 12	Backward	10	Ground	Approx. 12
Condition of sliding switch	Terminals			Voltage [V]												
	+	-														
Forward	3	Ground	Approx. 12													
Backward	10	Ground	Approx. 12													
SEL619W																
OK or NG																
OK	▶	GO TO 2.														
NG	▶	Replace seat control unit LH.														

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2	CHECK SLIDING MOTOR												
<p>1. Disconnect sliding device LH connector. 2. Apply 12V DC direct current to motor and check operation.</p> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: center;">  </div> <div style="text-align: center;"> <p>Sliding device LH (B516)</p>  </div> <table border="1" style="border-collapse: collapse; text-align: center;"> <thead> <tr> <th colspan="2">Terminals</th> <th rowspan="2">Operation</th> </tr> <tr> <th>+</th> <th>-</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>1</td> <td>Forward</td> </tr> <tr> <td>1</td> <td>2</td> <td>Backward</td> </tr> </tbody> </table> </div>			Terminals		Operation	+	-	2	1	Forward	1	2	Backward
Terminals		Operation											
+	-												
2	1	Forward											
1	2	Backward											
SEL620W													
OK or NG													
OK	▶	Check harness for operation between seat control unit LH and sliding motor.											
NG	▶	Replace sliding motor.											

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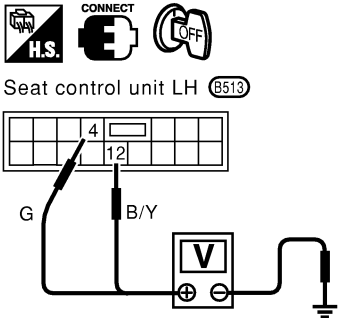
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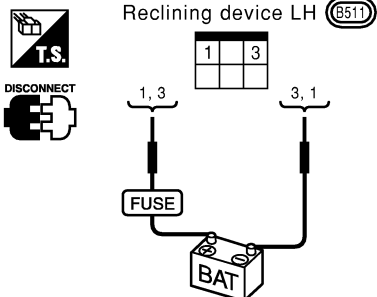
AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 7 (Reclining motor check)

=NHLE0277S10

1	CHECK OUTPUT SIGNAL TO RECLINING MOTOR														
<p>Check voltage between seat control unit LH terminals 4 or 12 and ground.</p> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: center;">  <p>Seat control unit LH (B513)</p> </div> <div> <table border="1" style="border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">Condition of reclining switch</th> <th colspan="2">Terminals</th> <th rowspan="2">Voltage [V]</th> </tr> <tr> <th>+</th> <th>-</th> </tr> </thead> <tbody> <tr> <td>Forward</td> <td>4</td> <td>Ground</td> <td>Approx. 12</td> </tr> <tr> <td>Backward</td> <td>12</td> <td>Ground</td> <td>Approx. 12</td> </tr> </tbody> </table> </div> </div> <p style="text-align: right;">SEL621W</p> <p style="text-align: center;">OK or NG</p>		Condition of reclining switch	Terminals		Voltage [V]	+	-	Forward	4	Ground	Approx. 12	Backward	12	Ground	Approx. 12
Condition of reclining switch	Terminals		Voltage [V]												
	+	-													
Forward	4	Ground	Approx. 12												
Backward	12	Ground	Approx. 12												
OK	▶	GO TO 2.													
NG	▶	Replace seat control unit LH.													

2	CHECK RECLINING MOTOR											
<p>1. Disconnect reclining device LH connector. 2. Apply 12V DC direct current to motor and check operation.</p> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;">  <p>Reclining device LH (B511)</p> </div> <div> <table border="1" style="border-collapse: collapse; text-align: center;"> <thead> <tr> <th colspan="2">Terminals</th> <th rowspan="2">Operation</th> </tr> <tr> <th>+</th> <th>-</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>3</td> <td>Forward</td> </tr> <tr> <td>3</td> <td>1</td> <td>Backward</td> </tr> </tbody> </table> </div> </div> <p style="text-align: right;">SEL622W</p> <p style="text-align: center;">OK or NG</p>		Terminals		Operation	+	-	1	3	Forward	3	1	Backward
Terminals		Operation										
+	-											
1	3	Forward										
3	1	Backward										
OK	▶	Check harness for operation between seat control unit LH and reclining motor.										
NG	▶	Replace reclining motor.										

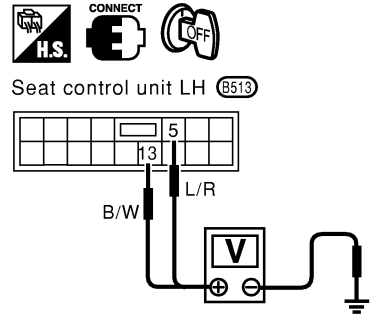
AUTOMATIC DRIVE POSITIONER

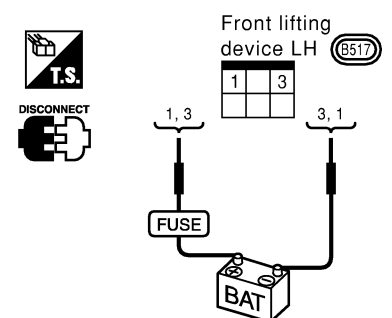
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 8

[Lifting motor (front) check]

=NH0277S11

1	CHECK OUTPUT SIGNAL TO LIFTING MOTOR (FRONT)															
<p>Check voltage between seat control unit LH terminals 5 or 13 and ground.</p>																
<div style="display: flex; align-items: center;">  <table border="1" style="margin-left: 20px;"> <thead> <tr> <th rowspan="2">Condition of lifting switch (front)</th> <th colspan="2">Terminals</th> <th rowspan="2">Voltage [V]</th> </tr> <tr> <th>+</th> <th>-</th> </tr> </thead> <tbody> <tr> <td>Up</td> <td>13</td> <td>Ground</td> <td>Approx. 12</td> </tr> <tr> <td>Down</td> <td>5</td> <td>Ground</td> <td>Approx. 12</td> </tr> </tbody> </table> </div>			Condition of lifting switch (front)	Terminals		Voltage [V]	+	-	Up	13	Ground	Approx. 12	Down	5	Ground	Approx. 12
Condition of lifting switch (front)	Terminals			Voltage [V]												
	+	-														
Up	13	Ground	Approx. 12													
Down	5	Ground	Approx. 12													
SEL623W																
OK or NG																
OK	▶	GO TO 2.														
NG	▶	Replace seat control unit LH.														

2	CHECK LIFTING MOTOR (FRONT)												
<p>1. Disconnect front lifting device LH connector. 2. Apply 12V DC direct current to motor and check operation.</p>													
<div style="display: flex; align-items: center;">  <table border="1" style="margin-left: 20px;"> <thead> <tr> <th colspan="2">Terminals</th> <th rowspan="2">Operation</th> </tr> <tr> <th>+</th> <th>-</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>1</td> <td>Up</td> </tr> <tr> <td>1</td> <td>3</td> <td>Down</td> </tr> </tbody> </table> </div>			Terminals		Operation	+	-	3	1	Up	1	3	Down
Terminals		Operation											
+	-												
3	1	Up											
1	3	Down											
SEL624W													
OK or NG													
OK	▶	Check harness for operation between seat control unit LH and lifting motor (front).											
NG	▶	Replace lifting motor (front).											

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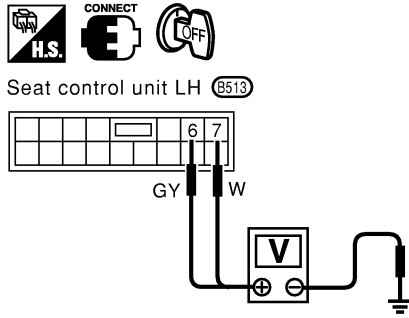
AUTOMATIC DRIVE POSITIONER

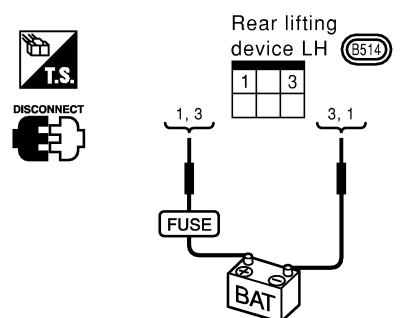
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 9

[Lifting motor (rear) check]

=NHLE0277S12

1	CHECK OUTPUT SIGNAL TO LIFTING MOTOR (REAR)	<p>Check voltage between seat control unit LH terminals 6 or 7 and ground.</p> <div style="display: flex; align-items: center;">  <table border="1" style="margin-left: 20px;"> <thead> <tr> <th rowspan="2">Condition of lifting switch (rear)</th> <th colspan="2">Terminals</th> <th rowspan="2">Voltage [V]</th> </tr> <tr> <th>+</th> <th>-</th> </tr> </thead> <tbody> <tr> <td>Up</td> <td>6</td> <td>Ground</td> <td>Approx. 12</td> </tr> <tr> <td>Down</td> <td>7</td> <td>Ground</td> <td>Approx. 12</td> </tr> </tbody> </table> </div>		Condition of lifting switch (rear)	Terminals		Voltage [V]	+	-	Up	6	Ground	Approx. 12	Down	7	Ground	Approx. 12
Condition of lifting switch (rear)	Terminals		Voltage [V]														
	+	-															
Up	6	Ground	Approx. 12														
Down	7	Ground	Approx. 12														
		SEL625W															
OK or NG																	
OK	▶	GO TO 2.															
NG	▶	Replace seat control unit LH.															

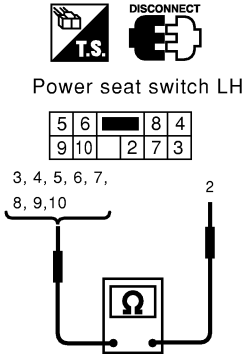
2	CHECK LIFTING MOTOR (REAR)	<p>1. Disconnect rear lifting device LH connector. 2. Apply 12V DC direct current to motor and check operation.</p> <div style="display: flex; align-items: center;">  <table border="1" style="margin-left: 20px;"> <thead> <tr> <th colspan="2">Terminals</th> <th rowspan="2">Operation</th> </tr> <tr> <th>+</th> <th>-</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>3</td> <td>Up</td> </tr> <tr> <td>3</td> <td>1</td> <td>Down</td> </tr> </tbody> </table> </div>		Terminals		Operation	+	-	1	3	Up	3	1	Down
Terminals		Operation												
+	-													
1	3	Up												
3	1	Down												
		SEL626W												
OK or NG														
OK	▶	Check harness for operation between seat control unit LH and lifting motor (rear).												
NG	▶	Replace lifting motor (rear).												

AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 10 (Power seat switch check)

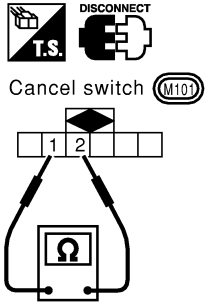
=NHLE0277S13

1	CHECK POWER SEAT SWITCH																																																																																																																																																		
<p>1. Disconnect power seat switch LH connector. 2. Check continuity between power seat switch terminals (B515).</p>																																																																																																																																																			
																																																																																																																																																			
<table border="1" style="margin: auto;"> <thead> <tr> <th rowspan="2">Switch</th> <th rowspan="2">Condition</th> <th colspan="10">Terminals</th> </tr> <tr> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>10</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Sliding</td> <td>Forward</td> <td>○</td> <td>○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Backward</td> <td>○</td> <td></td> <td>○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td rowspan="2">Reclining</td> <td>Forward</td> <td>○</td> <td></td> <td></td> <td></td> <td>○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Backward</td> <td>○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td rowspan="2">Lifting (Front)</td> <td>Up</td> <td>○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>○</td> <td></td> </tr> <tr> <td>Down</td> <td>○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>○</td> </tr> <tr> <td rowspan="2">Lifting (Rear)</td> <td>Up</td> <td>○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>○</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Down</td> <td>○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>○</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			Switch	Condition	Terminals										2	3	4	5	6	7	8	9	10	Sliding	Forward	○	○													Backward	○		○												Reclining	Forward	○				○										Backward	○						○								Lifting (Front)	Up	○												○		Down	○													○	Lifting (Rear)	Up	○								○						Down	○									○				
Switch	Condition	Terminals																																																																																																																																																	
		2	3	4	5	6	7	8	9	10																																																																																																																																									
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	Down	○													○																																																																																																																																				
Lifting (Rear)	Up	○								○																																																																																																																																									
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OK or NG																																																																																																																																																			
OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● Ground circuit for power seat switch ● Harness for open or short between seat control unit LH and power seat switch 																																																																																																																																																	
NG	▶	Replace power seat switch.																																																																																																																																																	

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DIAGNOSTIC PROCEDURE 11 (Cancel switch check)

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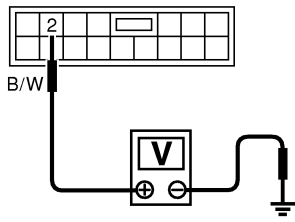
1	CHECK CANCEL SWITCH									
<p>1. Disconnect cancel switch connector. 2. Check continuity between cancel switch terminals.</p>										
										
<table border="1" style="margin: auto;"> <thead> <tr> <th>Terminals</th> <th>Cancel switch condition</th> <th>Continuity</th> </tr> </thead> <tbody> <tr> <td rowspan="2">1-2</td> <td>ON</td> <td>Yes</td> </tr> <tr> <td>OFF</td> <td>No</td> </tr> </tbody> </table>			Terminals	Cancel switch condition	Continuity	1-2	ON	Yes	OFF	No
Terminals	Cancel switch condition	Continuity								
1-2	ON	Yes								
	OFF	No								
SEL628W										
OK or NG										
OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● Ground circuit for cancel switch ● Harness for open or short between seat control unit LH and cancel switch 								
NG	▶	Replace cancel switch.								


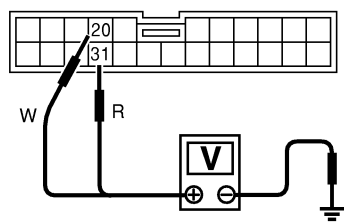
AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 12

(Key, detention, door switch and vehicle speed sensor check) =NHEL0277S15

1	CHECK KEY SWITCH INPUT SIGNAL							
<p>Check voltage between seat control unit LH terminal 2 and ground.</p> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: center;">  <p>Seat control unit LH (6513)</p>  </div> <table border="1" style="border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="border: none;">Condition</th> <th style="border: none;">Voltage [V]</th> </tr> </thead> <tbody> <tr> <td style="border: none;">Key is inserted</td> <td style="border: none;">Approx. 12</td> </tr> <tr> <td style="border: none;">Key is removed</td> <td style="border: none;">0</td> </tr> </tbody> </table> </div> <p style="text-align: right;">SEL629W</p>			Condition	Voltage [V]	Key is inserted	Approx. 12	Key is removed	0
Condition	Voltage [V]							
Key is inserted	Approx. 12							
Key is removed	0							
OK or NG								
OK	▶	GO TO 2.						
NG	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse [No. 12, located in fuse block (J/B)] ● Key switch ● Harness for open or short between key switch and fuse ● Harness for open or short between seat control unit LH and key switch 						

2	CHECK IGNITION SWITCH INPUT SIGNAL (ON AND START)																					
<p>Check voltage between seat control unit LH terminals and ground.</p> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: center;">  <p>Seat control unit LH (6512)</p>  </div> <table border="1" style="border-collapse: collapse; text-align: center;"> <thead> <tr> <th colspan="2" style="border: none;">Terminals</th> <th colspan="3" style="border: none;">Ignition switch position</th> </tr> <tr> <th style="border: none;">+</th> <th style="border: none;">-</th> <th style="border: none;">OFF</th> <th style="border: none;">ON</th> <th style="border: none;">START</th> </tr> </thead> <tbody> <tr> <td style="border: none;">20</td> <td style="border: none;">Ground</td> <td style="border: none;">Approx. 0V</td> <td colspan="2" style="border: none;">Battery voltage</td> </tr> <tr> <td style="border: none;">31</td> <td style="border: none;">Ground</td> <td colspan="2" style="border: none;">Approx. 0V</td> <td style="border: none;">Battery voltage</td> </tr> </tbody> </table> </div> <p style="text-align: right;">SEL630W</p>			Terminals		Ignition switch position			+	-	OFF	ON	START	20	Ground	Approx. 0V	Battery voltage		31	Ground	Approx. 0V		Battery voltage
Terminals		Ignition switch position																				
+	-	OFF	ON	START																		
20	Ground	Approx. 0V	Battery voltage																			
31	Ground	Approx. 0V		Battery voltage																		
OK or NG																						
OK	▶	GO TO 3.																				
NG	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse [No. 10, located in fuse block (J/B)] ● 10A fuse [No. 21, located in fuse block (J/B)] ● Harness for open or short between seat control unit LH and fuse 																				

AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

3	CHECK PARK POSITION SWITCH INPUT SIGNAL	
Check voltage between seat control unit LH terminal 21 and ground.		
		SEL631W
OK or NG		
OK	▶	GO TO 4.
NG	▶	Check the following. <ul style="list-style-type: none"> ● Park position switch ● Park position switch ground circuit ● Harness for open or short between seat control unit LH and park position switch

GI
MA
EM
LC
EC
FE
AT

4	CHECK DRIVER DOOR SWITCH INPUT SIGNAL	
Check voltage between seat control unit LH terminal 9 and ground.		
		SEL632W
OK or NG		
OK	▶	GO TO 5.
NG	▶	Check the following. <ul style="list-style-type: none"> ● Driver door switch ● Driver door switch ground circuit ● Harness for open or short between seat control unit LH and driver door switch


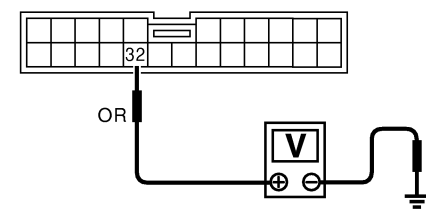
AX
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RS
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HA
SC

5	CHECK VEHICLE SPEED SENSOR	
Does speedometer operate normally?		
Yes or No		
OK	▶	GO TO 6.
NG	▶	Check speedometer and vehicle speed sensor circuit. Refer to EL-157.

EL
IDX


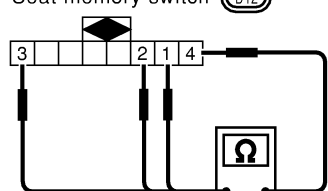
AUTOMATIC DRIVE POSITIONER

Trouble Diagnoses (Cont'd)

6	CHECK VEHICLE SPEED SENSOR PULL UP VOLTAGE
<p>1. Turn ignition switch "ON". 2. Check voltage between seat control unit LH terminal 32 and ground.</p>	
	
<p>Seat control unit LH (B512)</p> 	
<p>Approx. 5V should exist.</p>	
<p>SEL633W</p>	
<p>OK or NG</p>	
OK	▶ Harness for open or short between seat control unit LH and combination meter.
NG	▶ Repair harness.

DIAGNOSTIC PROCEDURE 13 (Seat memory switch check)

NHLE0277S16

1	CHECK SEAT MEMORY SWITCH																												
<p>1. Disconnect seat memory switch connector. 2. Check continuity between seat memory switch terminals.</p>																													
																													
<p>Seat memory switch (D12)</p> 																													
<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2">Switch</th> <th rowspan="2">Condition</th> <th colspan="4">Terminals</th> </tr> <tr> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <td>Memory-1</td> <td>ON</td> <td style="text-align: center;">○</td> <td></td> <td></td> <td style="text-align: center;">○</td> </tr> <tr> <td>Memory-2</td> <td>ON</td> <td></td> <td style="text-align: center;">○</td> <td></td> <td style="text-align: center;">○</td> </tr> <tr> <td>Set</td> <td>ON</td> <td></td> <td></td> <td style="text-align: center;">○</td> <td style="text-align: center;">○</td> </tr> </tbody> </table>		Switch	Condition	Terminals				1	2	3	4	Memory-1	ON	○			○	Memory-2	ON		○		○	Set	ON			○	○
Switch	Condition			Terminals																									
		1	2	3	4																								
Memory-1	ON	○			○																								
Memory-2	ON		○		○																								
Set	ON			○	○																								
<p>SEL634W</p>																													
<p>OK or NG</p>																													
OK	▶ Check the following. <ul style="list-style-type: none"> ● Ground circuit for seat memory switch ● Harness for open or short between seat control unit LH and seat memory switch 																												
NG	▶ Replace seat memory switch.																												

AUTOMATIC DRIVE POSITIONER

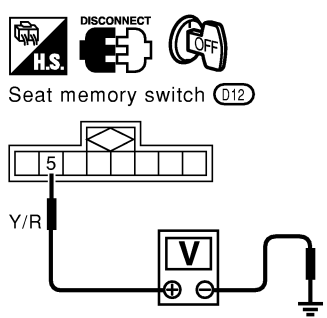
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 14 (Memory indicator check)

=NHLE0277S17

1	CHECK INDICATOR LAMP	
Check indicator lamp illumination.		
OK or NG		
OK	▶	GO TO 2.
NG	▶	Replace seat memory switch (indicator lamp).

GI
MA
EM

2	CHECK POWER SUPPLY CIRCUIT FOR INDICATOR LAMP	
<p>1. Disconnect seat memory switch connector. 2. Check voltage between seat memory switch terminal and ground.</p> <div style="text-align: center;">  <p style="margin-left: 200px;">Battery voltage should exist.</p> </div> <p style="text-align: right;">SEL635W</p>		
OK or NG		
OK	▶	Check harness for open or short between seat control unit LH and seat memory switch
NG	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse [No. 12 located in the fuse block (J/B)] ● Harness for open or short between fuse and indicator lamp

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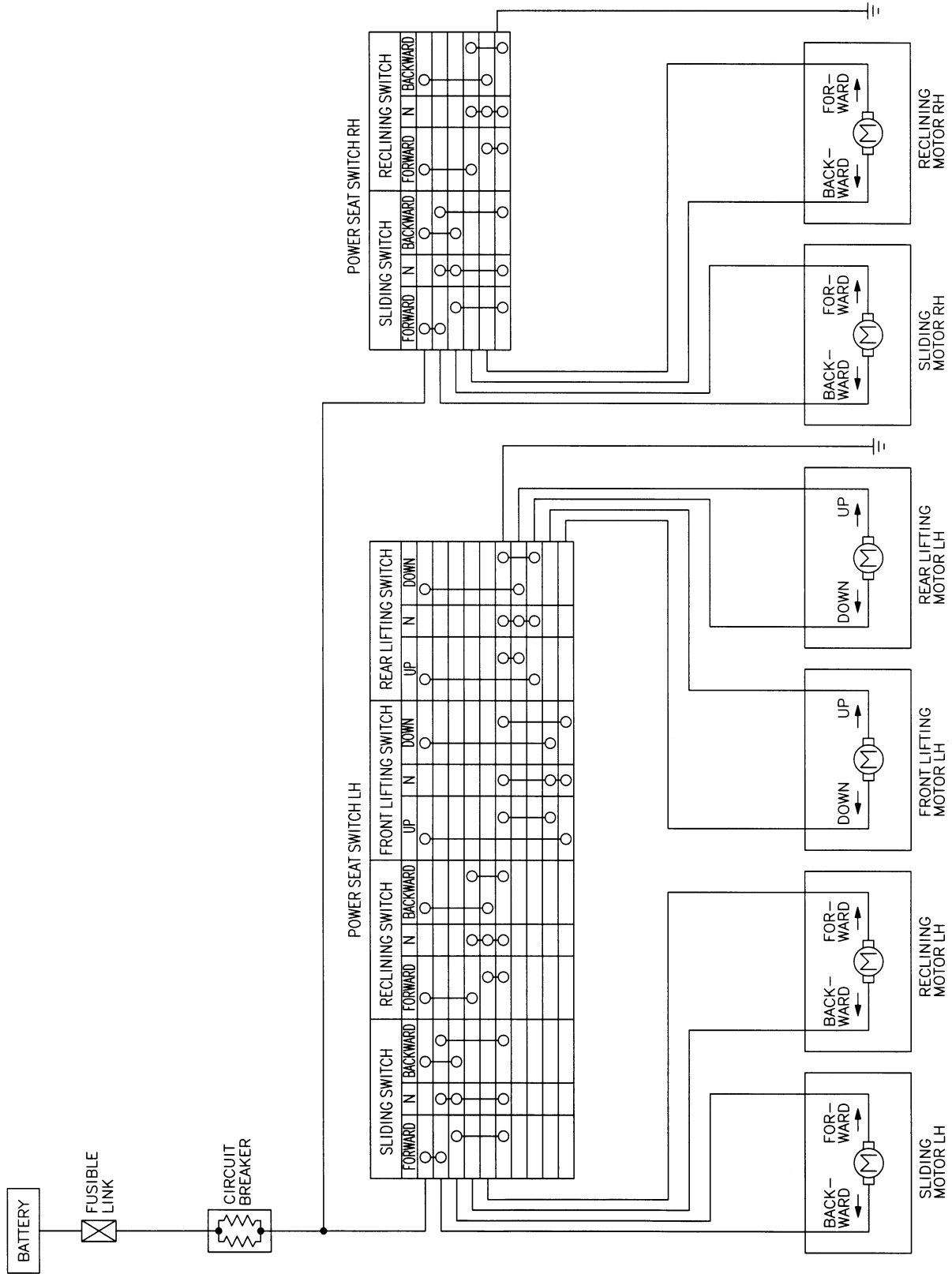
EL

IDX

POWER SEAT

Schematic

NHEL0251



MEL221L

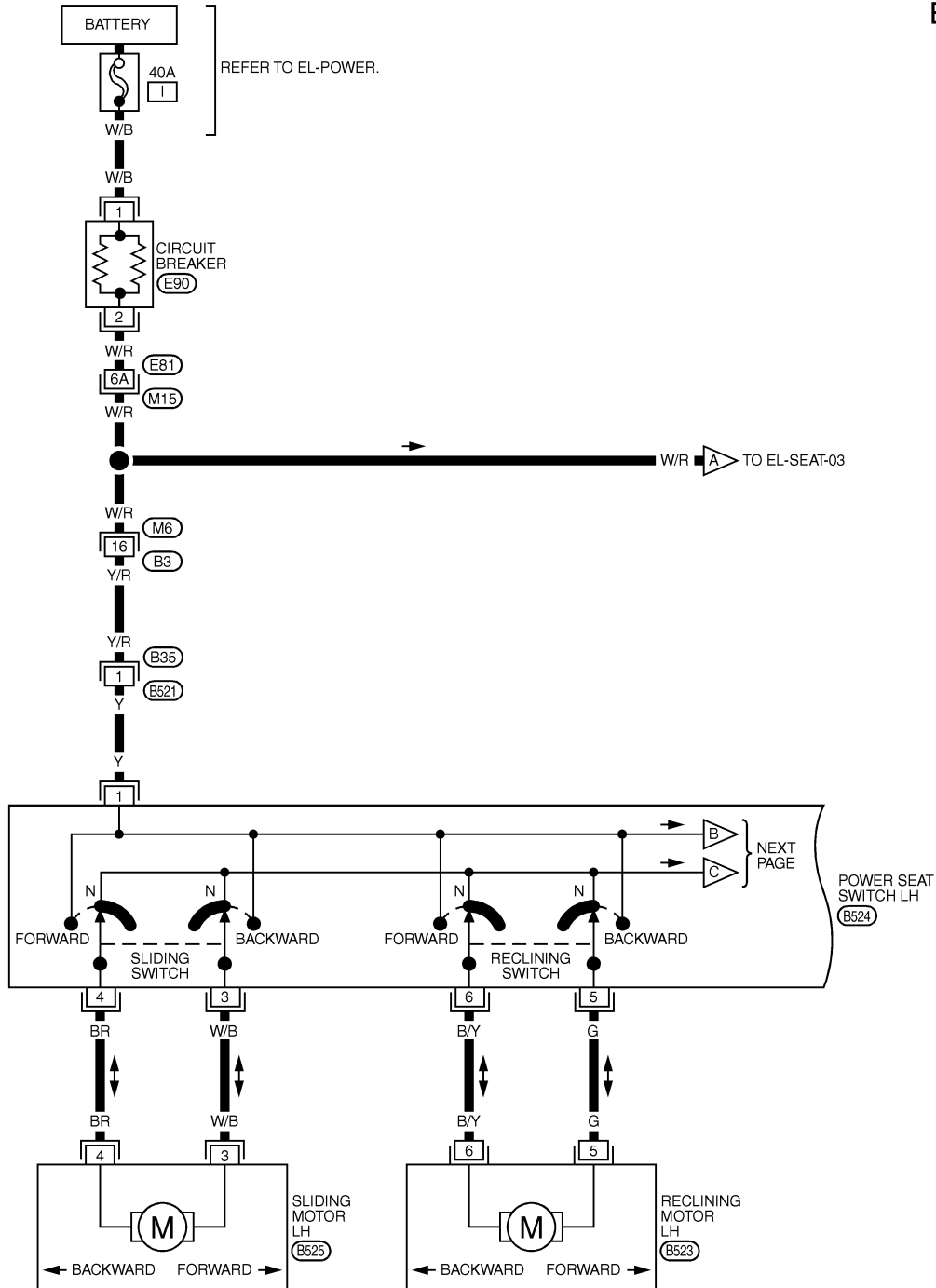
POWER SEAT

Wiring Diagram — SEAT —

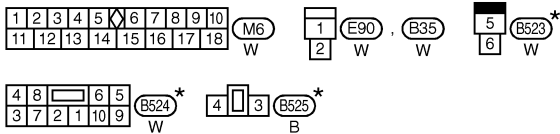
Wiring Diagram — SEAT —

NHEL0092

EL-SEAT-01



GI
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SC



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

REFER TO THE FOLLOWING.
(M15) - SUPER
MULTIPLE JUNCTION (SMJ)

EL
IDX

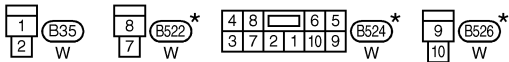
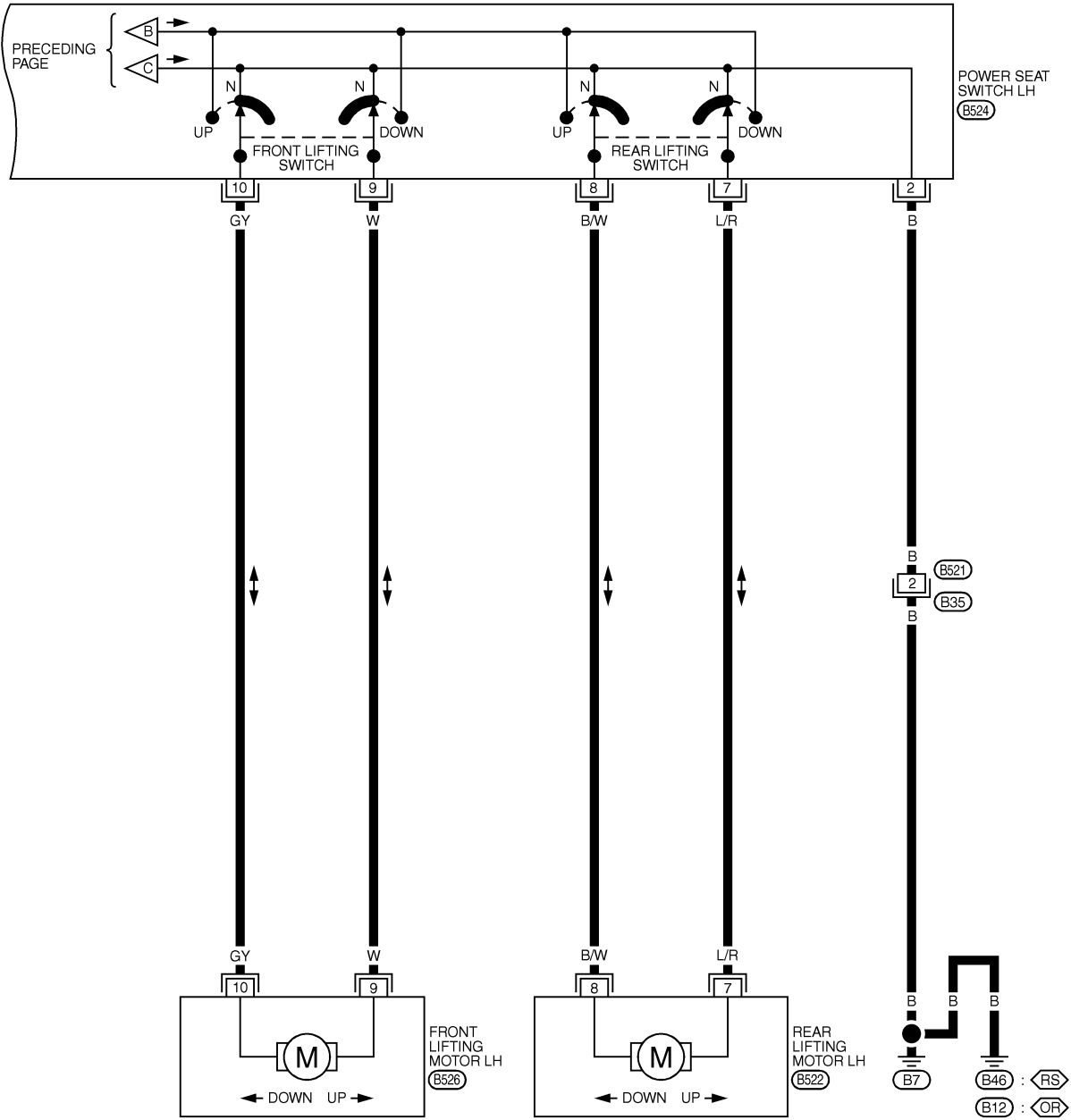
MEL222L

POWER SEAT

Wiring Diagram — SEAT — (Cont'd)

EL-SEAT-02

⊠RS : WITH REAR SUNSHADE
 ⊠OR : WITHOUT REAR SUNSHADE



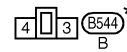
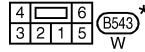
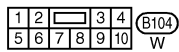
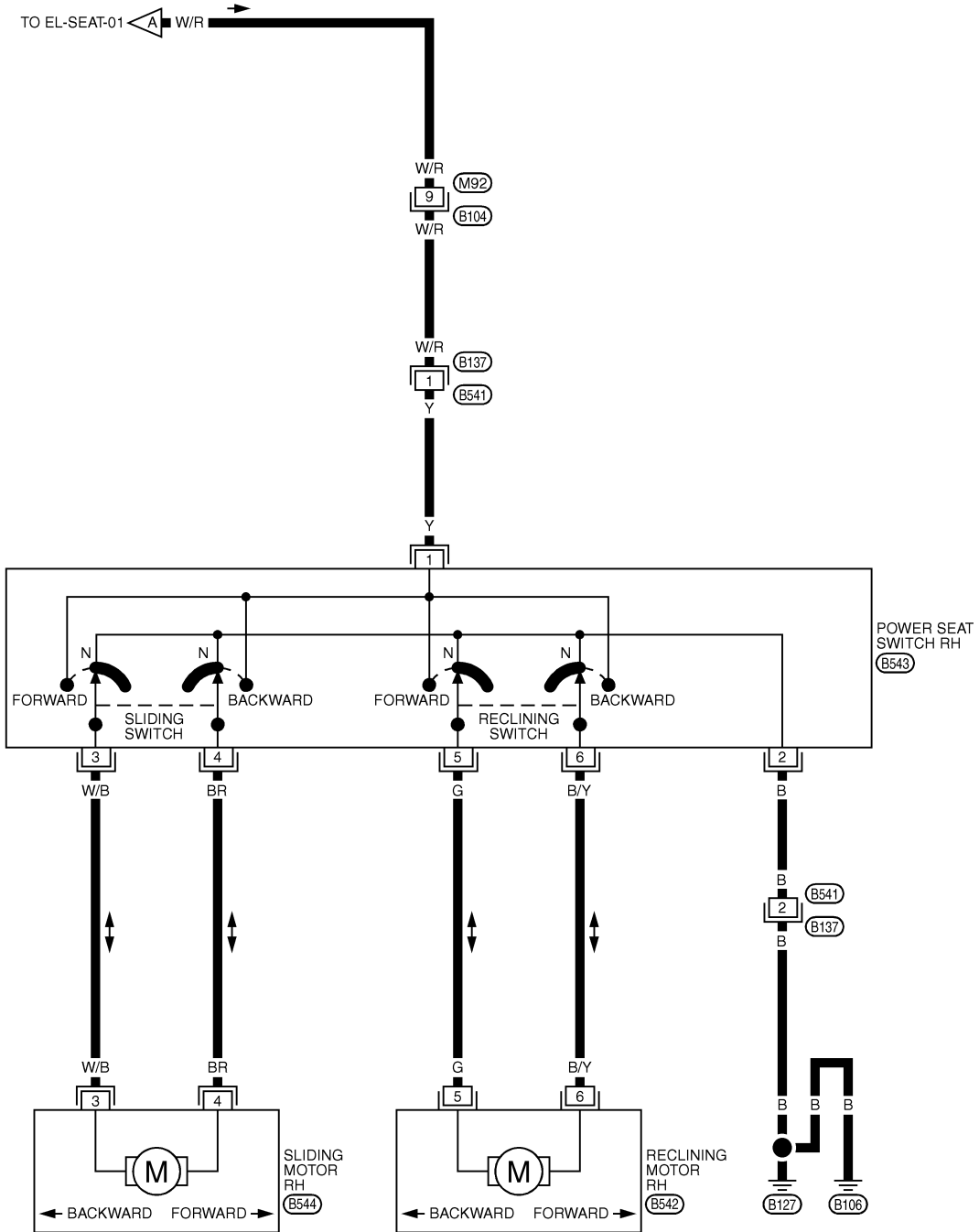
* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

MEL456M

POWER SEAT

Wiring Diagram — SEAT — (Cont'd)

EL-SEAT-03



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

MEL648K

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HEATED SEAT

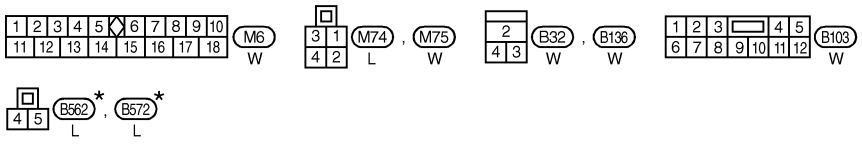
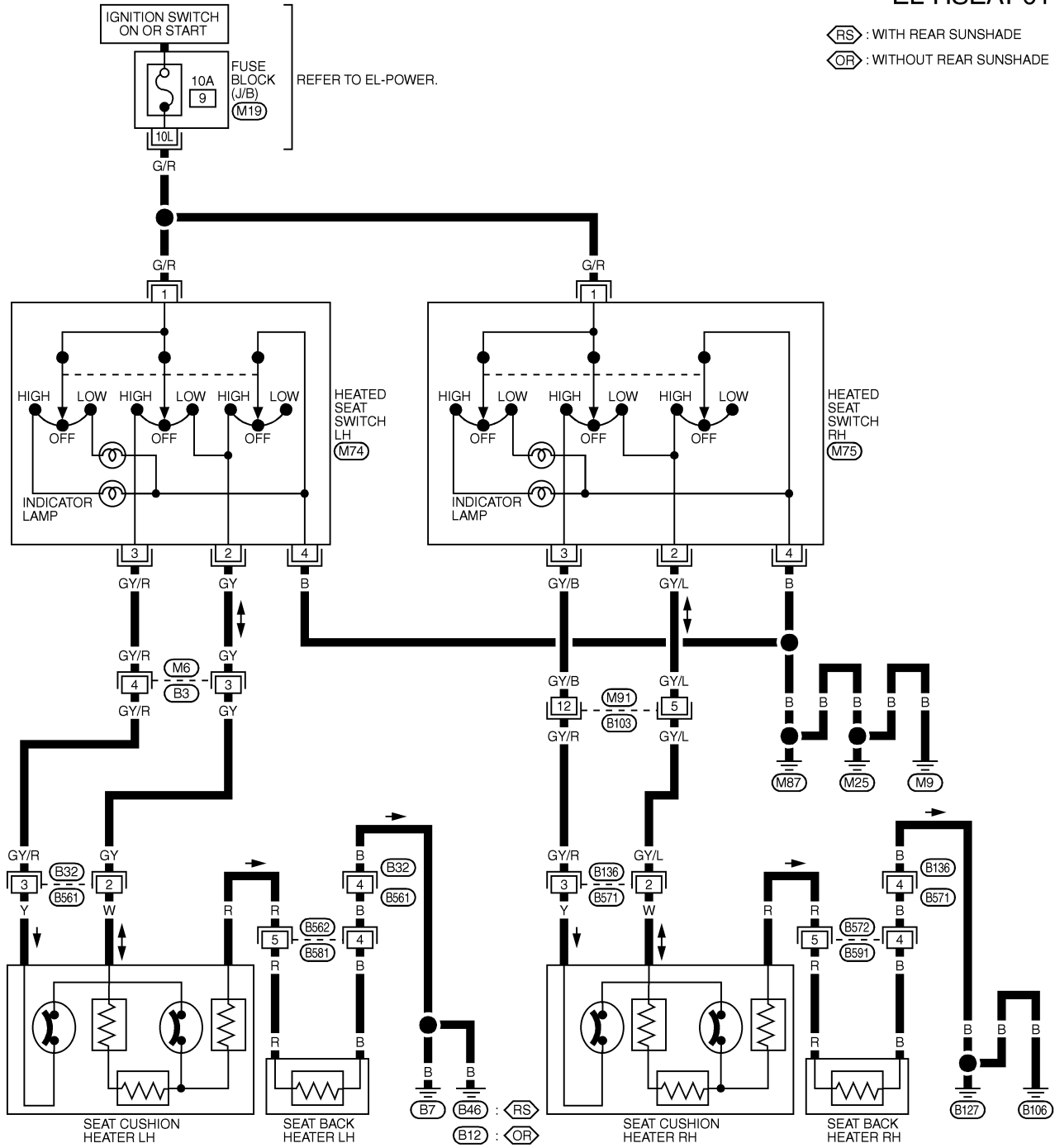
Wiring Diagram — HSEAT —

Wiring Diagram — HSEAT —

NHEL0093

EL-HSEAT-01

⊠RS : WITH REAR SUNSHADE
 ⊠OR : WITHOUT REAR SUNSHADE



REFER TO THE FOLLOWING.
 ⊠M19 - FUSE BLOCK-JUNCTION BOX (J/B)

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

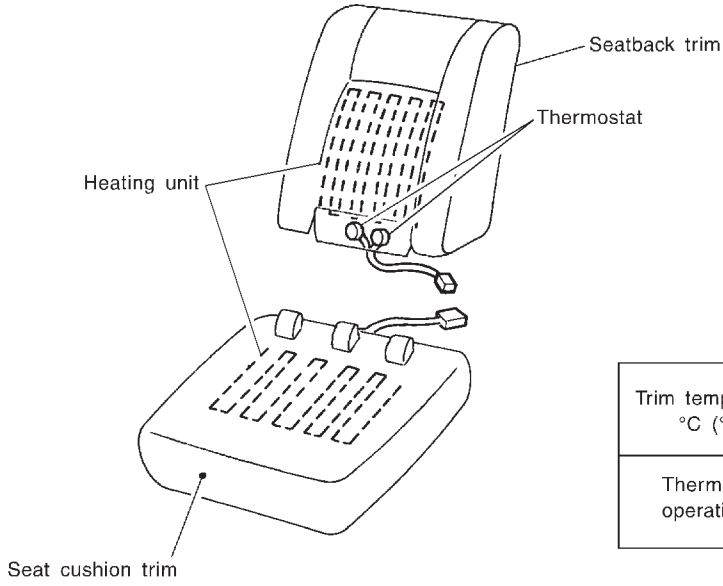
MEL457M

HEATED SEAT

Seatback Heating Unit

Seatback Heating Unit

NHEL0294



Trim temperature °C (°F)	Increasing to 35 - 45 (95 - 113)	Decreasing to 25 - 35 (77 - 95)
Thermostat operation	OFF	ON

SBT314

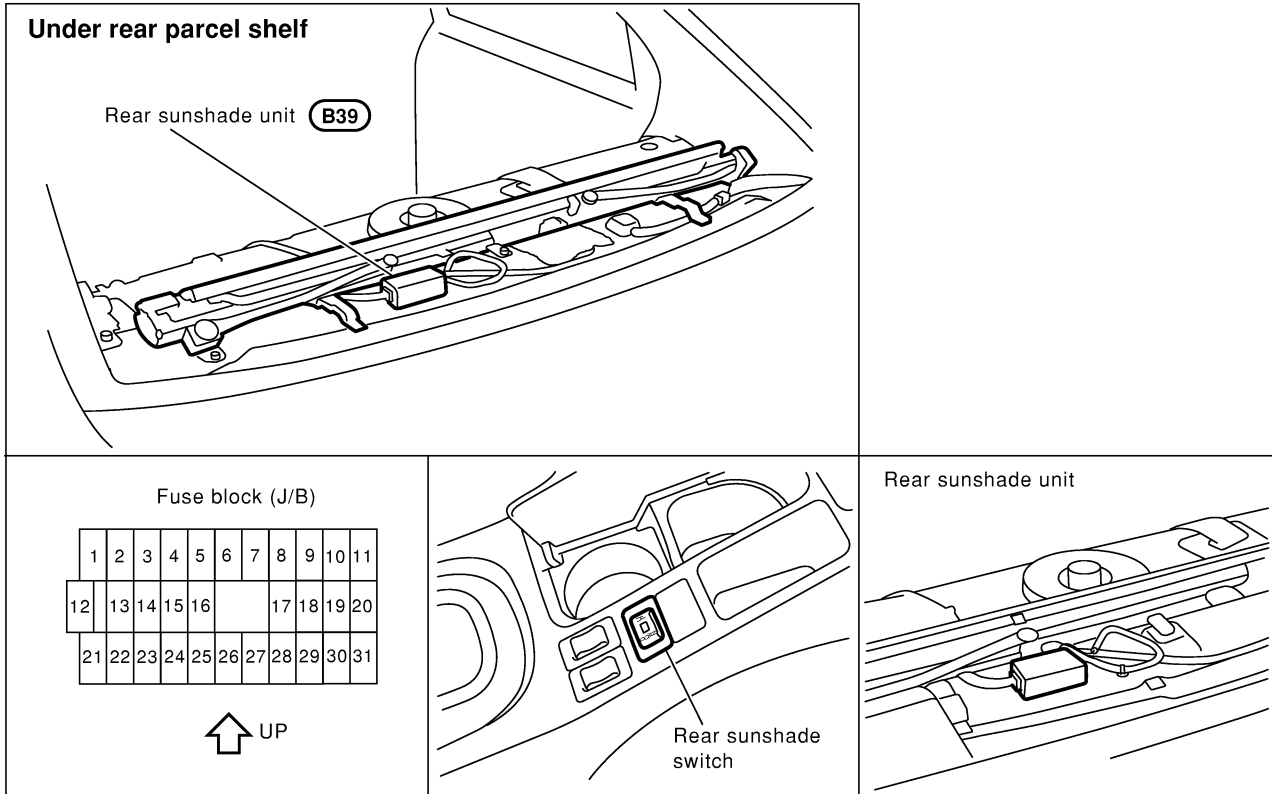
GI
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IDX

REAR SUNSHADE

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NHEL0278



SEL636W

System Description

=NH0279

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

- through 10A fuse [No. 23, located in the fuse block (J/B)]
- to rear sunshade unit terminal 5.

Ground is supplied at all times

- to rear sunshade unit terminal 6
- through body ground M9, M25 and M87.

OPEN OPERATION

When rear sunshade switch is turned to "UP", the ground is supplied to rear sunshade unit terminal 1. Based on the ground signal to control unit terminal 6 through rear sunshade unit terminal 1, power is supplied

- to motor terminal 2
- from control unit terminal 9

and ground is supplied

- to motor terminal 1
- from control unit terminal 8.

When sunshade is fully up, control unit stops to supply power to motor based on the signal from UP/DOWN limit switch.

CLOSE OPERATION

When rear sunshade switch is turned to "DOWN", ground is supplied to rear sunshade unit terminal 2. Based on the ground signal to control unit terminal 7 through rear sunshade unit terminal 2, power is supplied

- to motor terminal 1
- from control unit terminal 8

and ground is supplied

- to motor terminal 2
- from control unit terminal 9.

When sunshade is fully down, control unit stops to supply power to motor based on the signal from UP/DOWN limit switch.

Once the sunshade switch is pushed, the open or close operation will be continued until the control unit detects full open or full close based on the signal from UP/DOWN limit switch. During open or close operation of sunshade, the input signal from sunshade switch is ignored.

When control unit detects the slack of sunshade based on the signal from slack detection switch, the motor will be stopped. When control unit detects no slack of sunshade based on the signal from slack detection switch, power is supplied again to motor after 1 sec. after no slack is detected.

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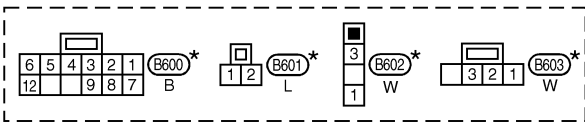
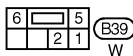
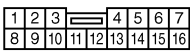
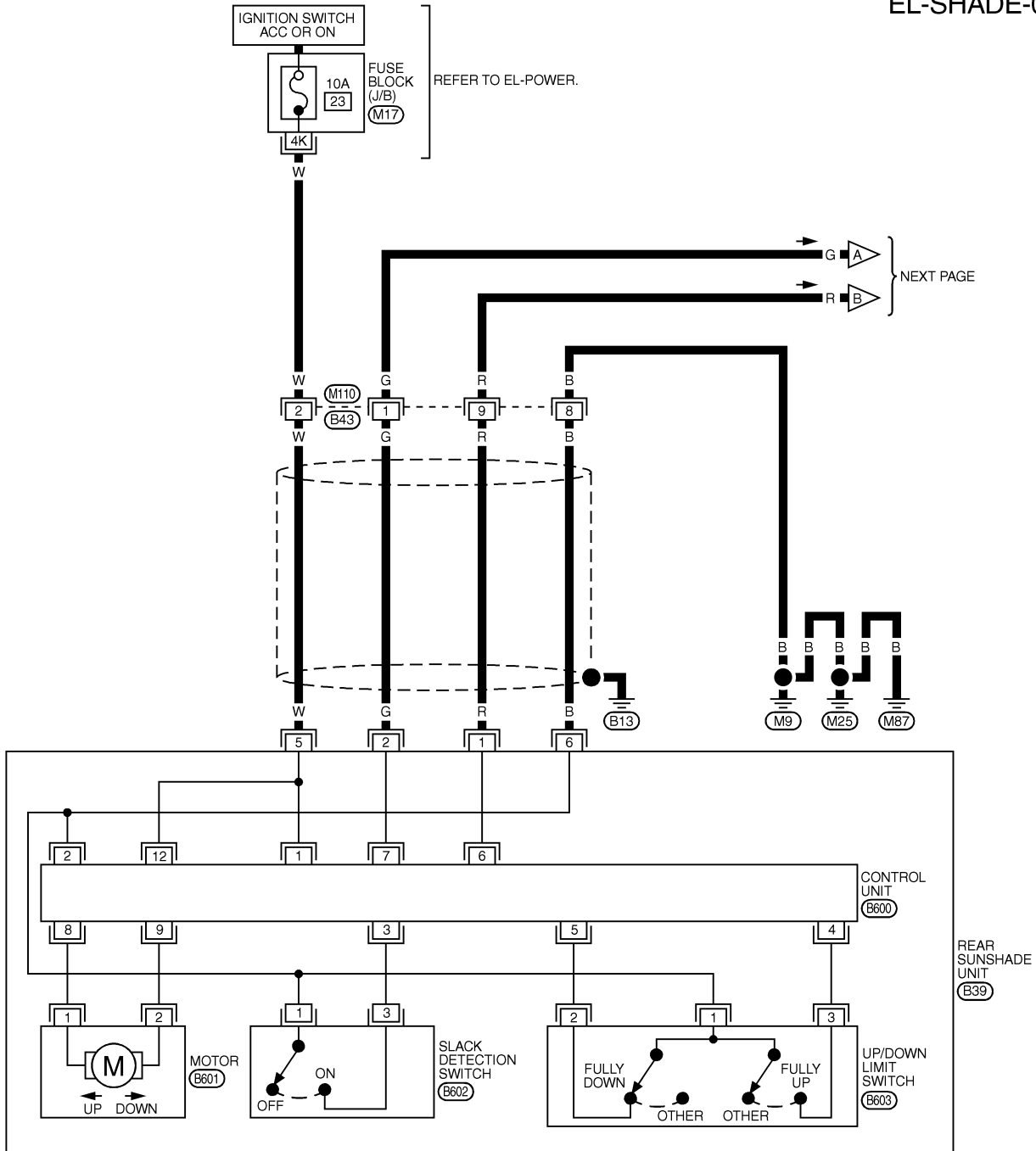
REAR SUNSHADE

Wiring Diagram — SHADE —

Wiring Diagram — SHADE —

NHEL0280

EL-SHADE-01



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

REFER TO THE FOLLOWING.

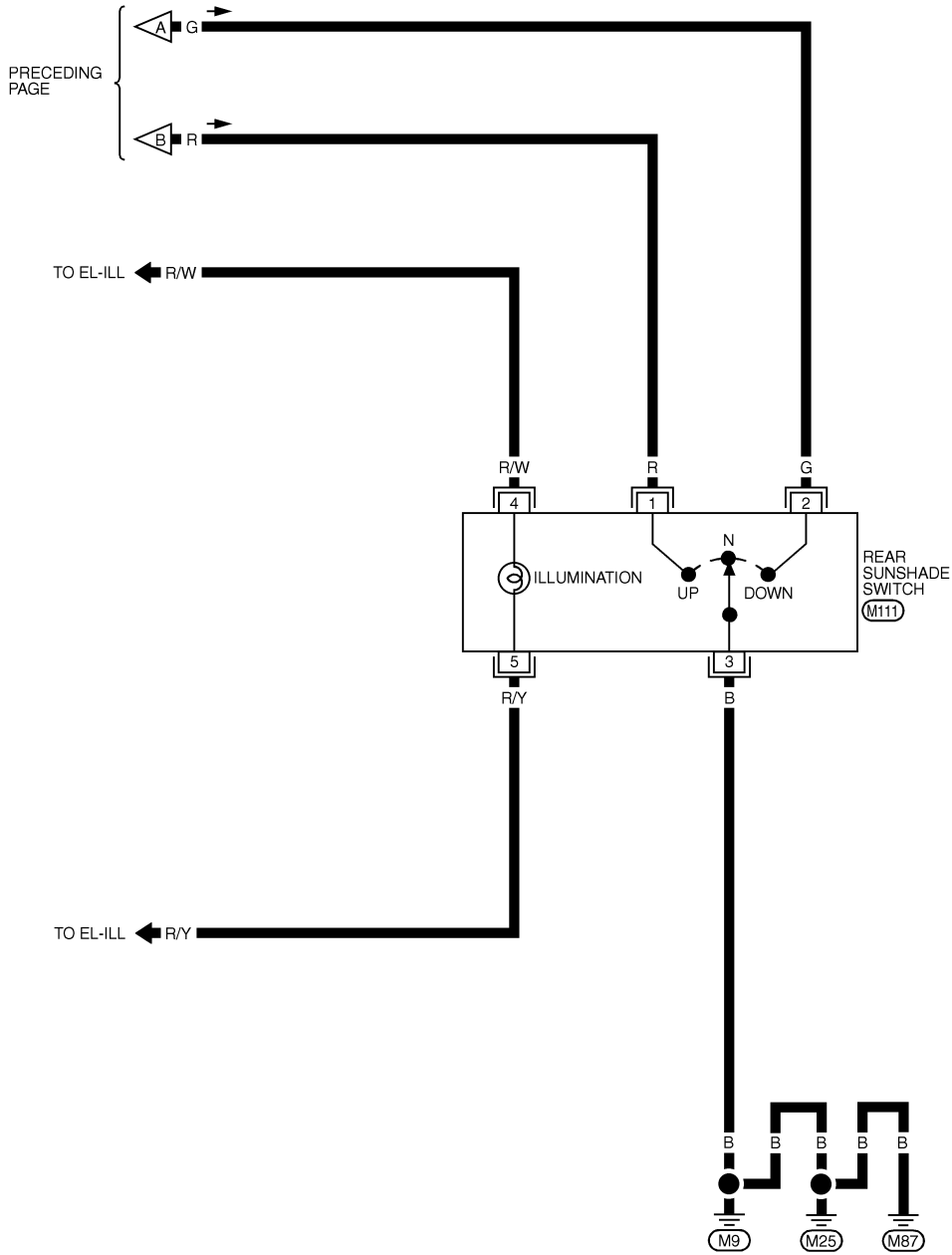
(M17) - FUSE BLOCK-
JUNCTION BOX (J/B)

MEL458M

REAR SUNSHADE

Wiring Diagram — SHADE — (Cont'd)

EL-SHADE-02



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	1	4	M111 L
	3	5	

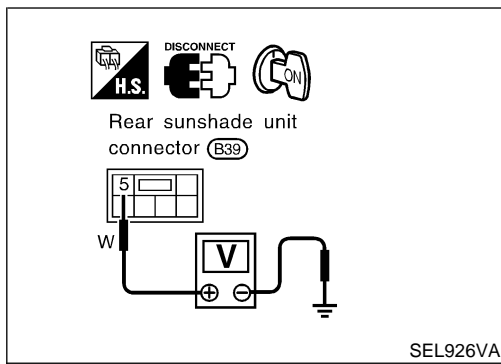
EL

IDX

MEL479K

REAR SUNSHADE

Trouble Diagnoses



Trouble Diagnoses

NHELO281

POWER SUPPLY CIRCUIT CHECK

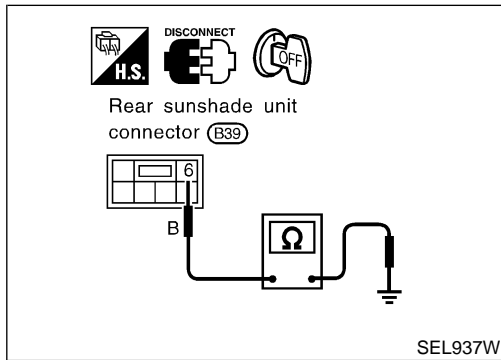
NHELO281S01

Check voltage between rear sunshade unit terminal 5 and ground.

Terminals	Ignition switch position			
	OFF	ACC	ON	START
5 - Ground	0V	Battery voltage		

If NG, check the following.

- 10A fuse [No. 23, located in fuse block (J/B)]
- Harness for open or short between 10A fuse [No. 23, located in fuse block (J/B)] and rear sunshade unit.



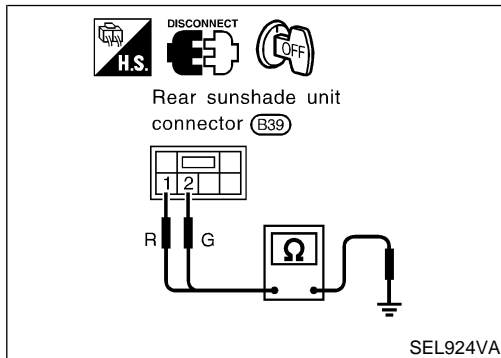
GROUND CIRCUIT CHECK

NHELO281S02

Check continuity between rear sunshade unit terminal 6 and ground.

Terminals	Continuity
6 - Ground	Yes

If NG, check harness for open between rear sunshade unit terminal 6 and body ground M9, M25 and M87.



REAR SUNSHADE SIGNAL CIRCUIT CHECK

NHELO281S03

1. Disconnect rear sunshade unit connector.
2. Check the following continuity.

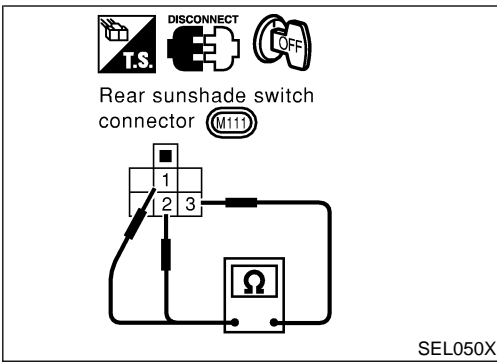
Terminals	Switch position	Continuity
1 - Ground	Up	Yes
	Neutral	No
	Down	No
2 - Ground	Up	No
	Neutral	No
	Down	Yes

If NG, check the following.

- Harness for open or short between rear sunshade unit and rear sunshade switch
- Harness for open or short between rear sunshade switch and ground
- Rear sunshade switch

REAR SUNSHADE

Trouble Diagnoses (Cont'd)



REAR SUNSHADE SWITCH CHECK

NHEL0281S04

1. Disconnect rear sunshade switch.
2. Check continuity between rear sunshade switch terminals.

Terminals	Switch position	Continuity
1 - 3	Up	Yes
	Neutral	No
	Down	No
2 - 3	Up	No
	Neutral	No
	Down	Yes

If NG, replace rear sunshade switch.

GI

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RS

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HA

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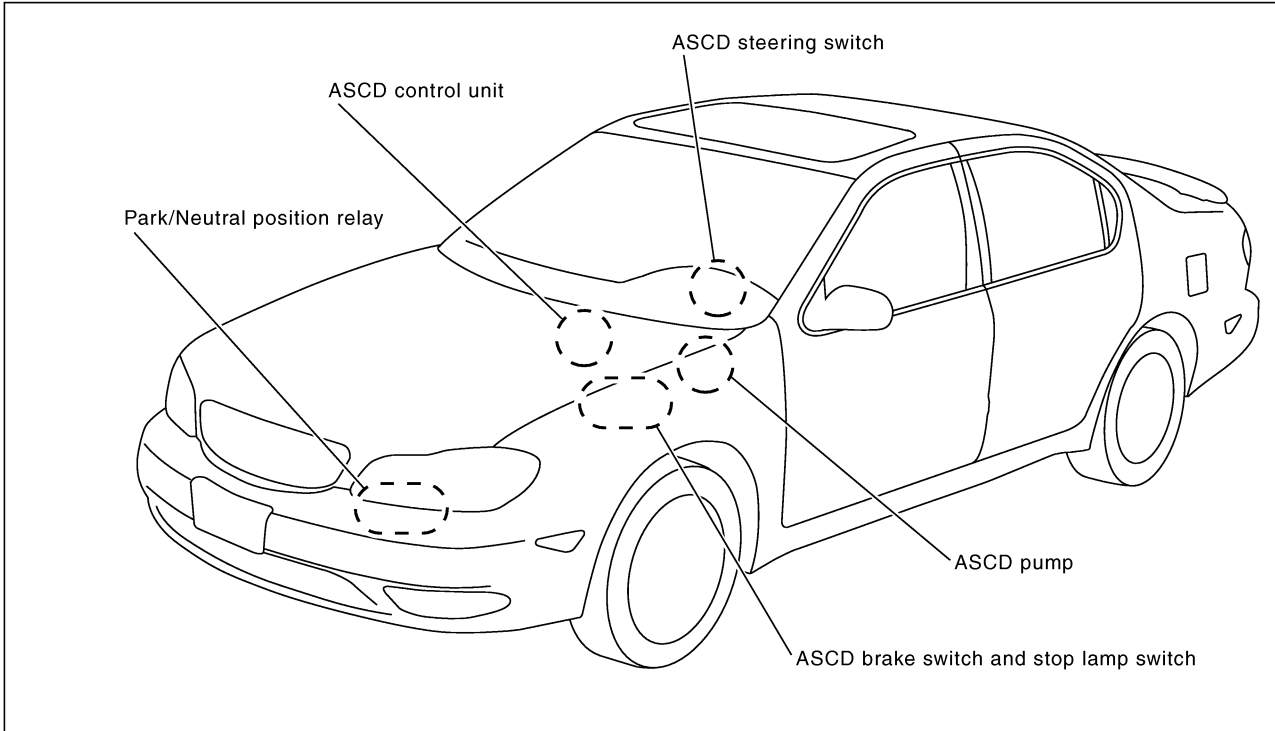
IDX

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NHEL0094

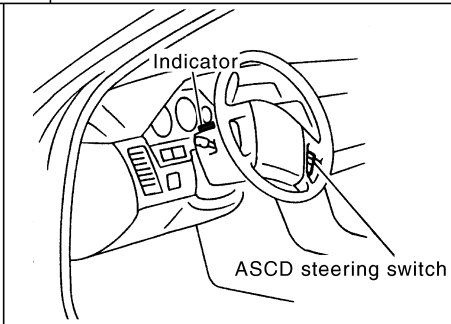
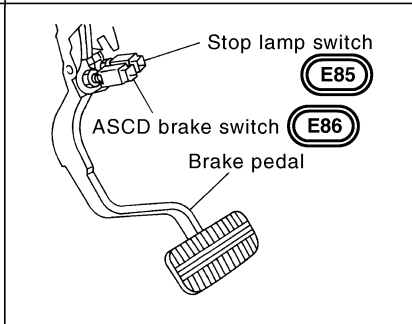
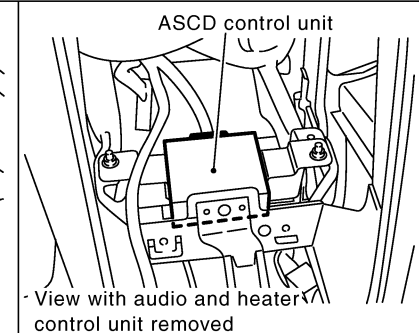
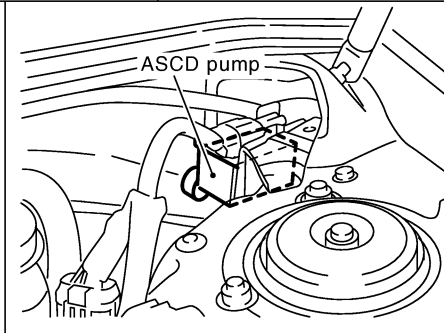
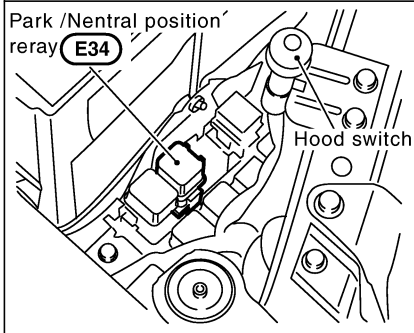


Fuse block (J/B)

1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16			17	18	19	20
21	22	23	24	25	26	27	28	29	30	31



51	52	53	54	55	56	57	58	59	60	b	c	d	e	f	
61	62	63	64	65	66	67	68	69	70	71	72	g	h	i	j



SEL051X

System Description

NHLE0190

Refer to Owner's Manual for ASCD operating instructions.

POWER SUPPLY AND GROUND

NHLE0190S01

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

- through 10A fuse [No. 30, located in the fuse block (J/B)]
- to ASCD brake switch terminal 1 and
- to combination meter terminals 50 and 66,
- through 15A fuse [No. 20, located in the fuse block (J/B)]
- to park/neutral position relay terminal 1,
- through 10A fuse [No. 10, located in the fuse block (J/B)]
- to ASCD control unit terminal 5, and

GI

MA

EM

LC

Power is supplied at all times:

- through 15A fuse [No. 2, located in the fuse block (J/B)]
- to the stop lamp switch terminal 1, and

EC

When park/neutral position is in the P or N position, ground is supplied:

- to park/neutral position relay terminal 2
- through park/neutral position switch and body grounds F41 and F39.

FE

When ASCD main switch is depressed (ON), ground is supplied:

- to ASCD control unit terminal 11
- from ASCD steering switch terminal 1
- to ASCD steering switch terminal 2
- from ASCD control unit terminal 24.

AT

AX

then ASCD control unit holds CRUISE condition and illuminates CRUISE indicator.

SU

Ground is supplied:

- to combination meter terminal 46
- from ASCD control unit terminal 15.

BR

OPERATION

Set Operation

NHLE0190S02

To activate the ASCD, all of following conditions must exist.

- Ground supply to ASCD control unit terminal 11
- Power supply to ASCD control unit terminal 8 [Brake pedal is released and A/T selector lever is in other than P and N position.]
- Vehicle speed is between 40 km/h (25 MPH) and 144 km/h (89 MPH). (Signal from combination meter)

ST

RS

BT

When the SET/COAST switch is depressed, power is supplied:

- from ASCD steering switch terminal 2
- to ASCD control unit terminal 24.

HA

And then ASCD pump is activated to control throttle wire and ASCD control unit supply ground

- to combination meter terminals 51 to illuminate SET indicator.

SC

A/T Overdrive Control during Cruise Control Driving

NHLE0190S0202

When the vehicle speed is approximately 8 km/h (5 MPH) below set speed, a signal is sent

- from ASCD control unit terminal 10
- to TCM (transmission control module) terminal 24.

EL

IDX

When this occurs, the TCM (transmission control module) cancels overdrive.

After vehicle speed is approximately 3 km/h (2 MPH) above set speed, overdrive is reactivated.

ASCD Shifting Control

NHLE0190S0207

During ASCD cruise, ASCD control unit controls A/T shifting to avoid uncomfortable shifting.

This is used to control the signals below.

- Throttle position sensor from ECM
- A/T shift solenoid valve A

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

System Description (Cont'd)

Coast Operation

NHEL0190S0203

When the SET/COAST switch is depressed during cruise control driving, ASCD actuator returns the throttle cable to decrease vehicle set speed until the switch is released. And then ASCD will keep the new set speed.

Accel Operation

NHEL0190S0204

When the RESUME/ACCEL switch is depressed, power is supplied

- from ASCD steering switch terminal 2
- to ASCD control unit terminal 24.

If the RESUME/ACCEL switch is depressed during cruise control driving, ASCD actuator pulls the throttle cable to increase the vehicle speed until the switch is released or vehicle speed is reached to maximum controlled speed by the system. And then ASCD will keep the new set speed.

Cancel Operation

NHEL0190S0205

When any of following condition exists, cruise operation will be canceled.

- CANCEL switch is depressed. (Power supply to ASCD control unit terminal 24)
- Brake pedal is depressed. (Power supply to ASCD control unit terminal 23 from stop lamp switch)
- Brake pedal is depressed or A/T selector lever is shifted to P or N position. (Power supply to ASCD control unit terminal 8 is interrupted.)

If MAIN switch is turned to OFF during ASCD is activated, all of ASCD operation will be canceled and vehicle speed memory will be erased.

Resume Operation

NHEL0190S0206

When the RESUME/ACCEL switch is depressed after cancel operation other than depressing MAIN switch is performed, vehicle speed will return to last set speed. To resume vehicle set speed, vehicle condition must meet following conditions.

- Brake pedal is released.
- A/T selector lever is in other than P and N position.
- Vehicle speed is greater than 40 km/h (25 MPH) and 144 km/h (89 MPH).

ASCD PUMP OPERATION

NHEL0190S03

The ASCD pump consists of a vacuum motor, an air valve and a release valve. When the ASCD activates, power is supplied

- from terminal 12 of ASCD control unit
- to ASCD pump terminal 1.

Ground is supplied to vacuum motor, air valve and release valve from ASCD control unit depending on the operated condition as shown in the below table.

The pump is connected to ASCD actuator by vacuum hose. When the ASCD pump is activated, the ASCD pump vacuum the diaphragm of ASCD actuator to control throttle cable.

		Air valve (*1)	Release valve (*1)	Vacuum motor	Actuator inner pressure
ASCD not operating		Open	Open	Stopped	Atmosphere
ASCD operating	Releasing throttle cable	Open	Closed	Stopped	Vacuum
	Holding throttle position	Closed	Closed	Stopped	Vacuum (*2)
	Pulling throttle cable	Closed	Closed	Operated	Vacuum

*1: When power and ground is supplied, valve is closed.

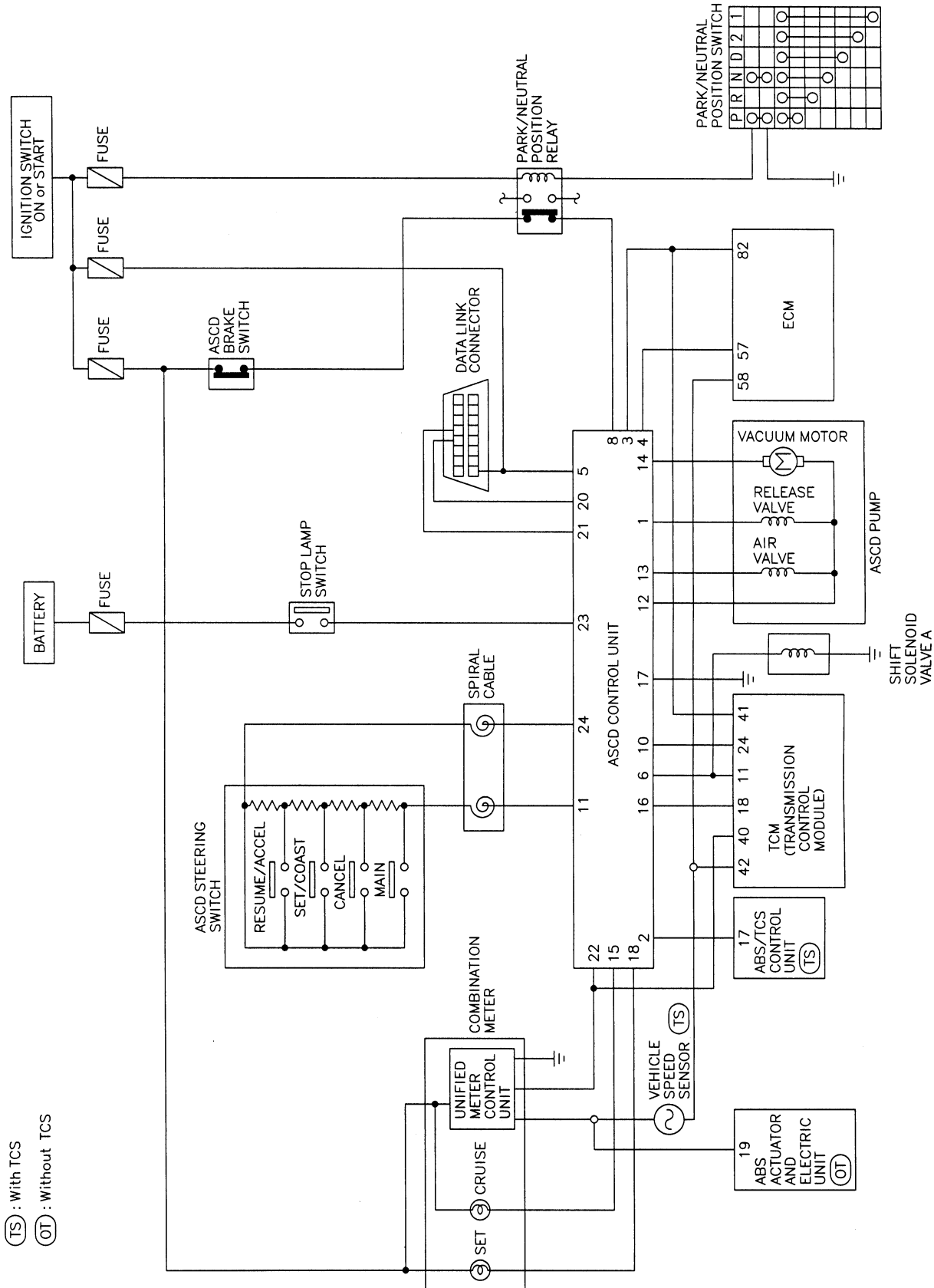
*2: Set position held.

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Schematic

NHEL0096

Schematic



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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD —

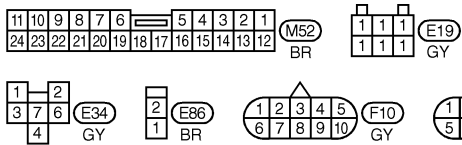
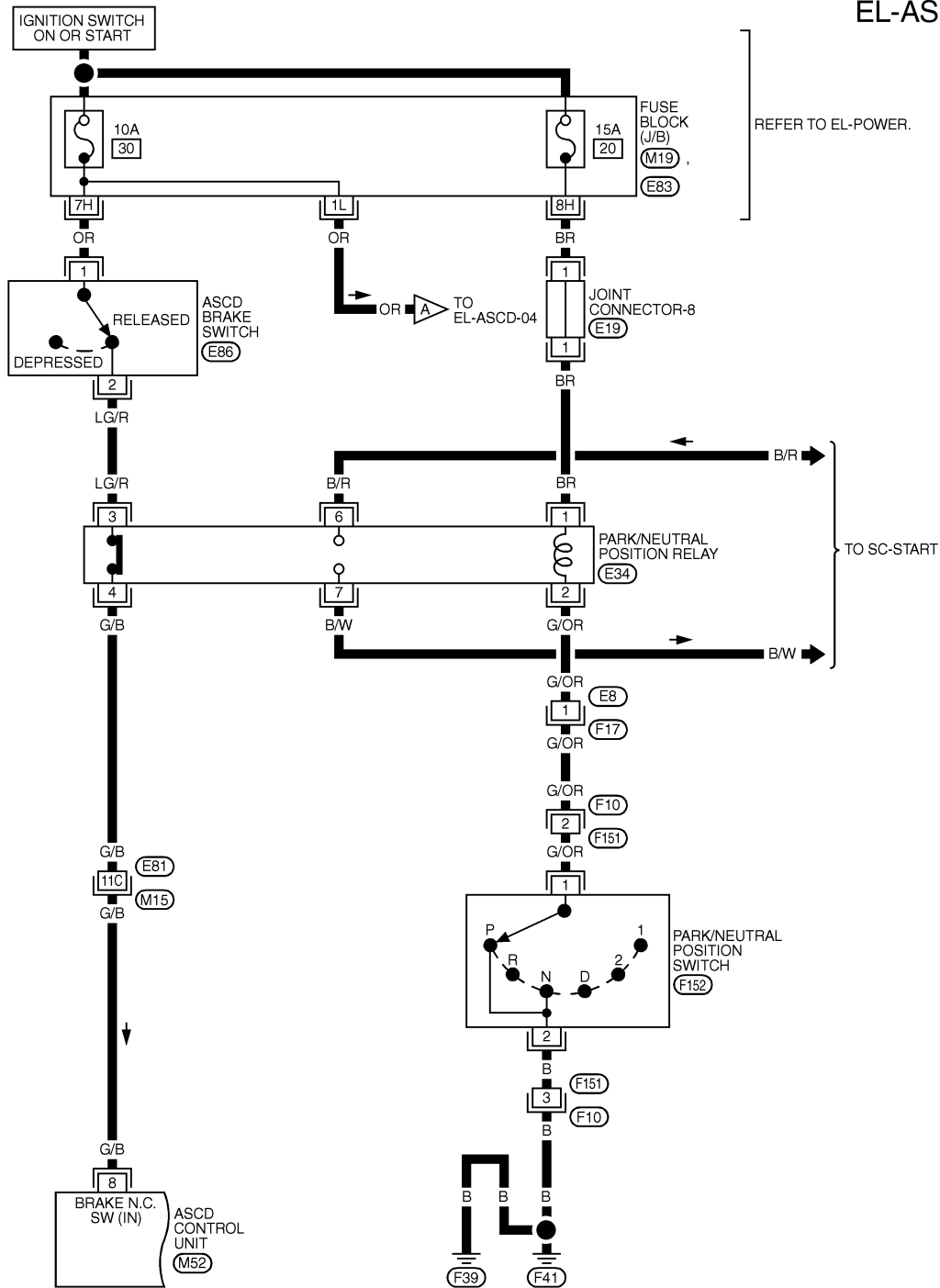
Wiring Diagram — ASCD —

NHEL0097

NHEL0097S01

FIG. 1

EL-ASCD-01



REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M19), (E83) -FUSE BLOCK-
 JUNCTION BOX (J/B)

MEL460M

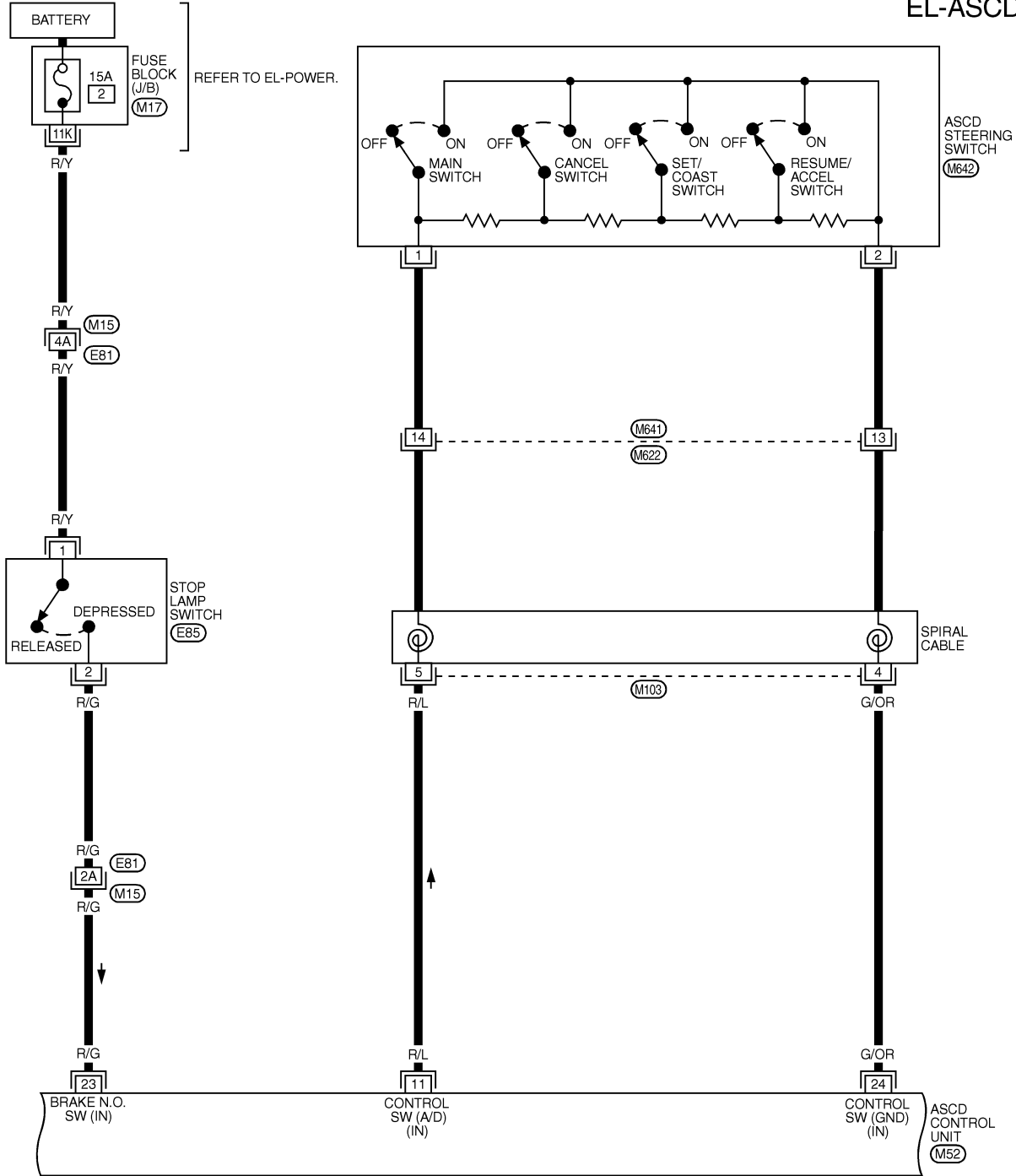
AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram — ASCD — (Cont'd)

FIG. 2

NHEL0097S02

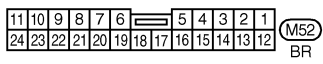
EL-ASCD-02



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

REFER TO THE FOLLOWING.
 (M15) - SUPER
 MULTIPLE JUNCTION (SMJ)
 (M17) - FUSE BLOCK-
 JUNCTION BOX (J/B)

MEL461M

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

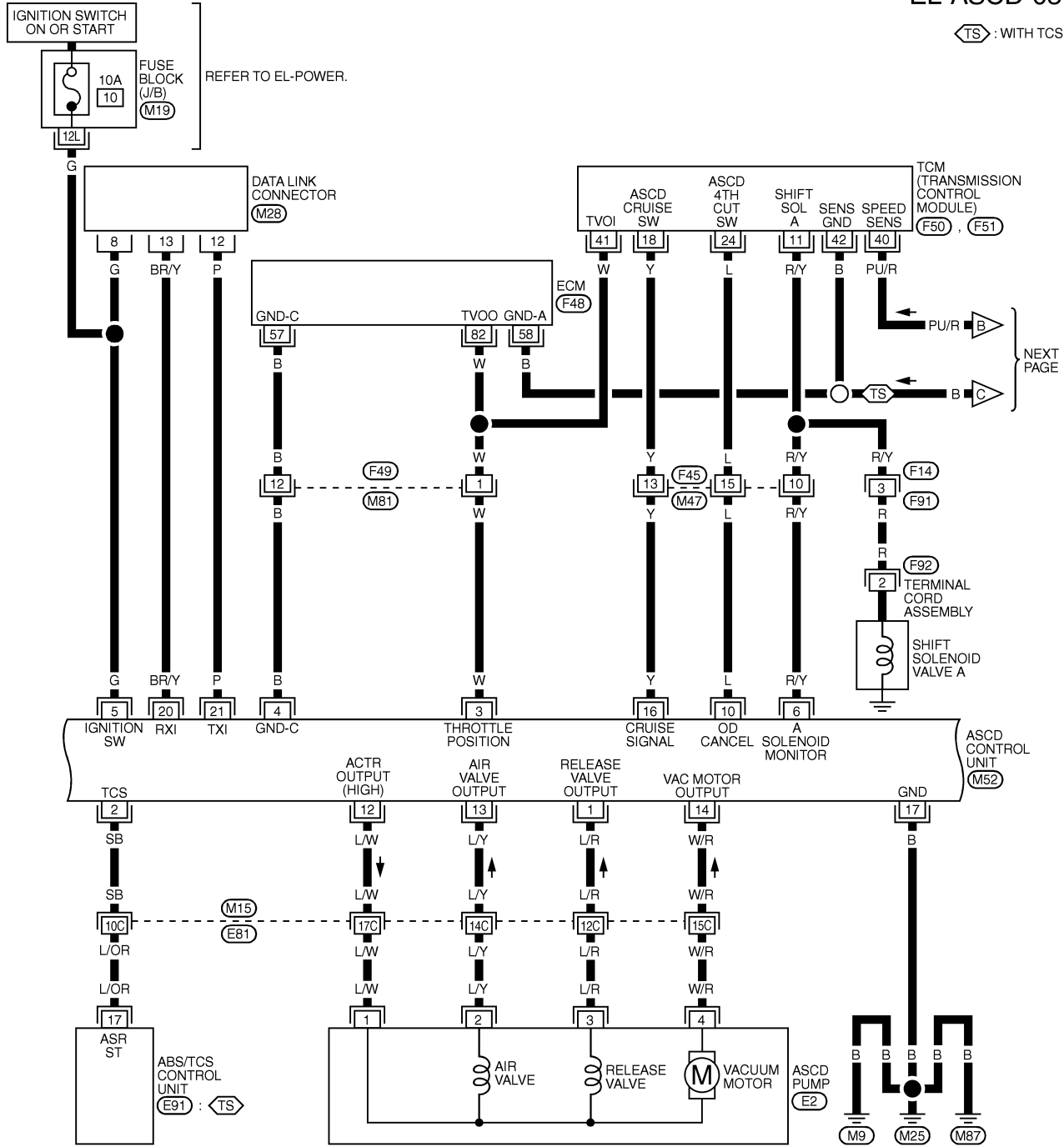
Wiring Diagram — ASCD — (Cont'd)

FIG. 3

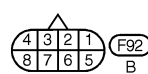
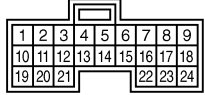
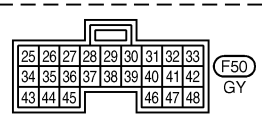
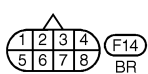
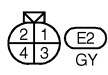
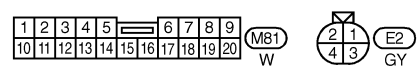
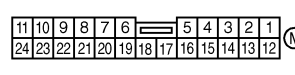
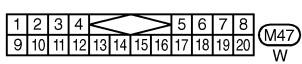
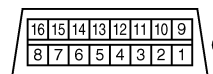
NH0097S03

EL-ASCD-03

(TS) : WITH TCS



NEXT PAGE



REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M19) -FUSE BLOCK-
 JUNCTION BOX (J/B)
 (E91), (F48) -ELECTRICAL UNITS

MEL120N

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

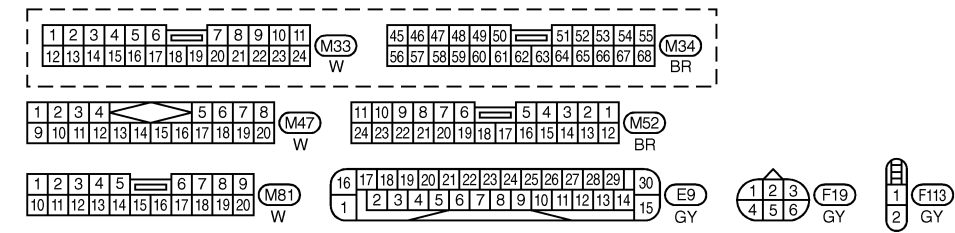
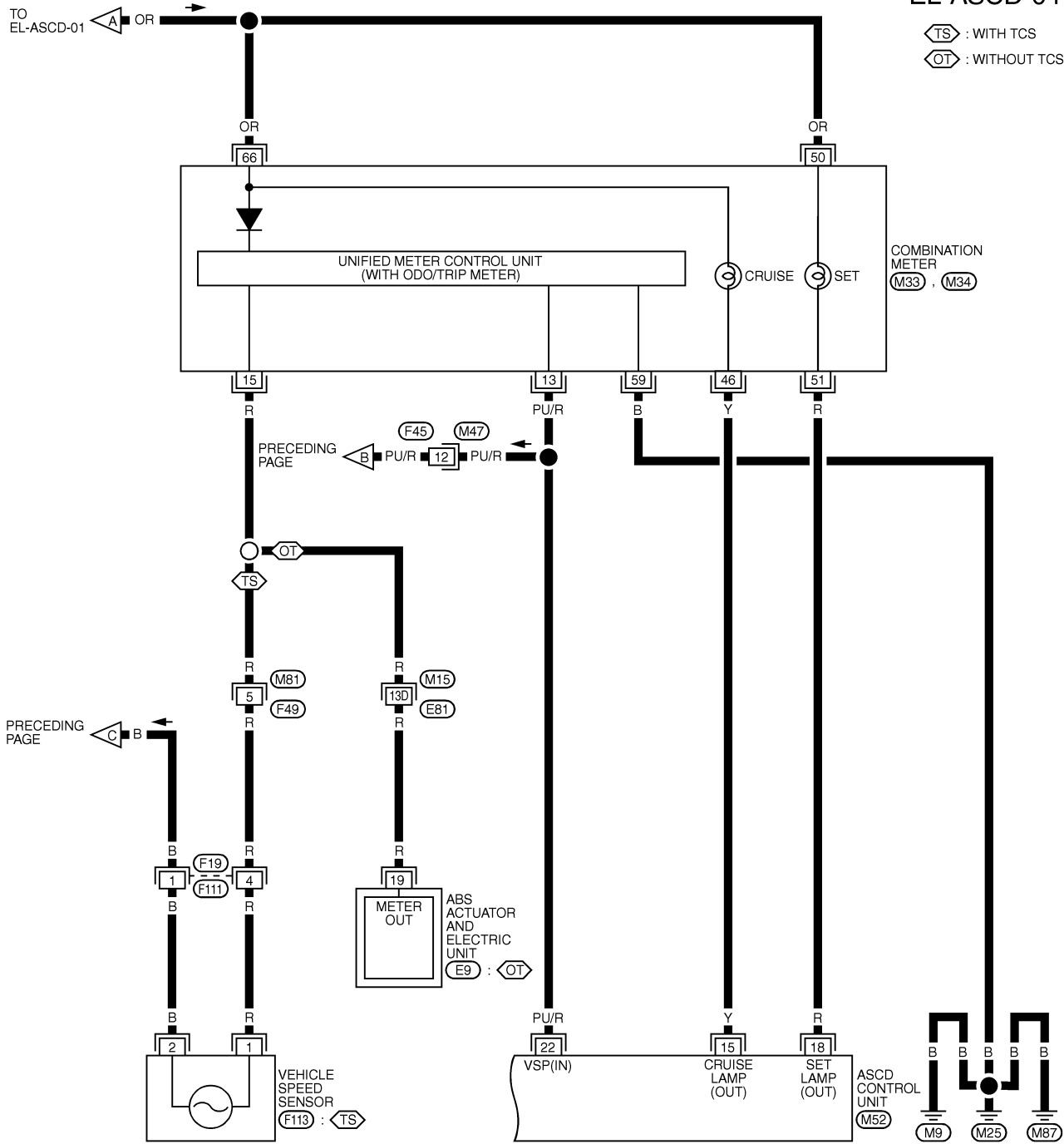
Wiring Diagram — ASCD — (Cont'd)

FIG. 4

NHEL0097S04

EL-ASCD-04

⬠(TS) : WITH TCS
 ⬠(OT) : WITHOUT TCS



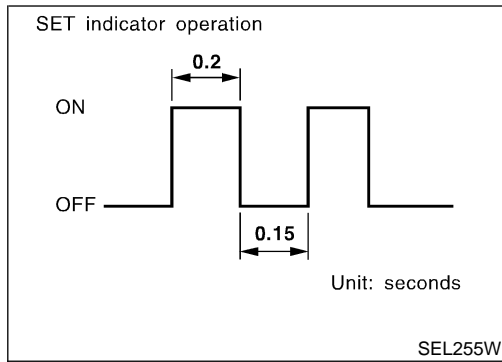
REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Fail-safe System



Fail-safe System

NHEL0228

DESCRIPTION

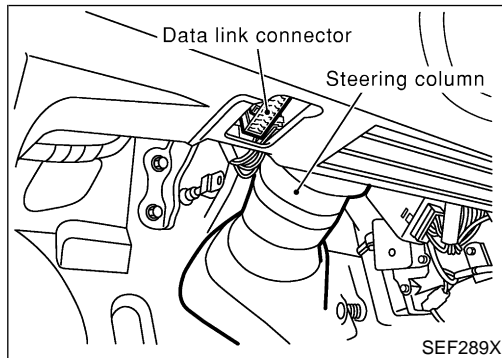
NHEL0228S01

When the fail-safe system senses a malfunction, it deactivates ASCD operation. The SET indicator in the combination meter will then flash.

MALFUNCTION DETECTION CONDITIONS

NHEL0228S02

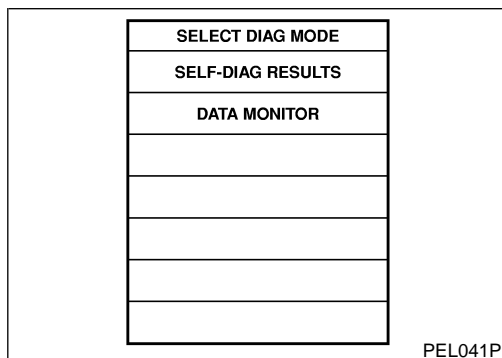
Detection conditions	ASCD operation during malfunction detection
<ul style="list-style-type: none"> ● ASCD steering (RESUME/ACCEL, CANCEL, SET/COAST) switch is stuck. ● Vacuum motor ground circuit or power circuit is open or shorted. ● Air valve ground circuit or power circuit is open or shorted. ● Release valve ground circuit or power circuit is open or shorted. ● Vehicle speed sensor is faulty. ● ASCD control unit internal circuit is malfunctioning. 	<ul style="list-style-type: none"> ● ASCD is deactivated. ● Vehicle speed memory is canceled.
<ul style="list-style-type: none"> ● ASCD brake switch or stop lamp switch is faulty. 	<ul style="list-style-type: none"> ● ASCD is deactivated. ● Vehicle speed memory is not canceled.



CONSULT-II Inspection Procedure

NHEL0229

1. Turn ignition switch OFF.
2. Connect "CONSULT-II" to the data link connector.



3. Turn ignition switch ON.
4. Turn ASCD main switch ON.
5. Touch START (on CONSULT-II display).
6. Touch ASCD.
7. Touch SELF-DIAG RESULTS.

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

CONSULT-II Inspection Procedure (Cont'd)

SELF-DIAG RESULTS	
DTC RESULTS	TIME
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED.	

PFA021B

- Self-diagnostic results are shown on display. Refer to "CONSULT-II Self-diagnostic Results" table (EL-285).

SELECT MONITOR ITEM
ALL SIGNALS
SELECTION FROM MENU

PEL043P

8. Touch DATA MONITOR.

DATA MONITOR	
MONITOR	
BRAKE SW	OFF
STOP LAMP SW	ON
SET SW	ON
RESUME/ACC SW	OFF
CANCEL SW	OFF
VHCL SPEED SE	XXX mph
SET VHCL SPD	XXX mph
VACUUM PUMP	XXX msec
AIR VALVE	XXX msec

PEL811S

- Touch START.
- Data monitor results are shown on display. Refer to "CONSULT-II Data Monitor" table (EL-286).

For further information, read the **CONSULT-II Operation Manual**.

CONSULT-II Self-diagnostic Results

NHEL0230

Diagnostic item	Description	Repair/Check order
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED.	<ul style="list-style-type: none"> Even if no malfunction is indicated, further testing may be required as far as the customer complains. 	—
POWER SUPPLY-VALVE	<ul style="list-style-type: none"> The power supply circuit for the ASCD pump is open. (An abnormally high voltage is entered.) 	ASCD PUMP CIRCUIT CHECK (EL-295)
VACUUM PUMP	<ul style="list-style-type: none"> The vacuum motor circuit is open or shorted. (An abnormally high or low voltage is entered.) 	ASCD PUMP CIRCUIT CHECK (EL-295)
AIR VALVE	<ul style="list-style-type: none"> The air valve circuit is open or shorted. (An abnormally high or low voltage is entered.) 	ASCD PUMP CIRCUIT CHECK (EL-295)
RELEASE VALVE	<ul style="list-style-type: none"> The release valve circuit is open or shorted. (An abnormally high or low voltage is entered.) 	ASCD PUMP CIRCUIT CHECK (EL-295)
VHCL SP-S/FAILSAFE	<ul style="list-style-type: none"> The vehicle speed sensor is malfunctioning. 	VEHICLE SPEED SENSOR CHECK (EL-294)
CONTROL UNIT	<ul style="list-style-type: none"> The ASCD control unit is malfunctioning. 	Replace ASCD control unit.
BRAKE SW/STOP/L SW	<ul style="list-style-type: none"> The brake switch or stop lamp switch circuit is malfunctioning. 	ASCD BRAKE/STOP LAMP SWITCH CHECK (EL-290)

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

CONSULT-II Self-diagnostic Results (Cont'd)

Diagnostic item	Description	Repair/Check order
COMMAND SW	<ul style="list-style-type: none"> ● The steering switch (set/coast switch, resume/accel switch or cancel switch) is malfunctioning. 	ASCD STEERING SWITCH CHECK (EL-292)

CONSULT-II Data Monitor

NHLE0231

Monitored item	Description
BRAKE SW	<ul style="list-style-type: none"> ● Indicates [ON/OFF] condition of the brake switch and park/neutral position relay.
AT OD MONITOR	<ul style="list-style-type: none"> ● Indicates [ON/OFF] condition of A/T O/D (shift solenoid valve A).
STOP LAMP SW	<ul style="list-style-type: none"> ● Indicates [ON/OFF] condition of the stop lamp switch.
MAIN SW	<ul style="list-style-type: none"> ● Indicates [ON/OFF] condition of main switch.
SET SW	<ul style="list-style-type: none"> ● Indicates [ON/OFF] condition of the set switch.
RESUME/ACC SW	<ul style="list-style-type: none"> ● Indicates [ON/OFF] condition of the resume/accelerate switch.
CANCEL SW	<ul style="list-style-type: none"> ● Indicates [ON/OFF] condition of the cancel.
VHCL SPEED SE	<ul style="list-style-type: none"> ● The present vehicle speed computed from the vehicle speed sensor signal is displayed.
SET VHCL SPD	<ul style="list-style-type: none"> ● The preset vehicle speed is displayed.
VACUUM PUMP	<ul style="list-style-type: none"> ● The operation time of the vacuum pump is displayed.
AIR VALVE	<ul style="list-style-type: none"> ● The operation time of the air valve is displayed.
PW SUP-VALVE	<ul style="list-style-type: none"> ● Indicates [ON/OFF] condition of the circuit for the air valve and the release valve.
CRUISE LAMP	<ul style="list-style-type: none"> ● Indicates [ON/OFF] condition of the set lamp.
MAIN LAMP	<ul style="list-style-type: none"> ● Indicates [ON/OFF] condition of cruise lamp.
A/T-OD CANCEL	<ul style="list-style-type: none"> ● Indicates [ON/OFF] condition of the OD cancel.
FAIL SAFE-LOW	<ul style="list-style-type: none"> ● The fail-safe (LOW) circuit function is displayed.
FAIL SAFE-SPD	<ul style="list-style-type: none"> ● The fail-safe (SPEED) circuit function is displayed.
TCS MONITOR	<ul style="list-style-type: none"> ● Indicates [ON/OFF] condition of TCS.
THRTL POS SEN	<ul style="list-style-type: none"> ● The degree of throttle position sensor is displayed.

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses

Trouble Diagnoses SYMPTOM CHART

NHLE0232

NHLE0232S01

PROCEDURE	Diagnostic procedure						
REFERENCE PAGE (EL-)	288	289	290	292	294	295	297
SYMPTOM	FAIL-SAFE SYSTEM CHECK	POWER SUPPLY AND GROUND CIRCUIT CHECK	ASCD BRAKE/STOP LAMP SWITCH CHECK	ASCD STEERING SWITCH CHECK	VEHICLE SPEED SENSOR CHECK	ASCD PUMP CIRCUIT CHECK	ASCD ACTUATOR/PUMP CHECK
ASCD cannot be set. ("CRUISE" indicator lamp does not ON.)		X		X★3			
ASCD cannot be set. ("SET" indicator lamp does not blink.)			X	X	X		
ASCD cannot be set. ("SET" indicator lamp blinks.★1)	X		X	X	X	X	
Vehicle speed does not decrease after SET/COAST switch has been pressed.				X			X
Vehicle speed does not return to the set speed after RESUME/ACCEL switch has been pressed.★2				X			X
Vehicle speed does not increase after RESUME/ACCEL switch has been pressed.				X			X
System is not released after CANCEL switch (steering) has been pressed.				X			X
Large difference between set speed and actual vehicle speed.					X	X	X
Deceleration is greatest immediately after ASCD has been set.					X	X	X

★1: It indicates that system is in fail-safe. After completing diagnostic procedures, perform "FAIL-SAFE SYSTEM CHECK" (EL-288) to verify repairs.

★2: If vehicle speed is greater than 40 km/h (25 MPH) after system has been released, pressing RESUME/ACCEL switch returns vehicle speed to the set speed previously achieved. However, doing so when the ASCD main switch is turned to "OFF", vehicle speed will not return to the set speed since the memory is canceled.

★3: Check only main switch built-in steering switch.

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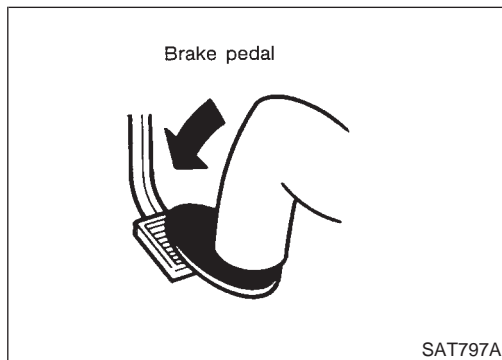
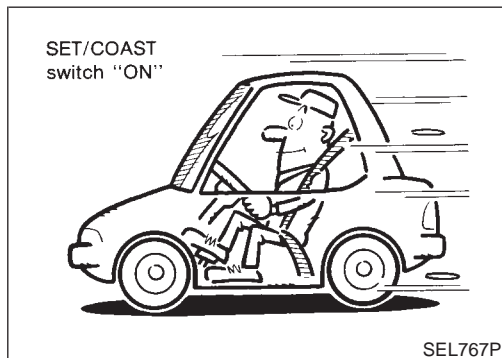
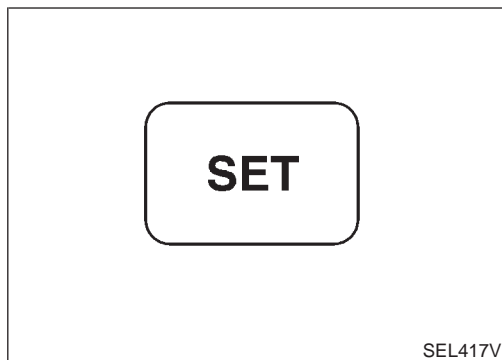
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)



FAIL-SAFE SYSTEM CHECK

=NHLE0232S02

1. Turn ignition switch to ON position.
2. Turn ASCD main switch to ON and check if the "set indicator" blinks.

If the indicator lamp blinks, check the following.

- ASCD steering switch. Refer to EL-292.

3. Drive the vehicle at more than 40 km/h (25 MPH) and push SET/COAST switch.

If the indicator lamp blinks, check the following.

- Vehicle speed sensor. Refer to EL-294.
- ASCD pump circuit. Refer to EL-295.
- Replace control unit.

4. Depress brake pedal slowly (brake pedal should be depressed more than 5 seconds).

If the indicator lamp blinks, check the following.

- ASCD brake/stop lamp switch. Refer to EL-290.

5. END. (System is OK.)

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

POWER SUPPLY AND GROUND CIRCUIT CHECK

=NH/EL0232S03

1	CHECK POWER SUPPLY CIRCUIT FOR ASCD CONTROL UNIT	
<p>1. Disconnect ASCD control unit harness connector.</p> <p>2. Turn ignition switch ON.</p> <p>3. Check voltage between ASCD control unit harness connector terminal 5 and ground.</p>		
<p>ASCD control unit connector (M52)</p>		
Does battery voltage exist?		
SEL256W		
Yes	▶	GO TO 2.
No	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse (No. 10 located in the fuse block) ● Harness for open or short

2	CHECK GROUND CIRCUIT FOR ASCD CONTROL UNIT	
<p>Check continuity between ASCD control unit harness connector terminal 17 and body ground.</p>		
<p>ASCD control unit connector (M52)</p>		
Does continuity exist?		
SEL257W		
Yes	▶	Power supply and ground circuit is OK.
No	▶	Repair harness.

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

ASCD BRAKE/STOP LAMP SWITCH CHECK

=NHHEL0232S06

1 CHECK ASCD BRAKE SWITCH CIRCUIT

 **With CONSULT-II**
See "BRAKE SW" in "DATA MONITOR" mode.

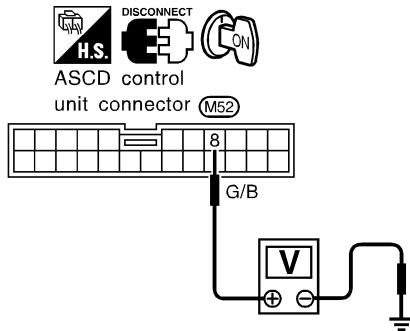
DATA MONITOR	
MONITOR	
BRAKE SW	OFF

When brake pedal is depressed or
A/T selector lever is in "N" or "P" range:
BRAKE SW OFF
When brake pedal is released and
A/T selector lever is not in "N" or "P" range:
BRAKE SW ON

SEL286WA

 **Without CONSULT-II**

1. Disconnect ASCD control unit harness connector.
2. Turn ignition switch ON.
3. Check voltage between ASCD control unit harness connector terminal 8 and ground.



When brake pedal is depressed or A/T selector lever is in
"N" or "P" range:
Approx. 0V
When brake pedal is released and A/T selector lever
is not in "N" or "P" range:
Battery voltage should exist.

SEL258WC

OK or NG

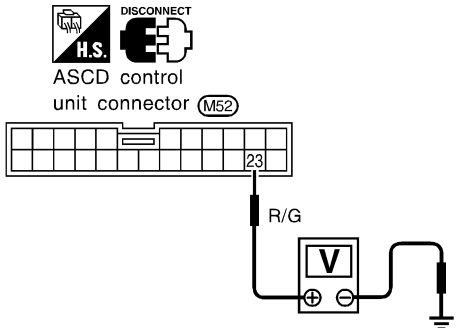
OK ► GO TO 2.

NG ► **Check the following.**

- ASCD brake switch
Refer to "Electrical Component Inspection" (EL-298).
- Park/neutral position switch
Refer to "Electrical Component Inspection" (EL-298).
- Park/neutral position relay
- Harness for open or short

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

2	CHECK STOP LAMP SWITCH CIRCUIT	<p>With CONSULT-II See "STOP LAMP" in "DATA MONITOR" mode.</p> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr><th colspan="2">DATA MONITOR</th></tr> <tr><th colspan="2">MONITOR</th></tr> </thead> <tbody> <tr><td>STOP LAMP SW</td><td>OFF</td></tr> </tbody> </table> </div> <div style="margin-left: 20px;"> <p>When brake pedal is released: STOP LAMP SW OFF</p> <p>When brake pedal is depressed: STOP LAMP SW ON</p> </div> </div> <p style="text-align: right; font-size: small;">SEL287W</p>	DATA MONITOR		MONITOR		STOP LAMP SW	OFF	GI
DATA MONITOR									
MONITOR									
STOP LAMP SW	OFF								
		<p>Without CONSULT-II</p> <ol style="list-style-type: none"> 1. Disconnect ASCD control unit harness connector. 2. Check voltage between ASCD control unit harness connector terminal 23 and ground. <div style="display: flex; justify-content: space-between; align-items: flex-start; margin-top: 10px;"> <div style="text-align: center;">  <p style="font-size: small; margin-top: 5px;">Voltage [V]: Stop lamp switch: Depressed Approx. 12 Stop lamp switch: Released 0</p> </div> <div style="margin-left: 20px;"> <p style="text-align: right; font-size: small;">SEL259W</p> </div> </div> <p style="margin-top: 10px;">Refer to wiring diagram in EL-281.</p> <p style="text-align: center; margin-top: 10px;">OK or NG</p>	MA EM LC EC FE AT AX SU BR						
OK	▶	ASCDC brake/stop lamp switch is OK.	ST						
NG	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 15A fuse [No. 2, located in the fuse block (J/B)] ● Harness for open or short between ASCD control unit and stop lamp switch ● Harness for open or short between fuse and stop lamp switch ● Stop lamp switch <p style="font-size: small;">Refer to "Electrical Component Inspection" (EL-298).</p>	RS BT HA SC						

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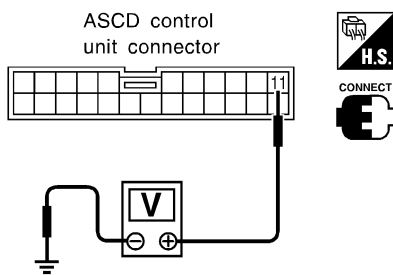
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

ASCD STEERING SWITCH CHECK

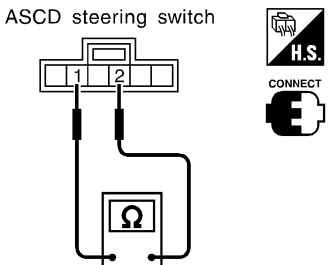
=NHLE0232S07

1	CHECK ASCD STEERING SWITCH CIRCUIT FOR ASCD CONTROL UNIT																								
<p> With CONSULT-II See "MAIN SW", "RESUME/ACC SW", "SET SW" and "CANCEL SW" in "DATA MONITOR" mode.</p>																									
<table border="1" style="margin: auto;"> <thead> <tr> <th colspan="2">DATA MONITOR</th> </tr> <tr> <th>MONITOR</th> <th></th> </tr> </thead> <tbody> <tr> <td>MAIN SW</td> <td>OFF</td> </tr> <tr> <td>SET SW</td> <td>OFF</td> </tr> <tr> <td>RESUME/ACC SW</td> <td>OFF</td> </tr> <tr> <td>CANCEL SW</td> <td>OFF</td> </tr> </tbody> </table>			DATA MONITOR		MONITOR		MAIN SW	OFF	SET SW	OFF	RESUME/ACC SW	OFF	CANCEL SW	OFF											
DATA MONITOR																									
MONITOR																									
MAIN SW	OFF																								
SET SW	OFF																								
RESUME/ACC SW	OFF																								
CANCEL SW	OFF																								
<p>MAIN SW, RESUME/ACC SW, SET SW and CANCEL SW When switch is pressed: ON When switch is released: OFF</p>																									
SEL288W																									
<p> Without CONSULT-II Check voltage between ASCD control unit harness connector M52 terminal 11 (R/L) and ground.</p>																									
																									
<table border="1" style="margin: auto;"> <thead> <tr> <th>Switch</th> <th>Condition</th> <th>Voltage [V]</th> </tr> </thead> <tbody> <tr> <td rowspan="2">MAIN SW</td> <td>Pressed</td> <td>0</td> </tr> <tr> <td>Released</td> <td>Approx. 4.0</td> </tr> <tr> <td rowspan="2">SET SW</td> <td>Pressed</td> <td>Approx. 2.0</td> </tr> <tr> <td>Released</td> <td>Approx. 4.0</td> </tr> <tr> <td rowspan="2">RESUME/ ACC SW</td> <td>Pressed</td> <td>Approx. 3.0</td> </tr> <tr> <td>Released</td> <td>Approx. 4.0</td> </tr> <tr> <td rowspan="2">CANCEL SW</td> <td>Pressed</td> <td>Approx. 1.0</td> </tr> <tr> <td>Released</td> <td>Approx. 4.0</td> </tr> </tbody> </table>			Switch	Condition	Voltage [V]	MAIN SW	Pressed	0	Released	Approx. 4.0	SET SW	Pressed	Approx. 2.0	Released	Approx. 4.0	RESUME/ ACC SW	Pressed	Approx. 3.0	Released	Approx. 4.0	CANCEL SW	Pressed	Approx. 1.0	Released	Approx. 4.0
Switch	Condition	Voltage [V]																							
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	Released	Approx. 4.0																							
CANCEL SW	Pressed	Approx. 1.0																							
	Released	Approx. 4.0																							
SEL005Y																									
Refer to wiring diagram in EL-281.																									
OK or NG																									
OK	▶	ASCD steering switch is OK.																							
NG	▶	GO TO 2.																							

2	CHECK POWER SUPPLY FOR ASCD STEERING SWITCH	
Does horn work?		
Yes	▶	GO TO 3.
No	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse (No. 10, located in the relay box) ● Harness for open or short

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

3	CHECK ASCD STEERING SWITCH																								
<p>1. Disconnect ASCD steering switch. 2. Check continuity between M642 terminals 1 and 2 by pushing each switch.</p>																									
																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Switch</th> <th style="width: 30%;">Condition</th> <th style="width: 40%;">Resistance [Ω]</th> </tr> </thead> <tbody> <tr> <td rowspan="2">MAIN SW</td> <td>Pressed</td> <td>Approx. 0.3</td> </tr> <tr> <td>Released</td> <td>Approx. 4,000</td> </tr> <tr> <td rowspan="2">SET SW</td> <td>Pressed</td> <td>Approx. 661</td> </tr> <tr> <td>Released</td> <td>Approx. 4,000</td> </tr> <tr> <td rowspan="2">RESUME/ ACC SW</td> <td>Pressed</td> <td>Approx. 1,486</td> </tr> <tr> <td>Released</td> <td>Approx. 4,000</td> </tr> <tr> <td rowspan="2">CANCEL SW</td> <td>Pressed</td> <td>Approx. 249</td> </tr> <tr> <td>Released</td> <td>Approx. 4,000</td> </tr> </tbody> </table>			Switch	Condition	Resistance [Ω]	MAIN SW	Pressed	Approx. 0.3	Released	Approx. 4,000	SET SW	Pressed	Approx. 661	Released	Approx. 4,000	RESUME/ ACC SW	Pressed	Approx. 1,486	Released	Approx. 4,000	CANCEL SW	Pressed	Approx. 249	Released	Approx. 4,000
Switch	Condition	Resistance [Ω]																							
MAIN SW	Pressed	Approx. 0.3																							
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	Released	Approx. 4,000																							
CANCEL SW	Pressed	Approx. 249																							
	Released	Approx. 4,000																							
SEL160Y																									
OK or NG																									
OK	▶	Check harness for open or short between ASCD steering switch and ASCD control unit.																							
NG	▶	Replace ASCD steering switch.																							

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

VEHICLE SPEED SENSOR CHECK

=NHLE0232S08

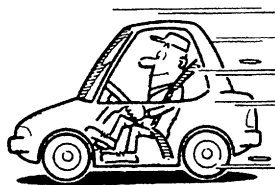
1	CHECK SPEEDOMETER OPERATION	
Does speedometer operate normally?		
Yes	▶	GO TO 2.
No	▶	Check speedometer and vehicle speed signal circuit. Refer to EL-157.

2 CHECK VEHICLE SPEED INPUT

With CONSULT-II
See "VHCL SPEED SE" in "DATA MONITOR" mode while driving.

NOTE:

- This test may be conducted with the drive wheels lifted in the shop or by driving the vehicle. If a road test is excepted to be easier, it is unnecessary to lift the vehicle.
- Always drive vehicle in safe speed and manner according to traffic conditions and obey all traffic laws.



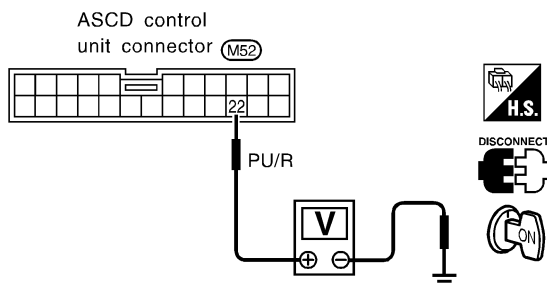
DATA MONITOR	
MONITOR	
VHCL SPEED SE	0 km/h

Is actual vehicle speed indicated?

SEL289W

Without CONSULT-II

1. Apply wheel chocks and jack up drive wheel.
2. Disconnect ASCD control unit harness connector.
3. Check voltage between ASCD control unit terminal 22 and ground with turning drive wheel slowly by hand.



Does voltage pointer deflect?

SEL263W

Refer to wiring diagram in EL-283.

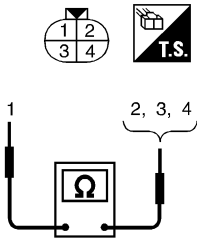
Yes	▶	Vehicle speed signal is OK.
No	▶	Check harness for open or short between ASCD control unit terminal 22 and combination meter terminal 13.

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

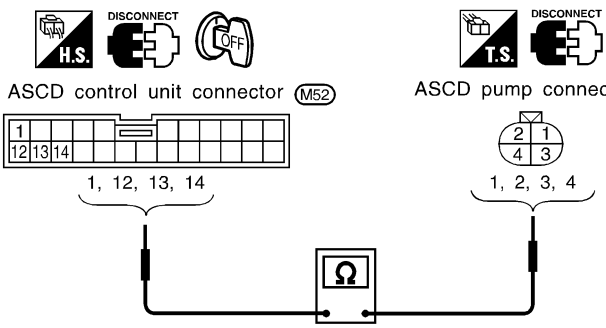
Trouble Diagnoses (Cont'd)

ASCD PUMP CIRCUIT CHECK

NHLE0232S09

1	CHECK ASCD PUMP	<p>1. Disconnect ASCD pump connector.</p> <p>2. Measure resistance between ASCD pump terminals 1 and 2, 3, 4.</p> <p style="text-align: center;">ASCD pump connector (E2)</p> <div style="display: flex; justify-content: space-around; align-items: center;">  <table border="1" style="border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 15%;">Terminals</th> <th style="width: 75%;">Resistance Ω</th> </tr> </thead> <tbody> <tr> <td rowspan="3" style="text-align: center; vertical-align: middle;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">Approx. 65</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">Approx. 65</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">Approx. 3</td> </tr> </tbody> </table> </div> <p style="text-align: right;">SEL262W</p> <p style="text-align: center;">OK or NG</p>		Terminals	Resistance Ω	1	2	Approx. 65	3	Approx. 65	4	Approx. 3
	Terminals	Resistance Ω										
1	2	Approx. 65										
	3	Approx. 65										
	4	Approx. 3										
OK	▶	GO TO 2.										
NG	▶	Replace ASCD pump.										

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2	CHECK ASCD PUMP CIRCUIT	<p>1. Disconnect ASCD control unit harness connector.</p> <p>2. Check harness for open or short between ASCD control unit and ASCD pump.</p> <div style="display: flex; justify-content: space-around; align-items: center;">  <table border="1" style="border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="width: 15%;">Circuit</th> <th colspan="2" style="width: 70%;">Terminal</th> </tr> <tr> <th style="width: 35%;">ASCD control unit</th> <th style="width: 30%;">ASCD pump</th> </tr> </thead> <tbody> <tr> <td>ASCD pump power supply</td> <td style="text-align: center;">12</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Air valve</td> <td style="text-align: center;">13</td> <td style="text-align: center;">2</td> </tr> <tr> <td>Release valve</td> <td style="text-align: center;">1</td> <td style="text-align: center;">3</td> </tr> <tr> <td>Vacuum motor</td> <td style="text-align: center;">14</td> <td style="text-align: center;">4</td> </tr> </tbody> </table> </div> <p style="text-align: center;">Continuity should exist.</p> <p style="text-align: right;">SEL269W</p> <p style="text-align: center;">OK or NG</p>	Circuit	Terminal		ASCD control unit	ASCD pump	ASCD pump power supply	12	1	Air valve	13	2	Release valve	1	3	Vacuum motor	14	4
Circuit	Terminal																		
	ASCD control unit	ASCD pump																	
ASCD pump power supply	12	1																	
Air valve	13	2																	
Release valve	1	3																	
Vacuum motor	14	4																	
OK	▶	GO TO 3.																	
NG	▶	Repair harness.																	

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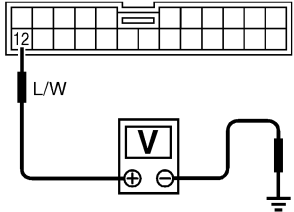
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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

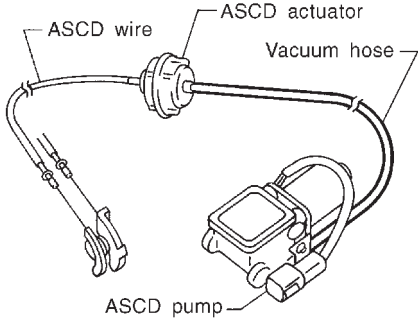
3	CHECK ASCD PUMP POWER SUPPLY						
<p> With CONSULT-II</p> <ol style="list-style-type: none"> 1. Jack up the drive wheels. 2. See "PW SUP-VALVE" in "DATA MONITOR" mode. 3. Maintain the conditions below. <ul style="list-style-type: none"> ● Vehicle speed is more than 40 km/h (25 MPH). ● Main switch (CRUISE lamp) is ON. ● Set/coast switch (SET lamp) is ON. <div style="display: flex; align-items: center; justify-content: center; margin: 20px 0;"> <table border="1" style="border-collapse: collapse; text-align: center;"> <thead> <tr><th colspan="2">DATA MONITOR</th></tr> <tr><th colspan="2">MONITOR</th></tr> </thead> <tbody> <tr> <td style="padding: 5px;">PW SUP-VALVE</td> <td style="padding: 5px;">OFF</td> </tr> </tbody> </table> <div style="margin-left: 20px;"> <p>"PW SUP-VALVE" should be ON.</p> </div> </div> <p style="text-align: right; margin-top: 20px;">SEL290W</p>		DATA MONITOR		MONITOR		PW SUP-VALVE	OFF
DATA MONITOR							
MONITOR							
PW SUP-VALVE	OFF						
<p> Without CONSULT-II</p> <ol style="list-style-type: none"> 1. Jack-up the drive wheels. 2. Maintain the conditions below. <ul style="list-style-type: none"> ● Vehicle speed is more than 40 km/h (25 MPH). ● Main switch (CRUISE lamp) is ON. ● Set/coast switch (SET lamp) is ON. <p>Check voltage between ASCD control unit harness connector terminal 12 and ground.</p> <div style="display: flex; align-items: center; justify-content: center; margin: 20px 0;">    </div> <p style="text-align: center; margin: 5px 0;">ASCDC control unit connector (M52)</p> <div style="display: flex; align-items: center; justify-content: center; margin: 20px 0;">  <div style="margin-left: 20px;"> <p>Battery voltage should exist.</p> </div> </div> <p style="text-align: right; margin-top: 20px;">SEL381W</p>							
OK or NG							
OK	▶ ASCD pump power supply is OK.						
NG	▶ Replace ASCD control unit.						

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

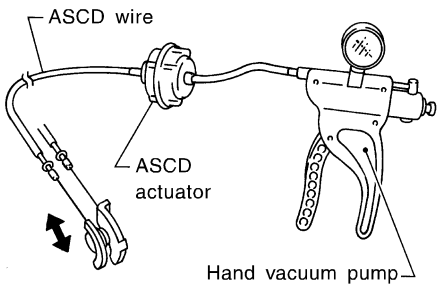
Trouble Diagnoses (Cont'd)

ASCD ACTUATOR/PUMP CHECK

=NHLE0232S10

1	CHECK VACUUM HOSE		
Check vacuum hose (between ASCD actuator and ASCD pump) for breakage, cracks or fracture.			
			
MEL402G			
OK or NG			
OK	▶	GO TO 2.	
NG	▶	Repair or replace hose.	

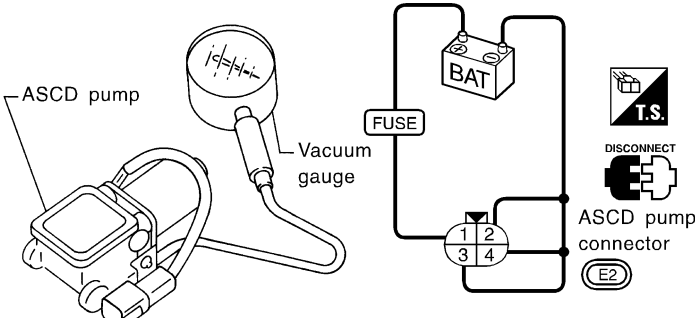
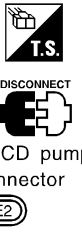
2	CHECK ASCD WIRE		
Check wire for improper installation, rust formation or breaks.			
OK or NG			
OK	▶	GO TO 3.	
NG	▶	Repair or replace wire. Refer to "ASCD Wire Adjustment" (EL-299).	





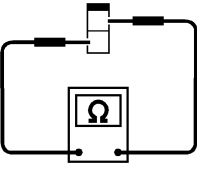
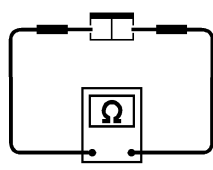
3	CHECK ASCD ACTUATOR		
<ol style="list-style-type: none"> 1. Disconnect vacuum hose from ASCD actuator. 2. Connect the hose of hand vacuum pump to ASCD actuator. 			
			
<p>Apply -40 kPa (-0.41 kg/cm², -5.8 psi) vacuum to ASCD actuator with hand vacuum pump.</p> <p>ASCD wire should move to pull throttle drum.</p> <p>Wait 10 seconds and check for decrease in vacuum pressure.</p> <p style="text-align: center;">Vacuum pressure decrease: Less than 2.7 kPa (0.028 kg/cm², 0.39 psi)</p>			
SEL264W			
OK or NG			
OK	▶	GO TO 4.	
NG	▶	Replace ASCD actuator.	

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Trouble Diagnoses (Cont'd)

4	CHECK ASCD PUMP																		
<ol style="list-style-type: none"> 1. Disconnect vacuum hose from ASCD pump and ASCD pump connector. 2. If necessary remove ASCD pump. 3. Connect vacuum gauge to ASCD pump. 4. Apply 12V direct current to ASCD pump and check operation. 																			
			<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">12V direct current supply terminals</th> <th rowspan="2">Operation</th> </tr> <tr> <th>(+)</th> <th>(-)</th> </tr> </thead> <tbody> <tr> <td>Air valve</td> <td rowspan="3" style="text-align: center; vertical-align: middle;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">Close</td> </tr> <tr> <td>Release valve</td> <td style="text-align: center;">3</td> <td style="text-align: center;">Close</td> </tr> <tr> <td>Vacuum motor</td> <td style="text-align: center;">4</td> <td style="text-align: center;">Operate</td> </tr> </tbody> </table> <p>A vacuum pressure of at least -40 kPa (-0.41 kg/cm², -5.8 psi) should be generated.</p>		12V direct current supply terminals		Operation	(+)	(-)	Air valve	1	2	Close	Release valve	3	Close	Vacuum motor	4	Operate
	12V direct current supply terminals		Operation																
	(+)	(-)																	
Air valve	1	2	Close																
Release valve		3	Close																
Vacuum motor		4	Operate																
SEL265W																			
OK or NG																			
OK	▶	INSPECTION END																	
NG	▶	Replace ASCD pump.																	

ASCD brake switch  	Stop lamp switch  
	
MEL380K	

Electrical Component Inspection


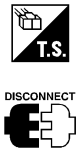
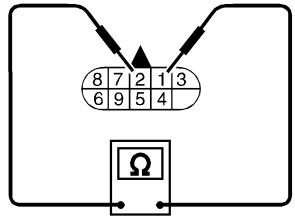
ASCD BRAKE SWITCH AND STOP LAMP SWITCH

NHEL0100

NHEL0100S02

Condition	Continuity	
	ASCD brake switch	Stop lamp switch
When brake pedal is depressed	No	Yes
When brake pedal is released	Yes	No

Check each switch after adjusting brake pedal — refer to BR section.

Park/neutral position switch connector 	
	
MEL382K	

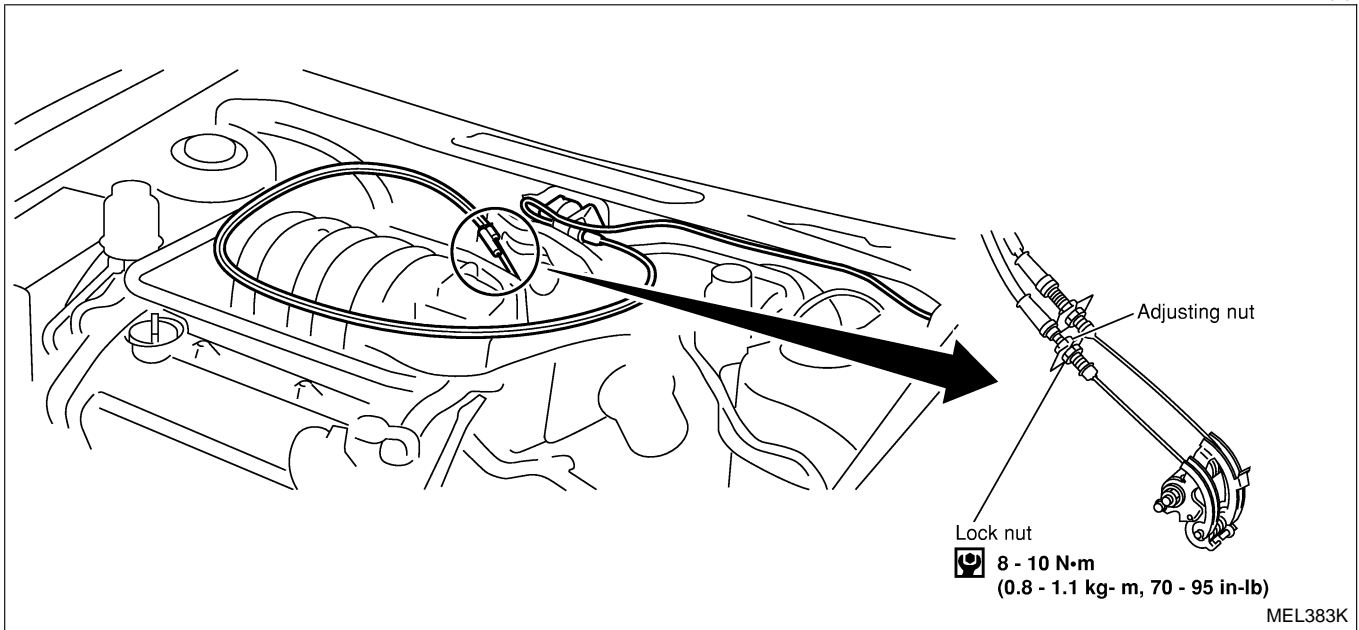
PARK/NEUTRAL POSITION SWITCH

NHEL0100S03

A/T selector lever position	Continuity	
	Between terminals 1 and 2	
“P”	Yes	
“N”	Yes	
Except “P” and “N”	No	

ASCD Wire Adjustment

=NHLE0101



CAUTION:

- Be careful not to twist ASCD wire when removing it.
 - Do not tense ASCD wire excessively during adjustment.
- Adjust the tension of ASCD wire in the following manner.
1. Loosen lock nut and adjusting nut.
 2. Make sure that accelerator wire is properly adjusted. Refer to FE-3, "ACCELERATOR CONTROL SYSTEM".
 3. Tighten adjusting nut just until throttle drum starts to move.
 4. Loosen adjusting nut again 1/2 to 1 turn.
 5. Tighten lock nut.

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System Description

NHEL0191

Power is supplied at all times

- from 40A fusible link (letter I, located in the fuse and fusible link box)
- to circuit breaker terminal 1
- through circuit breaker terminal 2
- to power window relay terminal 3,
- to front power window main switch terminal 4, and
- to front power window switch RH terminal 6.

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

- through 10A fuse [No. 10, located in the fuse block (J/B)]
- to power window relay terminal 2, and
- to smart entrance control unit terminal 27.

Ground is supplied to power window relay terminal 1

- through body grounds M9, M25 and M87.

The power window relay is energized and power is supplied

- through power window relay terminal 5
- to front power window main switch terminal 11,
- to front power window switch RH terminal 13,
- to rear power window switch LH and RH terminals 5.

MANUAL OPERATION

NHEL0191S01

Front Door LH

NHEL0191S0101

Ground is supplied

- to front power window main switch terminal 5
- through body grounds M9, M25 and M87.

WINDOW UP

When the front LH switch in the front power window main switch is pressed in the up position, power is supplied

- to front power window regulator LH terminal 1
- through front power window main switch terminal 2.

Ground is supplied

- to front power window regulator LH terminal 3
- through front power window main switch terminal 3.

Then, the motor raises the window until the switch is released.

WINDOW DOWN

When the LH switch in the front power window main switch is pressed in the down position, power is supplied

- to front power window regulator LH terminal 3
- through front power window main switch terminal 3.

Ground is supplied

- to front power window regulator LH terminal 1
- through front power window main switch terminal 2.

Then, the motor lowers the window until the switch is released.

Front Door RH

NHEL0191S0102

Ground is supplied

- to front power window main switch terminal 5
- through body grounds M9, M25 and M87.

NOTE:

Numbers in parentheses are terminal numbers, when power window switch is pressed in the UP and DOWN positions respectively.

FRONT POWER WINDOW MAIN SWITCH OPERATION

Signal is received

- through front power window main switch terminal 8

- to front power window switch RH terminal 11.

The subsequent operation is the same as the front power window switch RH operation.

FRONT POWER WINDOW SWITCH RH OPERATION

Power is supplied

- through front power window switch RH (5, 4)
- to front power window regulator RH (1, 3).

Ground is supplied

- to front power window regulator RH (3, 1)
- through front power window switch RH (4, 5)
- to front power window switch RH terminal 12
- through front power window main switch terminal 1.

Then, the motor raises or lowers the window until the switch is released.

Rear Door LH

Ground is supplied

- to front power window main switch terminal 5
- through body grounds the M9, M25 and M87.

NOTE:

Numbers in parentheses are terminal numbers, when the power window switch is pressed in the UP and DOWN positions.

FRONT POWER WINDOW MAIN SWITCH OPERATION

Power is supplied

- through front power window main switch terminal (13, 12)
- to rear power window switch LH terminal (3, 4)

The subsequent operation is the same as the rear power window switch LH operation.

REAR POWER WINDOW SWITCH LH

Power is supplied

- through rear power window switch LH (1, 2)
- to rear power window regulator LH (1, 2)

Ground is supplied

- to rear power window regulator LH (2, 1)
- through rear power window switch LH (2, 1)
- to rear power window switch LH terminal (4, 3)
- through front power window main switch terminal (12, 13)

Then, the motor raises or lowers the window until the switch is released.

Rear Door RH

Rear door RH windows will rise and lower in the same manner as the front door LH window.

AUTO OPERATION

The power window AUTO feature enables the driver or passenger to open or close the driver's and passenger's window without holding the window switch in the down or up position.

The AUTO feature operates on the driver's and passenger's window.

POWER WINDOW LOCK

The power window lock is designed to lock operation of all windows except for driver's door window.

When the lock switch is pressed to lock position, ground of the front and rear power window switches in the front power window main switch is disconnected. This prevents the power window motors from operating.

RETAINED POWER OPERATION

When the ignition switch is turned to OFF position from ON or START position, power is supplied for 45 seconds

- to power window relay terminal 2
- from smart entrance control unit terminal 46.

Ground is always supplied

- to power window relay terminal 1

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NHEL0191S04

POWER WINDOW

System Description (Cont'd)

- through body grounds M9, M25 and M87.

When power and ground are supplied, the power window relay continues to be energized, and the power window can be operated.

The retained power operation is canceled when the driver or passenger side door is opened.

INTERRUPTION DETECTION FUNCTION

Front power window main switch and front power window switch RH monitor the power window regulator motor operation and the power window position (full closed or other) for driver's and passenger's power window by the signals from encoder and limit switch in front power window regulator. NHEL0191S05

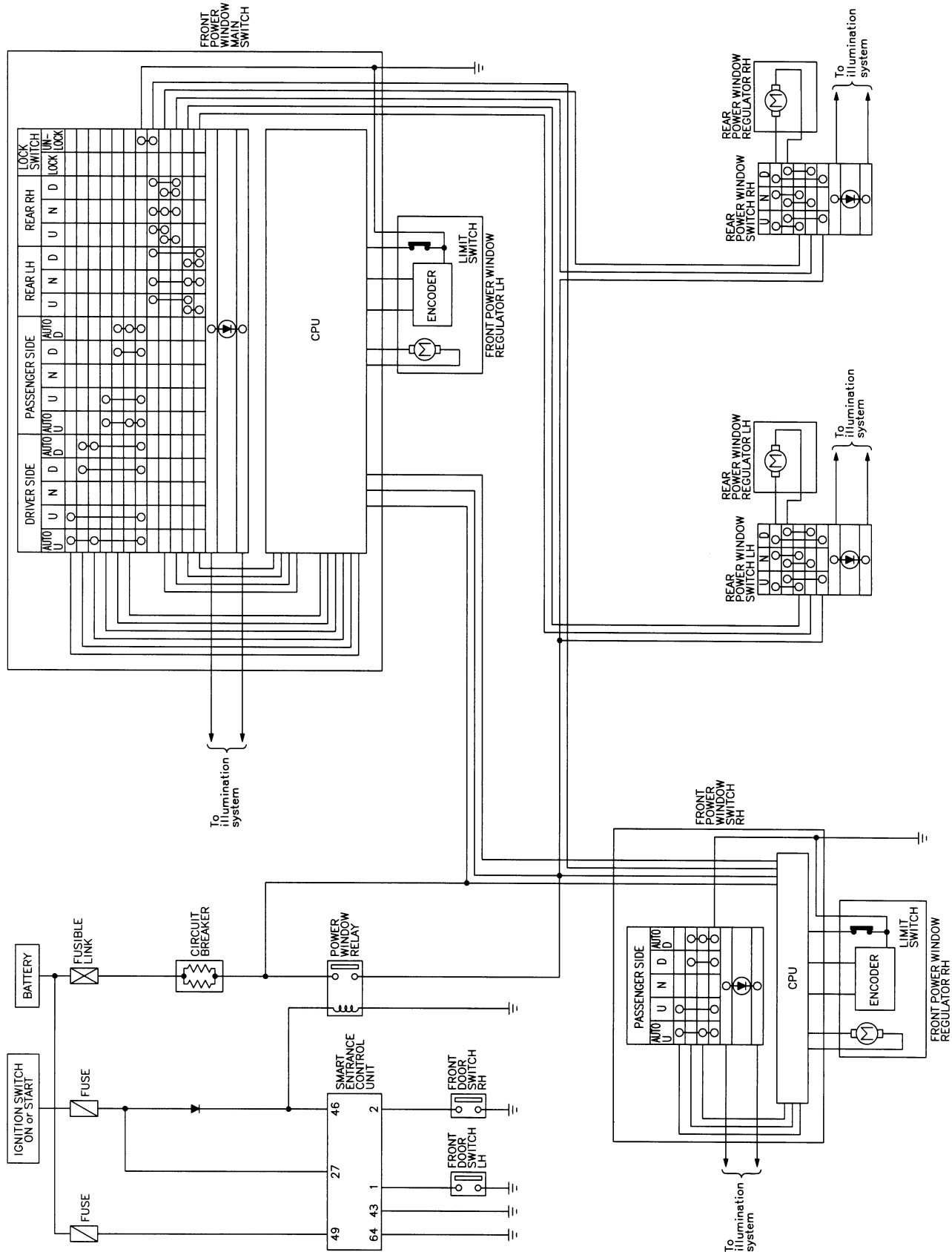
When front power window main switch or front power window switch RH detects interruption during the following close operation in the driver's or passenger's side door,

- automatic close operation when ignition switch is in the "ON" position
- automatic close operation during retained power operation

front power window main switch or front power window switch RH controls driver's or passenger's power window regulator motor for open and the power window will be lowered about 150 mm (5.91 in).

Schematic

NHEL0103



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POWER WINDOW

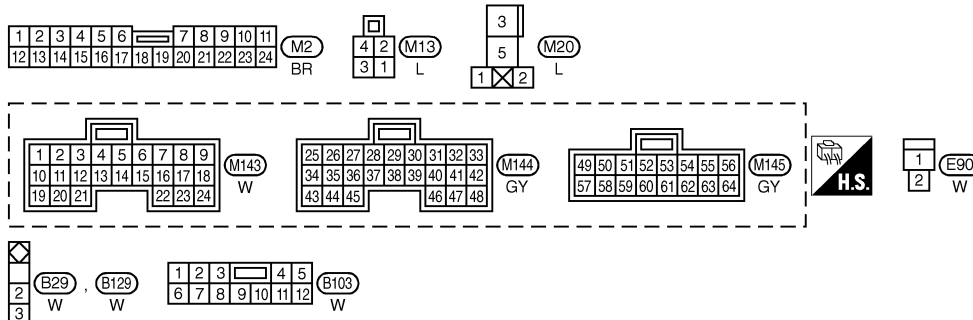
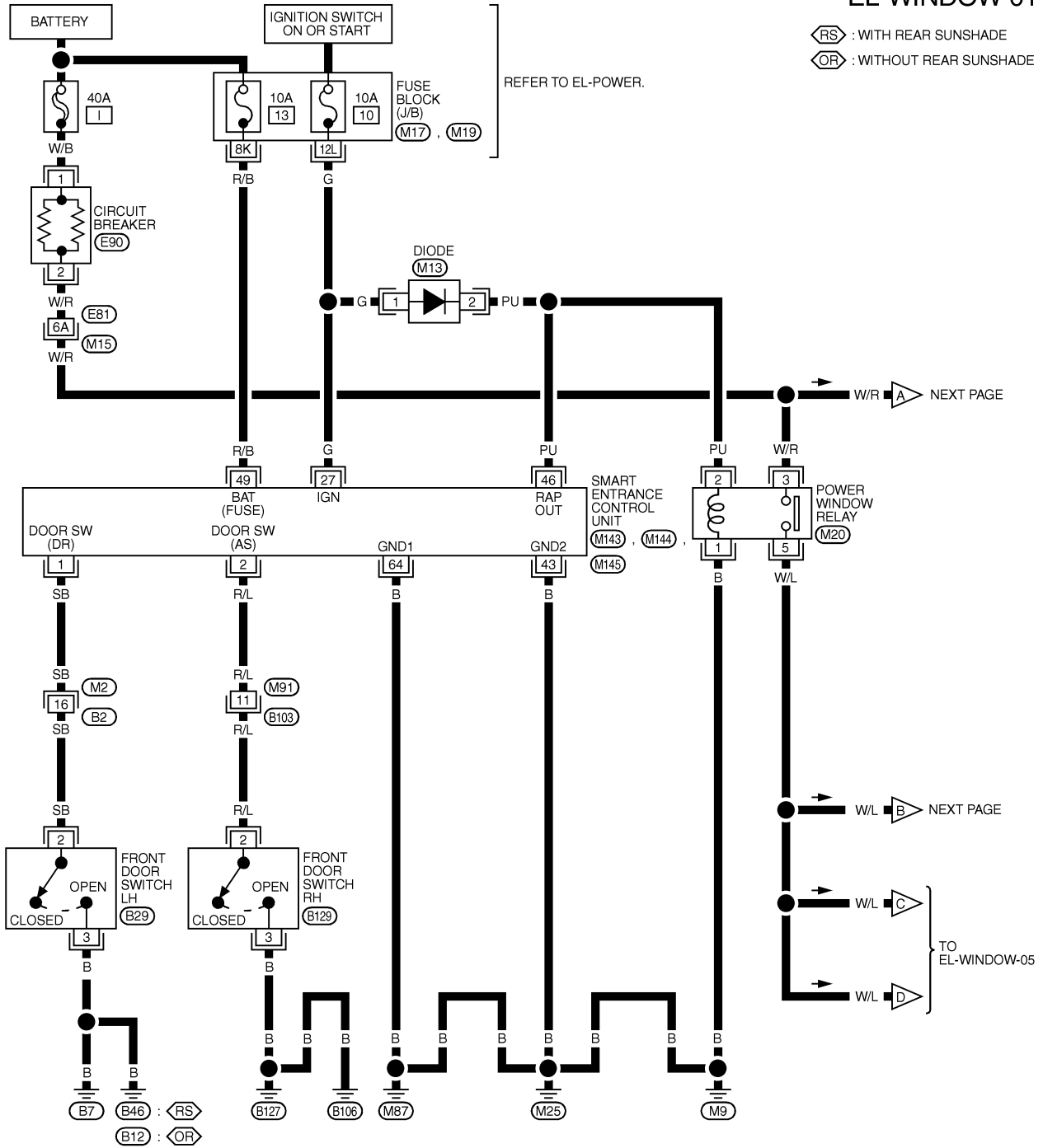
Wiring Diagram — WINDOW —

Wiring Diagram — WINDOW —

NHEL0104

EL-WINDOW-01

◁RS▷ : WITH REAR SUNSHADE
 ◁OR▷ : WITHOUT REAR SUNSHADE



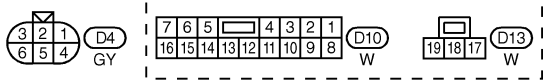
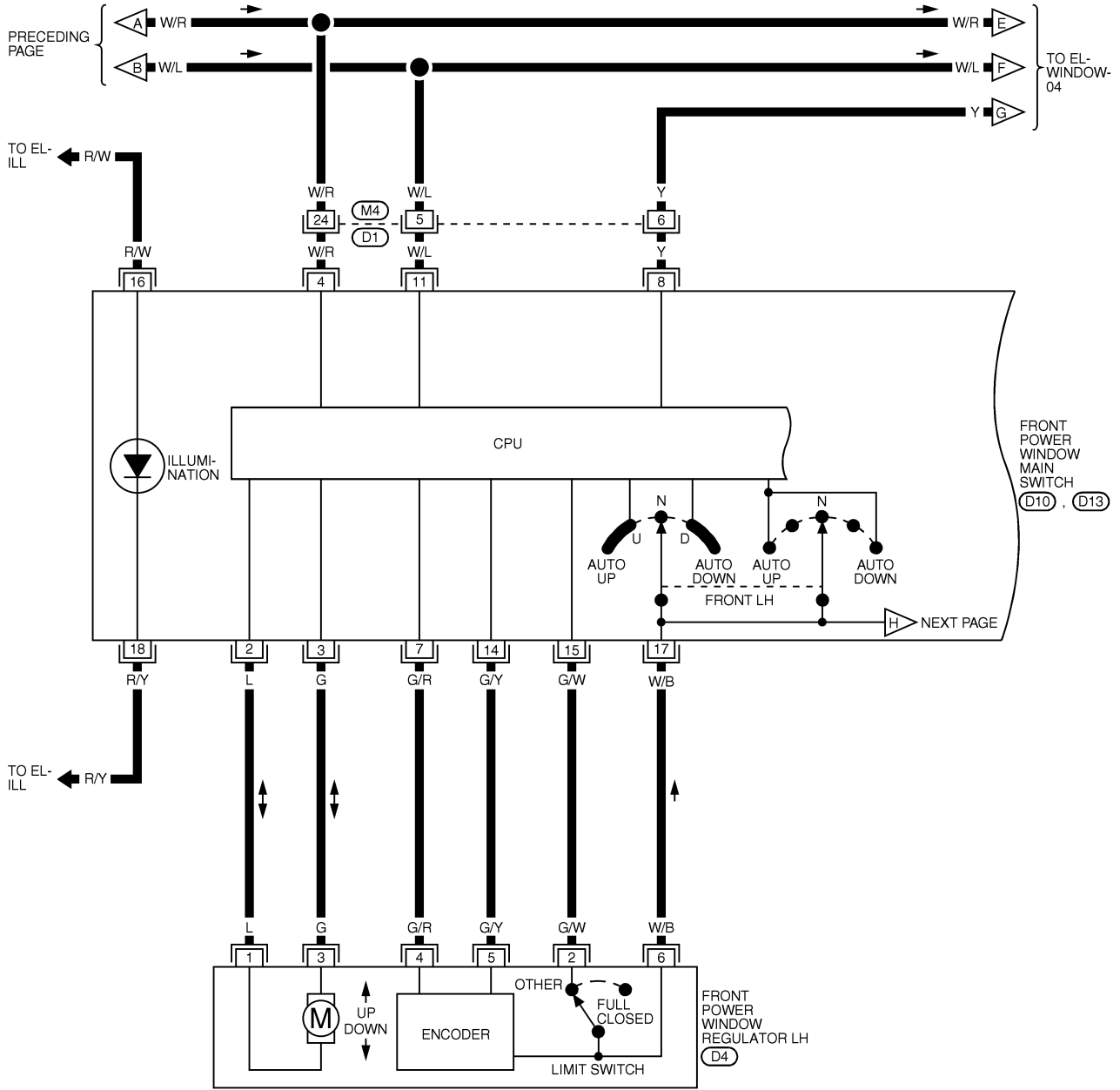
REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M17) , (M19) -FUSE BLOCK-
 JUNCTION BOX (J/B)

MEL464M

POWER WINDOW

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-02



REFER TO THE FOLLOWING.
 (M4), (D1) -SUPER
 MULTIPLE JUNCTION (SMJ)

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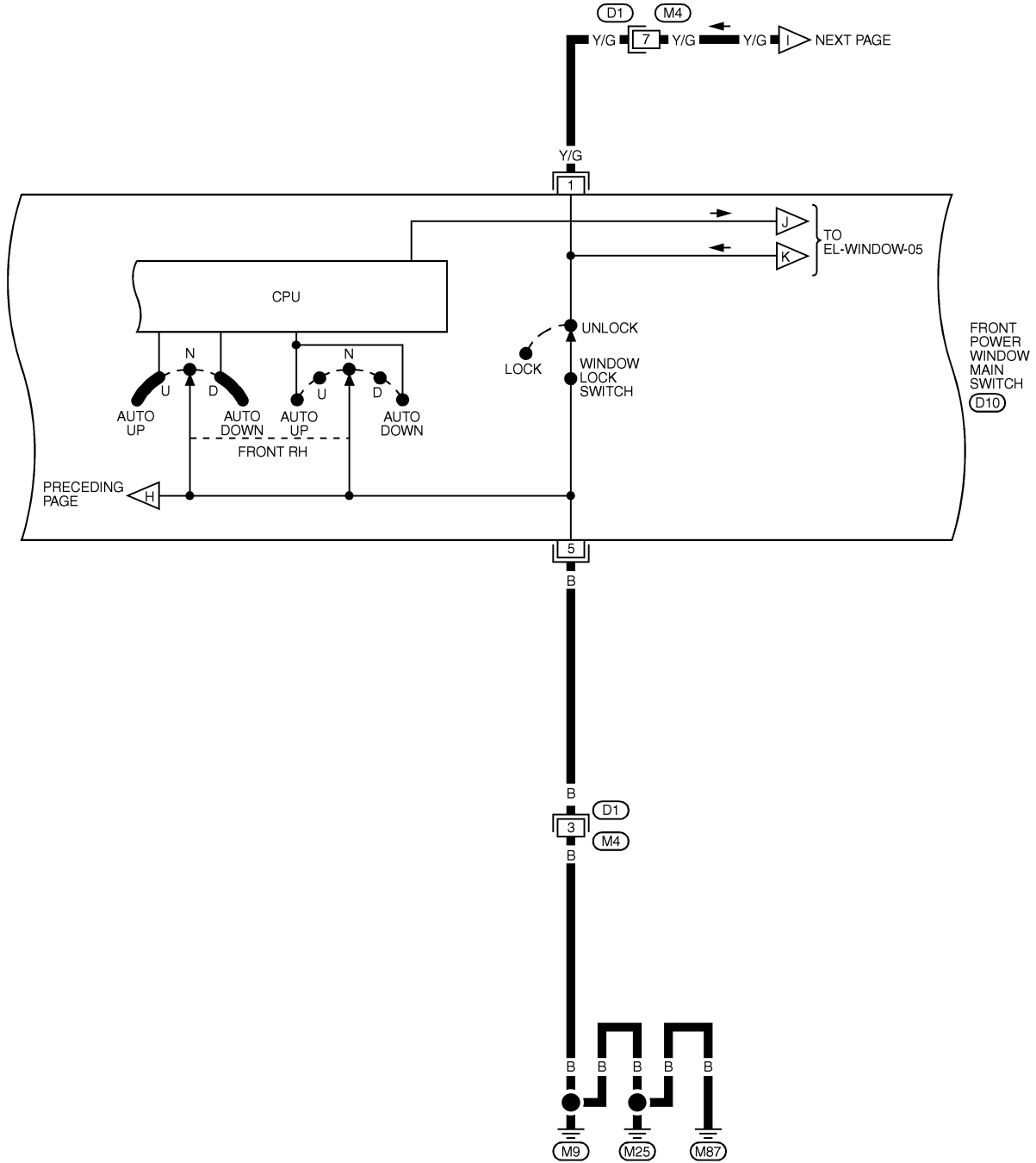
IDX

MEL500K

POWER WINDOW

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-03



7	6	5	4	3	2	1	D10 W	
16	15	14	13	12	11	10		9

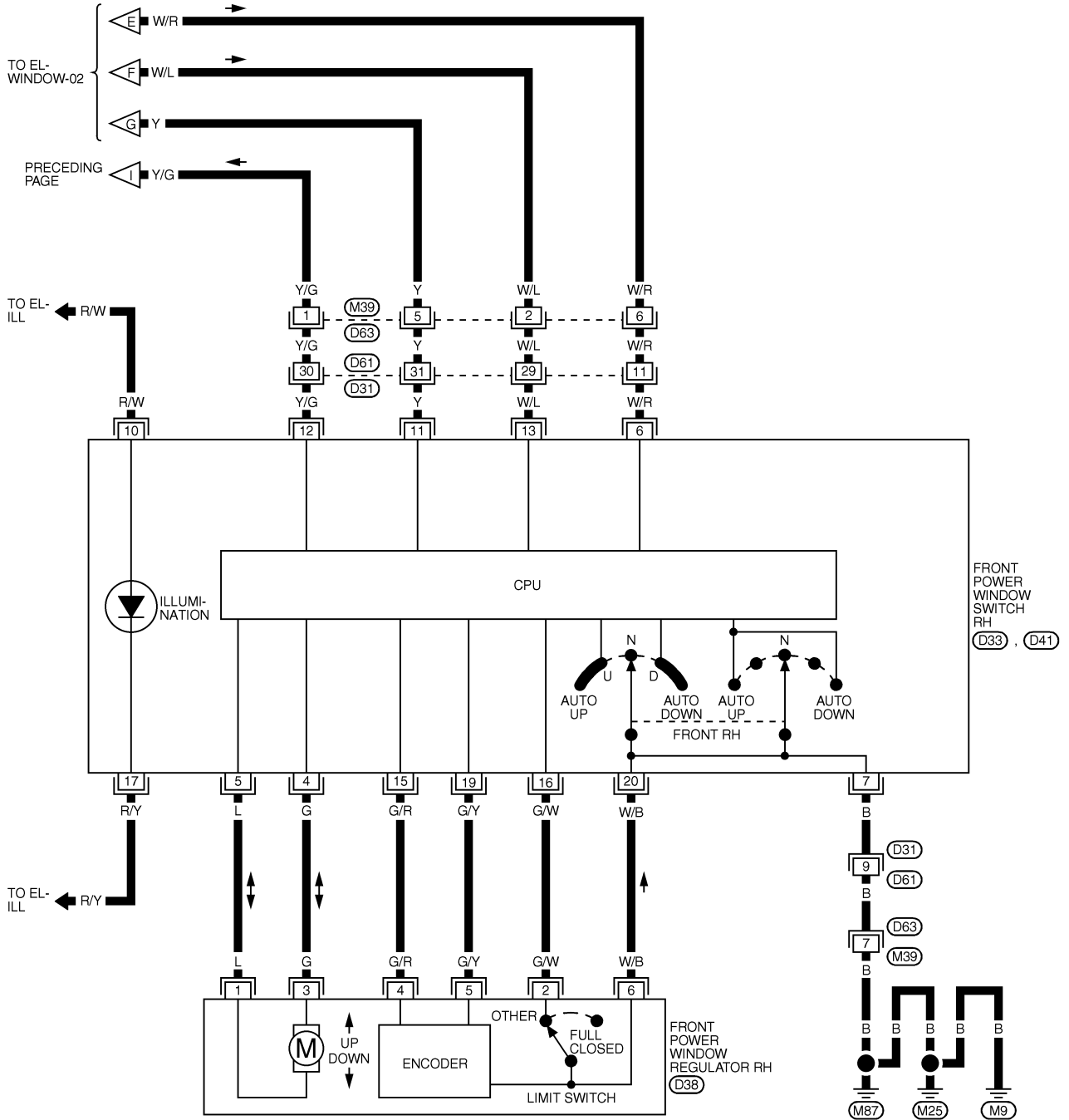
REFER TO THE FOLLOWING.
 (D1) -SUPER
 MULTIPLE JUNCTION (SMJ)

MEL465M

POWER WINDOW

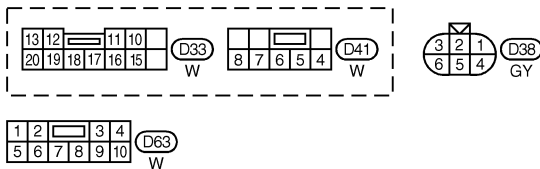
Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-04



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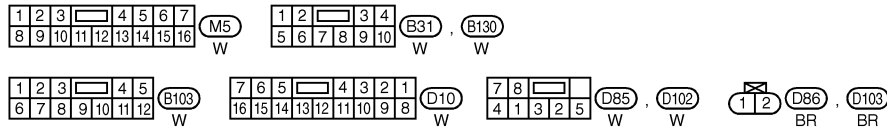
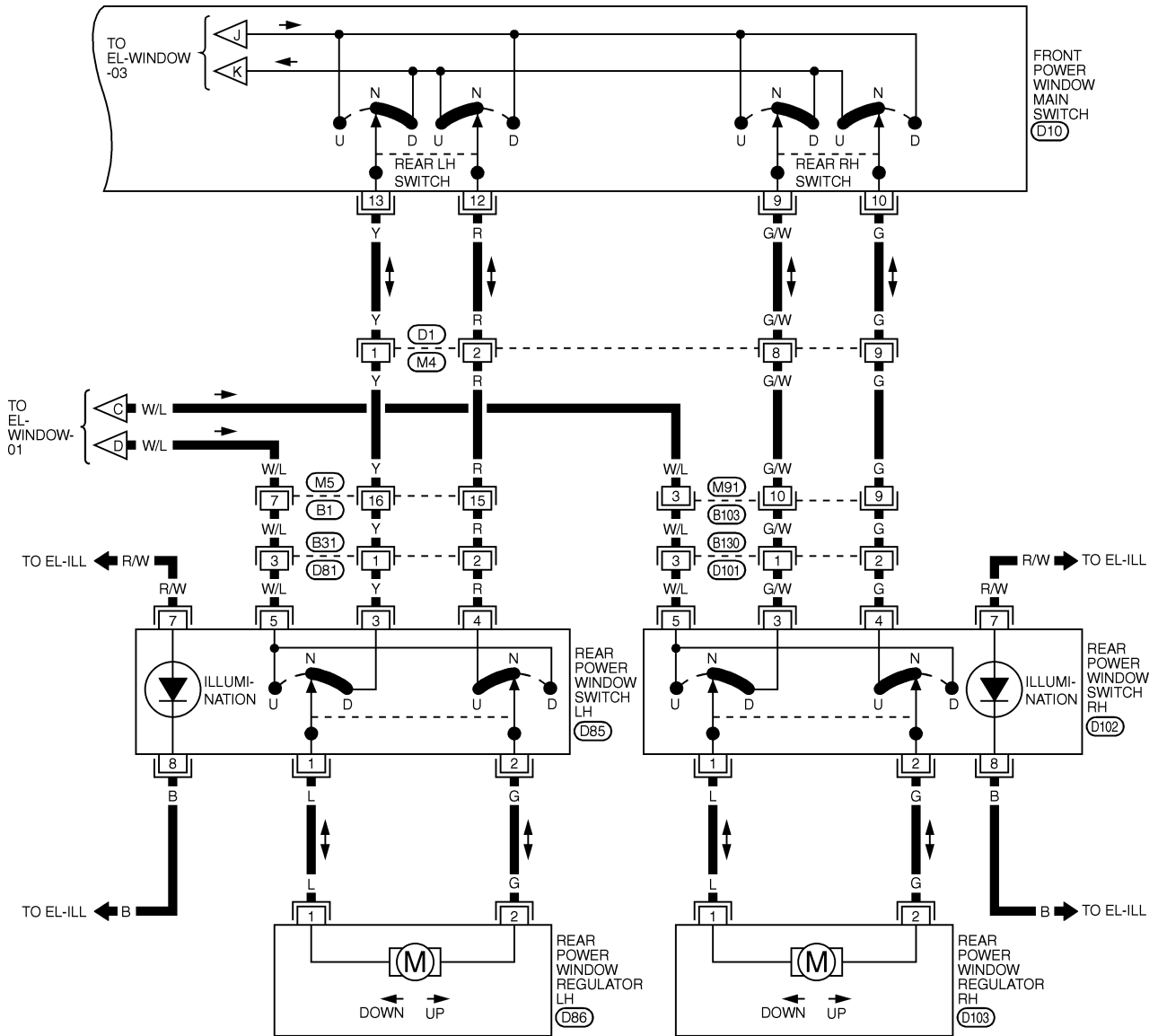
REFER TO THE FOLLOWING.
D31, D61 -SUPER
MULTIPLE JUNCTION (SMJ)

MEL502K

POWER WINDOW

Wiring Diagram — WINDOW — (Cont'd)

EL-WINDOW-05



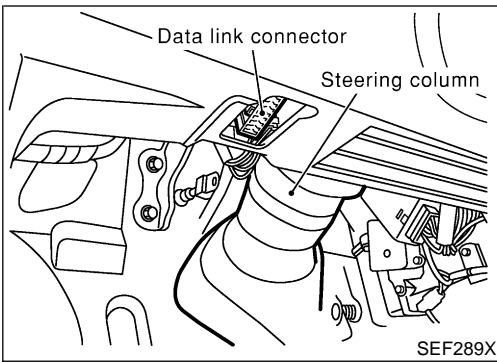
REFER TO THE FOLLOWING.
 (D1) -SUPER
 MULTIPLE JUNCTION (SMJ)

MEL119N

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

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
1	SB	DRIVER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)	5V → 0V
2	R/L	PASSENGER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)	5V → 0V
27	G	IGNITION SWITCH (ON)	IGNITION KEY IS IN "ON" POSITION	12V
46	PU	POWER WINDOW RELAY	RETAINED POWER OPERATION IS OPERATED (ON → OFF)	12V → 0V
49	R/B	POWER SOURCE (FUSE)	-	12V
64	B	GROUND	-	-

SEL979X



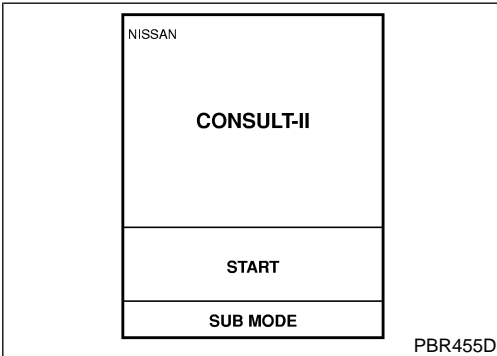
CONSULT-II Inspection Procedure

NHEL0235

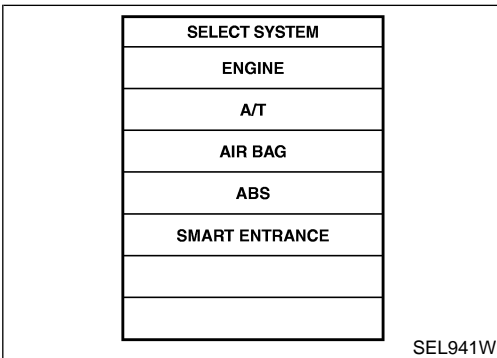
NHEL0235S01

“RETAINED PWR”

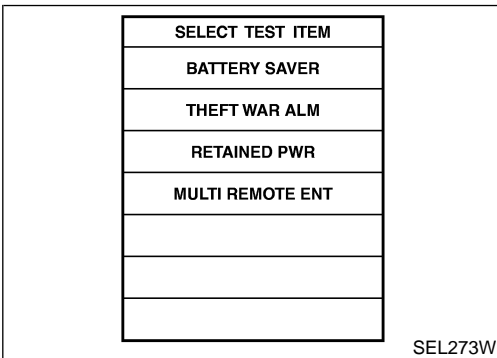
1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” to the data link connector.



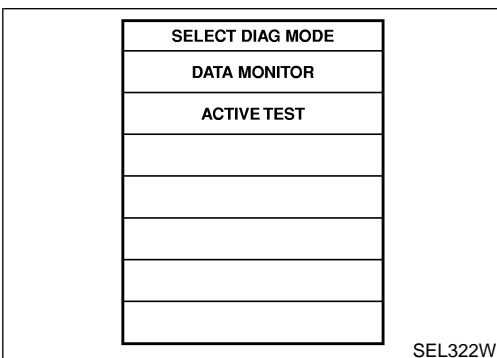
3. Turn ignition switch “ON”.
4. Touch “START”.



5. Touch “SMART ENTRANCE”.



6. Touch “RETAINED PWR”.



7. Select diagnosis mode.
“DATA MONITOR” and “ACTIVE TEST” are available.

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POWER WINDOW

CONSULT-II Application Items

CONSULT-II Application Items

NHEL0236

NHEL0236S01

NHEL0236S0101

“RETAINED PWR”

Data Monitor

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.

Active Test

NHEL0236S0102

Test Item	Description
RETAINED PWR	<p>This test is able to supply RAP signal (power) from smart entrance control unit to power window system and power sunroof system. Those systems can be operated when turning on “RETAINED PWR” on CONSULT-II screen even if the ignition switch is turned OFF.</p> <p>NOTE: During this test, CONSULT-II can be operated with ignition switch in “OFF” position. “RETAINED PWR” should be turned “ON” or “OFF” on CONSULT-II screen when ignition switch is ON. Then turn ignition switch OFF to check retained power operation. CONSULT-II might be stuck if “RETAINED PWR” is turned “ON” or “OFF” on CONSULT-II screen when ignition switch is OFF.</p>

Trouble Diagnoses

NHEL0105

Symptom	Possible cause	Repair order
None of the power windows can be operated using any switch.	<ol style="list-style-type: none"> 10A fuse, 40A fusible link E90 circuit breaker Power window relay E90 circuit breaker circuit Power window relay circuit Ground circuit Front power window main switch 	<ol style="list-style-type: none"> Check 10A fuse [No. 10, located in fuse block (J/B)], 40A fusible link (letter I, located in fuse and fusible link box). Check E90 circuit breaker. Check power window relay. Check the following. <ol style="list-style-type: none"> Check harness between E90 circuit breaker and 40A fusible link (letter I, located in fuse and fusible link box). Check harness between E90 circuit breaker and front power window main switch. Check the following. <ol style="list-style-type: none"> Check harness between E90 circuit breaker and power window relay. Check harness between fuse and power window relay. Check the following. <ol style="list-style-type: none"> Check ground circuit of front power window main switch terminal 5. Check power window relay ground circuit. Check front power window main switch.
Driver side power window cannot be operated but other windows can be operated.	<ol style="list-style-type: none"> Driver side power window regulator circuit Driver side power window regulator Power window main switch 	<ol style="list-style-type: none"> Check harness between front power window main switch and front power window regulator LH for open or short circuit. Check front power window regulator LH. Check front power window main switch.
Passenger side power window cannot be operated but other windows can be operated.	<ol style="list-style-type: none"> Front power window regulator RH circuit Front power window regulator RH Front power window main switch Front power window switch RH 	<ol style="list-style-type: none"> Check harness between front power window switch RH and power window regulator RH for open or short circuit. Check front power window regulator RH. Check front power window main switch. Check front power window switch RH.

POWER WINDOW

Trouble Diagnoses (Cont'd)

Symptom	Possible cause	Repair order	
One or more rear power windows cannot be operated.	<ol style="list-style-type: none"> 1. Rear power window switches 2. Rear power window regulators 3. Power window main switch 4. Rear power window circuit 	<ol style="list-style-type: none"> 1. Check rear power window switch. 2. Check rear power window regulator. 3. Check front power window main switch. 4. Check the following. <ol style="list-style-type: none"> a. Check harness between the rear power window switch terminal 5 and power window relay. b. Check harnesses between front power window main switch and rear power window switch for open/short circuit. c. Check harnesses between rear power window switch and rear power window regulator for open/short circuit. 	GI MA EM LC
Power windows except driver's side window cannot be operated using power window main switch but can be operated by each power window switch.	<ol style="list-style-type: none"> 1. Front power window main switch 	<ol style="list-style-type: none"> 1. Check front power window main switch. 	EC FE
Driver side power window automatic operation does not function properly.	<ol style="list-style-type: none"> 1. Front power window main switch 2. Encoder and limit switch 	<ol style="list-style-type: none"> 1. Check front power window main switch. 2. Check encoder and limit switch. (EL-312) 	AT AX
Passenger side power window automatic operation does not function properly.	<ol style="list-style-type: none"> 1. Front power window switch RH 2. Front power window main switch 3. Encoder and limit switch 	<ol style="list-style-type: none"> 1. Check front power window switch RH. 2. Check front power window main switch. 3. Check encoder and limit switch. (EL-312) 	SU BR ST RS BT
Retained power operation does not operate properly.	<ol style="list-style-type: none"> 1. RAP signal circuit 2. Driver or passenger side door switch circuit 3. Smart entrance control unit 	<ol style="list-style-type: none"> 1. Check RAP signal. <ol style="list-style-type: none"> a. (With CONSULT-II) Check RAP signal with CONSULT-II. Use "ACTIVE TEST" mode, "RETAINED PWR" in "SMART ENTRANCE". (Refer to EL-309.) If NG, go to the step b. below. b. Verify 12 positive voltage from smart entrance control unit is present at terminal 2 of power window relay: <ul style="list-style-type: none"> ● Within 45 seconds after ignition switch turns off. ● When front door LH and RH is closed. 2. Check harness between smart entrance control unit and driver or passenger side door switch. Check driver or passenger side door switch ground circuit. Check driver or passenger side door switch. 3. Check smart entrance control unit. (EL-406) 	HA SC
Passenger side power window cannot be operated using power window main switch but can be operated by passenger side power window switch.	<ol style="list-style-type: none"> 1. Front power window main switch 	<ol style="list-style-type: none"> 1. Check power window main switch. (EL-314) 	EL
Rear LH power window cannot be operated using power window main switch but can be operated by rear LH power window switch.	<ol style="list-style-type: none"> 1. Front power window main switch 	<ol style="list-style-type: none"> 1. Check power window main switch. (EL-315) 	IDX
Rear RH power window cannot be operated using power window main switch but can be operated by rear RH power window switch.	<ol style="list-style-type: none"> 1. Front power window main switch 	<ol style="list-style-type: none"> 1. Check power window main switch. (EL-316) 	

POWER WINDOW

Trouble Diagnoses (Cont'd)

ENCODER AND LIMIT SWITCH CHECK

=NHED0105S01

1	CHECK DOOR WINDOW SLIDE MECHANISM	
<p>Check the following.</p> <ul style="list-style-type: none"> ● Obstacles in window, glass molding, etc. ● Worn or deformed glass molding ● Door sash tilted too far inward or outward ● Door window regulator <p style="text-align: center;">OK or NG</p>		
OK	▶	GO TO 2.
NG	▶	Remove obstacles or repair door window slide mechanism.

2	CHECK POWER SUPPLY TO LIMIT SWITCH	
<p>1. Disconnect front power window regulator LH or RH harness connector. 2. Check voltage between front power window main switch terminal 15 or front power window switch RH terminal 16 and ground.</p>		
<p style="text-align: right;">Voltage: 5V</p>		
<p>NOTE: Check voltage when front power window regulator LH or RH harness connector is disconnected.</p> <p style="text-align: right;">SEL725W</p> <p style="text-align: center;">OK or NG</p>		
OK	▶	GO TO 3.
NG	▶	Replace power window main switch or front power window switch RH.

3	CHECK LIMIT SWITCH OPERATION										
<p>1. Connect front power window regulator LH or RH. 2. Check voltage between front power window main switch terminal 15 or front power window switch RH terminal 16 and ground during power window closing operation.</p>											
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Terminal No.</th> <th style="text-align: center;">Condition</th> <th style="text-align: center;">Voltage (DCV)</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;">Front power window main switch: 15 Front power window switch RH: 16</td> <td style="vertical-align: top;">Approx. 15 mm (0.59 in) below the full closed position to full closed position</td> <td style="text-align: center;">Approx. 5</td> </tr> <tr> <td></td> <td style="text-align: center;">Other positions</td> <td style="text-align: center;">Approx. 0</td> </tr> </tbody> </table> <p style="text-align: right;">SEL726W</p> <p style="text-align: center;">OK or NG</p>			Terminal No.	Condition	Voltage (DCV)	Front power window main switch: 15 Front power window switch RH: 16	Approx. 15 mm (0.59 in) below the full closed position to full closed position	Approx. 5		Other positions	Approx. 0
Terminal No.	Condition	Voltage (DCV)									
Front power window main switch: 15 Front power window switch RH: 16	Approx. 15 mm (0.59 in) below the full closed position to full closed position	Approx. 5									
	Other positions	Approx. 0									
OK	▶	GO TO 5.									
NG	▶	GO TO 4.									

POWER WINDOW

Trouble Diagnoses (Cont'd)

4 RESET LIMIT SWITCH

Reset limit switch. Refer to BT-21, "Front Door Glass Limit Switch Reset". Then check voltage between front power window main switch terminal 15 or front power window switch RH terminal 16 and ground during power window closing operation at least ten times.

Front power window main switch connector (D10)

Front power window switch RH connector (D33)

Terminal No.	Condition	Voltage (DCV)
Front power window main switch: 15 Front power window switch RH: 16	Approx. 15 mm (0.59 in) below the full closed position to full closed position	Approx. 5
	Other positions	Approx. 0

SEL726W

OK or NG

OK	▶	GO TO 5.
NG	▶	Replace power window regulator.

5 CHECK ENCODER

Measure voltage between front power window main switch terminal 14 or front power window switch RH terminal 19 and ground with oscilloscope when power window is in automatic closing operation.

Power window main switch connector (D10)

Front power window switch RH connector (D33)

HI: Approx. 5V
LO: Approx. 0V

SEL727W

OK or NG

OK	▶	Replace power window main switch or front power window switch RH.
NG	▶	Replace power window regulator.

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POWER WINDOW

Trouble Diagnoses (Cont'd)

MAIN SWITCH OPERATION CHECK Passenger Side Operation

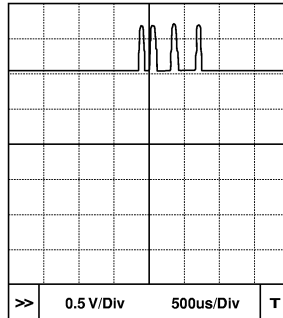
NHEL0105S02

NHEL0105S0201

1 CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL

 **With CONSULT-II**

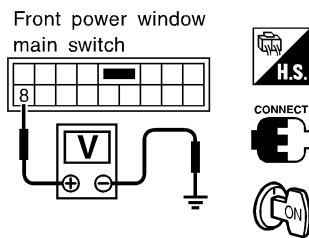
1. Turn ignition switch to ON position.
2. Turn front power window main switch to ON (UP or DOWN).
3. Check signal between front power window main switch terminal 8 and ground when power window is in open or close operation. (Use "SIMPLE OSCILLOSCOPE" in "SUB MODE" with CONSULT-II.)



SEL161Y

 **Without CONSULT-II**

1. Turn ignition switch to ON position.
2. Turn front power window main switch to ON (UP or DOWN).
3. Check signal between front power window main switch terminal 8 and ground when power window is in open or close operation.



Voltage: Approx.

SEL162Y

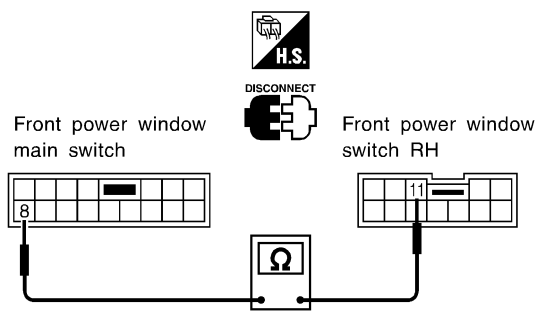
OK or NG

OK ► GO TO 2.

NG ► Replace front power window main switch.

POWER WINDOW

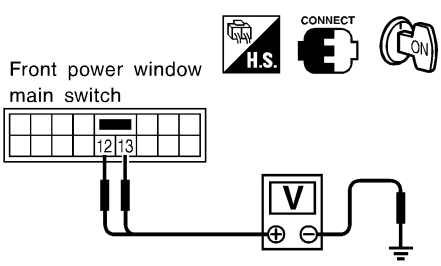
Trouble Diagnoses (Cont'd)

2	CHECK SIGNAL CIRCUIT		
<p>1. Check continuity between front power window switch terminal 8 and front power window switch RH terminal 11.</p>			
			
SEL163Y			
Yes or No			
Yes	▶	INSPECTION END	
No	▶	Repair harness or connectors.	

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Rear LH Side Window Operation

NHLE0105S0202

1	CHECK POWER WINDOW MAIN SWITCH OUTPUT SIGNAL		
<p>1. Turn ignition switch to ON position. 2. Check voltage between front power window main switch terminal 12 or 13 and ground when rear power window LH side is in open or close operation.</p>			
			
SEL164Y			
OK or NG			
OK	▶	GO TO 2.	
NG	▶	Replace front power window main switch.	


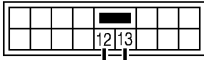
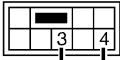

Terminals		Main switch condition	
(+)	(-)	Open	Close
12	Ground	0V	12V
13	Ground	0V	12V

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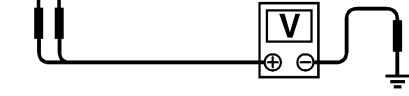

POWER WINDOW

Trouble Diagnoses (Cont'd)

2	CHECK SIGNAL CIRCUIT	<p>1. Check continuity between front power window switch terminal 12 and rear power window switch LH terminal 4. 2. Check continuity between front power window switch terminal 13 and rear power window switch LH terminal 3.</p>	
			
<p>Front power window main switch</p> 		<p>Rear power window switch LH</p> 	<p>Continuity should exist.</p>
		SEL165Y	
Yes or No			
Yes	▶	INSPECTION END	
No	▶	Repair harness or connectors.	

Rear RH Side Window Operation

NHLE0105S0203

1	CHECK POWER WINDOW MAIN SWITCH OUTPUT	<p>1. Turn ignition switch to ON position. 2. Check voltage between front power window main switch terminal 9 or 10 and ground when rear power window RH side is in open or close operation.</p>																	
																			
<p>Front power window main switch</p> 			<table border="1" style="margin: auto;"> <thead> <tr> <th colspan="2">Terminals</th> <th colspan="2">Main switch condition</th> </tr> <tr> <th>(+)</th> <th>(-)</th> <th>Open</th> <th>Close</th> </tr> </thead> <tbody> <tr> <td>9</td> <td>Ground</td> <td>0V</td> <td>12V</td> </tr> <tr> <td>10</td> <td>Ground</td> <td>0V</td> <td>12V</td> </tr> </tbody> </table>	Terminals		Main switch condition		(+)	(-)	Open	Close	9	Ground	0V	12V	10	Ground	0V	12V
Terminals		Main switch condition																	
(+)	(-)	Open	Close																
9	Ground	0V	12V																
10	Ground	0V	12V																
		SEL166Y																	
OK or NG																			
OK	▶	GO TO 2.																	
NG	▶	Replace front power window main switch.																	

POWER WINDOW

Trouble Diagnoses (Cont'd)

2	CHECK SIGNAL CIRCUIT	
<p>1. Check continuity between front power window switch terminal 9 and rear power window switch RH terminal 3. 2. Check continuity between front power window switch terminal 10 and rear power window switch RH terminal 4.</p> <div style="text-align: center;"> <p>Front power window main switch Rear power window switch RH</p> <p>Continuity should exist.</p> <p style="text-align: right;">SEL167Y</p> </div> <p style="text-align: center;">Yes or No</p>		
Yes	▶	INSPECTION END
No	▶	Repair harness or connectors.

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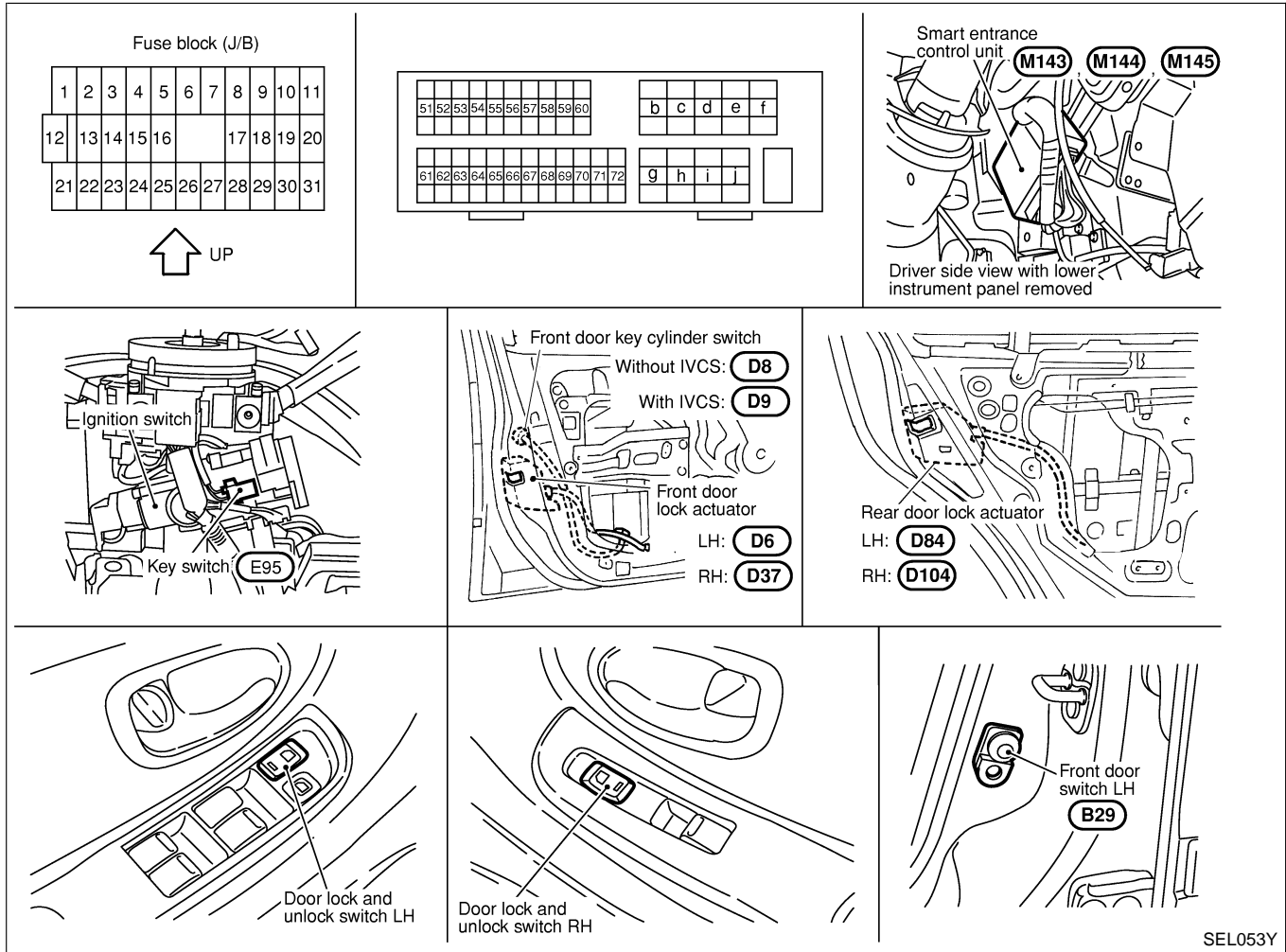
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POWER DOOR LOCK

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NHELO106



System Description

NHELO107

OPERATION

NHELO107S04

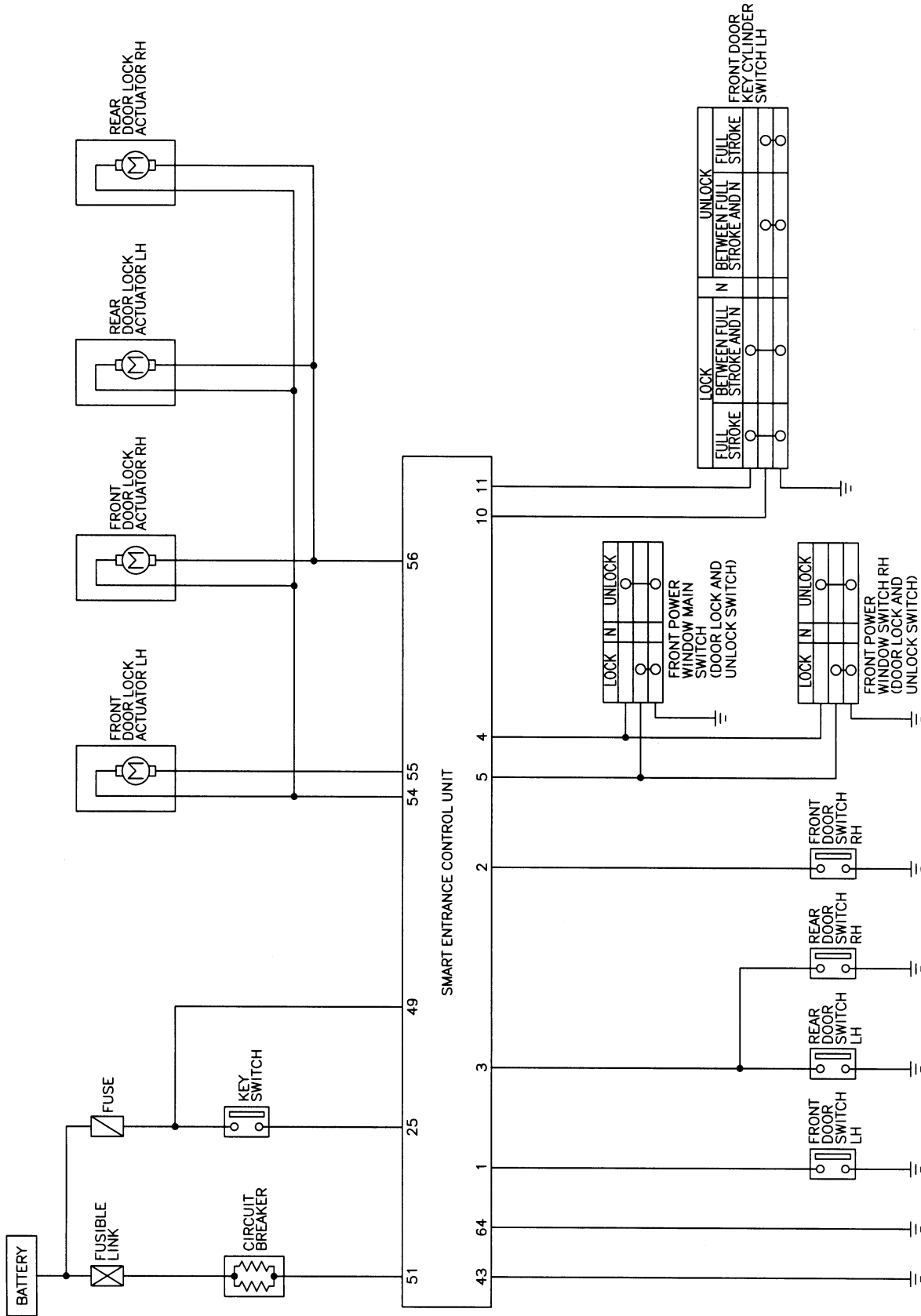
- The lock/unlock switches (LH and RH) on door trim can lock and unlock all doors.
- With the door key inserted in the key cylinder on front LH, turning it to "LOCK", will lock all doors; turning it to "UNLOCK" once unlocks the corresponding door; turning it to "UNLOCK" again within 5 seconds after the 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 to "LOCK" locks the doors once but then immediately unlocks them. (KEY REMINDER DOOR SYSTEM)

POWER DOOR LOCK

Schematic

Schematic

NHEL0108



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MEL466M

POWER DOOR LOCK

Wiring Diagram — D/LOCK —

Wiring Diagram — D/LOCK —

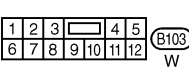
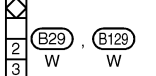
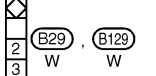
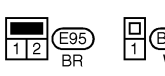
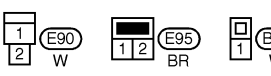
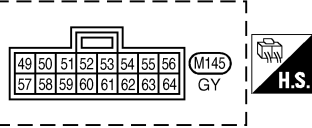
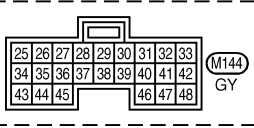
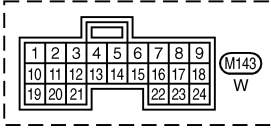
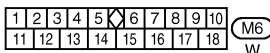
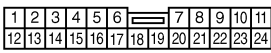
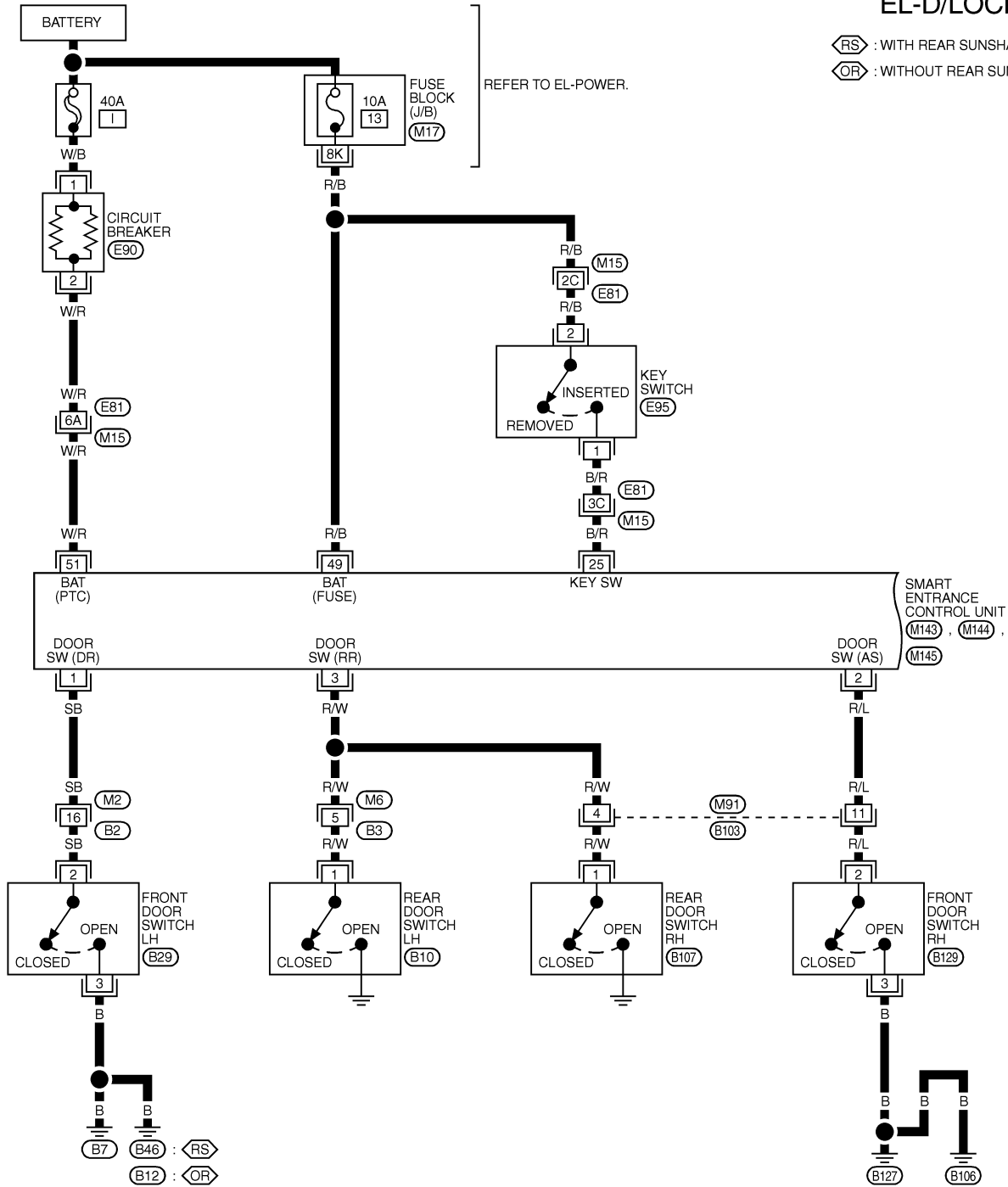
NHEL0109

NHEL0109S01

FIG. 1

EL-D/LOCK-01

⬠RS⬠ : WITH REAR SUNSHADE
 ⬠OR⬠ : WITHOUT REAR SUNSHADE



REFER TO THE FOLLOWING.

(M15) -SUPER

MULTIPLE JUNCTION (SMJ)

(M17) -FUSE BLOCK-
 JUNCTION BOX (J/B)

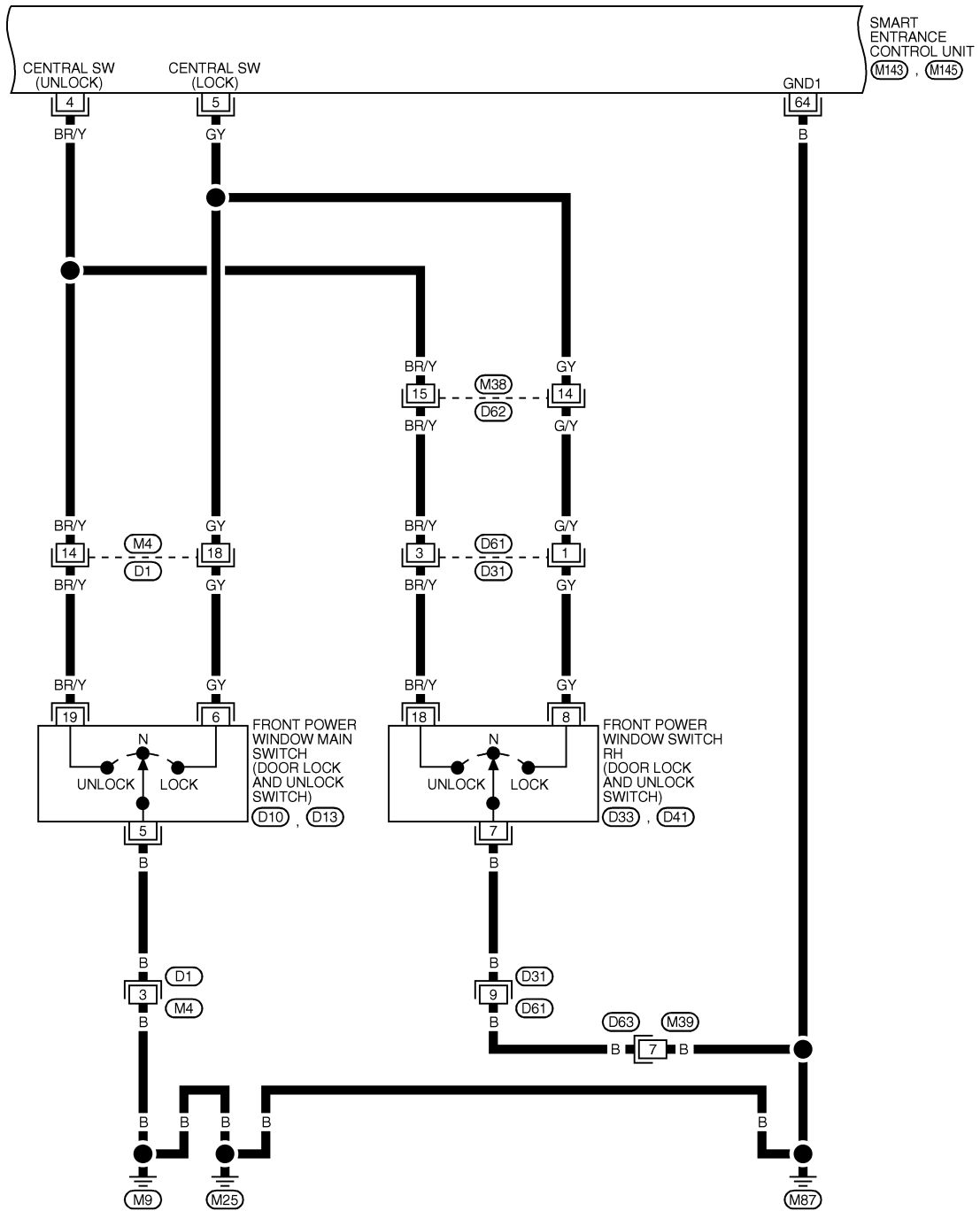
POWER DOOR LOCK

Wiring Diagram — D/LOCK — (Cont'd)

FIG. 2

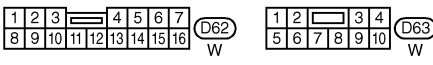
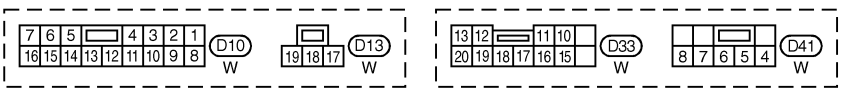
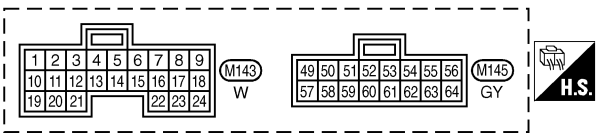
NHEL0109S02

EL-D/LOCK-02



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REFER TO THE FOLLOWING.

(D1), (D31) -SUPER
MULTIPLE JUNCTION (SMJ)

MEL468M

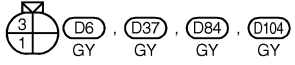
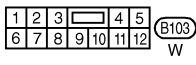
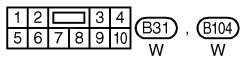
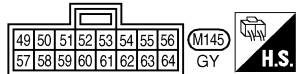
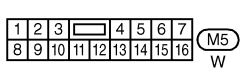
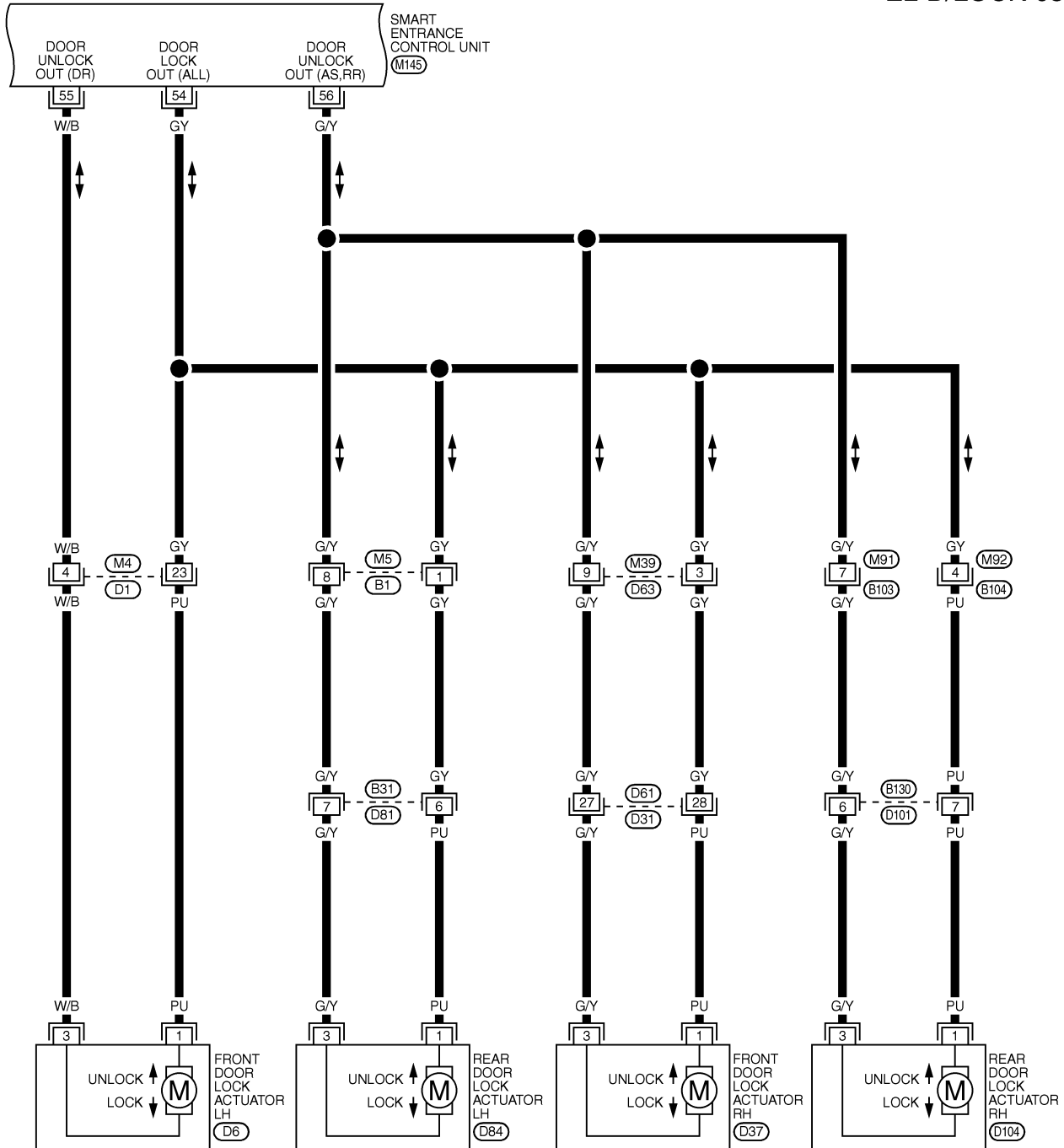
POWER DOOR LOCK

Wiring Diagram — D/LOCK — (Cont'd)

FIG. 3

NHEL0109S03

EL-D/LOCK-03



REFER TO THE FOLLOWING.
 (D1) , (D31) -SUPER
 MULTIPLE JUNCTION (SMJ)

MEL469M

POWER DOOR LOCK

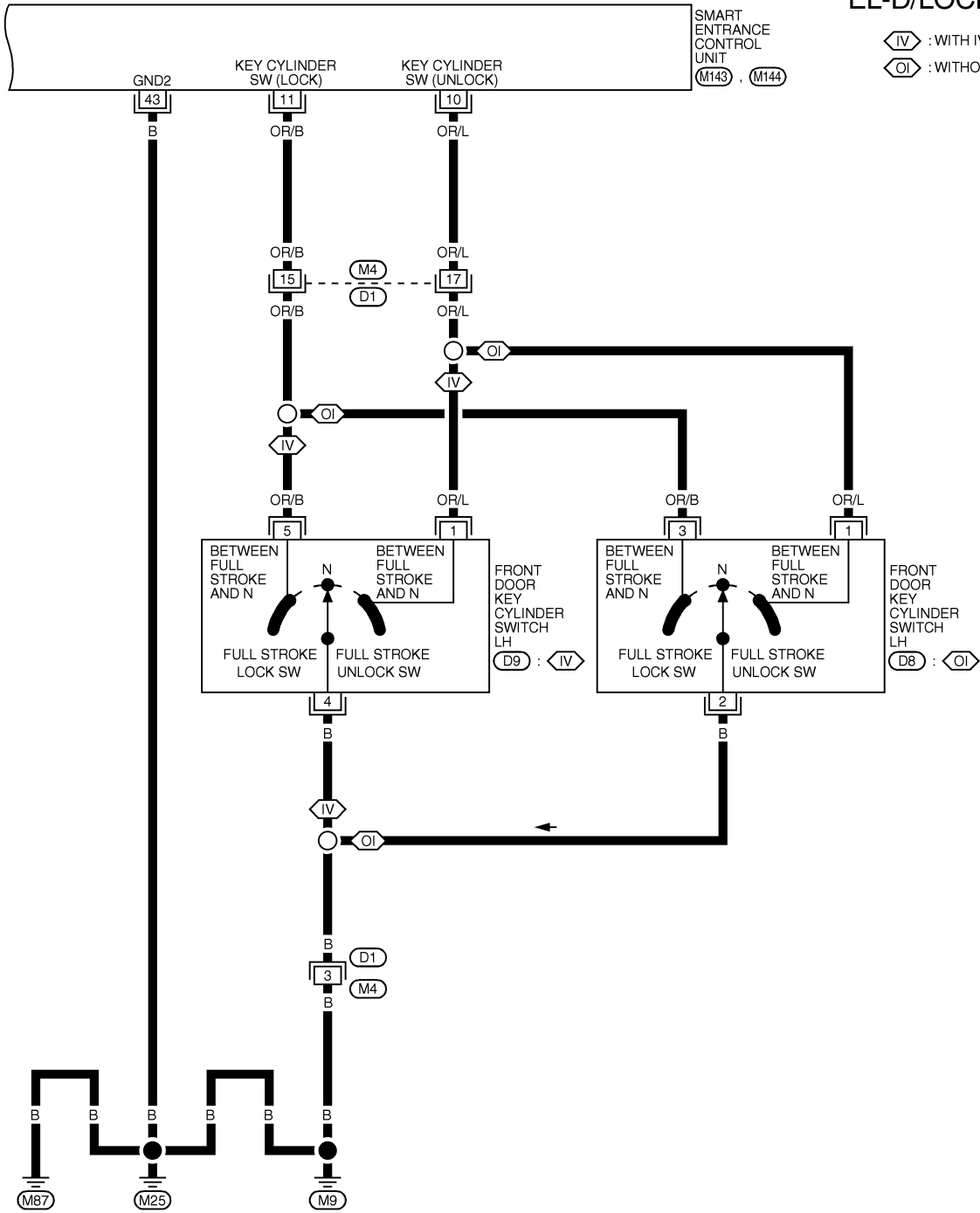
Wiring Diagram — D/LOCK — (Cont'd)

FIG. 4

NHEL0109S05

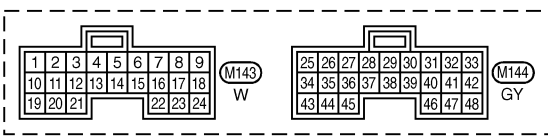
EL-D/LOCK-04

◊IV◊ : WITH IVCS
◊OI◊ : WITHOUT IVCS



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REFER TO THE FOLLOWING.
◊D1◊ -SUPER
MULTIPLE JUNCTION (SMJ)

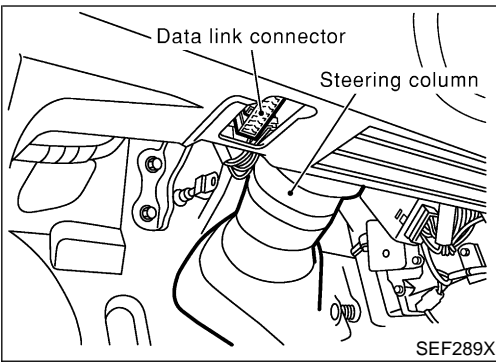
MEL470M

POWER DOOR LOCK

Wiring Diagram — D/LOCK — (Cont'd)

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

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
1	SB	DRIVER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)	5V → 0V
2	R/L	PASSENGER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)	5V → 0V
3	R/W	REAR DOOR SWITCH	OFF (CLOSED) → ON (OPEN)	5V → 0V
4	BR/Y	DOOR LOCK & UNLOCK SWITCHES	NEUTRAL → UNLOCKS	5V → 0V
5	GY	DOOR LOCK & UNLOCK SWITCHES	NEUTRAL → LOCKS	5V → 0V
10	OR/L	DOOR KEY CYLINDER UNLOCK SWITCH	OFF (NEUTRAL) → ON (LOCKED)	5V → 0V
11	OR/B	DOOR KEY CYLINDER LOCK SWITCH	OFF (NEUTRAL) → ON (LOCKED)	5V → 0V
25	B/R	IGNITION KEY SWITCH (INSERT)	KEY INSERTED → KEY REMOVED FROM IGN KEY CYLINDER	12V → 0V
43	B	GROUND	-	-
49	R/B	POWER SOURCE (FUSE)	-	12V
51	W/R	POWER SOURCE (PTC)	-	12V
54	GY	DOOR LOCK ACTUATORS	DOOR LOCK & UNLOCK SWITCH (FREE → LOCK)	0V → 12V
55	W/B	DRIVER DOOR LOCK ACTUATOR	DOOR LOCK & UNLOCK SWITCH (FREE → UNLOCK)	0V → 12V
56	GY	PASSENGER AND REAR DOORS LOCK ACTUATOR	DOOR LOCK & UNLOCK SWITCH (FREE → UNLOCK)	0V → 12V
64	B	GROUND	-	-



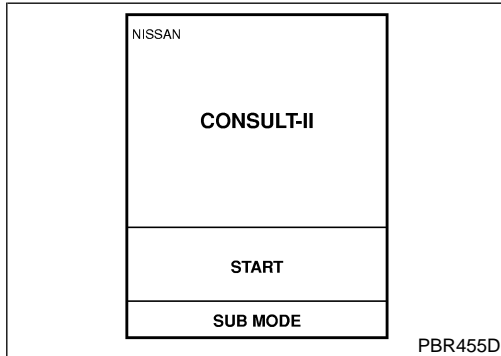
CONSULT-II Inspection Procedure

=NHLE0238

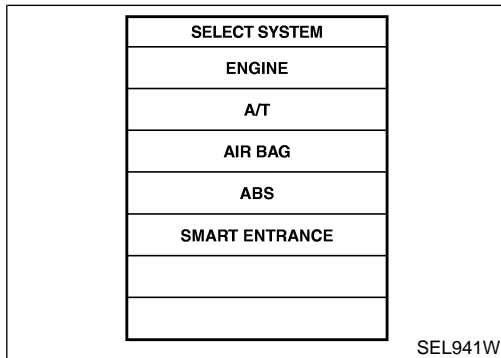
NHLE0238S01

“DOOR LOCK”

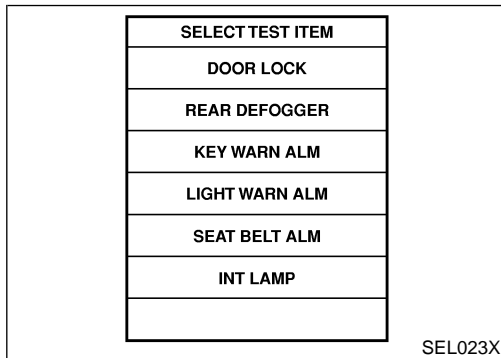
1. Turn ignition switch “OFF”.
2. Connect “CONSULT-II” to the data link connector.



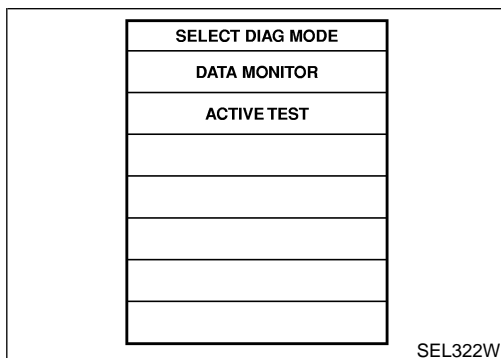
3. Turn ignition switch “ON”.
4. Turn “START”.



5. Touch “SMART ENTRANCE”.



6. Touch “DOOR LOCK”.



7. Select diagnosis mode.
“DATA MONITOR” and “ACTIVE TEST” are available.

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POWER DOOR LOCK

CONSULT-II Application Items

CONSULT-II Application Items

NHEL0239

NHEL0239S01

NHEL0239S0101

“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.
DOOR SW-RR	Indicates [ON/OFF] condition of door switch (Rear).
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.
LK BUTTON/SIG	Indicates [ON/OFF] condition of lock signal from remote controller.
UN BUTTON/SIG	Indicates [ON/OFF] condition of unlock signal from remote controller.
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.

Active Test

NHEL0239S0102

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.

POWER DOOR LOCK

Trouble Diagnoses

Trouble Diagnoses SYMPTOM CHART

=NHEL0193

NHEL0193S01

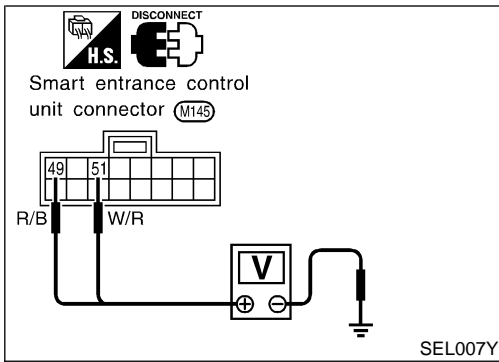
REFERENCE PAGE (EL-)	328	329	330	331	333	335	
SYMPTOM	MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK	DOOR SWITCH CHECK	KEY SWITCH (INSERT) CHECK	DOOR LOCK/UNLOCK SWITCH CHECK	FRONT DOOR KEY CYLINDER SWITCH CHECK	DOOR LOCK ACTUATOR CHECK	GI MA EM LC EC FE AT AX
Key reminder door system does not operate properly.	X	X	X			X	SU
Specific door lock actuator does not operate.	X					X	BR
Power door lock does not operate with door lock and unlock switch (LH and RH) on door trim.	X			X			ST
Power door lock does not operate with front door key cylinder operation.	X				X		RS BT HA SC

EL

IDX

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)



MAIN POWER SUPPLY AND GROUND CIRCUIT CHECK

=NHHEL0193S02

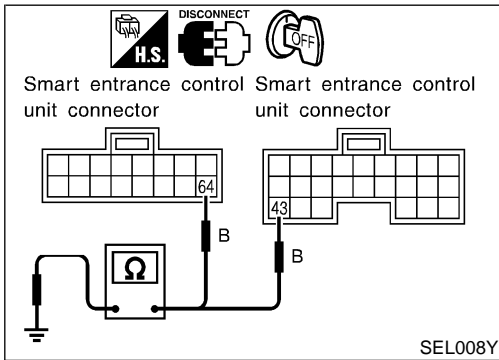
Main Power Supply Circuit Check

NHHEL0193S0201

Terminals		Ignition switch		
(+)	(-)	OFF	ACC	ON
49	Ground	Battery volt- age	Battery volt- age	Battery volt- age
51				

Ground Circuit Check

NHHEL0193S0202



Terminals	Continuity
43 - Ground	Yes
64 - Ground	Yes

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

DOOR SWITCH CHECK

=NHLE0193S03

1 CHECK DOOR SWITCHES INPUT SIGNAL

With CONSULT-II

Check door switches ("DOOR SW-DR", "DOOR SW-AS", "DOOR SW-RR") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
DOOR SW-RR	OFF
DOOR SW-DR	OFF
DOOR SW-AS	OFF

When any doors are open:

DOOR SW-DR ON
DOOR SW-AS ON
DOOR SW-RR ON

When any doors are closed:

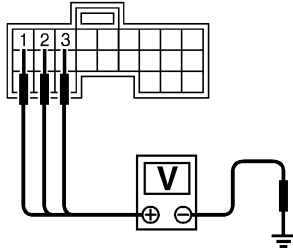
DOOR SW-DR OFF
DOOR SW-AS OFF
DOOR SW-RR OFF

SEL009Y

Without CONSULT-II

Check voltage between smart entrance control unit harness connector M143 terminals 1 (SB), 2 (R/L) or 3 (R/W) and ground.

Smart entrance control unit connector



	Terminals		Condition	Voltage [V]
	(+)	(-)		
Front LH door switch	1	Ground	Open	0
			Closed	Approx. 5
Front RH door switch	2	Ground	Open	0
			Closed	Approx. 5
Rear door switches	3	Ground	Open	0
			Closed	Approx. 5

SEL010Y

Refer to wiring diagram in EL-320.

OK or NG

OK ► Door switch is OK.

NG ► GO TO 2.

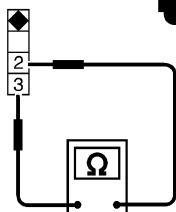
2 CHECK DOOR SWITCHES

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

Door switch connector

Front LH : (B29)

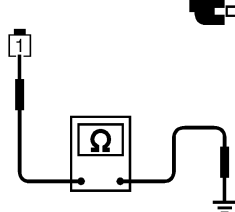
Front RH : (B129)



Door switch connector

Rear LH : (B10)

Rear RH : (B107)



	Terminals	Condition	Continuity
Front door switches	2 - 3	Closed	No
		Open	Yes
Rear door switches	1 - Ground	Closed	No
		Open	Yes

SEL192W

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.



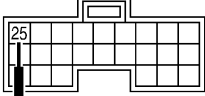

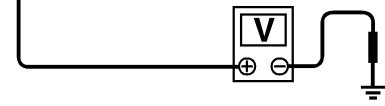


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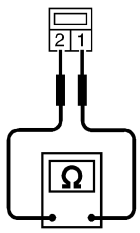

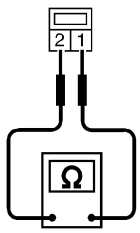
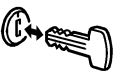
POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

KEY SWITCH (INSERT) CHECK

=NHLE0193S04

1	CHECK KEY SWITCH INPUT SIGNAL						
<p> With CONSULT-II Check key switch ("KEY ON SW") in "DATA MONITOR" mode with CONSULT-II.</p> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <table border="1" style="border-collapse: collapse; text-align: center;"> <thead> <tr> <th colspan="2">DATA MONITOR</th> </tr> <tr> <th>MONITOR</th> <th></th> </tr> </thead> <tbody> <tr> <td>KEY ON SW</td> <td>ON</td> </tr> </tbody> </table> <div style="margin-left: 20px;"> <p>When key is inserted to ignition key cylinder: KEY ON SW ON</p> <p>When key is removed from ignition key cylinder: KEY ON SW OFF</p> </div> </div>		DATA MONITOR		MONITOR		KEY ON SW	ON
DATA MONITOR							
MONITOR							
KEY ON SW	ON						
SEL315W							
<p> Without CONSULT-II Check voltage between smart entrance control unit harness connector M144 terminal 25 (B/R) and ground.</p> <p>Smart entrance control unit connector</p> <div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p> CONNECT</p>  <p> : Approx. 12V</p> <p> : 0V</p> </div> <div style="margin-left: 20px;"> <p>Voltage [V]:</p> <p>Condition of key switch: Key is inserted. Approx. 12</p> <p>Condition of key switch: Key is removed. 0</p> </div> </div> <p>Refer to wiring diagram in EL-321.</p> <p style="text-align: center;">OK or NG</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">OK</td> <td style="width: 5%; text-align: center;">▶</td> <td>Key switch is OK.</td> </tr> <tr> <td>NG</td> <td style="text-align: center;">▶</td> <td>GO TO 2.</td> </tr> </table>		OK	▶	Key switch is OK.	NG	▶	GO TO 2.
OK	▶	Key switch is OK.					
NG	▶	GO TO 2.					
SEL011Y							

2	CHECK KEY SWITCH (INSERT)						
<p>Check continuity between key switch connector terminals 1 and 2.</p> <p>Key switch connector </p> <div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p> DISCONNECT</p>  <p></p> </div> <div style="margin-left: 20px;"> <p>Continuity:</p> <p>Condition of key switch: Key is inserted. Yes</p> <p>Condition of key switch: Key is removed. No</p> </div> </div> <p style="text-align: center;">OK or NG</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">OK</td> <td style="width: 5%; text-align: center;">▶</td> <td> <p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse [No. 13, 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 </td> </tr> <tr> <td>NG</td> <td style="text-align: center;">▶</td> <td>Replace key switch.</td> </tr> </table>		OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse [No. 13, 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.
OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse [No. 13, 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.					
SEL194W							

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

DOOR LOCK/UNLOCK SWITCH CHECK

=NHLE0193S05

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:

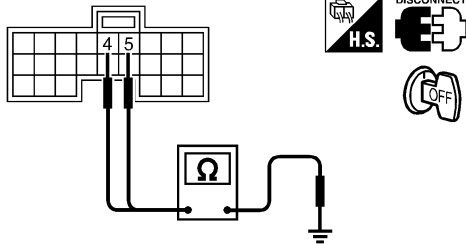
UNLK SW DR/AS ON

SEL341W

Without CONSULT-II

1. Disconnect smart entrance control unit harness connector .
2. Check continuity between smart entrance control unit harness connector M143 terminal 4 (BR/Y) or 5 (GY) and ground.

Smart entrance control unit connector



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

Refer to wiring diagram in EL-321.

SEL012Y

OK or NG

OK ► Door lock/unlock switch is OK.

NG ► GO TO 2.

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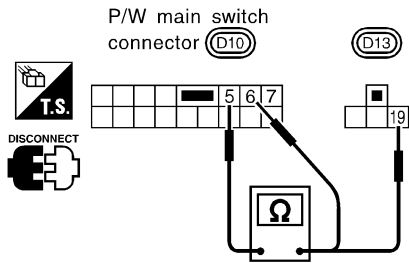
IDX

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

2 CHECK DOOR LOCK/UNLOCK SWITCH

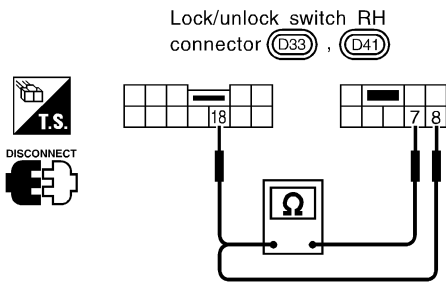
1. Disconnect door lock/unlock switch harness connector.
2. Check continuity between each door lock/unlock switch terminals.
 - Power window main switch (Door lock/unlock switch LH)



Condition	Terminals		
	19	6	5
Lock		○	○
N	No continuity		
Unlock	○		○

SEL648W

- Door lock/unlock switch RH



Condition	Terminals		
	18	8	7
Lock		○	○
N	No continuity		
Unlock	○		○

SEL649W

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.

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

FRONT DOOR KEY CYLINDER SWITCH CHECK

=NH0193S06

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

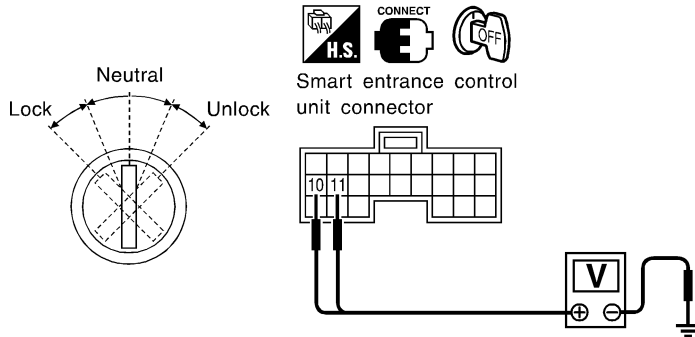
When key inserted in front key cylinder is turned to UNLOCK:

KEY CYL UN-SW ON

SEL342W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector M143 terminals 10 (OR/L) or 11 (OR/B) and ground.



Terminals		Key position	Voltage V
(+)	(-)		
11	Ground	Neutral/Unlock	Approx. 5
		Lock	0
10	Ground	Neutral/Lock	Approx. 5
		Unlock	0

Refer to wiring diagram in EL-323.

SEL013Y

OK or NG

OK ► Door key cylinder switch is OK.

NG ► GO TO 2.

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POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

2	CHECK DOOR KEY CYLINDER SWITCH															
<p>1. Disconnect door key cylinder switch harness connector. 2. Check continuity between door key cylinder switch terminals.</p>																
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 45%;"> <p style="margin-left: 20px;">(D9) : IV (D8) : OI</p> </div> <div style="width: 50%;"> <p style="margin-left: 20px;"> IV OI IV : With IVCS OI : Without IVCS </p> <p style="margin-left: 20px;"> ① ① : Door unlock switch terminal ④ ② : Ground terminal ⑤ ③ : Door lock switch terminal </p> <table border="1" style="width: 100%; border-collapse: collapse; margin-left: 20px;"> <thead> <tr> <th style="text-align: center;">Terminals</th> <th style="text-align: center;">Key position</th> <th style="text-align: center;">Continuity</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">⑤ - ④ : IV</td> <td style="text-align: center;">Neutral/Unlock</td> <td style="text-align: center;">No</td> </tr> <tr> <td style="text-align: center;">③ - ② : OI</td> <td style="text-align: center;">Lock</td> <td style="text-align: center;">Yes</td> </tr> <tr> <td style="text-align: center;">① - ④ : IV</td> <td style="text-align: center;">Neutral/Lock</td> <td style="text-align: center;">No</td> </tr> <tr> <td style="text-align: center;">① - ② : OI</td> <td style="text-align: center;">Unlock</td> <td style="text-align: center;">Yes</td> </tr> </tbody> </table> </div> </div>		Terminals	Key position	Continuity	⑤ - ④ : IV	Neutral/Unlock	No	③ - ② : OI	Lock	Yes	① - ④ : IV	Neutral/Lock	No	① - ② : OI	Unlock	Yes
Terminals	Key position	Continuity														
⑤ - ④ : IV	Neutral/Unlock	No														
③ - ② : OI	Lock	Yes														
① - ④ : IV	Neutral/Lock	No														
① - ② : OI	Unlock	Yes														
SEL650W																
OK or NG																
OK	<p>▶ Check the following.</p> <ul style="list-style-type: none"> ● 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.															

POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

DOOR LOCK ACTUATOR CHECK

=NH0193S08

1	CHECK DOOR LOCK ACTUATOR OPERATION													
<p>With CONSULT-II</p> <ol style="list-style-type: none"> 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". 														
<table border="1" style="margin: auto;"> <tr> <th colspan="2">ACTIVE TEST</th> </tr> <tr> <td>ALL D/LK MTR</td> <td>OFF</td> </tr> <tr> <td colspan="2" style="text-align: center;">or</td> </tr> <tr> <td>(DR D/UN MTR</td> <td>OFF)</td> </tr> <tr> <td>(NON DR D/UN</td> <td>OFF)</td> </tr> <tr> <td colspan="2" style="text-align: center;">ON</td> </tr> </table>			ACTIVE TEST		ALL D/LK MTR	OFF	or		(DR D/UN MTR	OFF)	(NON DR D/UN	OFF)	ON	
ACTIVE TEST														
ALL D/LK MTR	OFF													
or														
(DR D/UN MTR	OFF)													
(NON DR D/UN	OFF)													
ON														
Door lock motor should operate.														
SEL343W														
<p>NOTE: If CONSULT-II is not available, skip this procedure and go to the next step.</p> <p style="text-align: center;">OK or NG</p>														
OK	▶	Door lock actuator is OK.												
NG	▶	GO TO 2.												

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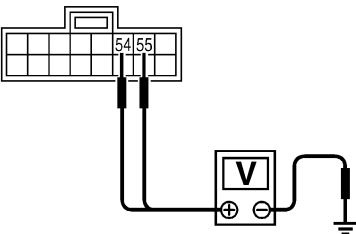



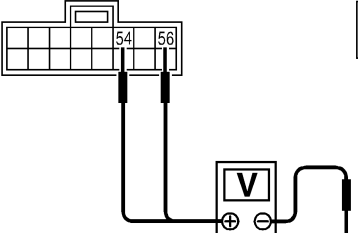



SC

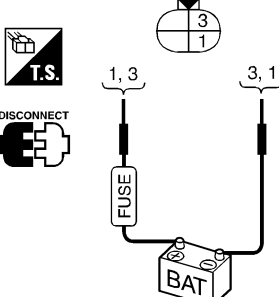


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POWER DOOR LOCK

Trouble Diagnoses (Cont'd)

2	CHECK DOOR LOCK ACTUATOR CIRCUIT															
<p>Check voltage for door lock actuator.</p> <ul style="list-style-type: none"> Door lock actuator front LH 																
<p>Smart entrance control unit connector</p>  <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>CONNECT</p>   </div> <table border="1" style="border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">Door lock/unlock switch condition</th> <th colspan="2">Terminal No.</th> <th rowspan="2">Voltage V</th> </tr> <tr> <th>(+)</th> <th>(-)</th> </tr> </thead> <tbody> <tr> <td>Lock</td> <td>54</td> <td>Ground</td> <td rowspan="2">Approx. 12</td> </tr> <tr> <td>Unlock</td> <td>55</td> <td>Ground</td> </tr> </tbody> </table> </div>				Door lock/unlock switch condition	Terminal No.		Voltage V	(+)	(-)	Lock	54	Ground	Approx. 12	Unlock	55	Ground
Door lock/unlock switch condition	Terminal No.		Voltage V													
	(+)	(-)														
Lock	54	Ground	Approx. 12													
Unlock	55	Ground														
SEL014Y																
<ul style="list-style-type: none"> Door lock actuator front RH and rear 																
<p>Smart entrance control unit connector</p>  <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>CONNECT</p>   </div> <table border="1" style="border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">Door lock/unlock switch condition</th> <th colspan="2">Terminal No.</th> <th rowspan="2">Voltage V</th> </tr> <tr> <th>(+)</th> <th>(-)</th> </tr> </thead> <tbody> <tr> <td>Lock</td> <td>54</td> <td>Ground</td> <td rowspan="2">Approx. 12</td> </tr> <tr> <td>Unlock</td> <td>56</td> <td>Ground</td> </tr> </tbody> </table> </div>				Door lock/unlock switch condition	Terminal No.		Voltage V	(+)	(-)	Lock	54	Ground	Approx. 12	Unlock	56	Ground
Door lock/unlock switch condition	Terminal No.		Voltage V													
	(+)	(-)														
Lock	54	Ground	Approx. 12													
Unlock	56	Ground														
SEL015Y																
<p>Refer to wiring diagram in EL-322.</p> <p style="text-align: center;">OK or NG</p>																
OK	▶	GO TO 3.														
NG	▶	Replace smart entrance control unit. (Before replacing the control unit, perform "DOOR LOCK/UNLOCK SWITCH CHECK".)														

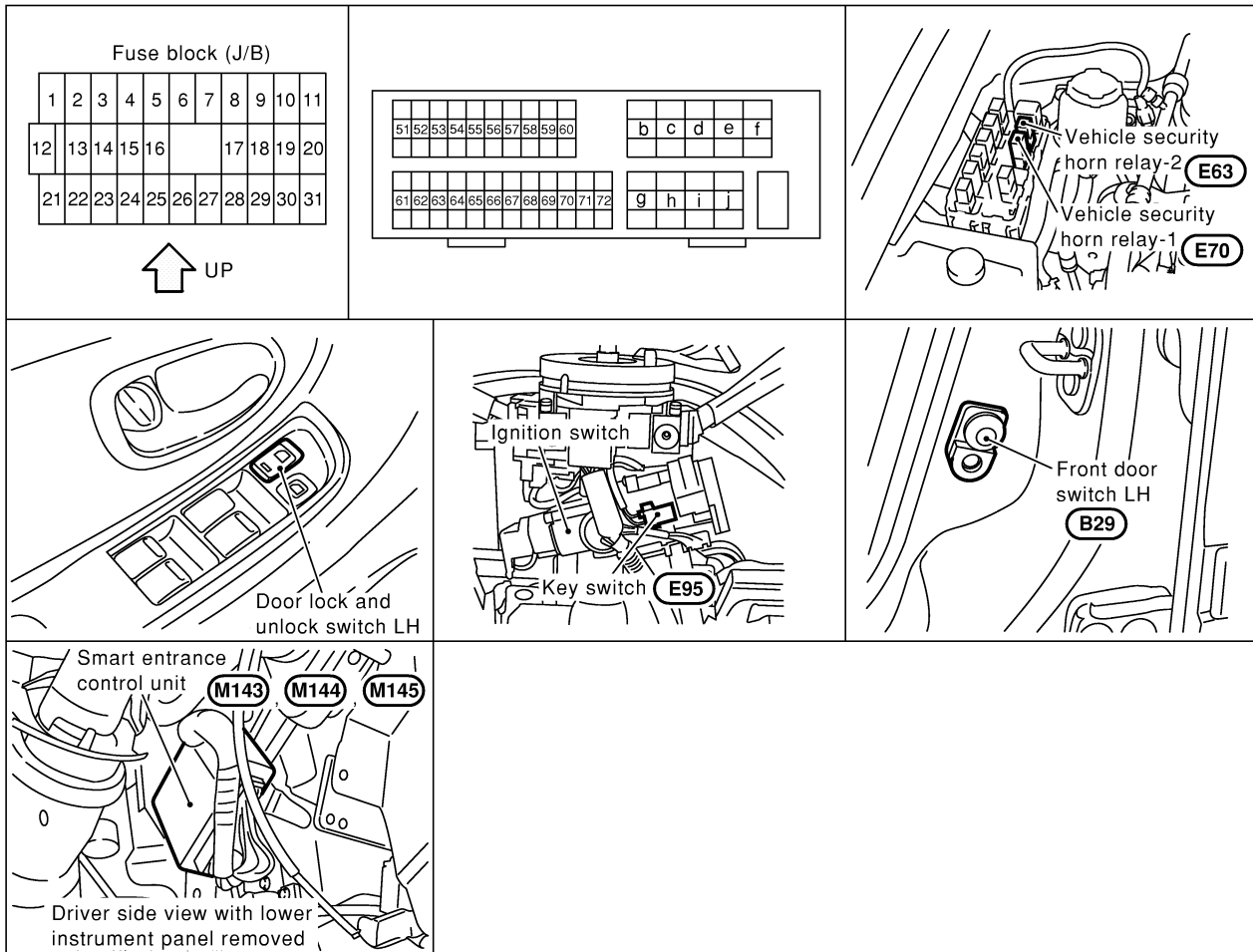
3	CHECK DOOR LOCK ACTUATOR		
<ol style="list-style-type: none"> Disconnect door lock actuator harness connector. Apply 12V direct current to door lock actuator and check operation. 			
 <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;">  <p>DISCONNECT</p>  </div> <div style="text-align: center;"> <p>Door lock actuator connector</p> <p>Front LH: (D6)</p> <p>Front RH: (D37)</p> <p>Rear LH: (D84)</p> <p>Rear RH: (D104)</p> </div> <div style="text-align: right;"> <p>Door lock actuator operation:</p> <p>Terminals between (+): 1 and (-): 3 Unlocked → Locked</p> <p>Terminals between (+): 3 and (-): 1 Locked → Unlocked</p> </div> </div>			
SEL222W			
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.	

MULTI-REMOTE CONTROL SYSTEM

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NHEL0111



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System Description

INPUTS

Power is supplied at all times

- to smart entrance control unit terminal 49 and
- to key switch terminal 2
- through 10A fuse [No. 13, 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 25.

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

- to smart entrance control unit terminal 1
- through front door switch LH terminal 2
- to front door switch LH terminal 3
- through body grounds B7 and B12 (without rear sunshade) or B46 (with rear sunshade).

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

- to smart entrance control unit terminal 2
- through front door switch RH terminal 2, and
- to front door switch RH terminal 3
- through body grounds B127 and B106.

When the rear door switches are ON (door is OPEN), ground is supplied

MULTI-REMOTE CONTROL SYSTEM

System Description (Cont'd)

- to smart entrance control unit terminal 3
- through rear door switches terminal 1
- to rear door switches case grounds.

When lock/unlock switch LH is LOCK, ground is supplied

- to smart entrance control unit terminal 5
- through lock/unlock switch LH terminal 6, and
- through body grounds M9, M25 and M87.

When lock/unlock switch LH is UNLOCK, ground is supplied

- to smart entrance control unit terminal 4
- through lock/unlock switch LH terminal 19, and
- through body grounds M9, M25 and M87.

Remote controller signal is inputted to smart entrance control unit (The antenna of the system is combined with smart entrance control unit).

The multi-remote control system controls operation of the

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

OPERATED PROCEDURE

Power Door Lock Operation

NHEL0194S02

Smart entrance control unit receives a LOCK signal from remote controller. Smart entrance control unit locks all doors with input of LOCK signal from remote controller.

NHEL0194S0201

When an UNLOCK signal is sent from remote controller once, driver's door will be unlocked.

Then, if an UNLOCK signal is sent from remote controller again within 5 seconds, all other door will be unlocked.

Hazard and Horn Reminder

NHEL0194S0202

Power is supplied at all times

- to vehicle security horn relay-1 terminals 1 and 3, and
- to vehicle security horn relay-2 terminal 1
- through 10A fuse [No. 61, located in the fuse block (J/B)], and
- to horn relay terminal 2
- through 10A fuse (No. 57, located in the fusible link and fuse box)

When smart entrance control unit receives LOCK or UNLOCK signal from remote controller with all doors closed, ground is supplied

- to vehicle security horn relay-2 terminal 2
- through smart entrance control unit terminal 42

Vehicle security horn relay-2 is then energized

- to horn relay terminal 1, and
- to vehicle security horn relay-1 terminal 2
- through vehicle security horn relay-2 terminals 5 and 3, and
- through body ground E11, E22 and E53
- to smart entrance control unit terminals 47 and 48 from hazard warning lamp system.

Vehicle security horn relay-1 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	—

MULTI-REMOTE CONTROL SYSTEM

System Description (Cont'd)

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

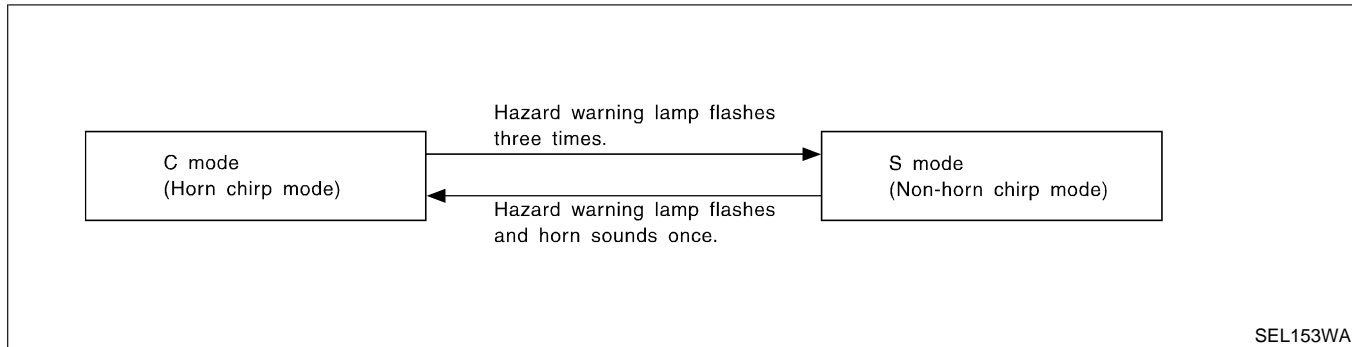
How to change hazard and horn reminder mode

① 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 remote controller 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:

- door switch CLOSED (when all the doors are closed);
- driver's door LOCKED;

multi-remote control system turns on interior lamp and key hole illumination (for 30 seconds) with input of UNLOCK signal from remote controller.

For detailed description, refer to “INTERIOR, STEP, SPOT, VANITY MIRROR AND TRUNK ROOM LAMPS” (EL-122).

Panic Alarm Operation

When key switch is OFF (when ignition key is not inserted in key cylinder), multi-remote control system turns on and off horn and headlamp intermittently with input of PANIC ALARM signal from remote controller.

The alarm automatically turns off after 25 seconds or when smart entrance control unit receives any signal from multi-remote controller.

For detailed description, refer to “VEHICLE SECURITY SYSTEM” (EL-370).

Trunk Lid Opener Operation

Power is supplied at all times

- through 15A fuse [No. 3, located in the fuse block (J/B)]
- to trunk lid opener actuator terminal 2.

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

- to trunk lid opener actuator terminal 1
- through smart entrance control unit terminal 63.

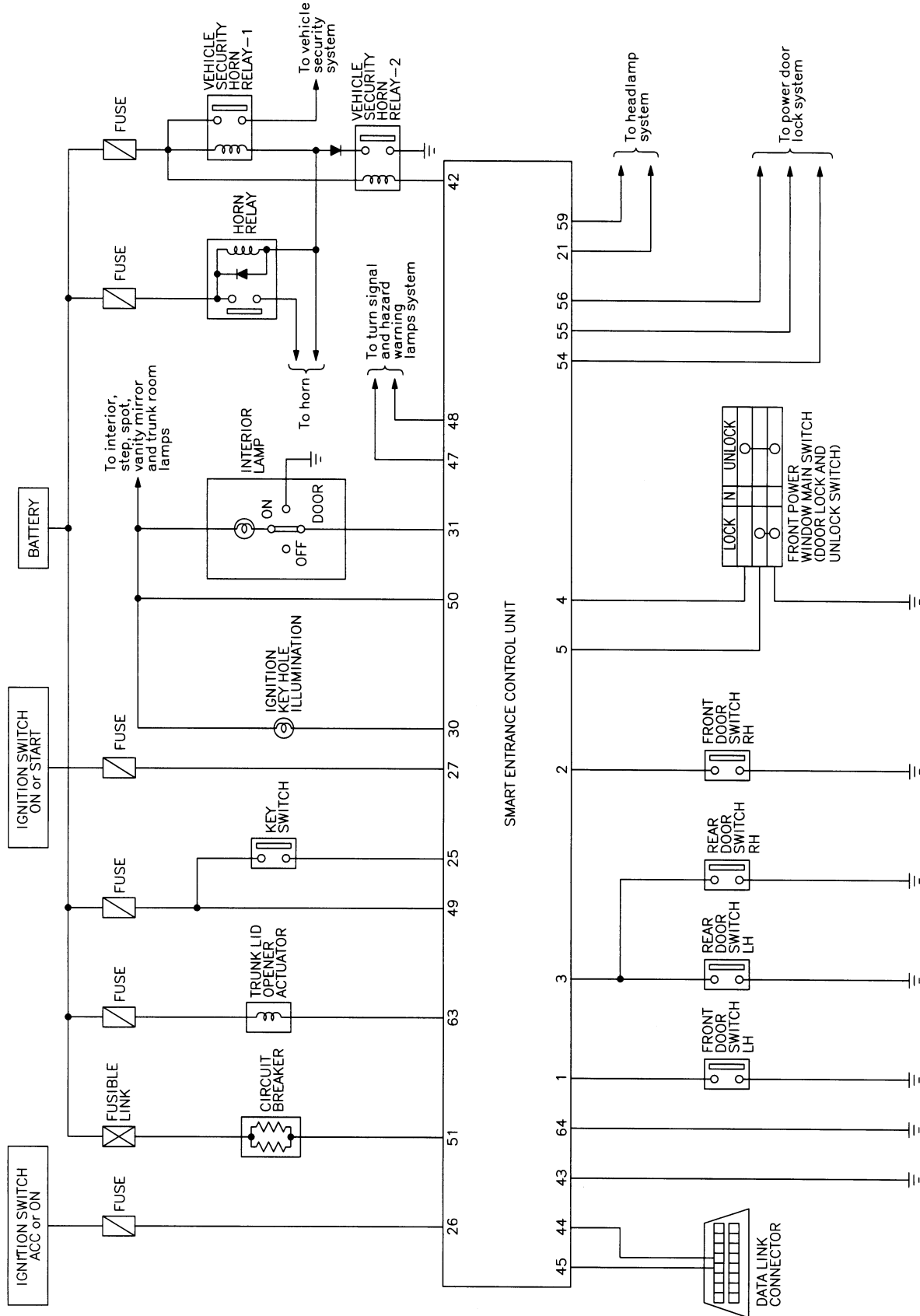
Then power and ground are supplied, trunk lid opener actuator opens trunk lid.

MULTI-REMOTE CONTROL SYSTEM

Schematic

Schematic

NHEL0171



MEL471M

MULTI-REMOTE CONTROL SYSTEM

Wiring Diagram — MULTI —

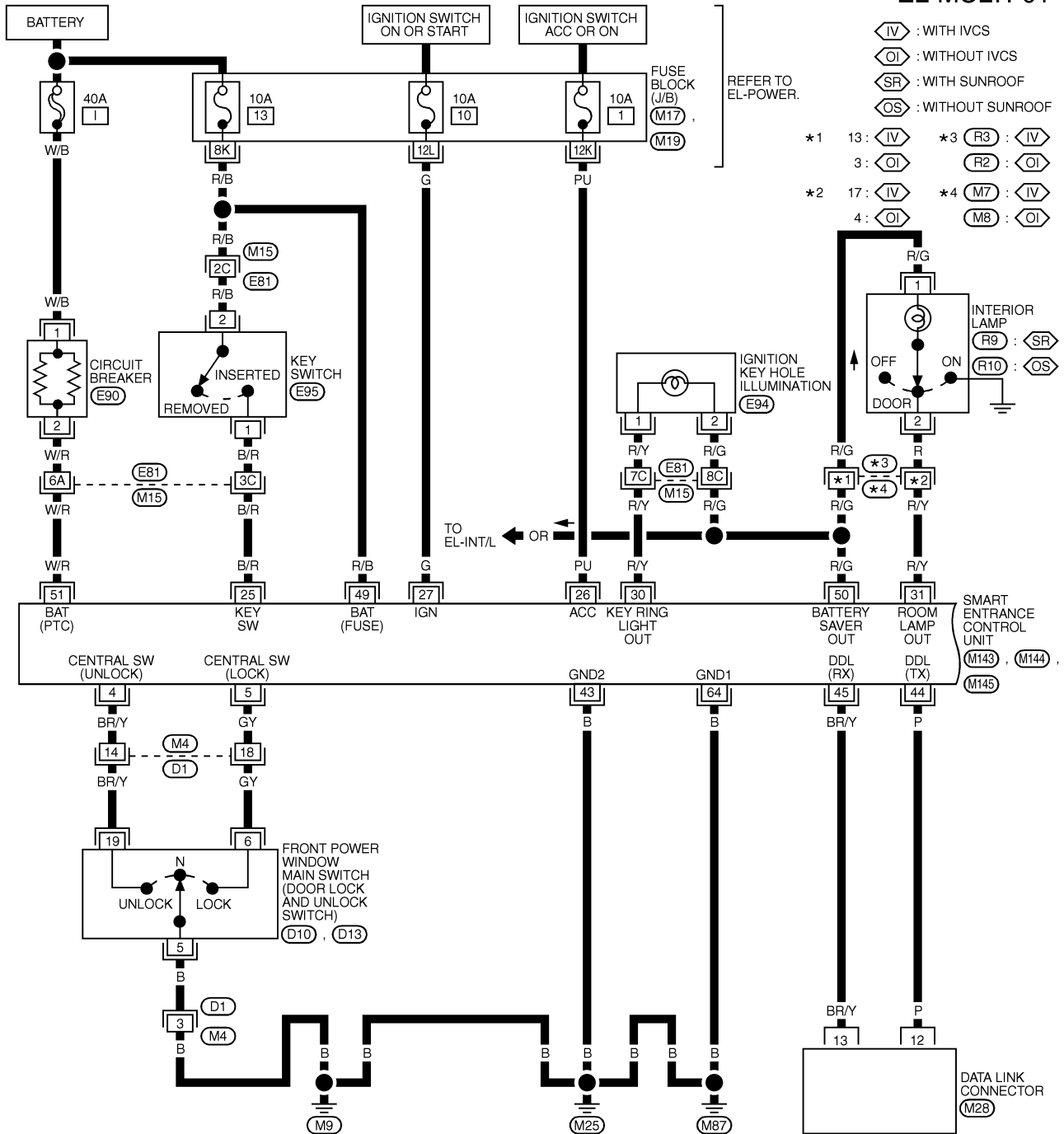
NHEL0114

NHEL0114S01

Wiring Diagram — MULTI —

FIG. 1

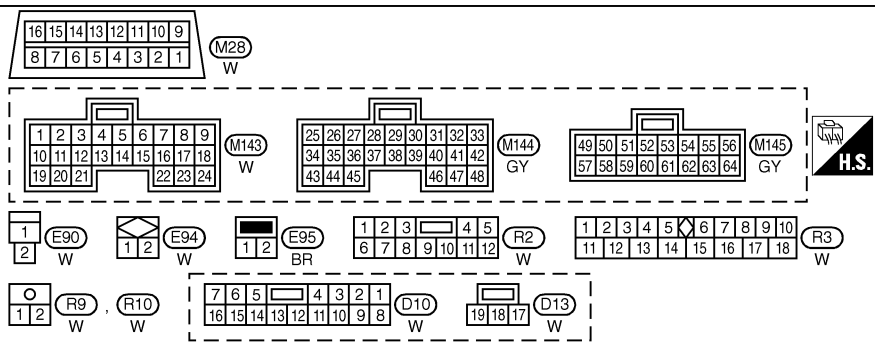
EL-MULTI-01



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REFER TO THE FOLLOWING.
 (M15), (D1) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M17), (M19) -FUSE BLOCK-
 JUNCTION BOX (J/B)

MEL472M

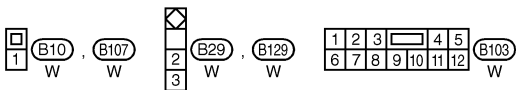
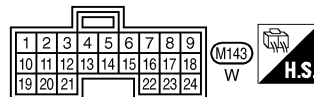
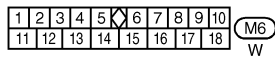
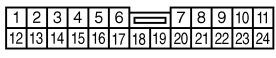
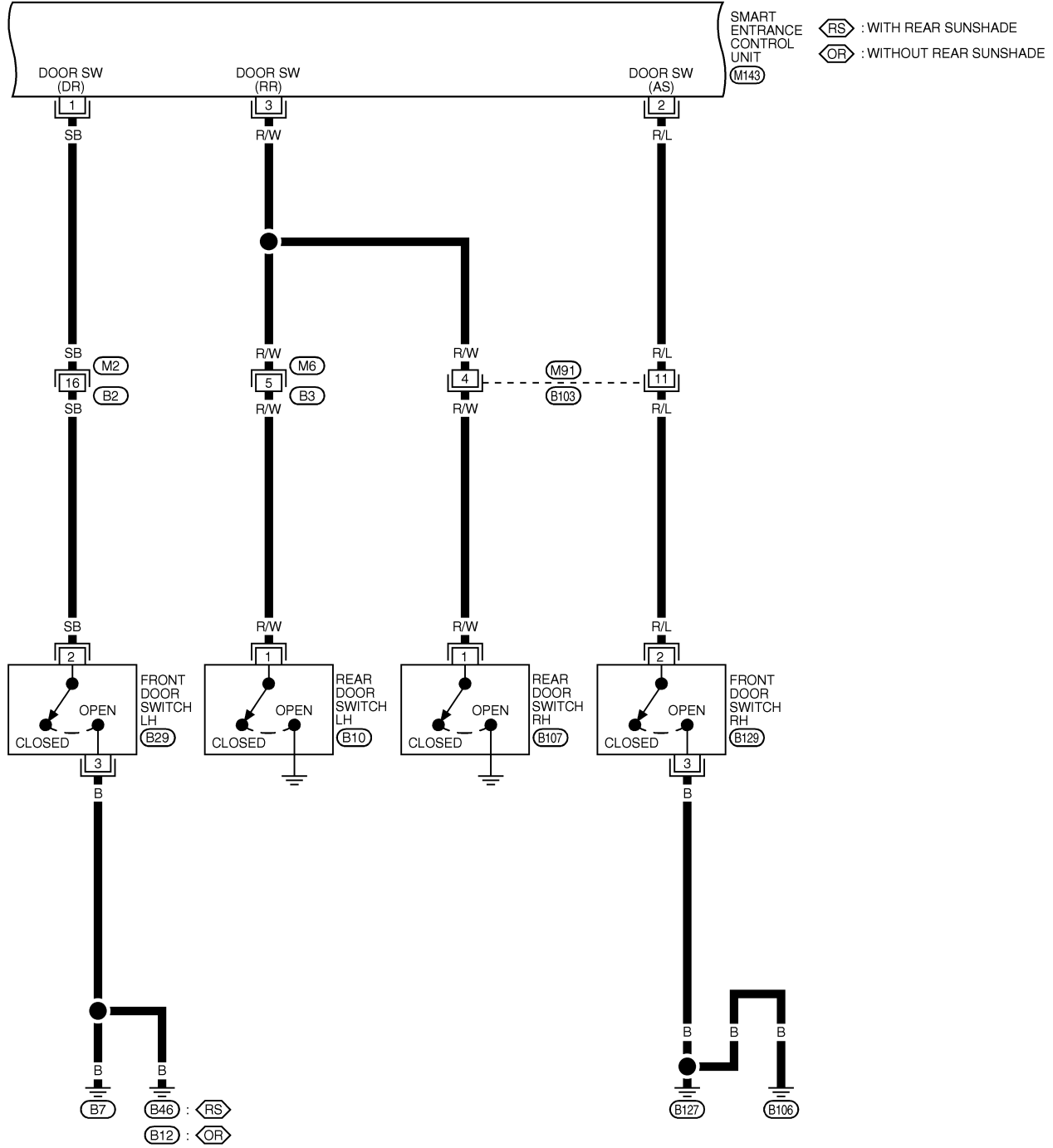
MULTI-REMOTE CONTROL SYSTEM

Wiring Diagram — MULTI — (Cont'd)

FIG. 2

NHEL0114S02

EL-MULTI-02



MEL473M

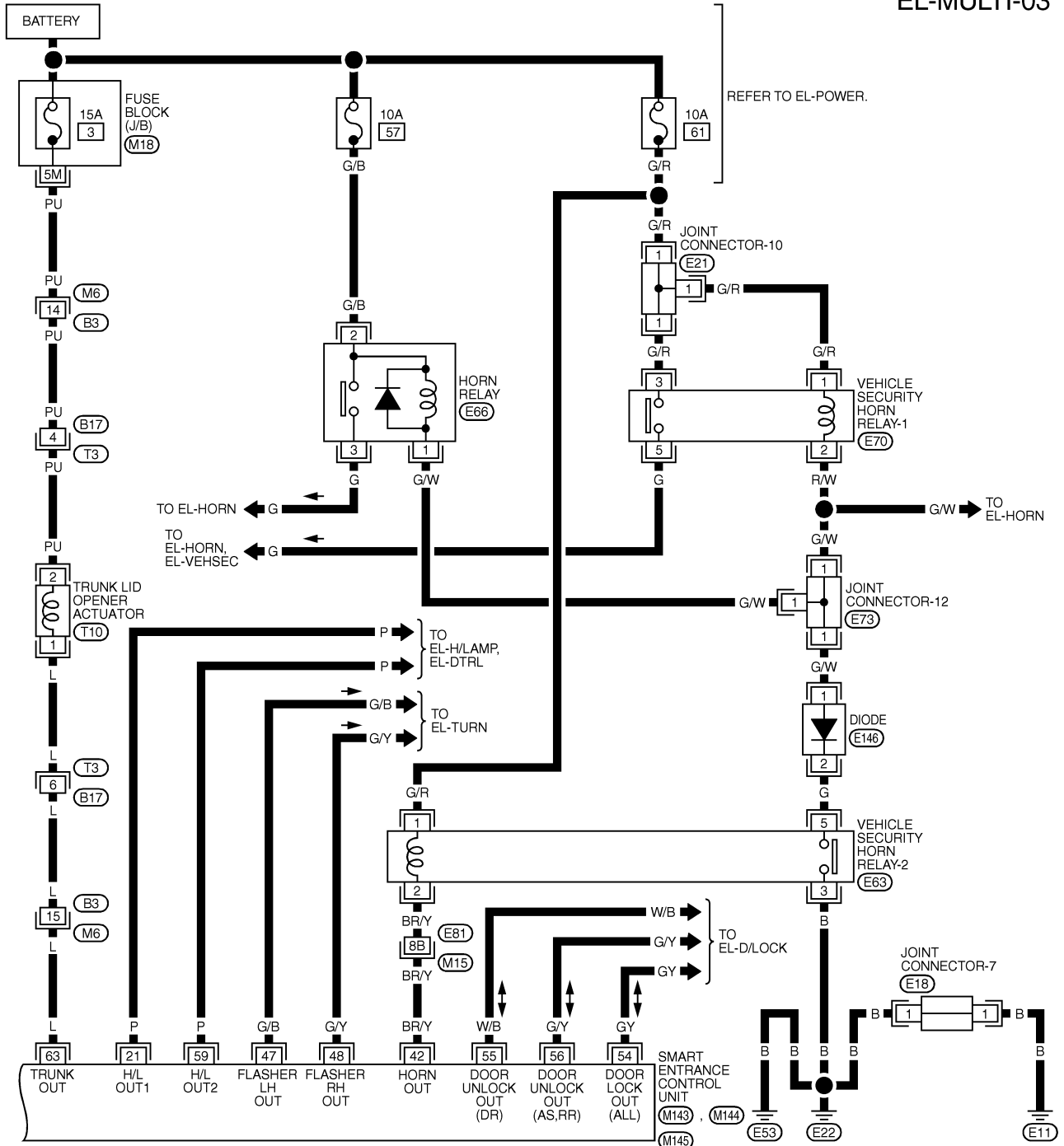
MULTI-REMOTE CONTROL SYSTEM

Wiring Diagram — MULTI — (Cont'd)

FIG. 3

NHEL0114S05

EL-MULTI-03



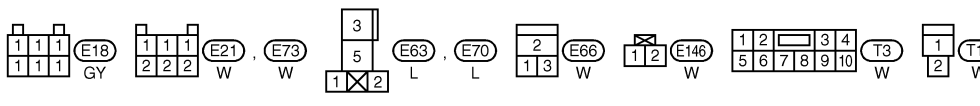
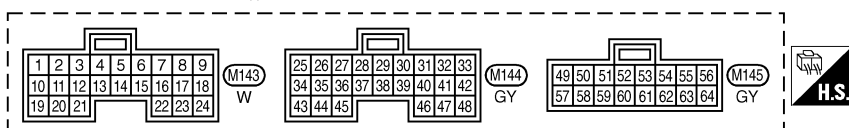
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1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18		

M6
W



REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M18) -FUSE BLOCK-
 JUNCTION BOX (J/B)

MEL474M

MULTI-REMOTE CONTROL SYSTEM

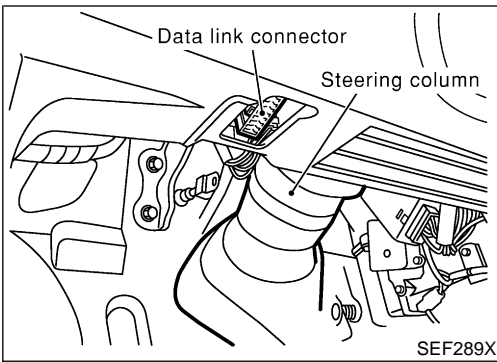
Wiring Diagram — MULTI — (Cont'd)

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

TERMINAL	WIRE COLOR	ITEM	CONDITION		DATA (DC)	
1	SB	DRIVER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)		5V → 0V	
2	R/L	PASSENGER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)		5V → 0V	
3	R/W	REAR DOOR SWITCH	OFF (CLOSED) → ON (OPEN)		5V → 0V	
4	BR/Y	DOOR LOCK & UNLOCK SWITCHES	NEUTRAL → UNLOCKS		5V → 0V	
5	GY	DOOR LOCK & UNLOCK SWITCHES	NEUTRAL → LOCKS		5V → 0V	
21	P	HEADLAMP LH RELAY	IGNITION SWITCH (WITH LIGHTING SWITCH OFF OR 1ST)	OFF	MORE THAN 45 SECONDS	12V
					WITHIN 45 SECONDS	0V
			ON OR START		0V	
			HEADLAMPS ILLUMINATE BY AUTO LIGHT CONTROL		0V	
25	B/R	IGNITION KEY SWITCH (INSERT)	KEY INSERTED → KEY REMOVED FROM IGN KEY CYLINDER		12V → 0V	
26	PU	IGNITION SWITCH (ACC)	"ACC" POSITION		12V	
27	G	IGNITION SWITCH (ON)	IGNITION KEY IS IN "ON" POSITION		12V	
30	R/Y	IGNITION KEYHOLE ILLUMINATION	WHEN DOORS ARE UNLOCKED USING REMOTE CONTROLLER (OFF → UNLOCK)		12V → 0V	
31	R/Y	INTERIOR LAMP	WHEN DOORS ARE LOCKED USING REMOTE CONTROLLER (LAMP SWITCH IN "DOOR" POSITION)		12V	
42	BR/Y	VEHICLE SECURITY HORN RELAY	WHEN PANIC ALARM IS OPERATED USING REMOTE CONTROLLER (ON → OFF)		12V → 0V	
43	B	GROUND	-		-	
47	G/B	LH TURN SIGNAL LAMP	WHEN DOOR LOCK OR UNLOCK IS OPERATED USING REMOTE CONTROLLER (ON → OFF)		12V → 0V	
48	G/Y	RH TURN SIGNAL LAMP	WHEN DOOR LOCK OR UNLOCK IS OPERATED USING REMOTE CONTROLLER (ON → OFF)		12V → 0V	
49	R/B	POWER SOURCE (FUSE)	-		12V	
50	R/G	BATTERY SAVER (INTERIOR LAMP)	BATTERY SAVER DOSE OPERATE → DOES NOT OPERATE (ON → OFF)		12V → 0V	
51	W/R	POWER SOURCE (PTC)	-		12V	
54	GY	DOOR LOCK ACTUATORS	DOOR LOCK & UNLOCK SWITCH (FREE → LOCK)		0V → 12V	
55	W/B	DRIVER DOOR LOCK ACTUATORS	DOOR LOCK & UNLOCK SWITCH (FREE → UNLOCK)		0V → 12V	
56	GY	PASSENGER AND REAR DOORS LOCK ACTUATOR	DOOR LOCK & UNLOCK SWITCH (FREE → UNLOCK)		0V → 12V	
59	P	HEADLAMP RH RELAY	IGNITION SWITCH (WITH LIGHTING SWITCH OFF OR 1ST)	OFF	MORE THAN 45 SECONDS	12V
					WITHIN 45 SECONDS	0V
			ON OR START		0V	
			HEADLAMPS ILLUMINATE BY AUTO LIGHT CONTROL (OPERATE → NOT OPERATE)		LESS THAN 1V	
63	L	TRUNK LID OPENER ACTUATOR	WHEN TRUNK LID OPENER ACTUATOR IS OPERATED USING REMOTE CONTROLLER (ON → OFF)		0V → 12V	
64	B	GROUND	-		-	

MULTI-REMOTE CONTROL SYSTEM

CONSULT-II Inspection Procedure



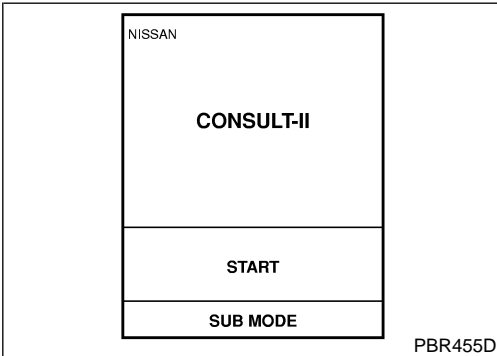
CONSULT-II Inspection Procedure

NHEL0241

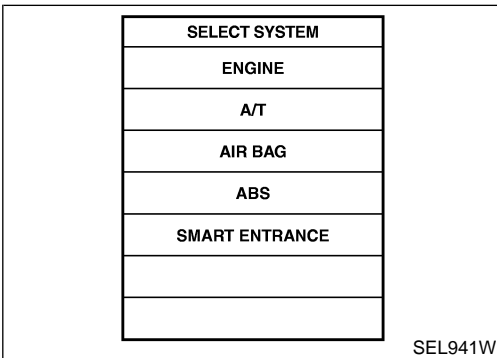
NHEL0241S01

"MULTI REMOTE ENT"

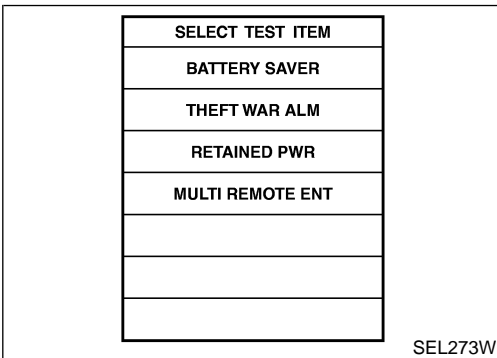
1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" to the data link connector.



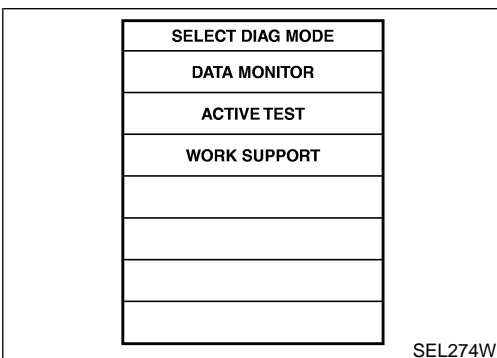
3. Turn ignition switch "ON".
4. Touch "START".



5. Touch "SMART ENTRANCE".



6. Touch "MULTI REMOTE ENT".



7. Select diagnosis mode. "DATA MONITOR", "ACTIVE TEST" and "WORK SUPPORT" are available.

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MULTI-REMOTE CONTROL SYSTEM

CONSULT-II Application Items

CONSULT-II Application Items

NHEL0242

NHEL0242S01

NHEL0242S0101

“MULTI REMOTE ENT” Data Monitor

Monitored Item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch.
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-AS	Indicates [ON/OFF] condition of door switch RH.
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 remote controller.
UN BUTTON/SIG	Indicates [ON/OFF] condition of unlock signal from remote controller.
TRUNK BTN/SIG	Indicates [ON/OFF] condition of trunk open signal from remote controller.
PANIC BTN	Indicates [ON/OFF] condition of panic signal from remote controller.
LK/UN BTN ON	Indicates [ON/OFF] condition of lock/unlock signal at the same time from remote controller.

Active Test

NHEL0242S0102

Test Item	Description
INT/IGN ILLUM	This test is able to check interior lamp and ignition key hole illumination operation. The interior lamp and ignition key hole illumination are turned on when “ON” on CONSULT-II screen is touched.
HAZARD	This test is able to check hazard reminder operation. The hazard lamp turns on when “ON” on CONSULT-II screen is touched.
HORN	This test is able to check panic alarm and horn reminder operations. The alarm activate for 0.5 seconds after “ON” on CONSULT-II screen is touched.
HEAD LAMP	This test is able to check headlamps panic alarm operation. The headlamp illuminates for 0.5 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

NHEL0242S0103

Test Item	Description
REMO CONT ID CONFIR	It can be checked whether remote controller ID code is registered or not in this mode.
REMO CONT ID REGIST	Remote controller ID code can be registered.
REMO CONT ID ERASUE	Remote controller 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

SYMPTOM CHART

NHEL0195

NHEL0195S01

NOTE:

- Always check remote controller battery before replacing remote controller.
- The panic alarm operation and trunk lid opener operation of multi-remote control system do not activate with the ignition key inserted in the ignition key cylinder.

Symptom	Diagnoses/service procedure	Reference page (EL-)	
All function of multi-remote control system do not operate.	1. Remote controller battery and function check	349	GI
	2. Power supply and ground circuit for smart entrance control unit check	350	MA
	3. Replace remote controller. Refer to ID Code Entry Procedure. NOTE: If the result of remote controller function check with CONSULT-II is OK, remote controller is not malfunctioning.	361	EM
The new ID of remote controller cannot be entered.	1. Remote controller battery and function check	349	LC
	2. Key switch (insert) check	353	EC
	3. Door switch check	352	FE
	4. Door lock/unlock switch LH check	354	AT
	5. Power supply and ground circuit for smart entrance control unit check	350	AX
	6. Replace remote controller. Refer to ID Code Entry Procedure. NOTE: If the result of remote controller function check with CONSULT-II is OK, remote controller is not malfunctioning.	361	SU
Door lock or unlock does not function. (If the power door lock system does not operate manually, check power door lock system. Refer to EL-327.)	1. Remote controller battery and function check	349	BR
	2. Replace remote controller. Refer to ID Code Entry Procedure. NOTE: If the result of remote controller function check with CONSULT-II is OK, remote controller is not malfunctioning.	361	ST
Hazard and horn reminder does not activate properly when pressing lock or unlock button of remote controller.	1. Remote controller battery and function check	349	RS
	2. Hazard reminder check	356	BT
	3. Horn reminder check* *: Horn chirp can be activated or deactivated. First check the horn chirp setting. Refer to "System Description", EL-337.	357	HA
	4. Door switch check	352	SC
	5. Replace remote controller. Refer to ID Code Entry Procedure. NOTE: If the result of remote controller function check with CONSULT-II is OK, remote controller is not malfunctioning.	361	EL
Interior lamp and key hole illumination operation do not activate properly.	1. Interior lamp operation check	359	
	2. Key hole illumination operation check	360	IDX
	3. Door switch check	352	

MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

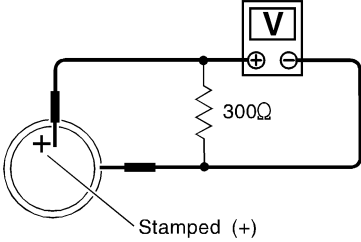
Symptom	Diagnoses/service procedure	Reference page (EL-)
Panic alarm (horn and headlamp) does not activate when panic alarm button is continuously pressed.	1. Remote controller battery and function check	349
	2. Theft warning operation check. Refer to "PRELIMINARY CHECK" in "VEHICLE SECURITY SYSTEM".	383
	3. Key switch (insert) check	353
	4. Replace remote controller. Refer to ID Code Entry Procedure. NOTE: If the result of remote controller function check with CONSULT-II is OK, remote controller is not malfunctioning.	361
Trunk lid does not open when trunk opener button is continuously pressed.	1. Remote controller battery and function check	349
	2. Trunk lid opener actuator check	355
	3. Key switch (insert) check	353
	4. Replace remote controller. Refer to ID Code Entry Procedure. NOTE: If the result of remote controller function check with CONSULT-II is OK, remote controller is not malfunctioning.	361


MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

REMOTE CONTROLLER BATTERY AND FUNCTION CHECK

=NHLE0195S02

1	CHECK REMOTE CONTROLLER BATTERY	<p>Remove battery (refer to EL-365) and measure voltage across battery positive and negative terminals, (+) and (-).</p> <p>Voltage [V]: 2.5 - 3.0</p> <p>NOTE: Remote controller does not function if battery is not set correctly.</p> <div style="text-align: center;">  </div> <p style="text-align: right;">SEL237W</p> <p style="text-align: center;">OK or NG</p>	GI MA EM LC EC FE AT AX
OK	▶	GO TO 2.	
NG	▶	Replace battery.	

2	CHECK REMOTE CONTROLLER FUNCTION	<p> With CONSULT-II Check remote controller function ("LK BUTTON/SIG", "UN BUTTON/SIG", "TRUNK BTN/SIG", "PANIC BTN" and "LK/UN BTN ON") in "DATA MONITOR" mode with CONSULT-II.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">DATA MONITOR</th> </tr> <tr> <th>MONITOR</th> <th></th> </tr> </thead> <tbody> <tr> <td>LK BUTTON/SIG</td> <td>ON</td> </tr> <tr> <td>UN BUTTON/SIG</td> <td>ON</td> </tr> <tr> <td>TRUNK BTN/SIG</td> <td>ON</td> </tr> <tr> <td>PANIC BTN</td> <td>ON</td> </tr> <tr> <td>LK/UN BTN ON</td> <td>ON</td> </tr> </tbody> </table> <p style="margin-left: 20px;">When pushing each button of remote controller, the corresponding monitor item should be turned as follows.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Condition</th> <th>Monitor item</th> </tr> </thead> <tbody> <tr> <td>Pushing LOCK</td> <td>LK BUTTON/SIG ON</td> </tr> <tr> <td>Pushing UNLOCK</td> <td>UN BUTTON/SIG ON</td> </tr> <tr> <td>Pushing TRUNK</td> <td>TRUNK BTN/SIG ON</td> </tr> <tr> <td>Pushing PANIC</td> <td>PANIC BTN/SIG ON</td> </tr> <tr> <td>Pushing LOCK and UNLOCK at the same time</td> <td>LK/UN BTN ON ON</td> </tr> </tbody> </table> <p style="text-align: right;">SEL023Y</p> <p style="text-align: center;">OK or NG</p>	DATA MONITOR		MONITOR		LK BUTTON/SIG	ON	UN BUTTON/SIG	ON	TRUNK BTN/SIG	ON	PANIC BTN	ON	LK/UN BTN ON	ON	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 LOCK and UNLOCK at the same time	LK/UN BTN ON ON	SU BR ST RS BT HA SC EL IDX
DATA MONITOR																													
MONITOR																													
LK BUTTON/SIG	ON																												
UN BUTTON/SIG	ON																												
TRUNK BTN/SIG	ON																												
PANIC BTN	ON																												
LK/UN BTN ON	ON																												
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 LOCK and UNLOCK at the same time	LK/UN BTN ON ON																												
OK	▶	Remote controller is OK. Further inspection is necessary. Refer to "SYMPTOM CHART", EL-347.																											
NG	▶	Replace remote controller. Refer to ID Code Entry Procedure.																											

MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

POWER SUPPLY AND GROUND CIRCUIT CHECK

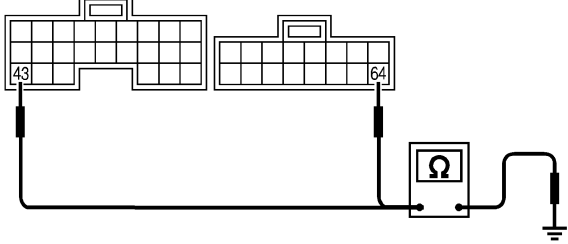

=NHLE0195S03

1	CHECK MAIN POWER SUPPLY CIRCUIT FOR SMART ENTRANCE CONTROL UNIT	
<p>1. Disconnect smart entrance control unit harness connector. 2. Check voltage between smart entrance control unit harness connector M145 terminal 49 (R/B) or 51 (W/R) and ground.</p>		
SEL018Y		
Refer to wiring diagram in EL-341.		
OK or NG		
OK	▶	GO TO 2.
NG	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 40A fusible link (letter I, located in fuse and fusible link box) ● 10A fuse [No. 13, located in fuse block (J/B)] ● E90 circuit breaker ● Harness for open or short between smart entrance control unit and fuse

2	CHECK IGNITION SWITCH “ACC” CIRCUIT	
<p>1. Disconnect smart entrance control unit harness connector. 2. Check voltage between smart entrance control unit harness connector M144 terminal 26 (PU) and ground while ignition switch is “ACC”.</p>		
SEL019Y		
Refer to wiring diagram in EL-341.		
OK or NG		
OK	▶	GO TO 3.
NG	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse [No. 1, located in fuse block (J/B)] ● Harness for open or short between smart entrance control unit and fuse

MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

3	CHECK GROUND CIRCUIT FOR SMART ENTRANCE CONTROL UNIT	
<p>Check continuity between smart entrance control unit harness connector M144 terminals 43 (B) or M145 terminal 64 (B) and ground.</p>		
<div style="display: flex; align-items: center; justify-content: space-between;"> <div style="text-align: center;"> <p>Smart entrance control unit connector</p>  </div> <div style="text-align: center;">  <p>Continuity should exist.</p> </div> <div style="text-align: right;"> <p>SEL020Y</p> </div> </div>		
<p>Refer to wiring diagram in EL-341.</p> <p>OK or NG</p>		
OK	▶	Power supply and ground circuits are OK.
NG	▶	Check ground harness.

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MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

DOOR SWITCH CHECK

=NHLE0195S04

1 CHECK DOOR SWITCH INPUT SIGNAL

With CONSULT-II

Check door switches ("DOOR SW-RR", "DOOR SW-DR" and "DOOR SW-AS") in "DATA MONITOR" mode with CONSULT-II.

DATA MONITOR	
MONITOR	
DOOR SW-RR	OFF
DOOR SW-DR	OFF
DOOR SW-AS	OFF

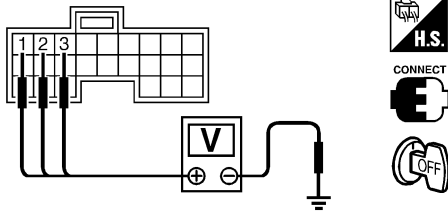
	Monitor item	Condition	Condition
DOOR SW-RR	Rear doors switch	Open	ON
		Closed	OFF
DOOR SW-DR	Door switch LH	Open	ON
		Closed	OFF
DOOR SW-AS	Door switch RH	Open	ON
		Closed	OFF

SEL024Y

Without CONSULT-II

Check voltage between smart entrance control unit harness connector M143 terminals 1 (SB), 2 (R/L) or 3 (R/W) and ground.

Smart entrance control unit connector



	Terminals		Condition	Voltage [V]
	(+)	(-)		
Front door switch LH	1	Ground	Open	0
			Closed	Approx. 5
Front door switch RH	2	Ground	Open	0
			Closed	Approx. 5
Rear door switches	3	Ground	Open	0
			Closed	Approx. 5

SEL021Y

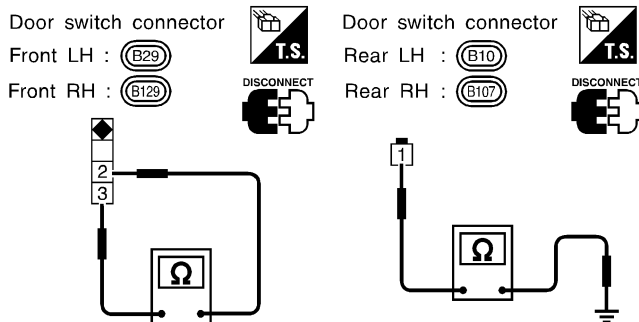
Refer to wiring diagram in EL-342.

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 switches	2 - 3	Closed	No
		Open	Yes
Rear door switches	1 - Ground	Closed	No
		Open	Yes

SEL192W

OK or NG



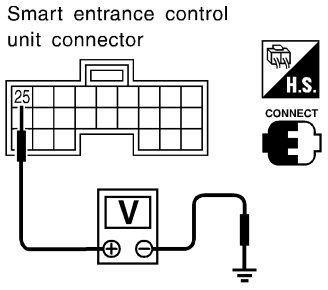
OK	▶	Check the following. <ul style="list-style-type: none"> • Door switch ground circuit or door switch ground condition • Harness for open or short between smart entrance control unit and door switch
NG	▶	Replace door switch.

MULTI-REMOTE CONTROL SYSTEM


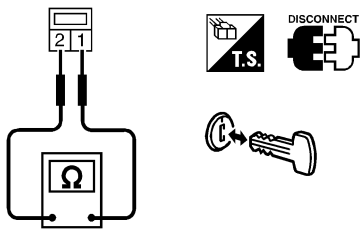
Trouble Diagnoses (Cont'd)

KEY SWITCH (INSERT) CHECK

=NHLE0195S05

1	CHECK KEY SWITCH INPUT SIGNAL								
<p> With CONSULT-II Check key switch ("KEY ON SW") in "DATA MONITOR" mode with CONSULT-II.</p>									
		<table border="1" style="margin: auto;"> <tr><th colspan="2">DATA MONITOR</th></tr> <tr><th colspan="2">MONITOR</th></tr> <tr><td>KEY ON SW</td><td>ON</td></tr> </table>	DATA MONITOR		MONITOR		KEY ON SW	ON	<p>When key is inserted to ignition key cylinder: KEY ON SW ON</p> <p>When key is removed from ignition key cylinder: KEY ON SW OFF</p>
DATA MONITOR									
MONITOR									
KEY ON SW	ON								
		SEL315W							
<p> Without CONSULT-II Check voltage between control unit harness connector M144 terminal 25 (B/R) and ground.</p>									
		<p>Smart entrance control unit connector</p> 	<p>Voltage [V]: Condition of key switch : Key is inserted. Approx. 12 Condition of key switch : Key is removed. 0</p>						
		SEL022Y							
Refer to wiring diagram in EL-341.									
OK or NG									
OK	▶	Key switch is OK.							
NG	▶	GO TO 2.							

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2	CHECK KEY SWITCH (INSERT)		
Check continuity between key switch terminals 1 and 2.			
		<p>Key switch connector </p> 	<p>Continuity: Condition of key switch: Key is inserted. Yes Condition of key switch: Key is removed. No</p>
		SEL194W	
OK or NG			
OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse [No. 13, 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.	

MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

DOOR LOCK/UNLOCK SWITCH LH CHECK

=NHLE0195S06

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:

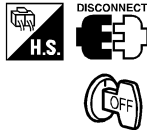
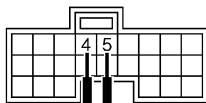
UNLK SW DR/AS ON

SEL341W

Without CONSULT-II

1. Disconnect smart entrance control unit harness connector.
2. Check continuity between smart entrance control unit harness connector M143 terminal 4 (BR/Y) or 5 (GY) and ground.

Smart entrance control unit connector



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

Refer to wiring diagram in EL-341.

SEL025Y

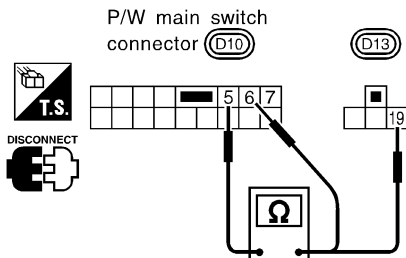
OK or NG

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		
	19	6	5
Lock		○	○
N	No continuity		
Unlock	○		○

SEL648W

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.

MULTI-REMOTE CONTROL SYSTEM

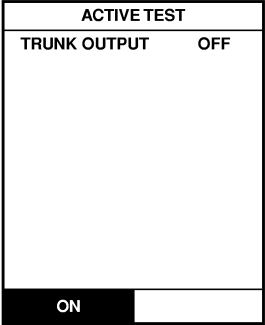
Trouble Diagnoses (Cont'd)

TRUNK LID OPENER ACTUATOR CHECK

=NHLE0195S12

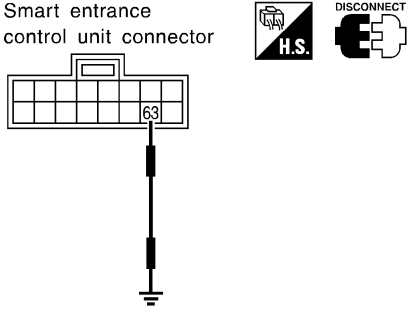
1	CHECK TRUNK LID OPENER	
Check trunk lid opener operation with trunk lid opener switch. NOTE: First check trunk lid opener cancel lever position.		
Does trunk lid open?		
Yes	▶	GO TO 2.
No	▶	Check trunk lid opener actuator and the circuit.

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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".		
		
Trunk lid opener should operate.		
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	▶	Check harness for open or short between smart entrance control unit and trunk lid opener actuator.

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3	CHECK TRUNK LID OPENER ACTUATOR CIRCUIT	
⊗ Without CONSULT-II 1. Disconnect smart entrance control unit harness connector. 2. Apply ground to smart entrance control unit harness connector M145 terminal 63 (L).		
		
Refer to wiring diagram in EL-343.		
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.

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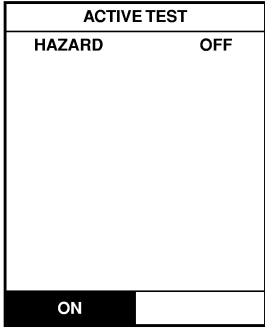
MULTI-REMOTE CONTROL SYSTEM


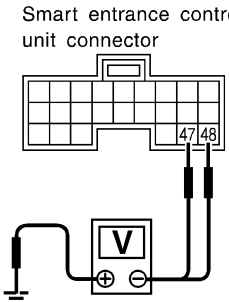

Trouble Diagnoses (Cont'd)

HAZARD REMINDER CHECK

=NH/EL0195S08

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	
<p> With CONSULT-II</p> <p>1. Select "ACTIVE TEST" in "MULTI REMOTE ENT" with CONSULT-II. 2. Select "HAZARD" and touch "ON".</p>		
		
Hazard indicator should illuminate.		
SEL347W		
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	▶	Replace smart entrance control unit.

3	CHECK HAZARD REMINDER OPERATION WITHOUT CONSULT-II							
<p> Without CONSULT-II</p> <p>1. Check voltage between smart entrance control unit harness connector M144 terminal 47 (G/B) or 48 (G/Y) and ground.</p>								
<div style="display: flex; align-items: flex-start;"> <div style="flex: 1;"> <p>Smart entrance control unit connector</p>  </div> <div style="flex: 1; margin-left: 20px;">  </div> <div style="flex: 1; margin-left: 20px;"> <table border="1" style="width: 100%;"> <thead> <tr> <th style="text-align: center;">Condition of lock or unlock button</th> <th style="text-align: center;">Voltage (V)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Push.</td> <td style="text-align: center;">Approx. more than 0 - 12</td> </tr> <tr> <td style="text-align: center;">Do not push.</td> <td style="text-align: center;">0</td> </tr> </tbody> </table> </div> </div>			Condition of lock or unlock button	Voltage (V)	Push.	Approx. more than 0 - 12	Do not push.	0
Condition of lock or unlock button	Voltage (V)							
Push.	Approx. more than 0 - 12							
Do not push.	0							
SEL027Y								
Refer to wiring diagram in EL-343.								
OK or NG								
OK	▶	System is OK.						
NG	▶	Replace smart entrance control unit.						

MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)


HORN REMINDER CHECK

=NHLE0195S09

1	CHECK HORN	
Check if horn sounds with horn switch.		
Does horn operate?		
Yes	▶	GO TO 2.
No	▶	Check horn circuit.

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2	CHECK HORN REMINDER OPERATION WITH CONSULT-II									
<p> With CONSULT-II</p> <p>1. Select "ACTIVE TEST" in "MULTI REMOTE ENT" with CONSULT-II. 2. Select "MULTI REM HRN" and touch "ON".</p>										
<div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; padding: 5px; margin-right: 20px;"> <table border="1" style="width: 100%; text-align: center;"> <tr><th colspan="2">ACTIVE TEST</th></tr> <tr><td>MULTI REM HRN</td><td>OFF</td></tr> <tr><td colspan="2" style="height: 100px;"> </td></tr> <tr><td colspan="2">ON</td></tr> </table> </div> <div style="text-align: center;"> <p>Horn should sound.</p> </div> </div>			ACTIVE TEST		MULTI REM HRN	OFF			ON	
ACTIVE TEST										
MULTI REM HRN	OFF									
ON										
SEL348W										
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 4.								

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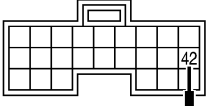




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3	CHECK HORN REMINDER OPERATION WITHOUT CONSULT-II	
<p> Without CONSULT-II</p> <p>1. Disconnect smart entrance control unit harness connector. 2. Apply ground to smart entrance control unit harness connector M144 terminal 42 (BR/Y).</p>		
<div style="display: flex; align-items: center; justify-content: center;"> <div style="text-align: center; margin-right: 20px;"> <p>Smart entrance control unit connector</p>  </div> <div style="text-align: center;">  </div> <div style="margin-left: 20px;">  <p>DISCONNECT</p>   </div> </div>		
SEL028Y		
Refer to wiring diagram in EL-343.		
Does horn sound?		
Yes	▶	Replace smart entrance control unit.
No	▶	GO TO 4.

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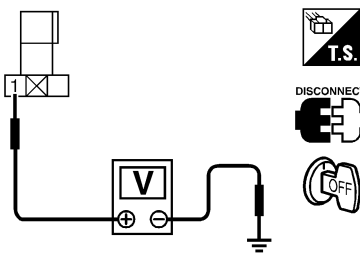
EL

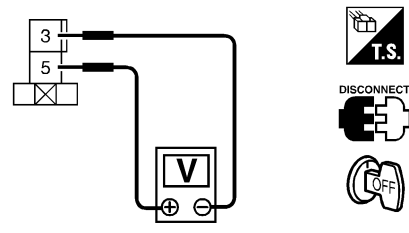
IDX

MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

4	CHECK VEHICLE SECURITY HORN RELAY-2
Check vehicle security horn relay-2.	
OK or NG	
OK	▶ GO TO 5.
NG	▶ Replace vehicle security horn relay-2.

5	CHECK POWER SUPPLY FOR VEHICLE SECURITY HORN RELAY-2
<ol style="list-style-type: none"> 1. Disconnect vehicle security horn relay-2 harness connector. 2. Check voltage between vehicle security horn relay-2 harness connector E63 terminal 1 (G/R) and ground. 	
<p>Vehicle security horn relay-2</p> 	
SEL031Y	
Does battery voltage exist?	
Yes	▶ GO TO 6.
No	▶ Check the following. <ul style="list-style-type: none"> ● 15A fuse [No. 61, located in fuse block (J/B)] ● Harness for open or short between vehicle security horn relay-2 and fuse

6	CHECK VEHICLE SECURITY HORN RELAY-2
<ol style="list-style-type: none"> 1. Disconnect vehicle security horn relay-2 harness connector. 2. Check voltage between vehicle security horn relay-2 harness connector E63 terminals 5 (G) and 3 (B). 	
<p>Vehicle security horn relay-2</p> 	
SEL032Y	
Battery voltage should exist.	
OK or NG	
OK	▶ Check harness for open or short between smart entrance control unit and vehicle security horn relay-2.
NG	▶ Check the following. <ul style="list-style-type: none"> ● Harness for open or short between vehicle security horn relay-2 and fuse ● Harness for open or short between vehicle security horn relay-2 and body grounds

MULTI-REMOTE CONTROL SYSTEM


Trouble Diagnoses (Cont'd)

INTERIOR LAMP OPERATION CHECK


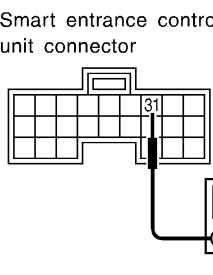
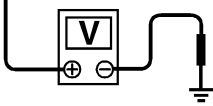

=NHLE0195S10

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. <ul style="list-style-type: none"> ● Harness for open or short between smart entrance control unit and interior lamp ● Interior lamp

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2	CHECK INTERIOR LAMP OPERATION							
<p> With CONSULT-II</p> <p>1. Select "ACTIVE TEST" in "MULTI REMOTE ENT" with CONSULT-II. 2. Select "INT/IGN ILLUM" and touch "ON".</p>								
<div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; padding: 5px; margin-right: 20px;"> <p style="text-align: center; margin: 0;">ACTIVE TEST</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 2px;">INT/IGN ILLUM</td> <td style="text-align: center; padding: 2px;">OFF</td> </tr> <tr> <td colspan="2" style="height: 100px;"></td> </tr> <tr> <td colspan="2" style="text-align: center; background-color: black; color: white; padding: 2px;">ON</td> </tr> </table> </div> <div style="text-align: center;"> <p>Interior lamp should illuminate.</p> </div> </div>			INT/IGN ILLUM	OFF			ON	
INT/IGN ILLUM	OFF							
ON								
SEL349W								

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<p> Without CONSULT-II</p> <p>Push unlock button of remote controller with all doors closed and driver's door locked, and check voltage between smart entrance control unit harness connector M144 terminal 31 (R/Y) and ground.</p>		
<div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 20px;"> <p>Smart entrance control unit connector</p>  </div> <div style="margin-right: 20px;">  </div> <div style="text-align: center;">  </div> </div>		
<p>Voltage [V]:</p> <p>Unlock button is pushed. 0 (For approx. 30 seconds.)</p> <p>Unlock button is not pushed. Battery voltage</p>		
SEL029Y		
OK or NG		

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OK	▶	System is OK.
NG	▶	Check harness open or short between smart entrance control unit and interior lamp.

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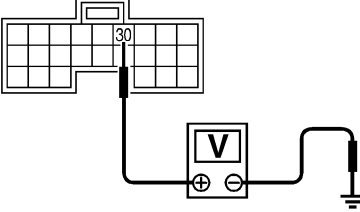


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MULTI-REMOTE CONTROL SYSTEM

Trouble Diagnoses (Cont'd)

KEY HOLE ILLUMINATION OPERATION CHECK

NHKL0195S13

1	CHECK KEY HOLE ILLUMINATION OPERATION
<p> With CONSULT-II</p> <p>1. Select "ACTIVE TEST" IN "MULTI REMOTE ENT" with CONSULT-II. 2. Select "INT/IGN ILLUM" and touch "ON".</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>ACTIVE TEST</p> <p>INT/IGN ILLUM OFF</p> <p>ON</p> </div> <div style="text-align: center;"> <p>Key hole illuminate should illuminate.</p> </div> </div> <p style="text-align: right;">SEL350W</p>	
<p> Without CONSULT-II</p> <p>Push unlock button of remote controller with all doors closed and driver's door locked, and check voltage between smart entrance control unit harness connector M144 terminal 30 (R/Y) and ground.</p> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <p>Smart entrance control unit connector</p>  </div> <div style="text-align: center;">   </div> <div style="text-align: center;"> <p>Voltage [V]:</p> <p>Unlock button is pushed. 0 (For approx. 30 seconds)</p> <p>Unlock button is not pushed. Battery voltage</p> </div> </div> <p style="text-align: right;">SEL030Y</p>	
<p>Refer to wiring diagram in EL-341.</p> <p>OK or NG</p>	
OK	<p>▶ System is OK.</p>
NG	<p>▶ Check the following.</p> <ul style="list-style-type: none"> ● Harness for open or short between smart entrance control unit and key hole illumination. ● Key hole illumination

ID Code Entry Procedure

REMOTE CONTROLLER ID SET UP WITH CONSULT-II

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NHLE0117S01

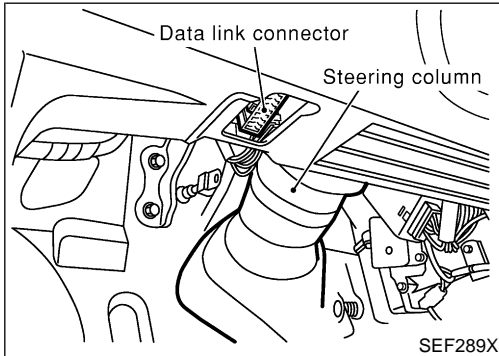
NOTE:

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

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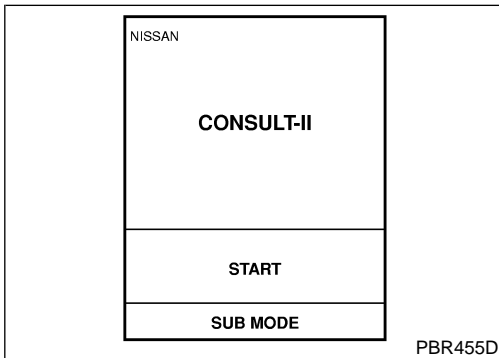
1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" to the data link connector.

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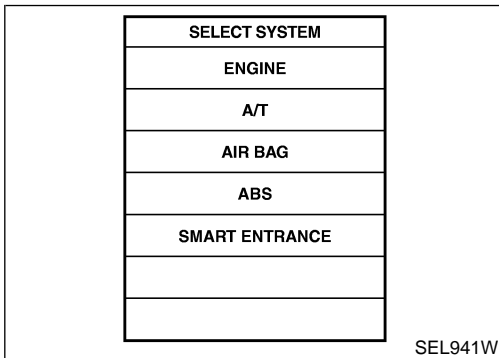
3. Turn ignition switch "ON".
4. Touch "START".

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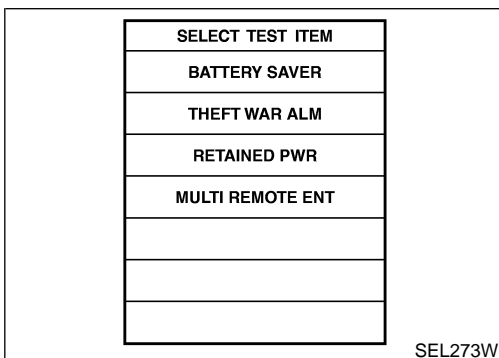
5. Touch "SMART ENTRANCE".

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6. Touch "MULTI REMOTE ENT".

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MULTI-REMOTE CONTROL SYSTEM

ID Code Entry Procedure (Cont'd)

SELECT DIAG MODE
DATA MONITOR
ACTIVE TEST
WORK SUPPORT

SEL274W

7. Touch "WORK SUPPORT".

SELECT WORK ITEM
REMO CONT ID CONFIR
REMO CONT ID REGIST
REMO CONT ID ERASUR
HZRD REM SET

SEL277W

8. The items are shown on the figure at left can be set up.

- "REMO CONT ID CONFIR"
Use this mode to confirm if a remote controller ID code is registered or not.
- "REMO CONT ID REGIST"
Use this mode to register a remote controller ID code.

NOTE:

Register the ID code when remote controller or smart entrance control unit is replaced, or when additional remote controller is required.

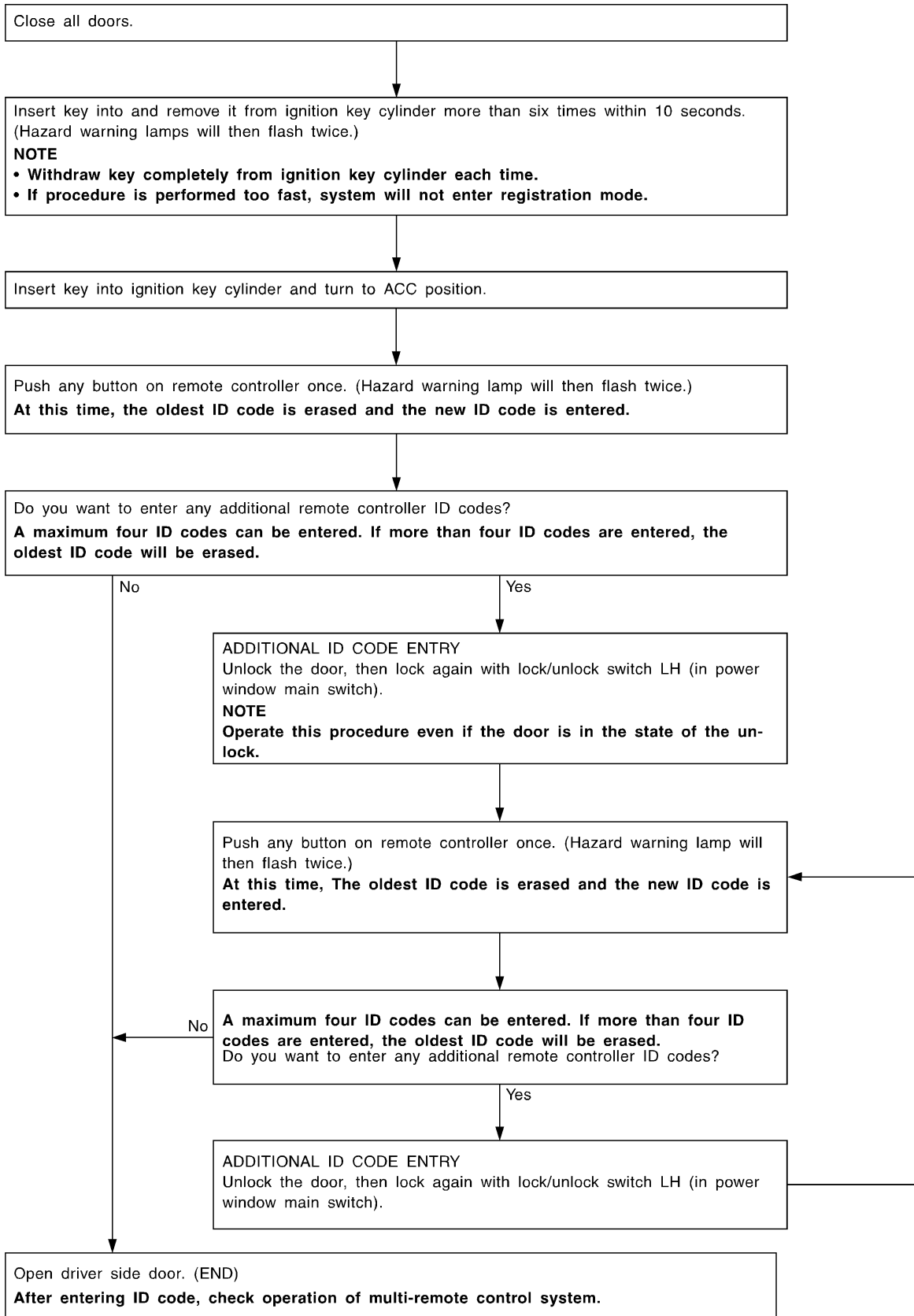
- "REMO CONT ID ERASUR"
Use this mode to erase a remote controller ID code.
- "HZRD REM SET"
Use this mode to activate or deactivate the hazard and horn reminder.

MULTI-REMOTE CONTROL SYSTEM

ID Code Entry Procedure (Cont'd)

REMOTE CONTROLLER ID SET UP WITHOUT CONSULT-II

NHEL0117S02



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MULTI-REMOTE CONTROL SYSTEM

ID Code Entry Procedure (Cont'd)

NOTE:

- If a remote controller is lost, the ID code of the lost remote controller 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 remote controller is not known, all controller ID codes should be erased. After all ID codes are erased, the ID codes of all remaining and/or new remote controllers must be re-registered.
To erase all ID codes in memory, register one ID code (remote controller) four times. After all ID codes are erased, the ID codes of all remaining and/or new remote controllers must be re-registered.
- When registering an additional remote controller, 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 remote controllers, repeat the procedure "Additional ID code entry" for each new remote controller.
- 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.

MULTI-REMOTE CONTROL SYSTEM

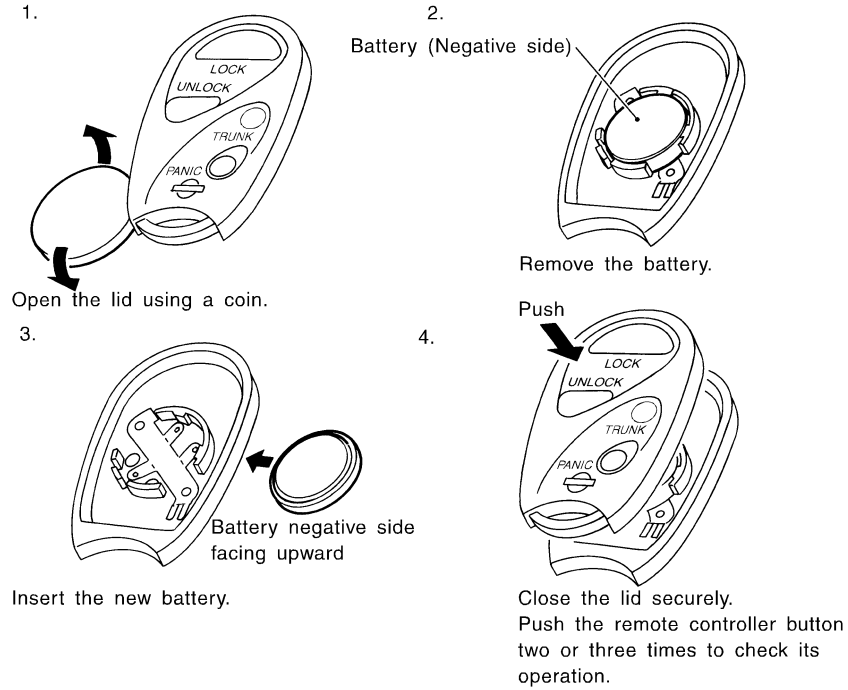
Remote Controller Battery Replacement

Remote Controller Battery Replacement

NHEL0118

NOTE:

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



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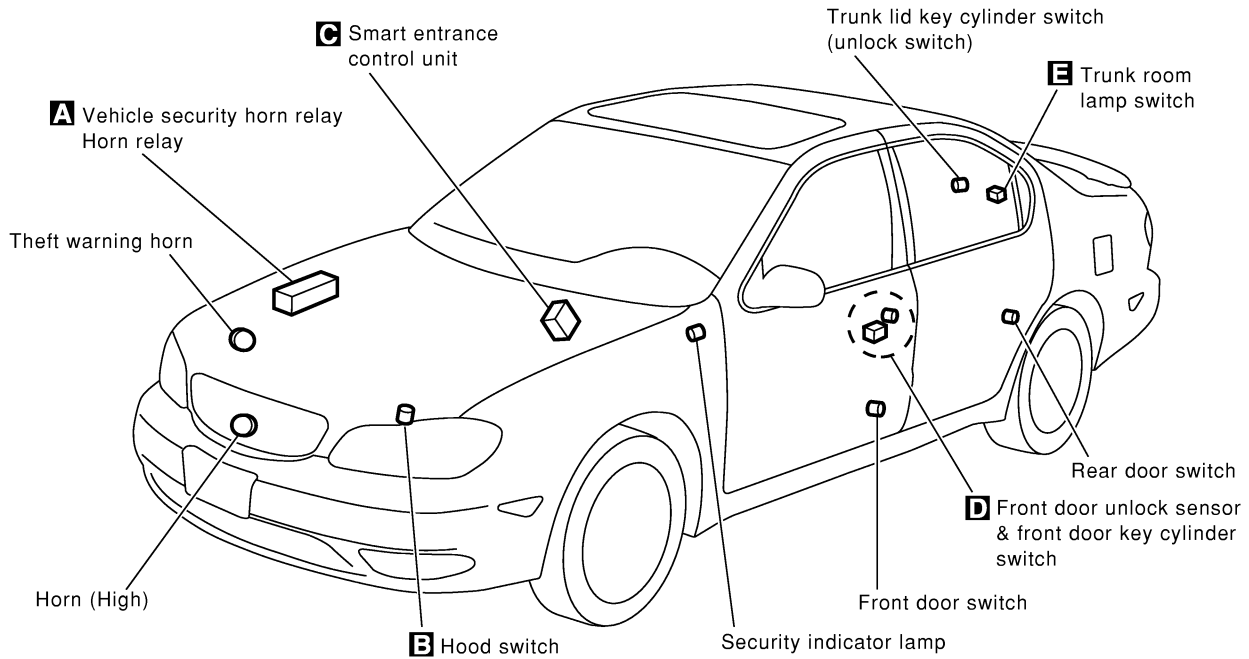
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VEHICLE SECURITY (THEFT WARNING) SYSTEM

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NHEL0119



<p>Fuse block (J/B)</p> <table border="1"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td></tr> <tr><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td></td><td></td><td></td><td>17</td><td>18</td><td>19</td><td>20</td></tr> <tr><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td></tr> </table> <p>↑ UP</p>		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	<table border="1"> <tr><td>51</td><td>52</td><td>53</td><td>54</td><td>55</td><td>56</td><td>57</td><td>58</td><td>59</td><td>60</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>b</td><td>c</td><td>d</td><td>e</td><td>f</td></tr> <tr><td>61</td><td>62</td><td>63</td><td>64</td><td>65</td><td>66</td><td>67</td><td>68</td><td>69</td><td>70</td><td>71</td><td>72</td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>g</td><td>h</td><td>i</td><td>j</td></tr> </table>	51	52	53	54	55	56	57	58	59	60								b	c	d	e	f	61	62	63	64	65	66	67	68	69	70	71	72									g	h	i	j	<p>A</p>
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<p>B</p>	<p>C Smart entrance control unit</p>	<p>D</p>																																																																																	
<p>E Trunk room lamp switch</p>	<p>Security indicator lamp</p>																																																																																		

SEL055Y

System Description

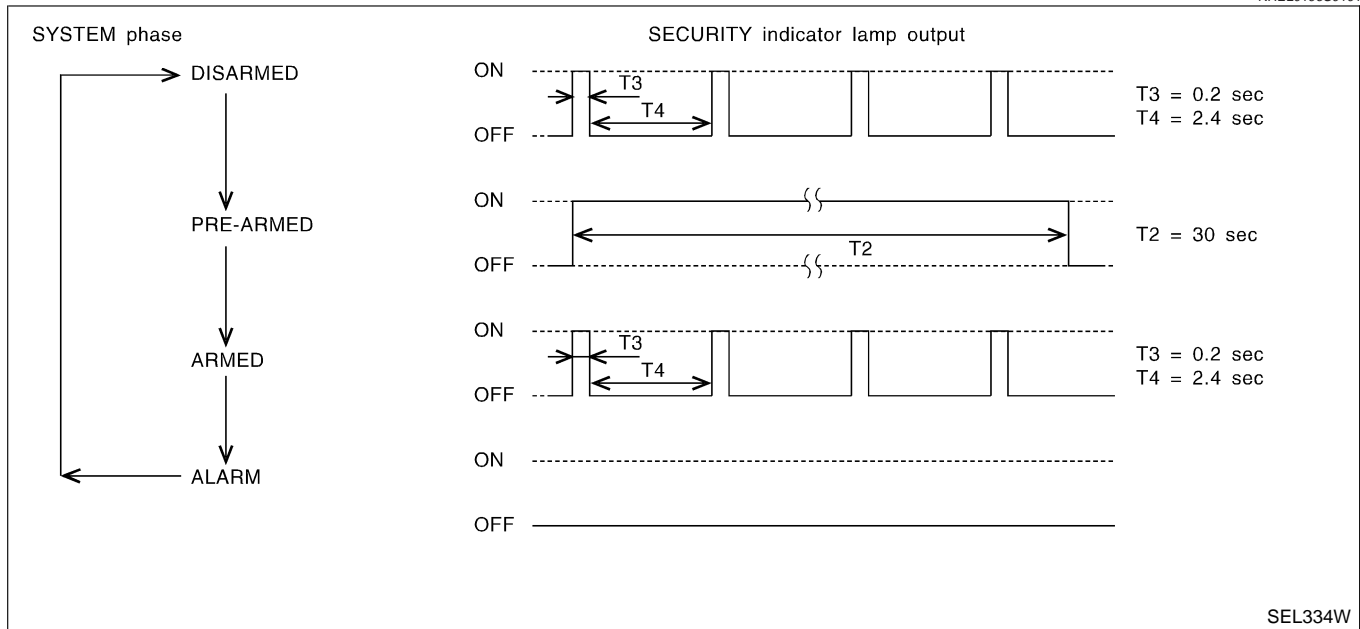
NHEL0196

NHEL0196S01

NHEL0196S0101

DESCRIPTION

1. Operation Flow



SEL334W

2. Setting The Vehicle Security System

NHEL0196S0102

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 multi-remote controller after hood, trunk lid and all doors are closed.
- 2) Hood, trunk lid and all doors are closed after front doors are locked by key, lock/unlock switch or multi-remote controller.

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

NHEL0196S0103

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

- 1) Unlock the doors with the key or multi-remote controller.
- 2) Open the trunk lid with the key or multi-remote controller.

4. Activating The Alarm Operation of The Vehicle Security System

NHEL0196S0104

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, 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

NHEL0196S02

Power is supplied at all times

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

Power is supplied at all times

VEHICLE SECURITY (THEFT WARNING) SYSTEM

System Description (Cont'd)

- through 10A fuse [No. 13, located in the fuse block (J/B)]
- to smart entrance control unit terminal 49.

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 27.

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 26.

Ground is supplied

- to smart entrance control unit terminals 43 and 64
- through body grounds M9, M25 and M87.

INITIAL CONDITION TO ACTIVATE THE SYSTEM

The operation of the vehicle security system is controlled by the doors, hood and trunk lid.

NHLE0196S03

Pattern A

To activate the vehicle security system, the smart entrance control unit must receive signals indicating the doors, hood and trunk lid are closed.

NHLE0196S0301

When a door is open, smart entrance control unit terminal 1, 2 or 3 receives a ground signal from each door switch.

When the hood is open, smart entrance control unit terminal 6 receives a ground signal

- from terminal 1 of the hood switch
- through body grounds E11, E22 and E53.

When the trunk lid is open, smart entrance control unit terminal 13 receives a ground signal

- from terminal 1 of the trunk room lamp switch
- through body grounds T6 and T8.

When smart entrance control unit receives LOCK signal from key cylinder switch or multi-remote controller 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 and trunk lid) is opened.

NHLE0196S0302

When the front doors are locked with key, lock/unlock switch or multi-remote controller 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 (including hood and trunk lid) close if the key is used to lock doors, terminal 11 receives a ground signal

NHLE0196S04

NHLE0196S0401

- from terminal 5 (with IVCS) or 3 (without IVCS) of the key cylinder switch LH
- through body grounds M9, M25 and M87.

If this signal, or lock signal from remote controller 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 (including hood and trunk lid) open if lock/unlock switch is used to lock doors, terminal 5 receives a ground signal

NHLE0196S0402

- from terminal 6 of lock/unlock switch LH, or
- from terminal 8 of lock/unlock switch RH
- through body grounds M9, M25 and M87, or

With any door (including hood and trunk lid) open if the key is used to lock doors, terminal 11 receives a ground signal

- from terminal 5 (with IVCS) or 3 (without IVCS) of the key cylinder switch LH
- through body grounds M9, M25 and M87.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

System Description (Cont'd)

If these signals and lock signal from remote controller are received by the smart entrance control unit, ground signals of terminals 1, 2 and 3 are interrupted and all doors are closed, 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 38 supplies ground to terminal 2 of the security indicator lamp.

The security lamp will illuminate for approximately 30 seconds and then blinks 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 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 1, 2, 3 (door switch), 13 (trunk room lamp switch) or 6 (hood switch), the vehicle security system will be triggered. The headlamps flash and the horn sounds intermittently.

Power is supplied at all times

- through 10A fuse (No. 61 located in fuse and fusible link box)
- to vehicle security horn relay-1 terminals 1 and 3, and
- to vehicle security horn relay-2 terminal 1
- through 10A fuse (No. 57, located in fuse and fusible link box)
- to horn relay terminal 2.

Without xenon headlamp

Power is also supplied at all times

- through 15A fuse (No. 68, located in fuse and fusible link box)
- to headlamp relay LH terminals 1 and 3,
- through 15A fuse (No. 69, located in fuse and fusible link box)
- to headlamp relay RH terminals 1 and 3.

With xenon headlamp

Power is also supplied at all times

- through 15A fuse (No. 68, located in fuse and fusible link box)
- to headlamp relay LH terminal 3,
- through 20A fuse (No. 54, located in fuse and fusible link box)
- to headlamp relay LH terminals 1 and 6,
- through 15A fuse (No. 69, located in fuse and fusible link box)
- to headlamp relay RH terminal 3, and
- through 20A fuse (No. 55, located in fuse and fusible link box)
- to headlamp relay RH terminals 1 and 6.

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

- to headlamp LH relay terminal 2 from smart entrance control unit terminal 21 and
- to headlamp LH relay terminal 2 from smart entrance control unit terminal 59
- through smart entrance control unit terminals 43 and 64.

When headlamp relays (LH and RH) are energized and then power is supplied to headlamps (LH and RH). The headlamps flash intermittently.

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

- from smart entrance control unit terminal 42
- to vehicle security horn relay-2 terminal 2.

When vehicle security horn relay-2 is energized, ground is supplied intermittently

- to vehicle security horn relay-1 terminal 2, and
- to horn relay terminal 1.

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VEHICLE SECURITY (THEFT WARNING) SYSTEM

System Description (Cont'd)

When vehicle security horn relay-1 and horn relay are energized, then power is supplied to vehicle security horn and horn.

The horn sounds intermittently.

The alarm automatically turns off after 50 seconds but will reactivate if the vehicle is tampered with again.

VEHICLE SECURITY SYSTEM DEACTIVATION

NHLE0196S06

To deactivate the vehicle security system, a door or trunk lid must be unlocked with the key or remote controller.

When the key is used to unlock the door, smart entrance control unit terminal 10 receives a ground signal

- from terminal 1 of the LH key cylinder switch.

When the key is used to open the trunk lid, smart entrance control unit terminal 12 receives a ground signal from terminal 1 of the trunk lid key cylinder switch.

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

PANIC ALARM OPERATION

NHLE0196S07

Multi-remote control system may or may not operate vehicle security system (horn and headlamps) as required.

When the multi-remote control system (panic alarm) is triggered, ground is supplied intermittently

- from smart entrance control unit terminal 42
- to vehicle security horn relay-2 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 multi-remote controller.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

System Description (Cont'd)

NOTE:

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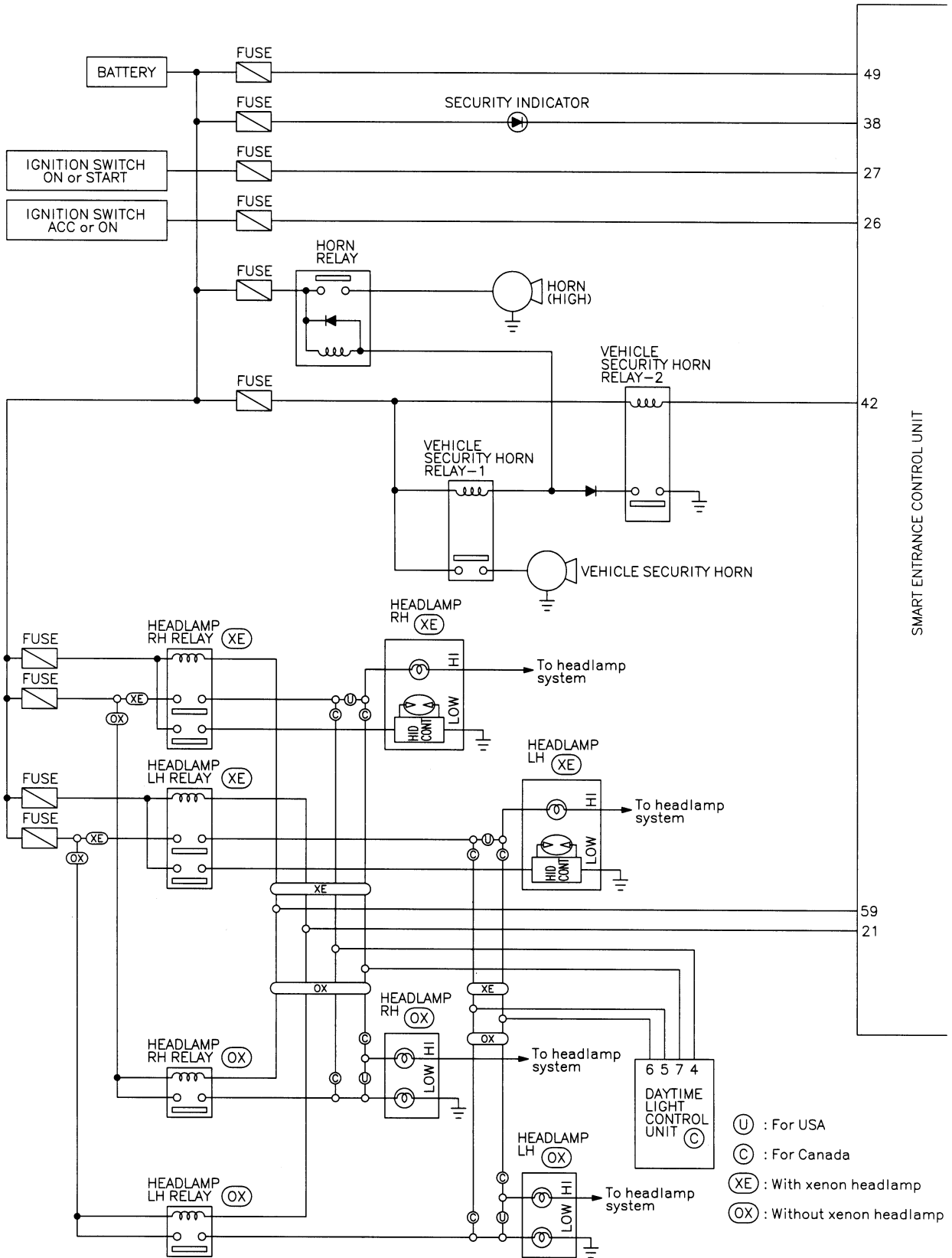
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VEHICLE SECURITY (THEFT WARNING) SYSTEM

Schematic

Schematic

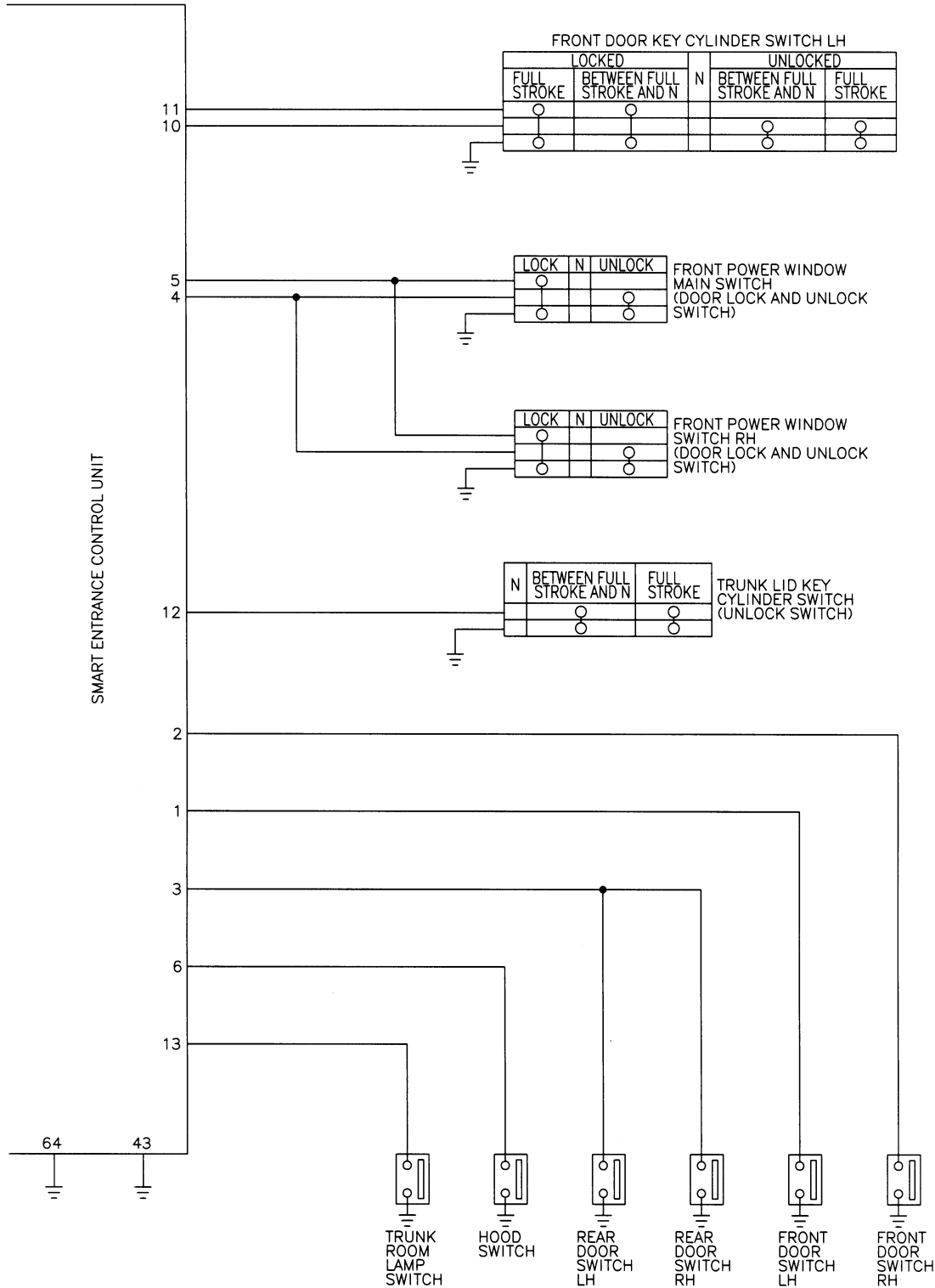
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VEHICLE SECURITY (THEFT WARNING) SYSTEM

Schematic (Cont'd)



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VEHICLE SECURITY (THEFT WARNING) SYSTEM

Wiring Diagram — VEHSEC —

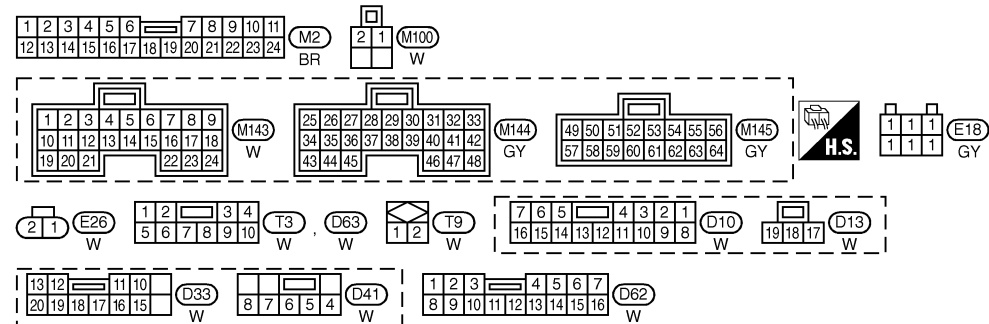
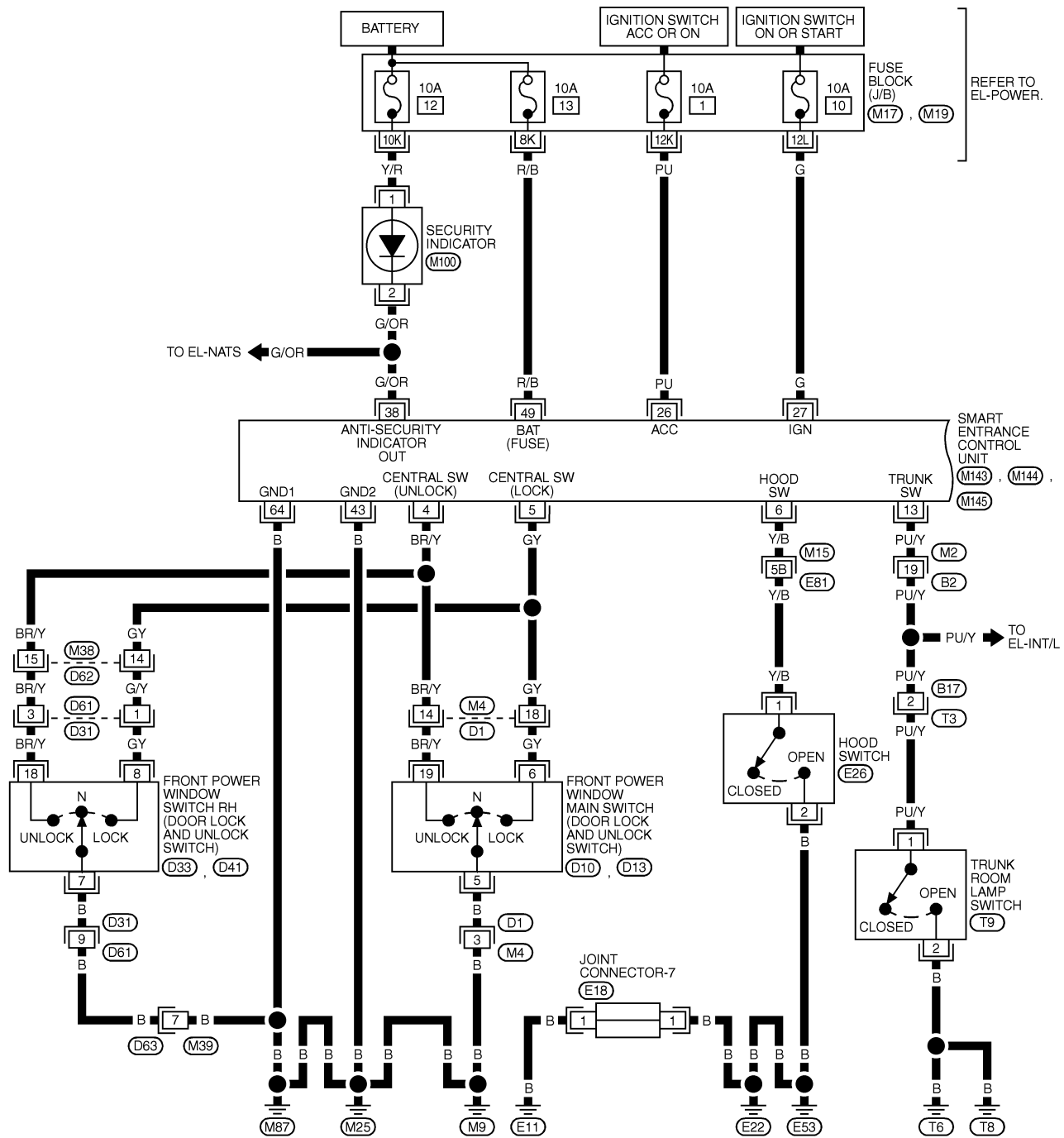
Wiring Diagram — VEHSEC —

NHEL0122

NHEL0122S01

FIG. 1

EL-VEHSEC-01



REFER TO THE FOLLOWING.
 (M15), (D1), (D31) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M17), (M19) -FUSE BLOCK-
 JUNCTION BOX (J/B)

MEL933N

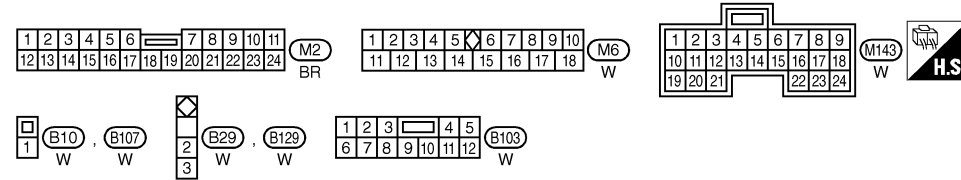
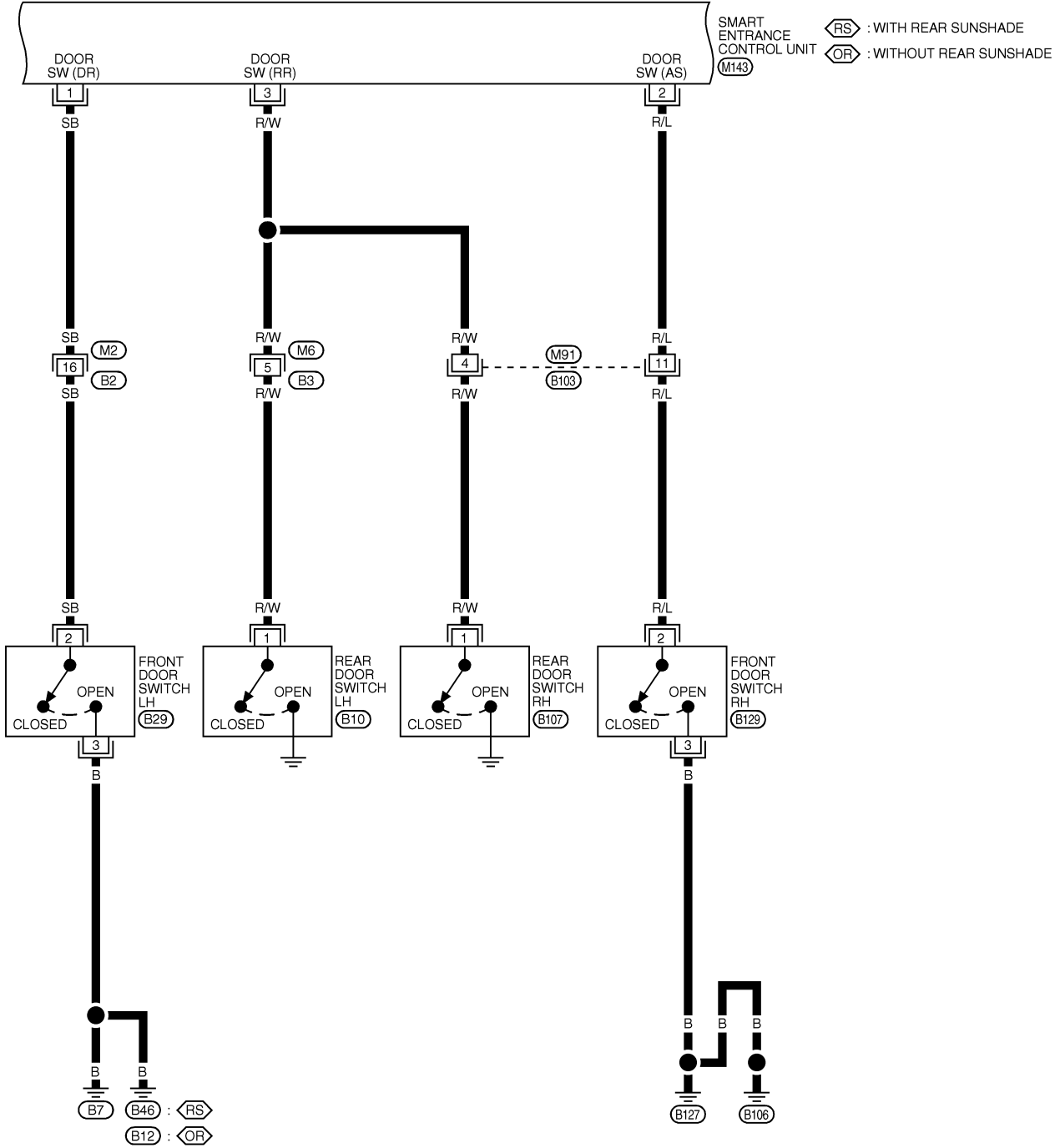
VEHICLE SECURITY (THEFT WARNING) SYSTEM

Wiring Diagram — VEHSEC — (Cont'd)

FIG. 2

NHEL0122S02

EL-VEHSEC-02



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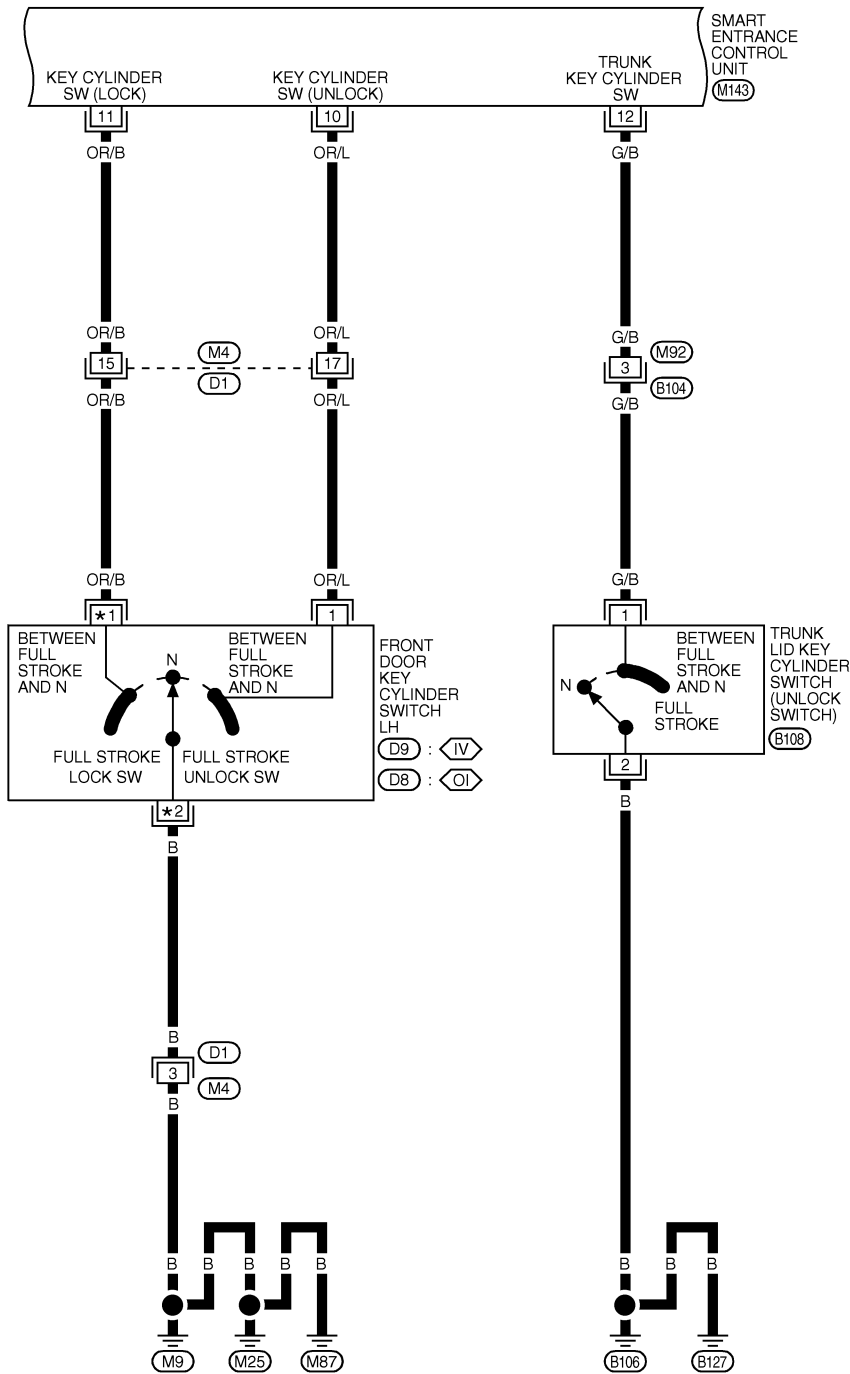
VEHICLE SECURITY (THEFT WARNING) SYSTEM

Wiring Diagram — VEHSEC — (Cont'd)

FIG. 3

NHEL0122S03

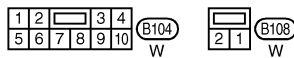
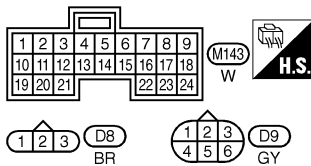
EL-VEHSEC-03



- (IV) : WITH IVCS
 (OI) : WITHOUT IVCS
 *1 5 : (IV)
 3 : (OI)
 *2 4 : (IV)
 2 : (OI)

FRONT
 DOOR
 KEY
 CYLINDER
 SWITCH
 LH
 (D9) : (IV)
 (D8) : (OI)

TRUNK
 LID KEY
 CYLINDER
 SWITCH
 (UNLOCK
 SWITCH)
 (B108)



REFER TO THE FOLLOWING.

(D1) -SUPER
MULTIPLE JUNCTION (SMJ)

MEL479M

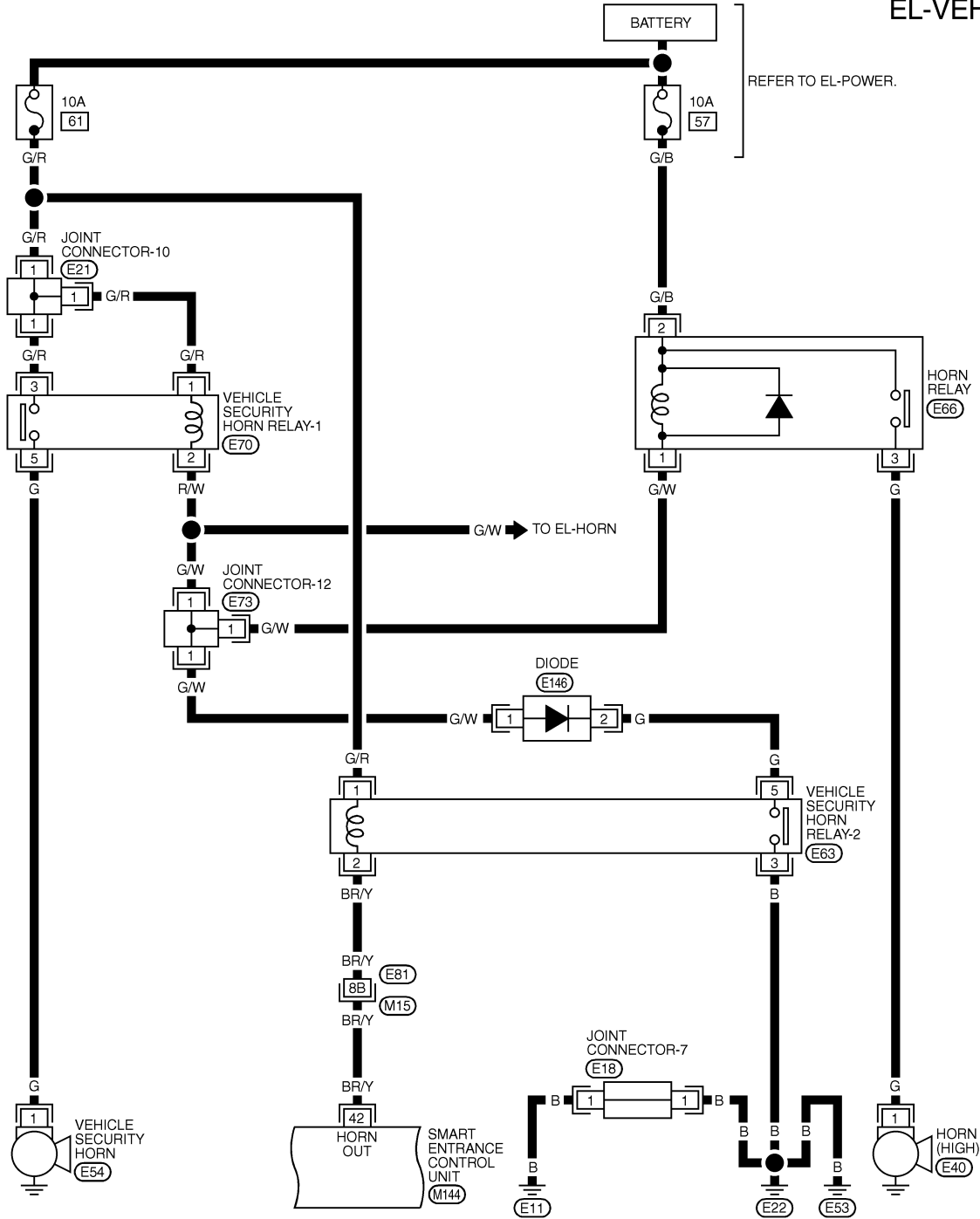
VEHICLE SECURITY (THEFT WARNING) SYSTEM

Wiring Diagram — VEHSEC — (Cont'd)

FIG. 4

NHEL0122S04

EL-VEHSEC-04

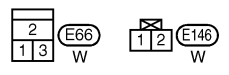
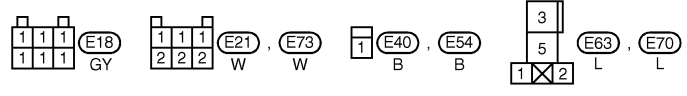
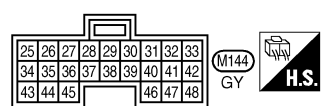


REFER TO EL-POWER.

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REFER TO THE FOLLOWING.
(M15) -SUPER
MULTIPLE JUNCTION (SMJ)

MEL5260

VEHICLE SECURITY (THEFT WARNING) SYSTEM

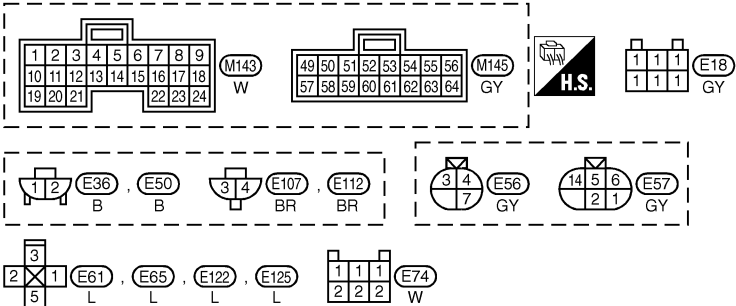
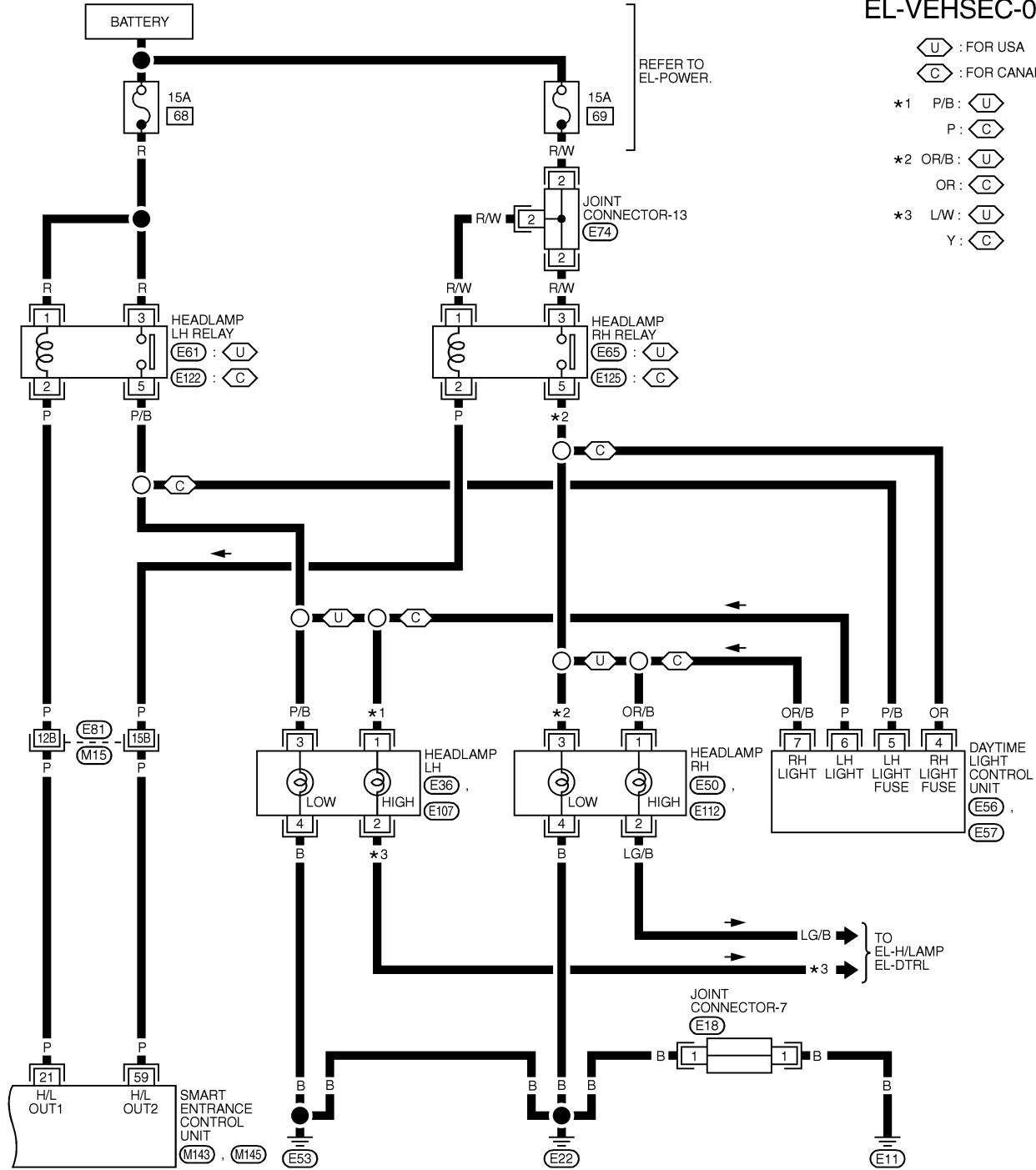
Wiring Diagram — VEHSEC — (Cont'd)

FIG. 5 WITHOUT XENON HEADLAMP

NHEL0122S07

EL-VEHSEC-05

- U : FOR USA
- C : FOR CANADA
- *1 P/B: U
P: C
- *2 OR/B: U
OR: C
- *3 L/W: U
Y: C



REFER TO THE FOLLOWING.

(M15) -SUPER
MULTIPLE JUNCTION (SMJ)

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Wiring Diagram — VEHSEC — (Cont'd)

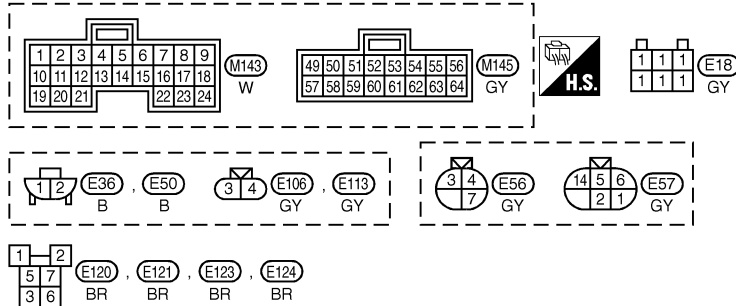
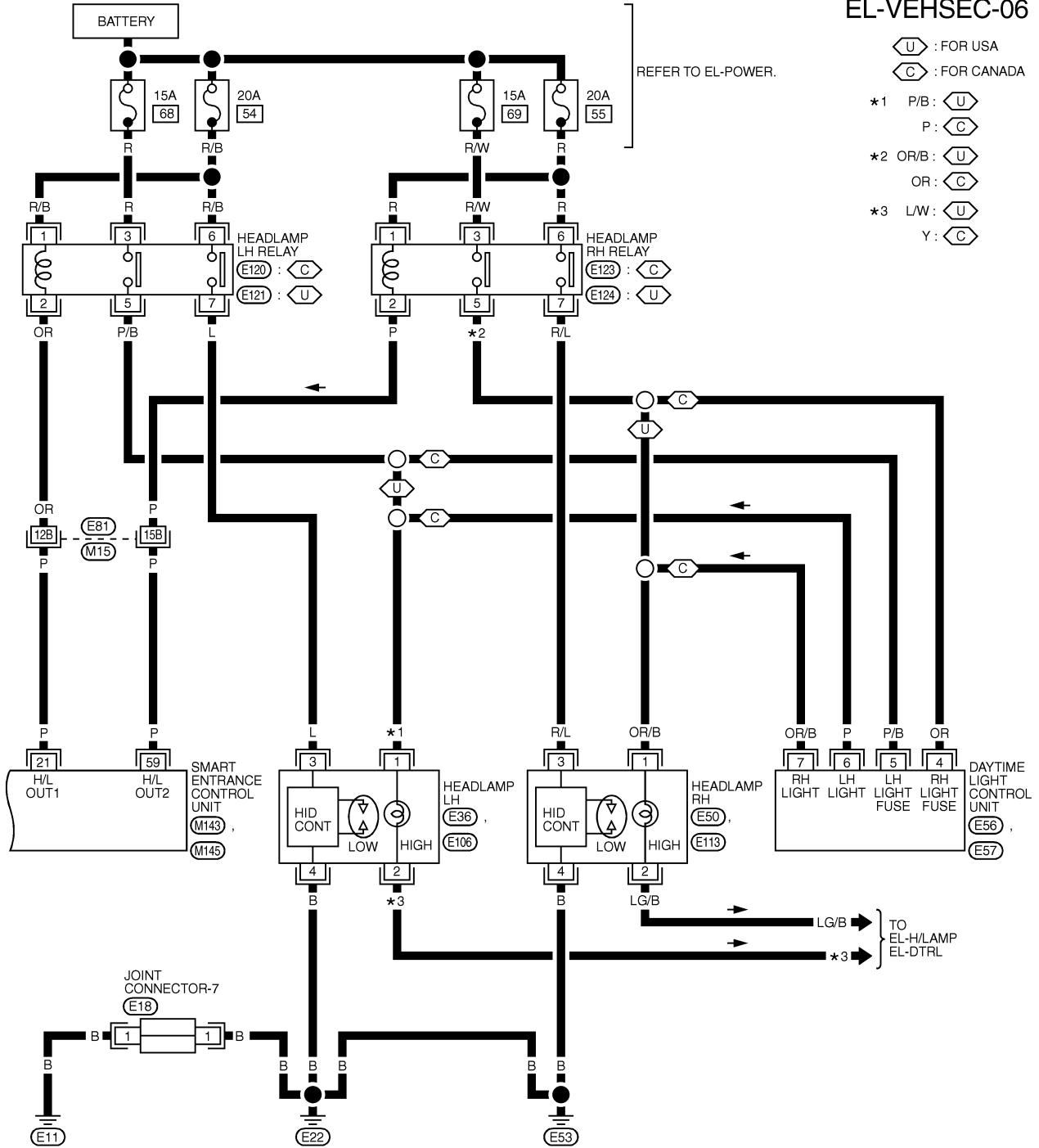
FIG. 6 WITH XENON HEADLAMP

NHEL0122S09

EL-VEHSEC-06

- U : FOR USA
- C : FOR CANADA
- *1 P/B: U
- P: C
- *2 OR/B: U
- OR: C
- *3 L/W: U
- Y: C

REFER TO EL-POWER.



REFER TO THE FOLLOWING.

M15 -SUPER
MULTIPLE JUNCTION (SMJ)

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VEHICLE SECURITY (THEFT WARNING) SYSTEM

Wiring Diagram — VEHSEC — (Cont'd)

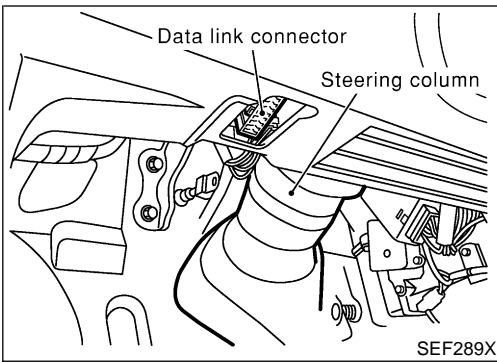
SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE BETWEEN EACH TERMINAL AND GROUND

TERMINAL	WIRE COLOR	ITEM	CONDITION		DATA (DC)	
1	SB	DRIVER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)		5V → 0V	
2	R/L	PASSENGER DOOR SWITCH	OFF (CLOSED) → ON (OPEN)		5V → 0V	
3	R/W	REAR DOOR SWITCH	OFF (CLOSED) → ON (OPEN)		5V → 0V	
4	BR/Y	DOOR LOCK & UNLOCK SWITCHES	NEUTRAL → UNLOCKS		5V → 0V	
5	GY	DOOR LOCK & UNLOCK SWITCHES	NEUTRAL → LOCKS		5V → 0V	
6	Y/B	HOOD SWITCH	ON (OPEN) → OFF (CLOSED)		0V → 12V	
10	OR/L	DOOR KEY CYLINDER UNLOCK SWITCH	OFF (NEUTRAL) → ON (LOCKED)		5V → 0V	
11	OR/B	DOOR KEY CYLINDER LOCK SWITCH	OFF (NEUTRAL) → ON (LOCKED)		5V → 0V	
12	G/B	TRUNK LID KEY CYLINDER SWITCH	OFF (NEUTRAL) → ON (UNLOCK)		5V → 0V	
13	PU/Y	TRUNK ROOM LAMP SWITCH	ON (OPEN) → OFF (CLOSED)		0V → 12V	
21	P	HEADLAMP LH RELAY	IGNITION SWITCH (WITH LIGHTING SWITCH OFF OR 1ST) ON OR START	OFF	MORE THAN 45 SECONDS	12V
					WITHIN 45 SECONDS	0V
				HEADLAMPS ILLUMINATE BY AUTO LIGHT CONTROL		0V
						0V
26	PU	IGNITION SWITCH (ACC)	"ACC" POSITION		12V	
27	G	IGNITION SWITCH (ON)	IGNITION KEY IS IN "ON" POSITION		12V	
38	G/OR	SECURITY INDICATOR	GOES OFF → ILLUMINATES		12V → 0V	
42	BR/Y	VEHICLE SECURITY HORN RELAY	WHEN PANIC ALARM IS OPERATED USING REMOTE CONTROLLER (ON → OFF)		12V → 0V	
43	B	GROUND	-		-	
49	R/B	POWER SOURCE (FUSE)	-		12V	
59	P	HEADLAMP RH RELAY	IGNITION SWITCH (WITH LIGHTING SWITCH OFF OR 1ST) ON OR START	OFF OR ACC	MORE THAN 45 SECONDS	12V
					WITHIN 45 SECONDS	0V
				HEAD LAMP ILLUMINATE BY AUTO LIGHT CONTROL		0V
				(OPERATE → NOT OPERATE)		LESS THAN 1.5V → 12V
64	B	GROUND	-		-	

SEL982X

VEHICLE SECURITY (THEFT WARNING) SYSTEM

CONSULT-II Inspection Procedure



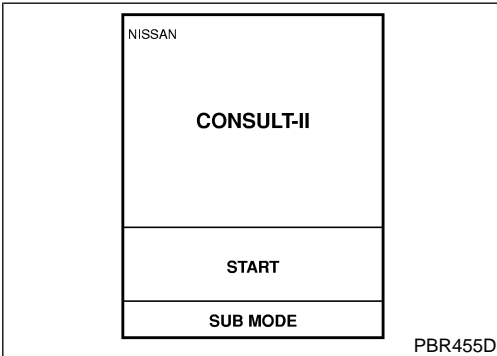
CONSULT-II Inspection Procedure

=NHLE0244

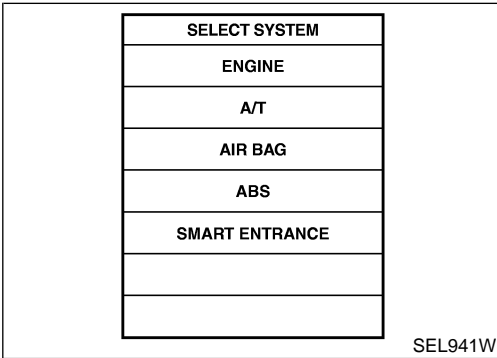
NHLE0244S01

"THEFT WAR ALM"

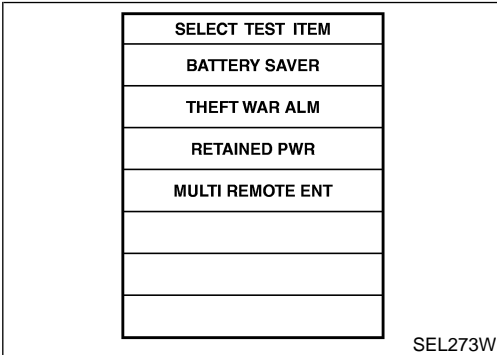
1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" to the data link connector.



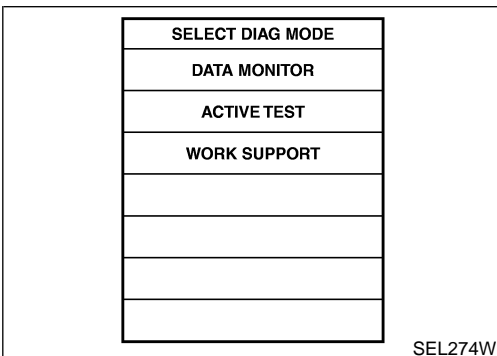
3. Turn ignition switch "ON".
4. Touch "START".



5. Touch "SMART ENTRANCE".



6. Touch "THEFT WAR ALM".



7. Select diagnosis mode. "DATA MONITOR", "ACTIVE TEST" and "WORK SUPPORT" are available.

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VEHICLE SECURITY (THEFT WARNING) SYSTEM

CONSULT-II Application Item

CONSULT-II Application Item

NHEL0245

“THEFT WAR ALM”

NHEL0245S01

Data Monitor

NHEL0245S0101

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-RR	Indicates [ON/OFF] condition of rear door switch.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.
TRUNK SW	Indicates [ON/OFF] condition of trunk switch.
TRUNK KEY SW	Indicates [ON/OFF] condition of trunk key cylinder switch.
HOOD SWITCH	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 LH and RH.
LK BUTTON/SIG	Indicates [ON/OFF] condition of lock signal from remote controller.
UN BUTTON/SIG	Indicates [ON/OFF] condition of unlock signal from remote controller.
TRUNK BTN/SIG	Indicates [ON/OFF] condition of trunk open signal from remote controller.

Active Test

NHEL0245S0102

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.
HORN	This test is able to check vehicle security alarm operation. The alarm will be activated for 0.5 seconds after “ON” on CONSULT-II screen is touched.
HEADLAMP	This test is able to check vehicle security alarm headlamp operation. The headlamp illuminates for 0.5 seconds after “ON” on CONSULT-II screen is touched.

Work Support

NHEL0245S0103

Test Item	Description
THEFT ALM TRG	The switch which triggered vehicle security 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

=NHEL0123

PRELIMINARY CHECK

NHEL0123S01

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

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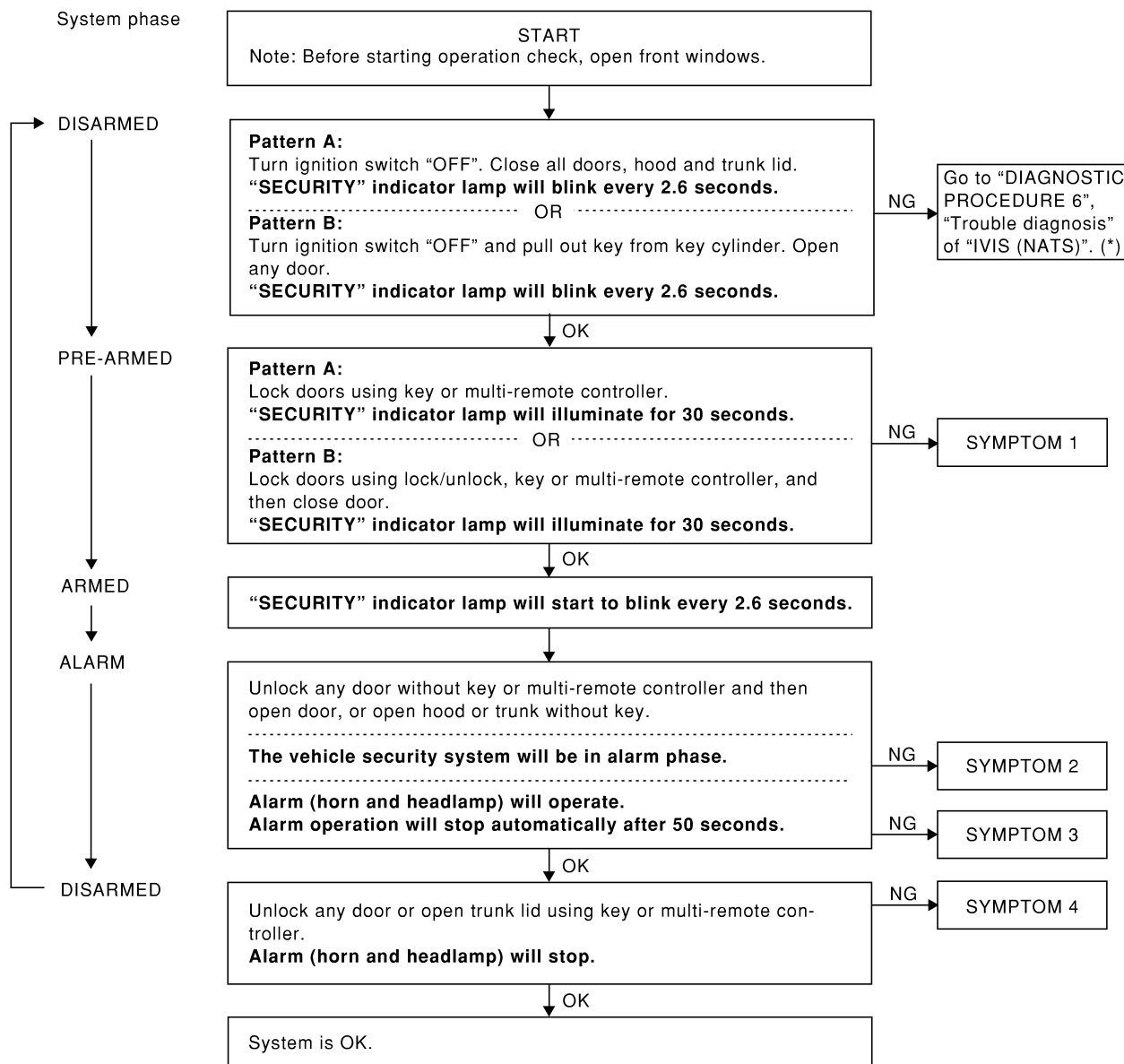
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SEL731WA

For details of "Pattern A" and "Pattern B" about vehicle security system setting, refer to EL-368.

*: Refer to EL-428.

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

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

SYMPTOM CHART

NH0123S02

REFERENCE PAGE (EL-)		383	385	386	392	394	395	396	398	347	
SYMPTOM		PRELIMINARY CHECK	POWER SUPPLY AND GROUND CIRCUIT CHECK	DOOR, HOOD AND TRUNK ROOM LAMP SWITCH CHECK	SECURITY INDICATOR LAMP 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 "MULTI-REMOTE CONTROL" system.	
1	Vehicle security indicator does not illuminate for 30 seconds.	X	X		X						
	Vehicle security system cannot be set by ...	All items	X	X	X						
		Door outside key	X				X				
		Lock/unlock switch	X						X		
	Multi-remote control	X								X	
2	*1 Vehicle security system does not alarm when ...										
	One of the door 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			
		Multi-remote control	X								X

X : Applicable

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

Before starting trouble diagnoses above, perform preliminary check, EL-383.

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

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

POWER SUPPLY AND GROUND CIRCUIT CHECK

NHEL0123S03

Power Supply Circuit Check

NHEL0123S0301

1. Disconnect smart entrance control unit harness connector.
2. Check voltage between smart entrance control unit harness connector M144 terminals 26 (PU), 27 (G), M145 terminal 49 (R/B) and ground.

Terminals		Ignition switch position		
(+)	(-)	OFF	ACC	ON
49	Ground	Battery voltage	Battery voltage	Battery voltage
27	Ground	0V	0V	Battery voltage
26	Ground	0V	Battery voltage	Battery voltage

SEL033Y

Ground Circuit Check

NHEL0123S0302

1. Disconnect smart entrance control unit harness connector.
2. Check continuity between smart entrance control unit harness connector M144 terminal 43 (B), M145 terminal 64 (B) and ground.

Terminals	Continuity
43 - Ground	Yes
64 - Ground	Yes

SEL034Y

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VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)


DOOR, HOOD AND TRUNK ROOM LAMP SWITCH CHECK


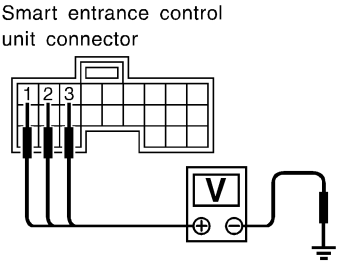

=NHLE0123S04

Door Switch Check

NHLE0123S0401

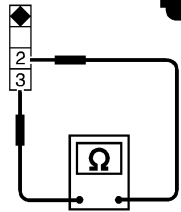
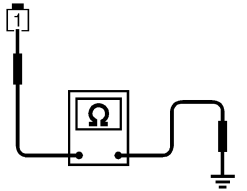
1	PRELIMINARY CHECK	
<p>1. Turn ignition switch OFF and remove key from ignition key cylinder. “SECURITY” indicator lamp should blink every 2.6 seconds.</p> <p>2. Close all doors, hood and trunk lid.</p> <p>3. Lock doors with multi-remote controller from inside the vehicle. “SECURITY” indicator lamp should turn on for 30 seconds.</p> <p>4. Unlock any door with the door lock knob and open the door within 30 seconds after door is locked. “SECURITY” indicator lamp should turn off.</p> <p style="text-align: center;">OK or NG</p>		
OK	▶	Door switch is OK, and go to hood switch check.
NG	▶	GO TO 2.

2	CHECK DOOR SWITCH INPUT SIGNAL																																	
<p> With CONSULT-II Check door switches (“DOOR SW-RR”, “DOOR SW-DR” and “DOOR SW-AS”) in “DATA MONITOR” mode with CONSULT-II.</p>																																		
<table border="1" style="margin-bottom: 20px;"> <thead> <tr> <th colspan="2">DATA MONITOR</th> </tr> <tr> <th>MONITOR</th> <th></th> </tr> </thead> <tbody> <tr> <td>DOOR SW-RR</td> <td>OFF</td> </tr> <tr> <td>DOOR SW-DR</td> <td>OFF</td> </tr> <tr> <td>DOOR SW-AS</td> <td>OFF</td> </tr> </tbody> </table> <table border="1" style="margin-left: 200px;"> <thead> <tr> <th></th> <th>Monitor item</th> <th>Condition</th> <th>Condition</th> </tr> </thead> <tbody> <tr> <td rowspan="2">DOOR SW-RR</td> <td rowspan="2">Rear doors switch</td> <td>Open</td> <td>ON</td> </tr> <tr> <td>Closed</td> <td>OFF</td> </tr> <tr> <td rowspan="2">DOOR SW-DR</td> <td rowspan="2">Door switch LH</td> <td>Open</td> <td>ON</td> </tr> <tr> <td>Closed</td> <td>OFF</td> </tr> <tr> <td rowspan="2">DOOR SW-AS</td> <td rowspan="2">Door switch RH</td> <td>Open</td> <td>ON</td> </tr> <tr> <td>Closed</td> <td>OFF</td> </tr> </tbody> </table>			DATA MONITOR		MONITOR		DOOR SW-RR	OFF	DOOR SW-DR	OFF	DOOR SW-AS	OFF		Monitor item	Condition	Condition	DOOR SW-RR	Rear doors switch	Open	ON	Closed	OFF	DOOR SW-DR	Door switch LH	Open	ON	Closed	OFF	DOOR SW-AS	Door switch RH	Open	ON	Closed	OFF
DATA MONITOR																																		
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		Closed	OFF																															
SEL024Y																																		

<p> Without CONSULT-II Check voltage between smart entrance control unit harness connector M143 terminals 1 (SB), 2 (R/L) or 3 (R/W) and ground.</p>																														
<div style="display: flex; align-items: flex-start;"> <div style="flex: 1;"> <p>Smart entrance control unit connector</p>  </div> <div style="flex: 1; text-align: center;">  </div> <div style="flex: 2;"> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Terminals</th> <th rowspan="2">Condition</th> <th rowspan="2">Voltage [V]</th> </tr> <tr> <th>(+)</th> <th>(-)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Front door switch LH</td> <td rowspan="2">1</td> <td rowspan="2">Ground</td> <td>Open</td> <td>0</td> </tr> <tr> <td>Closed</td> <td>Approx. 5</td> </tr> <tr> <td rowspan="2">Front door switch RH</td> <td rowspan="2">2</td> <td rowspan="2">Ground</td> <td>Open</td> <td>0</td> </tr> <tr> <td>Closed</td> <td>Approx. 5</td> </tr> <tr> <td rowspan="2">Rear door switches</td> <td rowspan="2">3</td> <td rowspan="2">Ground</td> <td>Open</td> <td>0</td> </tr> <tr> <td>Closed</td> <td>Approx. 5</td> </tr> </tbody> </table> </div> </div>				Terminals		Condition	Voltage [V]	(+)	(-)	Front door switch LH	1	Ground	Open	0	Closed	Approx. 5	Front door switch RH	2	Ground	Open	0	Closed	Approx. 5	Rear door switches	3	Ground	Open	0	Closed	Approx. 5
	Terminals			Condition	Voltage [V]																									
	(+)	(-)																												
Front door switch LH	1	Ground	Open	0																										
			Closed	Approx. 5																										
Front door switch RH	2	Ground	Open	0																										
			Closed	Approx. 5																										
Rear door switches	3	Ground	Open	0																										
			Closed	Approx. 5																										
SEL021Y																														
Refer to wiring diagram in EL-375.																														
OK or NG																														
OK	▶	Door switch is OK, and go to hood switch check.																												
NG	▶	GO TO 3.																												

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

3	CHECK DOOR SWITCH			
<p>1. Disconnect door switch connector. 2. Check continuity between door switch terminals.</p>				
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Door switch connector</p> <p>Front LH : (B29)</p> <p>Front RH : (B129)</p>  </div> <div style="width: 45%;"> <p>Door switch connector</p> <p>Rear LH : (B10)</p> <p>Rear RH : (B107)</p>  </div> </div> <div style="text-align: center; margin-top: 10px;"> <p>OK or NG</p> </div>				
SEL192W				
	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● Door switch ground circuit or door switch ground condition ● Harness for open or short between smart entrance control unit and door switch 		
OK	▶	<p>Replace door switch.</p>		
NG	▶			

	Terminals	Condition	Continuity
Front door switches	2 - 3	Closed	No
		Open	Yes
Rear door switches	1 - Ground	Closed	No
		Open	Yes

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VEHICLE SECURITY (THEFT WARNING) SYSTEM


Trouble Diagnoses (Cont'd)


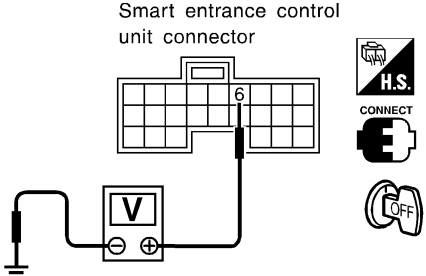
Hood Switch Check

=NHLE0123S0402

1	PRELIMINARY CHECK	
<p>1. Turn ignition switch OFF and remove key from ignition key cylinder. “SECURITY” indicator lamp should blink every 2.6 seconds.</p> <p>2. Close all doors, hood and trunk lid.</p> <p>3. Lock doors with multi-remote controller from inside the vehicle. “SECURITY” indicator lamp should turn on for 30 seconds.</p> <p>4. Unlock hood with hood opener within 30 seconds after door is locked. “SECURITY” indicator lamp should turn off.</p> <p style="text-align: center;">OK or NG</p>		
OK	▶	Hood switch is OK, and go to trunk room lamp switch check.
NG	▶	GO TO 2.

2	CHECK HOOD SWITCH FITTING CONDITION	
OK or NG		
OK	▶	GO TO 3.
NG	▶	Adjust installation of hood switch or hood.

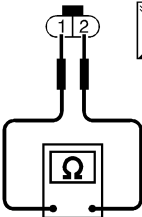
3	CHECK HOOD SWITCH INPUT SIGNAL							
<p> With CONSULT-II Check hood switch (“HOOD SWITCH”) in “DATA MONITOR” mode with CONSULT-II.</p>								
<table border="1" style="margin: auto;"> <tr><th colspan="2">DATA MONITOR</th></tr> <tr><th>MONITOR</th><th></th></tr> <tr><td>HOOD SWITCH</td><td>OFF</td></tr> </table>			DATA MONITOR		MONITOR		HOOD SWITCH	OFF
DATA MONITOR								
MONITOR								
HOOD SWITCH	OFF							
<p>When hood is open: HOOD SWITCH ON</p> <p>When hood is closed: HOOD SWITCH OFF</p>								
SEL354W								

<p> Without CONSULT-II Check voltage between smart entrance control unit harness connector M143 terminal 6 (Y/B) and ground.</p>		
<p>Smart entrance control unit connector</p> 		
<p>Voltage [V]: Engine hood is open. 0 Engine hood is closed. Approx. 5</p>		
SEL035Y		
OK or NG		
OK	▶	Hood switch is OK, and go to trunk room lamp switch check.
NG	▶	GO TO 4.

Refer to wiring diagram in EL-374.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

4	CHECK HOOD SWITCH	
	<p>1. Disconnect hood switch connector.</p> <p>2. Check continuity between hood switch terminals 1 and 2.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div> <p>Hood switch connector (E28)</p>  </div> <div> <p>Continuity: Condition: Pushed No Condition: Released Yes</p> </div> </div> <p style="text-align: right;">SEL240W</p> <p style="text-align: center;">OK or NG</p>	
OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● Hood switch ground circuit ● Harness for open or short between smart entrance control unit and hood switch
NG	▶	Replace hood switch.

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VEHICLE SECURITY (THEFT WARNING) SYSTEM


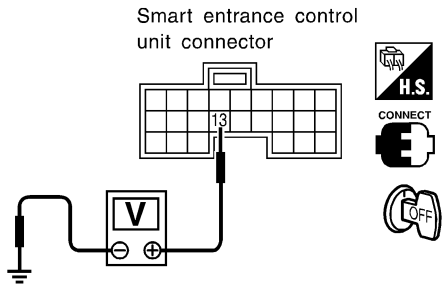
Trouble Diagnoses (Cont'd)

Trunk Room Lamp Switch Check

=NH0123S0403

1	PRELIMINARY CHECK	
<p>1. Turn ignition switch OFF and remove key from ignition key cylinder. "SECURITY" indicator lamp should blink every 2.6 seconds.</p> <p>2. Close all doors, hood and trunk lid.</p> <p>3. Lock doors with multi-remote controller from inside the vehicle. "SECURITY" indicator lamp should turn on for 30 seconds.</p> <p>4. Open trunk lid with trunk lid opener switch (on driver side door trim) within 30 seconds after door is locked. "SECURITY" indicator lamp should turn off.</p> <p style="text-align: center;">OK or NG</p>		
OK	▶	Trunk room lamp switch is OK.
NG	▶	GO TO 2.

2	CHECK TRUNK ROOM LAMP SWITCH INPUT SIGNAL							
<p> With CONSULT-II Check trunk room lamp switch ("TRUNK SW"), in "DATA MONITOR" mode with CONSULT-II.</p>								
<table border="1" style="margin: auto;"> <tr><th colspan="2">DATA MONITOR</th></tr> <tr><th>MONITOR</th><th></th></tr> <tr><td>TRUNK SW</td><td>OFF</td></tr> </table>			DATA MONITOR		MONITOR		TRUNK SW	OFF
DATA MONITOR								
MONITOR								
TRUNK SW	OFF							
<p>When trunk lid is open: TRUNK SW ON</p> <p>When trunk lid is closed: TRUNK SW OFF</p>								
SEL355W								

<p> Without CONSULT-II Check voltage between smart entrance control unit harness connector M143 terminal 13 (PU/Y) and ground.</p>		
<p>Smart entrance control unit connector</p> 		
<p>Voltage [V]: Trunk lid is open. Approx. 0 Trunk lid is closed. Approx. 12</p>		
SEL036Y		
Refer to wiring diagram in EL-374.		
OK or NG		
OK	▶	Trunk room lamp switch is OK.
NG	▶	GO TO 3.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

<p>3</p>	<p>CHECK TRUNK ROOM LAMP SWITCH</p> <p>1. Disconnect trunk room lamp switch connector. 2. Check continuity between trunk room lamp switch terminals 1 and 2.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div> <p>Trunk room lamp switch connector (T9)</p> </div> <div> <p>Continuity: Condition: Closed No Condition: Open Yes</p> </div> </div> <p style="text-align: right;">SEL242W</p> <p style="text-align: center;">OK or NG</p>
<p>OK</p>	<p>▶ Check the following.</p> <ul style="list-style-type: none"> • Trunk room lamp switch ground circuit • Harness for open or short between smart entrance control unit and trunk room lamp switch
<p>NG</p>	<p>▶ Replace trunk room lamp switch.</p>

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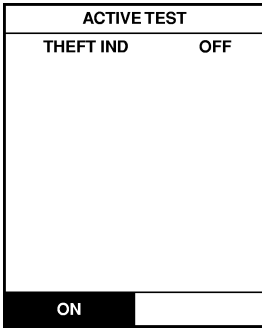

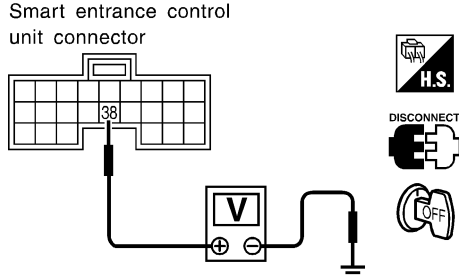
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VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

SECURITY INDICATOR LAMP CHECK

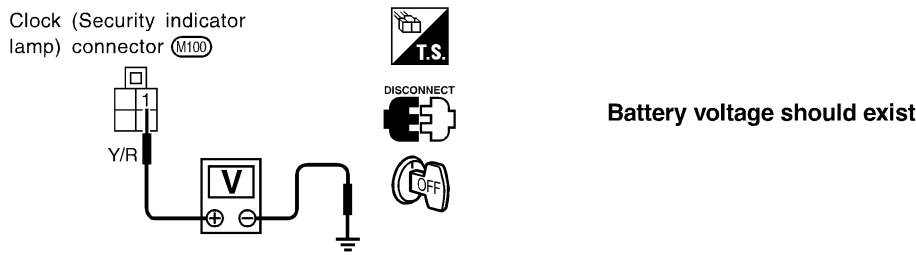
=NHLE0123S05

1	CHECK INDICATOR LAMP OPERATION
<p> With CONSULT-II</p> <ol style="list-style-type: none"> 1. Select "ACTIVE TEST" in "THEFT WAR ALM" with CONSULT-II. 2. Select "THEFT IND" and touch "ON". 	
	
<p>Security indicator lamp should illuminate.</p>	
SEL356W	
<p> Without CONSULT-II</p> <ol style="list-style-type: none"> 1. Disconnect smart entrance control unit harness connector. 2. Check voltage between smart entrance control unit harness connector M144 terminal 38 (G/OR) and ground. 	
	
<p>Battery voltage should exist.</p>	
SEL037Y	
<p>Refer to wiring diagram in EL-374.</p>	
<p>OK or NG</p>	
OK	▶ Security indicator lamp is OK.
NG	▶ GO TO 2.

2	CHECK INDICATOR LAMP
<p>OK or NG</p>	
OK	▶ GO TO 3.
NG	▶ Replace indicator lamp.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

3	CHECK POWER SUPPLY CIRCUIT FOR INDICATOR LAMP	
	<p>1. Disconnect security lamp connector.</p> <p>2. Check voltage between indicator lamp terminal 1 and ground.</p> <div style="text-align: center;">  <p>Battery voltage should exist.</p> </div> <p style="text-align: right;">SEL653W</p> <p style="text-align: center;">OK or NG</p>	
OK	▶	Check harness for open or short between security indicator lamp and smart entrance control unit.
NG	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 10A fuse [No. 12, located in fuse block (J/B)] ● Harness for open or short between security indicator lamp and fuse

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VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

DOOR KEY CYLINDER SWITCH CHECK

=NHLE0123S07

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

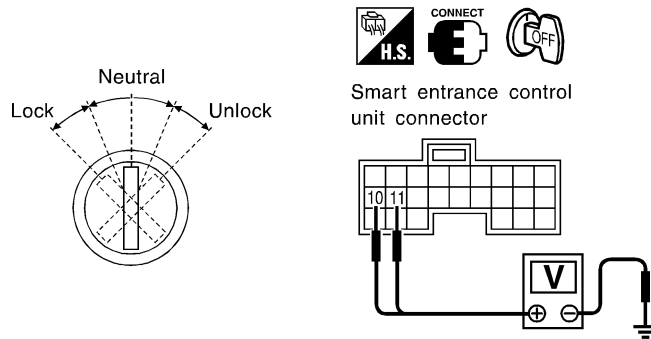
When key inserted in front key cylinder is turned to UNLOCK:

KEY CYL UN-SW ON

SEL342W

Without CONSULT-II

Check voltage between smart entrance control unit harness connector M143 terminal 10 (OR/L) or 11 (OR/B) and ground.



Terminals		Key position	Voltage V
(+)	(-)		
11	Ground	Neutral/Unlock	Approx. 5
		Lock	0
10	Ground	Neutral/Lock	Approx. 5
		Unlock	0

SEL038Y

Refer to wiring diagram in EL-376.

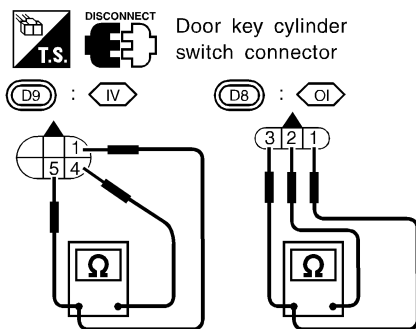
OK or NG

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 terminals.



- IV : With IVCS
OI : Without IVCS
- ① ① : Door unlock switch terminal
 - ④ ② : Ground terminal
 - ⑤ ③ : Door lock switch terminal

Terminals	Key position	Continuity
⑤ - ④ : IV	Neutral/Unlock	No
③ - ② : OI	Lock	Yes
① - ④ : IV	Neutral/Lock	No
① - ② : OI	Unlock	Yes

SEL650W

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



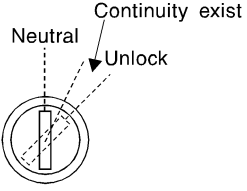
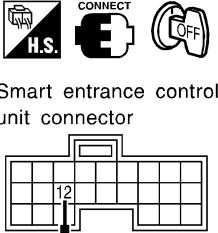
NG ► Replace door key cylinder switch.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

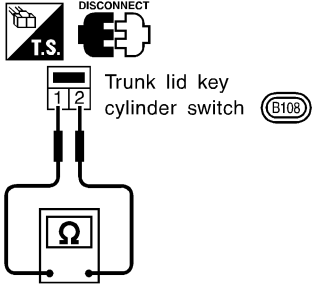
Trouble Diagnoses (Cont'd)

TRUNK LID KEY CYLINDER SWITCH CHECK

=NHLE0123S08

1	CHECK TRUNK LID KEY CYLINDER SWITCH INPUT SIGNAL (UNLOCK SIGNAL)																		
<p> With CONSULT-II Check trunk lid key cylinder switch ("TRUNK KEY SW") in "DATA MONITOR" mode with CONSULT-II.</p> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr><th colspan="2">DATA MONITOR</th></tr> <tr><th>MONITOR</th><th></th></tr> <tr><td>TRUNK KEY SW</td><td>OFF</td></tr> </table> </div> <div style="margin-left: 20px;"> <p>When key in key cylinder is at Neutral position: TRUNK KEY SW OFF</p> <p>When key in key cylinder is at Unlock position: TRUNK KEY SW ON</p> </div> </div> <p style="text-align: right; margin-top: 10px;">SEL358W</p>		DATA MONITOR		MONITOR		TRUNK KEY SW	OFF												
DATA MONITOR																			
MONITOR																			
TRUNK KEY SW	OFF																		
<p> Without CONSULT-II Check voltage between smart entrance control unit harness connector M143 terminal 12 (G/B) and ground.</p> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: center;">  <p>Continuity exist</p> </div> <div style="text-align: center;">  <p>Smart entrance control unit connector</p> </div> <div style="margin-left: 20px;"> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th colspan="2">Terminal</th> <th rowspan="2">Key position</th> <th rowspan="2">Voltage [V]</th> </tr> <tr> <th>(+)</th> <th>(-)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">12</td> <td rowspan="2">Ground</td> <td>Neutral</td> <td>Approx. 5</td> </tr> <tr> <td>Unlock</td> <td>0</td> </tr> </tbody> </table> </div> </div> <p style="text-align: right; margin-top: 10px;">SEL039Y</p> <p>Refer to wiring diagram in EL-376.</p> <p style="text-align: center; margin-top: 10px;">OK or NG</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 20%;">OK</td> <td style="width: 10%; text-align: center;">▶</td> <td>Trunk lid key cylinder switch is OK.</td> </tr> <tr> <td>NG</td> <td style="text-align: center;">▶</td> <td>GO TO 2.</td> </tr> </table>		Terminal		Key position	Voltage [V]	(+)	(-)	12	Ground	Neutral	Approx. 5	Unlock	0	OK	▶	Trunk lid key cylinder switch is OK.	NG	▶	GO TO 2.
Terminal		Key position	Voltage [V]																
(+)	(-)																		
12	Ground	Neutral	Approx. 5																
		Unlock	0																
OK	▶	Trunk lid key cylinder switch is OK.																	
NG	▶	GO TO 2.																	

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2	CHECK TRUNK LID KEY CYLINDER SWITCH												
<p>1. Disconnect trunk lid key cylinder switch connector. 2. Check continuity between trunk lid key cylinder switch terminals.</p> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: center;">  <p>Trunk lid key cylinder switch (B108)</p> </div> <div style="margin-left: 20px;"> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Key position</th> <th>Continuity</th> </tr> </thead> <tbody> <tr> <td>Neutral</td> <td>No</td> </tr> <tr> <td>Unlock</td> <td>Yes</td> </tr> </tbody> </table> </div> </div> <p style="text-align: right; margin-top: 10px;">SEL248W</p> <p style="text-align: center; margin-top: 10px;">OK or NG</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 20%;">OK</td> <td style="width: 10%; text-align: center;">▶</td> <td> <p>Check the following.</p> <ul style="list-style-type: none"> Trunk lid key cylinder switch ground circuit Harness for open or short between smart entrance control unit and trunk lid key cylinder switch </td> </tr> <tr> <td>NG</td> <td style="text-align: center;">▶</td> <td>Replace trunk lid key cylinder switch.</td> </tr> </table>		Key position	Continuity	Neutral	No	Unlock	Yes	OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> 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.
Key position	Continuity												
Neutral	No												
Unlock	Yes												
OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> 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.											

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

DOOR LOCK/UNLOCK SWITCH CHECK

NHEL0123S13

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:

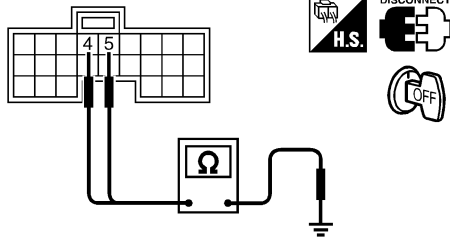
UNLK SW DR/AS ON

SEL341W

Without CONSULT-II

1. Disconnect smart entrance control unit harness connector .
2. Check continuity between smart entrance control unit harness connector M143 terminal 4 (BR/Y) or 5 (GY) and ground.

Smart entrance control unit connector



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

SEL040Y

Refer to wiring diagram in EL-374.

OK or NG

OK ► Door lock/unlock switch is OK.

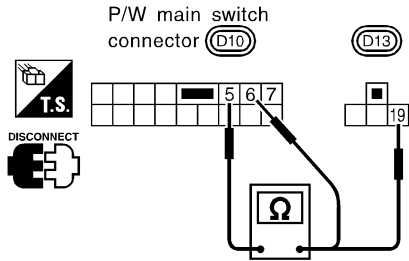
NG ► GO TO 2.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

2 CHECK DOOR LOCK/UNLOCK SWITCH

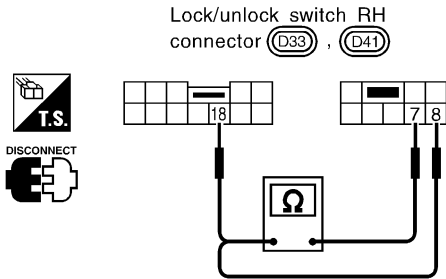
1. Disconnect door lock/unlock switch harness connector.
2. Check continuity between each door lock/unlock switch terminals.
 - Power window main switch (Door lock/unlock switch LH)



Condition	Terminals		
	19	6	5
Lock		○	○
N	No continuity		
Unlock	○		○

SEL648W

- Door lock/unlock switch RH



Condition	Terminals		
	18	8	7
Lock		○	○
N	No continuity		
Unlock	○		○

SEL649W

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.

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VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

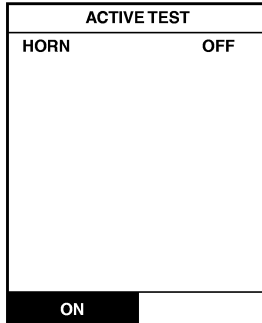
VEHICLE SECURITY HORN AND HEADLAMP ALARM CHECK

=NHLE0123S09

1 CHECK VEHICLE SECURITY HORN AND HEADLAMP ALARM OPERATION

With CONSULT-II

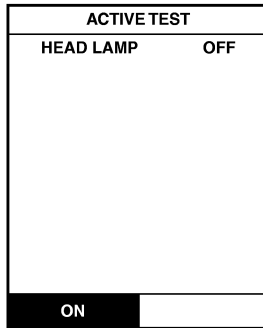
1. Select "ACTIVE TEST" in "THEFT WAR ALM" with CONSULT-II.
2. Select "HORN" and touch "ON".



Vehicle security horn alarm should operate.

SEL041Y

3. Select "HEADLAMP" and touch "ON".

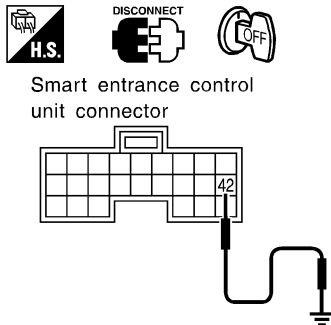


Vehicle security headlamp alarm should operate.

SEL042Y

Without CONSULT-II

1. Disconnect smart entrance control unit harness connector.
2. Apply ground to smart entrance control unit harness connector M144 terminal 42 (BR/Y).



Vehicle security horn and headlamp alarm should operate.

SEL043Y

Refer to wiring diagram in EL-377.

OK or NG

OK	▶	Horn and headlamp alarm is OK.
NG	▶	GO TO 2.

VEHICLE SECURITY (THEFT WARNING) SYSTEM

Trouble Diagnoses (Cont'd)

2	CHECK VEHICLE SECURITY HORN RELAY
Check vehicle security horn relay.	
OK or NG	
OK	▶ GO TO 3.
NG	▶ Replace.

3	CHECK POWER SUPPLY FOR VEHICLE SECURITY HORN RELAYS
<ol style="list-style-type: none"> Disconnect vehicle security horn relay-1 and relay-2 connectors. Check voltage between terminal 1 and ground. 	
<p>Vehicle security horn relay connectors</p>	
SEL044Y	
Does battery voltage exist?	
Yes	▶ GO TO 4.
No	▶ Check the following. <ul style="list-style-type: none"> 10A fuse (No. 61 located in the fuse and fusible link box) Harness for open or short between vehicle security horn relays and fuse

4	CHECK VEHICLE SECURITY HORN RELAYS CIRCUIT
<ol style="list-style-type: none"> Disconnect vehicle security horn relay-1 and relay-2 connectors. Check voltage between terminals of each relay. <p>Battery voltage should exist.</p>	
SEL045Y	
OK or NG	
OK	▶ Check harness for open or short between vehicle security horn relay-2 and headlamp relays.
NG	▶ Check the following. <ul style="list-style-type: none"> Harness for open or short between vehicle security horn relay-1 and fuse Harness for open or short between vehicle security horn relay-1 and relay-2 Harness for open or short between vehicle security horn relay-1 and vehicle security horn

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SMART ENTRANCE CONTROL UNIT

Description

Description

NHEL0124

NHEL0124S01

OUTLINE

The smart entrance control unit totally controls the following body electrical system operations.

- Headlamp auto light control system
- Warning chime
- Rear defogger and door mirror defogger
- Power door lock
- Multi-remote control system
- Vehicle security system
- Interior lamp

In addition, the following timer operations are controlled by the smart entrance control unit.

- Battery saver control
- Retained power control

BATTERY SAVER CONTROL

NHEL0124S02

Headlamps/Parking Lamps/License Lamps/Tail Lamps/Fog Lamps/Illumination Lamps

NHEL0124S0201

When the ignition switch is turned OFF from ON (or START) while headlamps illuminate, the headlamps (including parking, license, tail, fog and illumination lamps) are turned off after 45 seconds which are counted by the smart entrance control unit.

The headlamps (including parking, license, tail, fog and illumination lamps) are turned off when the driver or passenger side door is opened even if 45 seconds have not passed after the ignition switch is turned OFF from ON (or START).

Interior Lamp/Trunk Room Lamp/Spot Lamp/Vanity Mirror Illumination

NHEL0124S0202

The lamps turn off automatically when the interior lamp, spot lamp or/and vanity mirror illumination are illuminated with the ignition key in the OFF position, if the lamp remains lit by the door switch open signal or if the lamp switch is in the ON position for more than 30 minutes.

After lamps are turned off by the battery saver system, the lamps illuminate again when:

- Door is locked or unlocked with remote controller or door lock/unlock switch or door key cylinder or IVCS system.
- Ignition switch ON.
- Door is opened or closed,
- Key is inserted or removed into ignition key cylinder.

Rear Window Defogger/Door Mirror Defogger

NHEL0124S0203

Rear window defogger and door mirror defogger are turned off in approximately 15 minutes after the rear window defogger switch is turned on.

RETAINED POWER CONTROL

NHEL0124S03

When the ignition switch is turned to OFF (or ACC) position from ON or START position, the following systems can be operated for 45 seconds by the RAP signal from the smart entrance control unit terminal 46.

- Electric sunroof
- Power window

The retained power operation is canceled when the driver or passenger side door is opened.

INPUT/OUTPUT

NHEL0124S04

System	Input	Output
Power door lock	Door lock and unlock switch LH and RH Key switch (Insert) Door switches Door key cylinder switches	Door lock actuator

SMART ENTRANCE CONTROL UNIT

Description (Cont'd)

System	Input	Output	
Multi-remote control	Key switch (Insert) Ignition switch (ACC) Door switches Remote controller signal Door lock/unlock switch LH	Horn relay Vehicle security horn relay-1 Vehicle security horn relay-2 Hazard warning lamp Interior lamp Ignition key hole illumination Door lock actuator Trunk lid opener actuator	GI MA
Warning chime	Key switch (Insert) Ignition switch (ON) Lighting switch (1st) Seat belt switch Front door switch LH	Warning chime (located in smart entrance control unit)	EM LC
Rear window defogger and door mirror defogger	Ignition switch (ON) Rear window defogger switch	Rear window defogger relay	EC
Vehicle security	Ignition switch (ACC, ON) Door switches Hood switch Trunk room lamp switch Door lock/unlock switches Door key cylinder switch (lock/unlock) Trunk lid key cylinder switch (unlock)	Vehicle security horn relay Headlamp relay Security indicator	FE AT
Interior lamp	Door switches Remote controller signal (lock/unlock) Door lock/unlock switches (lock/unlock) Door key cylinder switch (lock/unlock) Ignition switch (ON) IVCS system	Interior lamp Key hole illumination Step lamp Door indicator	AX SU
Battery saver control for headlamps/parking lamps/licence lamps/tail lamps/fog lamps/illumination lamps	Ignition switch (ACC, ON) Front door switches Lighting switch	Headlamps Parking lamps License lamps Tail lamps Fog lamps Illumination lamps	BR ST RS
Battery saver control for interior lamp/step lamp/spot lamp/vanity mirror illumination	Door switches Remote controller signal (lock/unlock) Door lock/unlock switches (lock/unlock) Door key cylinder switch (lock/unlock) Ignition switch (ON) IVCS system	Interior lamps Step lamp Spot lamp Vanity mirror illumination	BT HA
Battery saver control for rear window defogger and door mirror defogger	Ignition switch (ON) Rear window defogger switch	Rear window defogger relay	SC
Retained power control for electric sunroof	Ignition switch (ON) Front door switches	Power window relay	EL
Retained power control for power window	Ignition switch (ON) Front door switches	Power window relay	IDX

SMART ENTRANCE CONTROL UNIT

CONSULT-II

CONSULT-II DIAGNOSTIC ITEMS APPLICATION

=NH0247

NH0247S01

Item (CONSULT-II screen terms)	Diagnosed system	DATA MONITOR	ACTIVE TEST	WORK SUPPORT
DOOR LOCK	Power door lock	X	X	
REAR DEFOGGER	Rear window defogger	X	X	
KEY WARN ALM	Warning chime	X	X	
LIGHT WARN ALM	Warning chime	X	X	
SEAT BELT ALM	Warning chime	X	X	
INT LAMP	Interior lamps	X	X	
BATTERY SAVER	Battery saver control for interior lamp	X	X	
THEFT WAR ALM	Vehicle security system	X	X	X
RETAINED PWR	Retained power control	X	X	
MULTI REMOTE ENT	Multi-remote control system	X	X	X
HEADLAMP	Headlamp	X	X	

X: Applicable

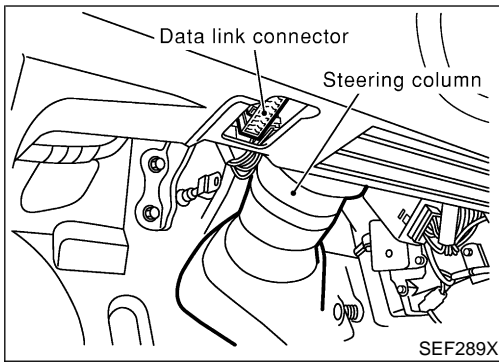
For diagnostic item in each control system, refer to the relevant pages for each system.

DIAGNOSTIC ITEM DESCRIPTION

NH0247S02

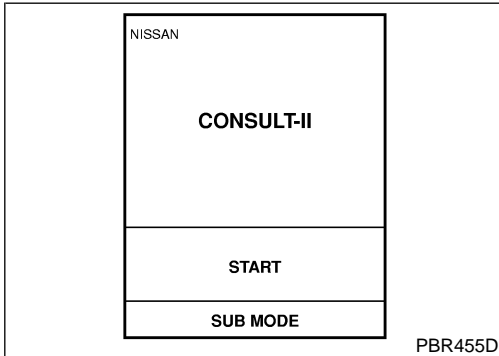
MODE	Description
DATA MONITOR	Input/output data in the smart entrance control unit can be read.
ACTIVE TEST	Diagnostic Test Mode in which CONSULT-II drives some systems apart from the smart entrance control unit.
WORK SUPPORT for THEFT WAR ALM	The recorded trigger signal when vehicle security system was activated can be checked.
WORK SUPPORT for MULTI REMOTE ENT	ID code of multi-remote controller can be registered and erased.

=NHLE0247S03

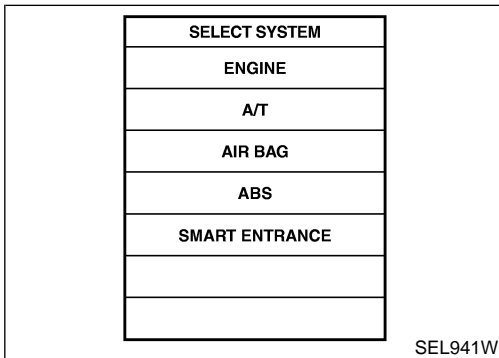


CONSULT-II INSPECTION PROCEDURE

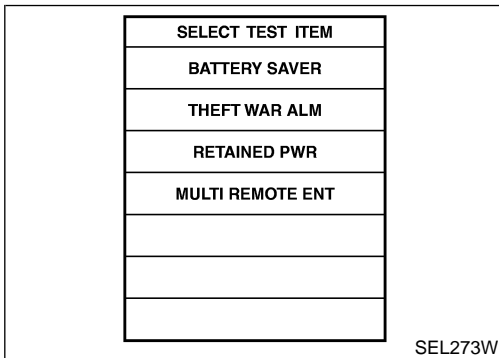
1. Turn the ignition switch "OFF".
2. Connect "CONSULT-II" to the data link connector.



3. Turn ignition switch "ON".
4. Touch "START".



5. Touch "SMART ENTRANCE".



6. Perform each diagnostic item according to "DIAGNOSTIC ITEMS APPLICATION". Refer to EL-402.

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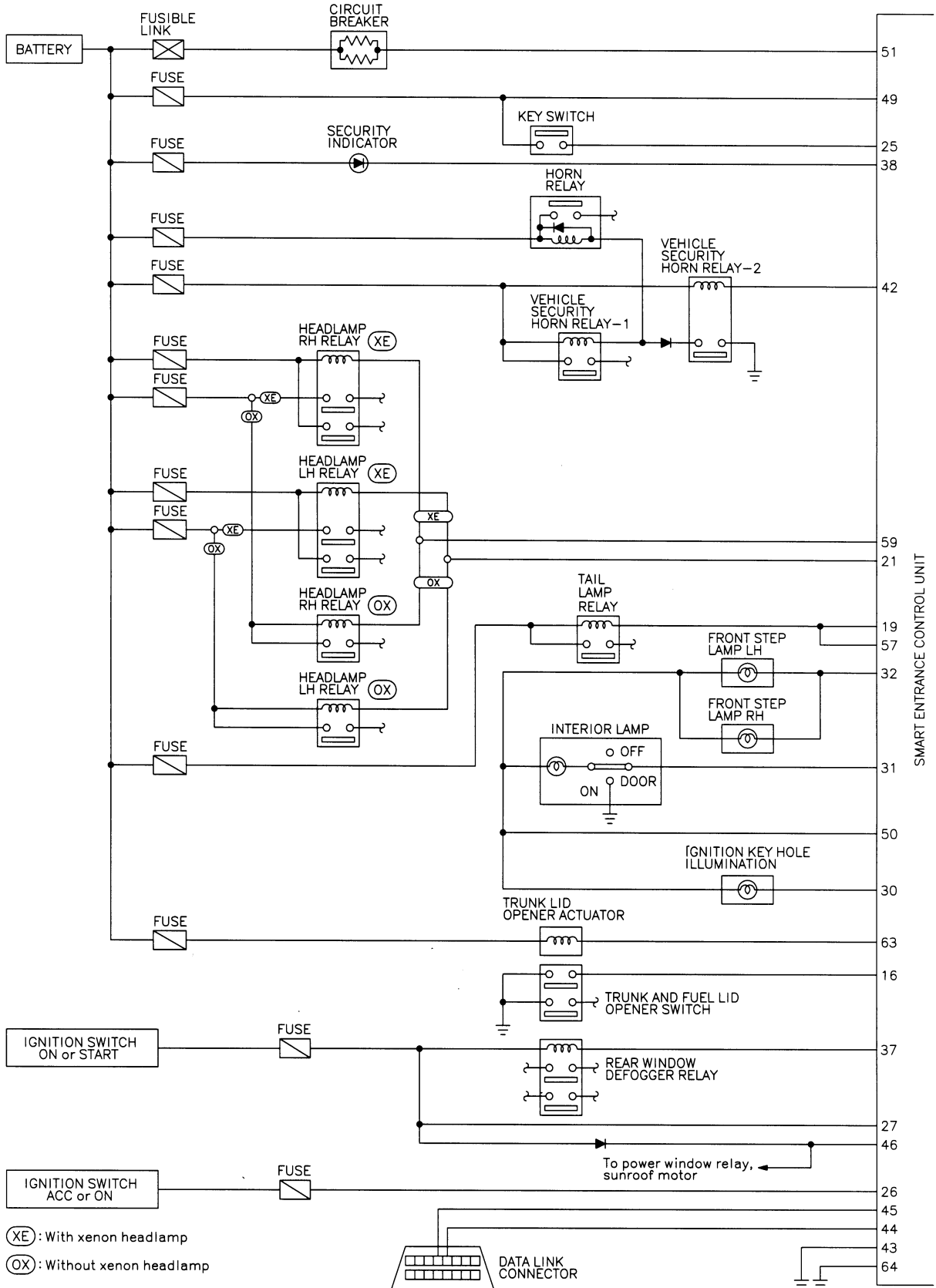
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SMART ENTRANCE CONTROL UNIT

Schematic

Schematic

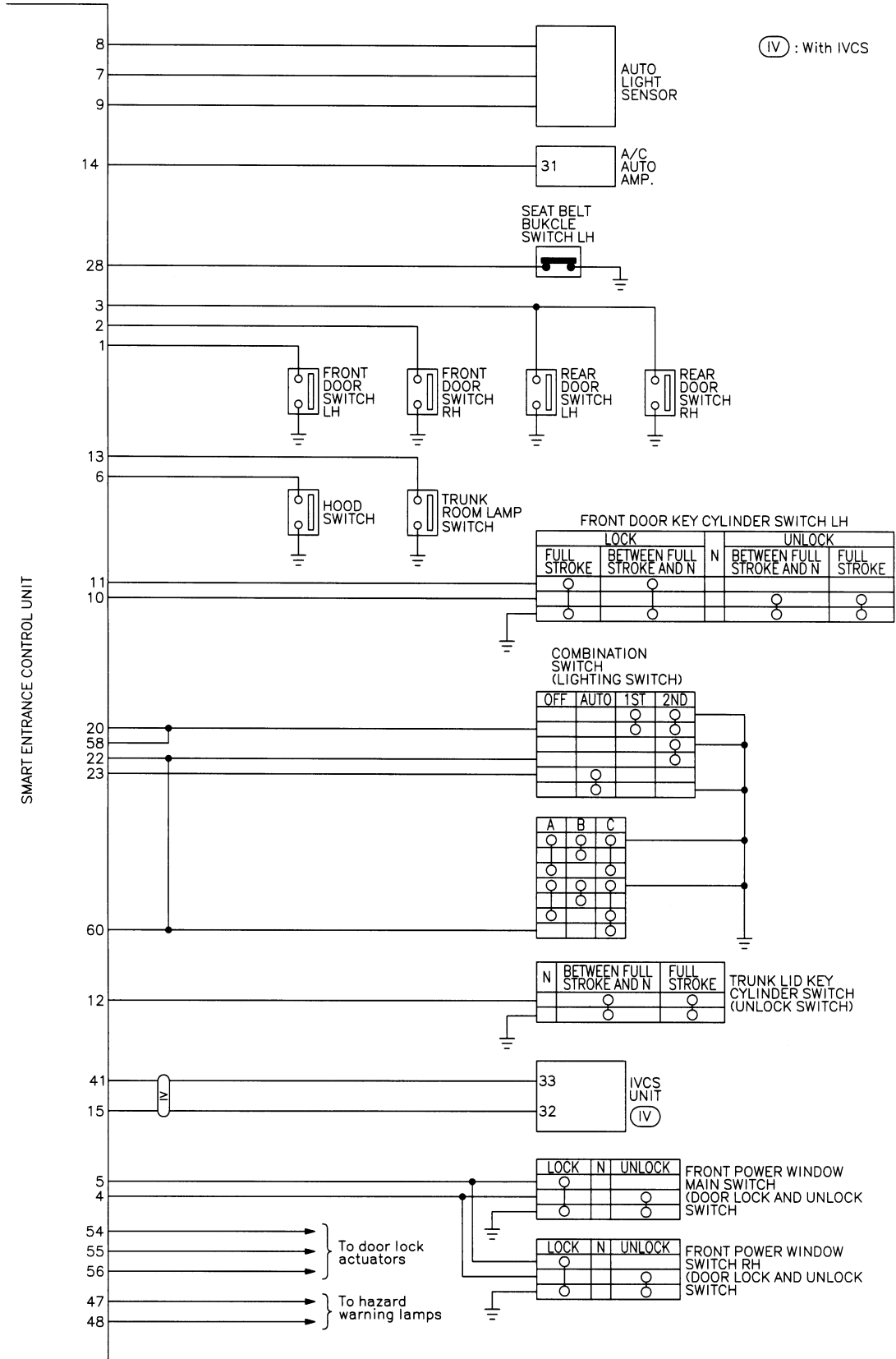
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MEL483M

SMART ENTRANCE CONTROL UNIT

Schematic (Cont'd)



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SMART ENTRANCE CONTROL UNIT

Smart Entrance Control Unit Inspection Table

Smart Entrance Control Unit Inspection Table

NHFL0126

Terminal No.	Wire color	Connections	Operated condition		Voltage (Approximate values)	
1	SB	Driver door switch	OFF (Closed) → ON (Open)		5V → 0V	
2	R/L	Passenger door switch	OFF (Closed) → ON (Open)		5V → 0V	
3	R/W	Rear door switch	OFF (Closed) → ON (Open)		5V → 0V	
4	BR/Y	Door lock & unlock switches	Neutral → Unlocks		5V → 0V	
5	GY	Door lock & unlock switches	Neutral → Locks		5V → 0V	
6	Y/B	Hood switch	ON (Open) → OFF (Closed)		0V → 12V	
7	R	Auto light sensor (Signal)	Ignition switch ON position	Headlamps illuminate by auto light control. (Operate → Not operate)	5V → 1V	
8	W/G	Auto light sensor (GND)	—		—	
9	BR/W	Auto light sensor (Power)	Ignition switch (OFF → ON)		0V → 5V	
10	OR/L	Door key cylinder unlock switch	OFF (Neutral) → ON (Locked)		5V → 0V	
11	OR/B	Door key cylinder lock switch	OFF (Neutral) → ON (Locked)		5V → 0V	
12	G/B	Trunk lid key cylinder switch	OFF (Neutral) → ON (Unlock)		5V → 0V	
13	PU/Y	Trunk room lamp switch	ON (Open) → OFF (Closed)		0V → 12V	
14	G/W	Rear window defogger switch	OFF → ON (Only when pushed)		5V → 0V	
16	L	Trunk and fuel lid opener switch	OFF → ON (Only when pulled)		12V → 0V	
19	Y/B	Tail lamp relay (Output)	Ignition switch (with lighting switch 1ST or 2ND)	OFF position	More than 45 seconds after ignition switch is turned to OFF position	12V
					Within 45 seconds after ignition switch is turned to OFF position	0V
				ON or START position		0V
			Headlamps illuminate by auto light control. (Operate → Not operate)			
20	SB	Tail lamp switch	Light switch (OFF → 1ST or 2ND position)		12V → 0V	

SMART ENTRANCE CONTROL UNIT

Smart Entrance Control Unit Inspection Table (Cont'd)

Terminal No.	Wire color	Connections	Operated condition		Voltage (Approximate values)
21	P	Headlamp LH relay	Ignition switch (with lighting switch OFF or 1ST)	OFF position	More than 45 seconds after ignition switch is turned to OFF position 12V
					Within 45 seconds after ignition switch is turned to OFF position 0V
				ON or START position	0V
				Headlamps illuminate by auto light control.	0V
22	L	Headlamp switch	Lighting switch	Except PASS or 2ND position	12V
				PASS or 2ND position	0V
				Headlamps illuminate by auto light control. (Operate → Not operate)	Less than 1.5V → 12V
23	L/Y	Headlamp switch	Ignition switch "ON" position	Lighting switch (Except AUTO → AUTO position)	12V → 0V
25	B/R	Ignition key switch (Insert)	Key inserted → Key removed from IGN key cylinder		12V → 0V
26	PU	Ignition switch (ACC)	"ACC" position		12V
27	G	Ignition switch (ON)	Ignition key is in "ON" position		12V
28	OR	Seat belt buckle switch	Unfastened → Fastened (Ignition key is in "ON" position)		0V → 12V
30	R/Y	Ignition keyhole illumination	When doors are unlocked using remote controller (OFF → Unlock)		12V → 0V
31	R/Y	Interior lamp	When doors are locked using remote controller (Lamp switch in "DOOR" position)		12V
32	R/W	Front step lamp	Any door switch	ON (Open) → OFF (Closed)	0V → 12V
37	G/R	Rear window defogger relay	OFF → ON (Ignition key is in "ON" position)		12V → 0V
38	G/OR	Security indicator	Goes off → Illuminates		12V → 0V
42	BR/Y	Vehicle Security horn relay	When panic alarm is operated using remote controller (ON → OFF)		12V → 0V
43	B	Ground	—		—
46	PU	Power window relay	Retained power operation is operated (ON → OFF)		12V → 0V
47	G/B	LH turn signal lamp	When door lock or unlock is operated using remote controller (ON → OFF)		12V → 0V
48	G/Y	RH turn signal lamp	When door lock or unlock is operated using remote controller (ON → OFF)		12V → 0V
49	R/B	Power source (Fuse)	—		12V
50	R/G	Battery saver (Interior lamp)	Battery saver operates → Does not operate (ON → OFF)		12V → 0V
51	W/R	Power source (PTC)	—		12V
54	GY	Door lock actuators	Door lock & unlock switch (Free → Lock)		0V → 12V
55	W/B	Driver door lock actuator	Door lock & unlock switch (Free → Unlock)		0V → 12V

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SMART ENTRANCE CONTROL UNIT

Smart Entrance Control Unit Inspection Table (Cont'd)

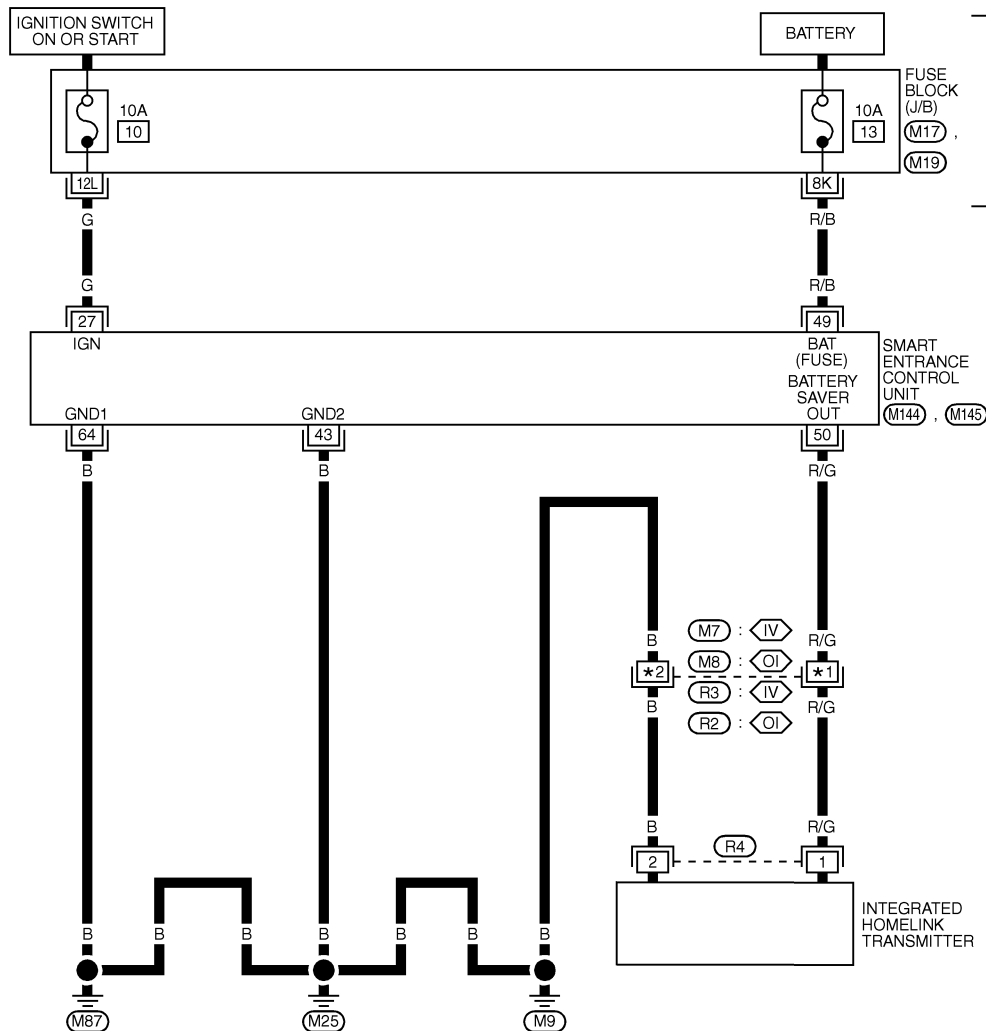
Terminal No.	Wire color	Connections	Operated condition		Voltage (Approximate values)	
56	GY	Passenger and rear doors lock actuator	Door lock & unlock switch (Free → Unlock)		0V → 12V	
57	Y/B	Tail lamp relay	Ignition switch (with lighting switch 1ST or 2ND)	OFF position	More than 45 seconds after ignition switch is turned to OFF position	12V
					Within 45 seconds after ignition switch is turned to OFF position	0V
				ON or START position		0V
			Headlamps illuminate by auto light control. (Operate → Not operate)		Less than 1.5V → 12V	
58	SB	Tail lamp switch	Lighting switch OFF or AUTO → 1ST or 2ND		12V → 0V	
59	P	Headlamp RH relay	Ignition switch (with lighting switch OFF or 1ST)	OFF	More than 45 seconds after ignition switch is turned to OFF position	12V
					Within 45 seconds after ignition switch is turned to OFF position	0V
				ON or START position		0V
			Headlamps illuminate by auto light control. (Operate → Not operate)		Less than 1.5V → 12V	
60	L	Headlamp switch	Lighting switch	Except PASS or 2ND position	12V	
				PASS or 2ND position	0V	
			Headlamps illuminate by auto light control. (Operate → Not operate)		0V → 12V	
63	L	Trunk lid opener actuator	When trunk lid opener actuator is operated using remote controller. (ON → OFF)		0V → 12V	
64	B	Ground	—		—	

INTEGRATED HOMELINK TRANSMITTER

Wiring Diagram — TRNSMT —

Wiring Diagram — TRNSMT —

NHEL0127

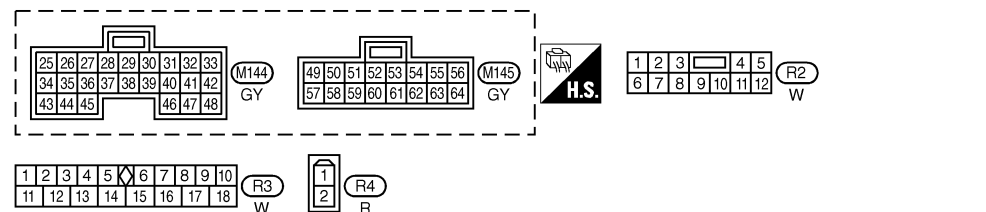


EL-TRNSMT-01

REFER TO EL-POWER.

- IV : WITH IVCS
- OI : WITHOUT IVCS
- *1 13 : IV
- 3 : OI
- *2 12 : IV
- 2 : OI

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REFER TO THE FOLLOWING.
 (M17), (M19) - FUSE BLOCK - JUNCTION BOX (J/B)

MEL485M

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

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
27	G	IGNITION SWITCH (ON)	IGNITION KEY IS IN "ON" POSITION	12V
43	B	GROUND	-	-
49	R/B	POWER SOURCE (FUSE)	-	12V
50	R/G	BATTERY SAVER (INTERIOR LAMP)	BATTERY SAVER DOSE OPERATE → DOES NOT OPERATE (ON → OFF)	12V → 0V
64	B	GROUND	-	-

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INTEGRATED HOMELINK TRANSMITTER

Trouble Diagnoses

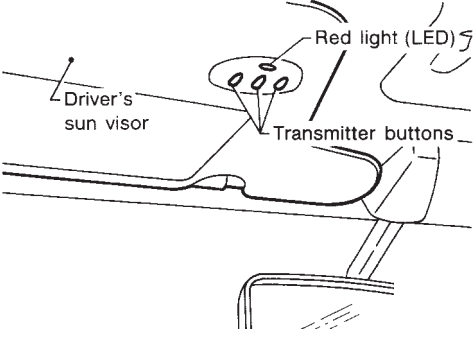
Trouble Diagnoses DIAGNOSTIC PROCEDURE

NHEL0128

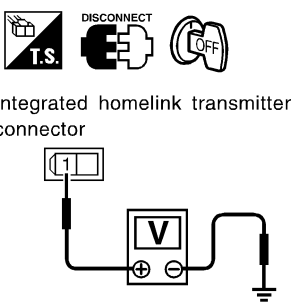
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SYMPTOM: Transmitter does not activate receiver.

Before conducting the procedure given below, make sure that system receiver (garage door opener, etc.) operates with original, hand-held transmitter. If NG, receiver or hand-held transmitter is at fault, not vehicle related.







1	PRELIMINARY CHECK	<p>1. Turn ignition switch "OFF". 2. Does red light (LED) of transmitter illuminate when any button is pressed?</p> <div style="text-align: center;">  <p>Labels in diagram: Driver's sun visor, Red light (LED), Transmitter buttons.</p> </div> <p style="text-align: right;">SEL442U</p>	
Yes or No			
Yes	▶	GO TO 2.	
No	▶	GO TO 3.	

2	CHECK TRANSMITTER FUNCTION	<p>Check transmitter with Tool. For details, refer to Technical Service Bulletin.</p> <p style="text-align: center;">OK or NG</p>	
OK	▶	Receiver or handheld transmitter fault, not vehicle related.	
NG	▶	Replace transmitter with sun visor assembly.	

3	CHECK POWER SUPPLY	<p>1. Disconnect transmitter connector. 2. Turn ignition switch "OFF". 3. Check voltage between terminal 1 and body ground. (Within 10 minutes after turn ignition switch "OFF".)</p> <div style="text-align: center;">  <p>Labels in diagram: T.S., DISCONNECT, OFF, Integrated homelink transmitter connector.</p> </div> <p style="text-align: right;">Battery voltage should exist.</p> <p style="text-align: right;">SEL367W</p>	
OK or NG			
OK	▶	GO TO 4.	
NG	▶	Check fuse (10A) and repair harness.	

INTEGRATED HOMELINK TRANSMITTER

Trouble Diagnoses (Cont'd)

4	CHECK GROUND CIRCUIT	
<p>Check continuity between terminal 2 and ground.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>T.S.</p> </div> <div style="text-align: center;">  <p>DISCONNECT</p> </div> <div style="text-align: center;">  <p>OFF</p> </div> </div> <p>Integrated homelink transmitter connector</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>2</p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <p style="text-align: center; font-weight: bold;">Continuity should exist.</p> <p style="text-align: right;">SEL368W</p> <p style="text-align: center; font-weight: bold;">OK or NG</p>		
OK	▶	Replace transmitter with sun visor assembly.
NG	▶	Repair harness.

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IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

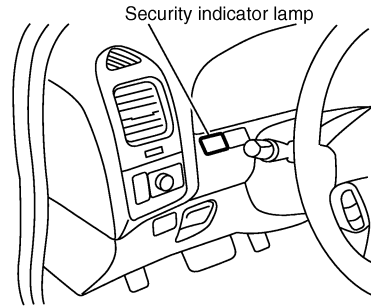
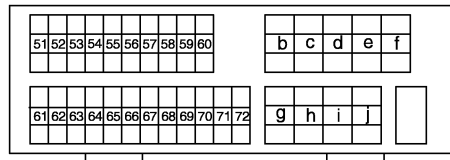
Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

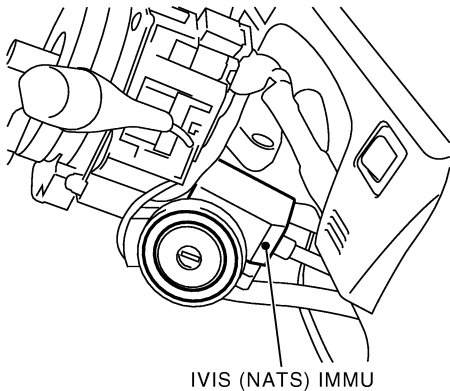
NHEL0172

Fuse block (J/B)

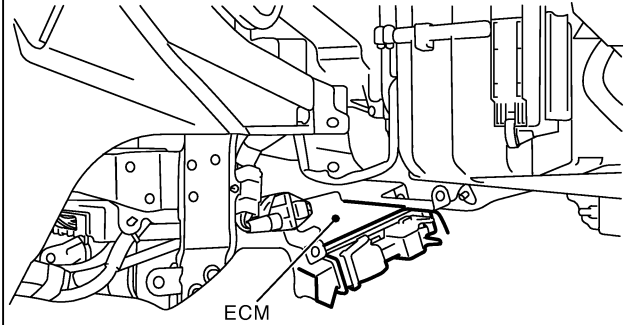
1	2	3	4	5	6	7	8	9	10	11
12	13	14	15	16			17	18	19	20
21	22	23	24	25	26	27	28	29	30	31



View with steering wheel and steering column removed



View with glove box removed



SEL054X

NOTE:

If customer reports a “No Start” condition, request ALL KEYS to be brought to an INFINITI dealer in case of an IVIS (NATS) malfunction.

System Description

=NHEL0173

IVIS (Infiniti Vehicle Immobilizer System — NATS) has the following immobilizer functions:

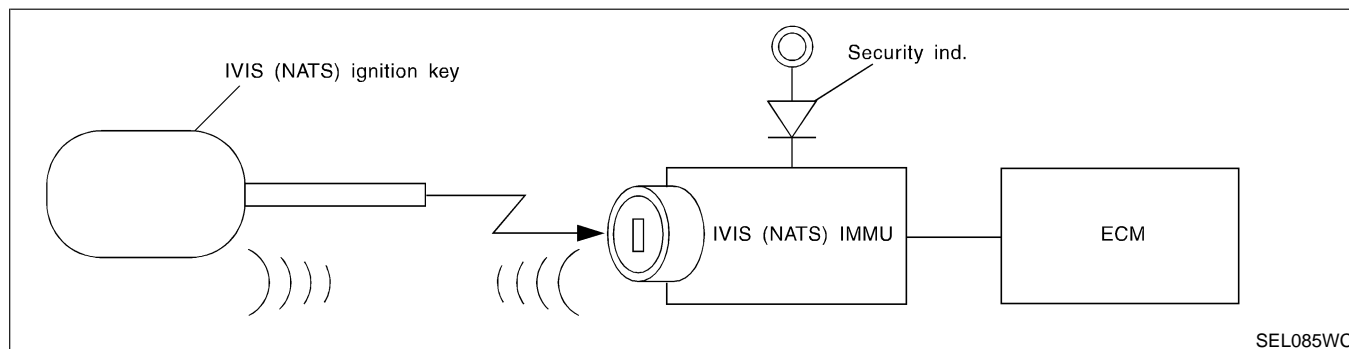
- Since only IVIS (NATS) ignition keys, whose ID nos. have been registered into the ECM and IMMU of IVIS (NATS), allow the engine to run, operation of a stolen vehicle without a IVIS (NATS) registered key is prevented by IVIS (NATS).
That is to say, IVIS (NATS) will immobilize the engine if someone tries to start it without the registered key of IVIS (NATS).
- All of the originally supplied ignition key IDs (except for card plate key) have been IVIS (NATS) registered. If requested by the vehicle owner, a maximum of five key IDs can be registered into the IVIS (NATS) components.
- The security indicator blinks when the ignition switch is in “OFF” or “ACC” position. Therefore, IVIS (NATS) warns outsiders that the vehicle is equipped with the anti-theft system.
- When IVIS (NATS) detects trouble, the security indicator lamp lights up while ignition key is in the “ON” position.
- IVIS (NATS) trouble diagnoses, system initialization and additional registration of other IVIS (NATS) ignition key IDs must be carried out using CONSULT-II hardware and CONSULT-II IVIS (NATS) software. Regarding the procedures of IVIS (NATS) initialization and IVIS (NATS) ignition key ID registration, refer to CONSULT-II operation manual, IVIS/NVIS.
- **When servicing a malfunction of the IVIS (indicated by lighting up of Security Indicator Lamp) or registering another IVIS 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

NHEL0174

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

- IVIS (NATS) ignition key
- IVIS (NATS) immobilizer control unit (IMMU) located in the ignition key cylinder
- Engine control module (ECM)
- Security indicator



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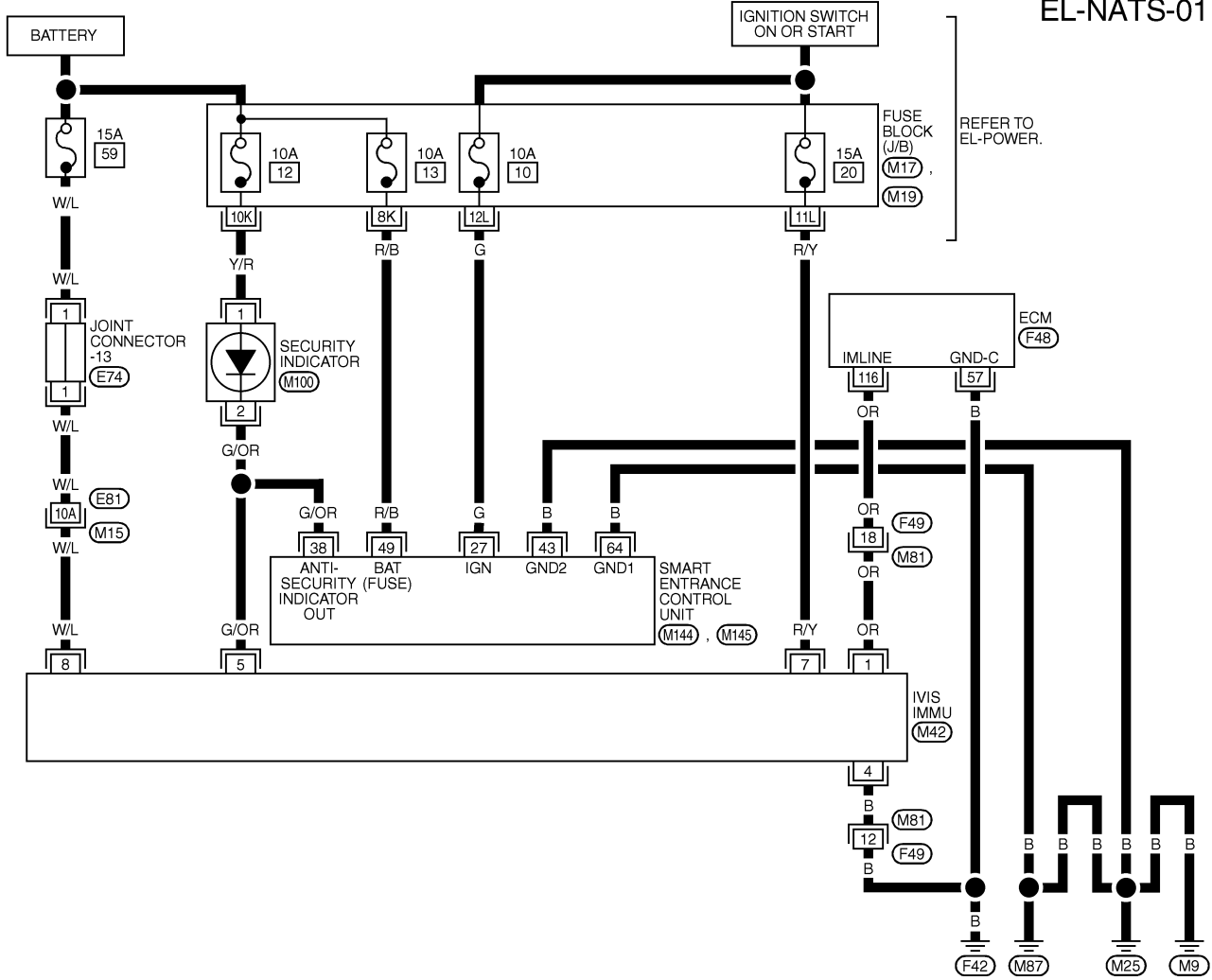
IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Wiring Diagram — NATS —

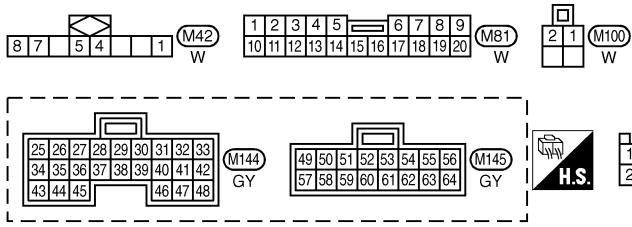
Wiring Diagram — NATS —

NHEL0175

EL-NATS-01



REFER TO EL-POWER.



REFER TO THE FOLLOWING.

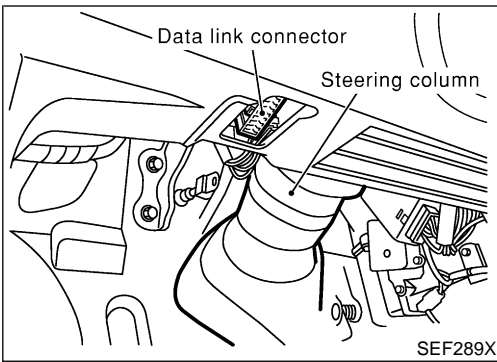
- (M15) -SUPER
- MULTIPLE JUNCTION (SMJ)
- (M17) , (M19) -FUSE BLOCK-JUNCTION BOX (J/B)
- (F48) -ELECTRICAL UNITS-

MEL486M

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

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
27	G	IGNITION SWITCH (ON)	IGNITION KEY IS IN "ON" POSITION	12V
38	G/OR	SECURITY INDICATOR	GOES OFF → ILLUMINATES	12V → 0V
43	B	GROUND	-	-
49	R/B	POWER SOURCE (FUSE)	-	12V
64	B	GROUND	-	-

SEL984X



CONSULT-II

CONSULT-II INSPECTION PROCEDURE

NHEL0176

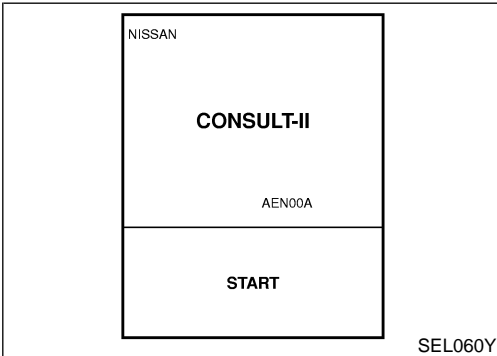
NHEL0176S01

1. Turn ignition switch OFF.
2. Connect "CONSULT-II" to the data link connector.

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3. Insert IVIS (NATS) program card into CONSULT-II.

◀ : Program card
NATS (AEN00A)

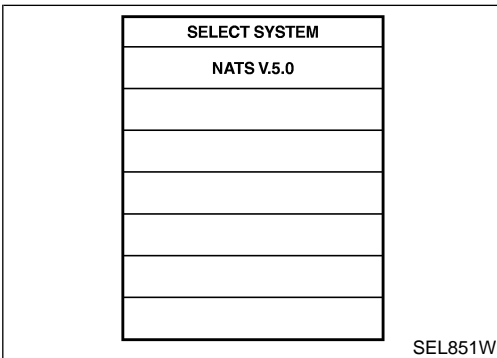
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4. Turn ignition switch ON.
5. Touch "START".

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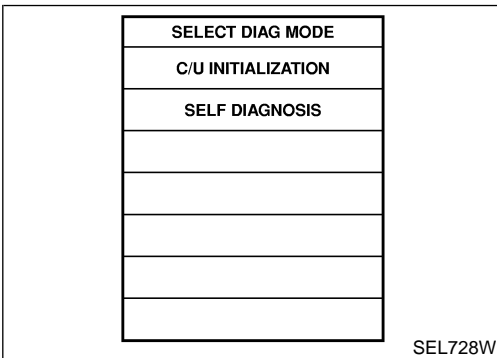
6. Select "NATS V.5.0".

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

RS

For further information, see the CONSULT-II Operation Manual, IVIS/NVIS.

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CONSULT-II DIAGNOSTIC TEST MODE FUNCTION

NHEL0176S02

CONSULT-II DIAGNOSTIC TEST MODE	Description
C/U INITIALIZATION	When replacing any of the following three components, C/U initialization and re-registration of all IVIS (NATS) ignition keys are necessary. [IVIS (NATS) ignition key/IMMU/ECM]
SELF-DIAG RESULTS	Detected items (screen terms) are as shown in the chart EL-416.

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IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

CONSULT-II (Cont'd)

NOTE:

- When any initialization is performed, all ID previously registered will be erased and all IVIS (NATS) ignition keys must be registered again.
- The engine cannot be started with an unregistered key. In this case, the system will show “DIFFERENCE OF KEY” or “LOCK MODE” as a self-diagnostic result on the CONSULT-II screen.
- In rare case, “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

NHEL0176S03

Result display screen (When no malfunction is detected)

SELF DIAG RESULTS	
DTC RESULTS	TIME
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED.	
PRINT	

Result display screen (When malfunction is detected)

SELF DIAG RESULTS	
DTC RESULTS	TIME
CHAIN OF ECM-IMMU	0
DIFFERENCE OF KEY	1
Scroll down	
ERASE	PRINT

Detected items →

If “Scroll Down” is indicated, there are four or more malfunctions. →

When touched, the results stored in the engine control module (ECM) are erased. →

Time data ←

When touched, the results are printed out. ←

This indicates how many times the vehicle was driven after the last detection of a malfunction. If the malfunction is detected currently, the time data will be “0”.

SEL364X

IVIS (NATS) SELF-DIAGNOSTIC RESULTS ITEM CHART

NHEL0176S04

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 MAL-FUNCTION P1613	The malfunction of ECM internal circuit of IMMU communication line is detected.	EL-420
CHAIN OF ECM-IMMU	NATS MAL-FUNCTION P1612	Communication impossible between ECM and IMMU (In rare case, “CHAIN OF ECM-IMMU” might be stored during key registration procedure, even if the system is not malfunctioning.)	EL-421
DIFFERENCE OF KEY	NATS MAL-FUNCTION P1615	IMMU can receive the key ID signal but the result of ID verification between key ID and IMMU is NG.	EL-425
CHAIN OF IMMU-KEY	NATS MAL-FUNCTION P1614	IMMU cannot receive the key ID signal.	EL-426
ID DISCORD, IMM-ECM	NATS MAL-FUNCTION P1611	The result of ID verification between IMMU and ECM is NG. System initialization is required.	EL-427

IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

CONSULT-II (Cont'd)

Detected items (NATS program card screen terms)	P No. Code (Self-diagnostic result of "ENGINE")	Malfunction is detected when	Reference page
LOCK MODE	NATS MAL-FUNCTION P1610	When the starting operation is carried out five or more times consecutively under the following conditions, IVIS (NATS) will shift the mode to one which prevents the engine from being started. <ul style="list-style-type: none"> ● Unregistered ignition key is used. ● IMMU or ECM's malfunctioning. 	EL-430
DON'T ERASE BEFORE CHECKING ENG DIAG	—	All engine trouble codes except IVIS (NATS) trouble code has been detected in ECM.	EL-418

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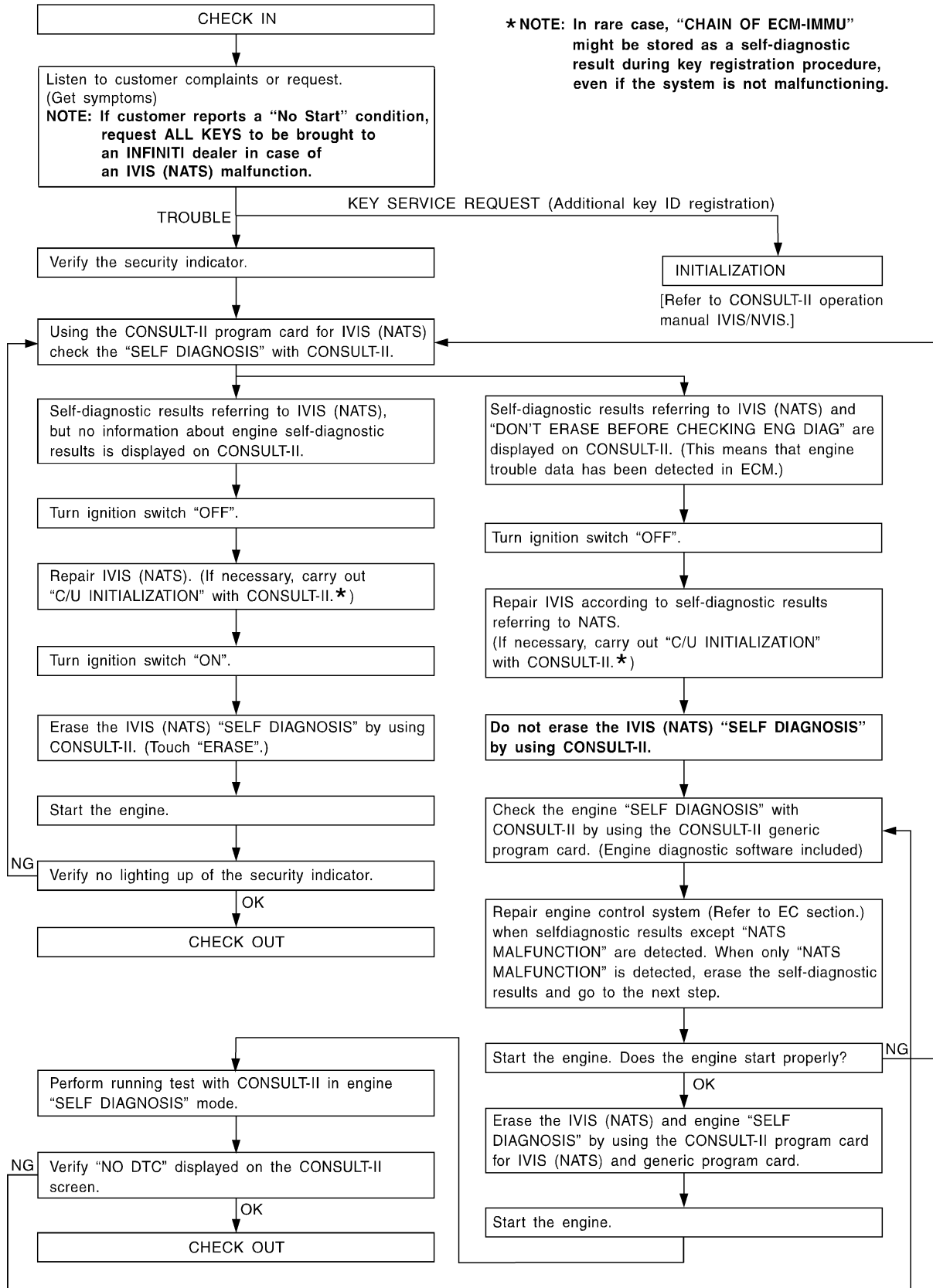
IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses

Trouble Diagnoses WORK FLOW

NHEL0177

NHEL0177S01



SEL024X

IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

SYMPTOM MATRIX CHART 1 (Self-diagnosis related item)

NHEL0177S02

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	
<ul style="list-style-type: none"> ● Security indicator lighting up* ● Engine hard to start 	ECM INT CIRC-IMMU	PROCEDURE 1 (EL-420)	ECM	B	GI MA
	CHAIN OF ECM-IMMU	PROCEDURE 2 (EL-421)	In rare case, "CHAIN OF ECM-IMMU" might be stored during key registration procedure, even if the system is not malfunctioning.	—	EM LC
			Open circuit in battery voltage line of IMMU circuit	C1	EC
			Open circuit in ignition line of IMMU circuit	C2	FE
			Open circuit in ground line of IMMU circuit	C3	AT
			Open circuit in communication line between IMMU and ECM	C4	AX
			Short circuit between IMMU and ECM communication line and battery voltage line	C4	SU
			Short circuit between IMMU and ECM communication line and ground line	C4	BR ST
			ECM	B	RS
			IMMU	A	
			DIFFERENCE OF KEY	PROCEDURE 3 (EL-425)	Unregistered key
	CHAIN OF IMMU-KEY	PROCEDURE 4 (EL-426)	Malfunction of key ID chip	E	HA
			IMMU	A	
	ID DISCORD, IMM-ECM	PROCEDURE 5 (EL-427)	System initialization has not yet been completed.	F	SC
			ECM	F	EL
LOCK MODE	PROCEDURE 7 (EL-430)	LOCK MODE	D	IDX	
<ul style="list-style-type: none"> ● MIL staying ON ● Security indicator lighting up* 	DON'T ERASE BEFORE CHECKING ENG DIAG	WORK FLOW (EL-418)	Engine trouble data and IVIS (NATS) trouble data have been detected in ECM	—	

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

IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

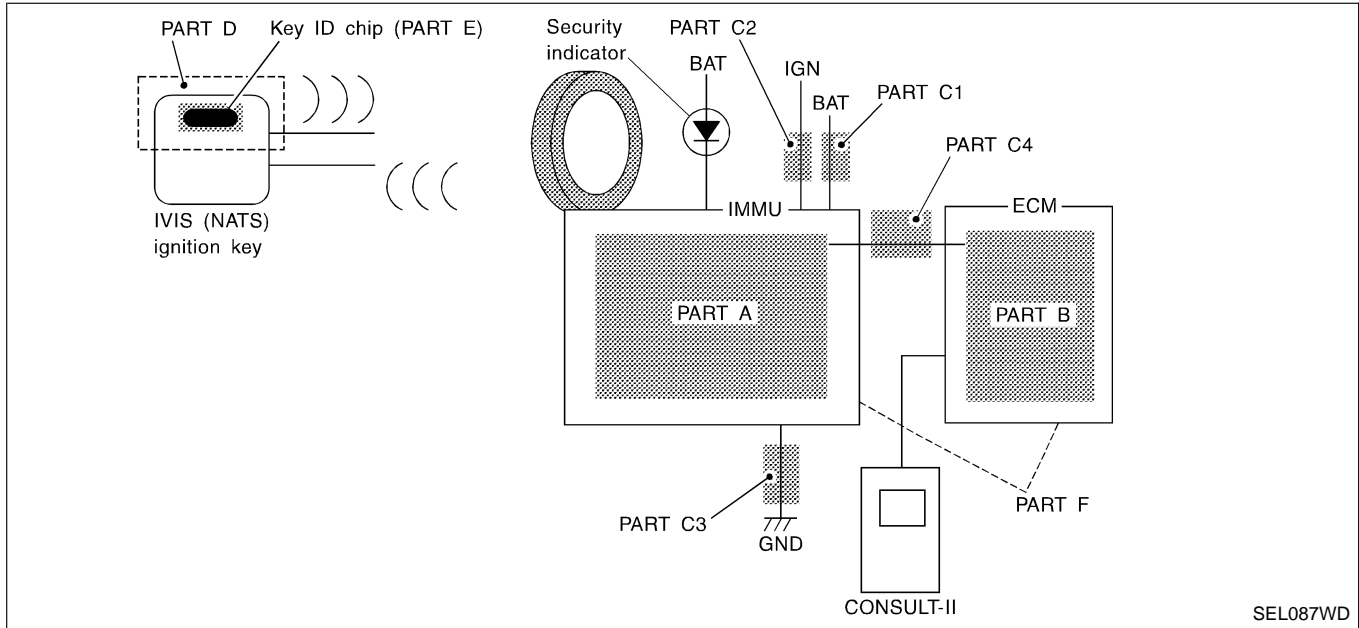
SYMPTOM MATRIX CHART 2 (Non self-diagnosis related item)

NHEL0177S03

SYMPTOM	DIAGNOSTIC PROCEDURE (Reference page)	SYSTEM (Malfunctioning part or mode)
Security ind. does not light up.	PROCEDURE 6 (EL-428)	Security ind.
		Open circuit between Fuse and IMMU
		Continuation of initialization mode
		IMMU

DIAGNOSTIC SYSTEM DIAGRAM

NHEL0177S04



SEL087WD

SELF DIAGNOSIS	
DTC RESULTS	TIME
ECM INT CIRC-IMMU	0

SEL314W

DIAGNOSTIC PROCEDURE 1

NHEL0177S06

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”.

IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 2

=NHLE0177S07

Self-diagnostic results:

“CHAIN OF ECM-IMMU” displayed on CONSULT-II screen

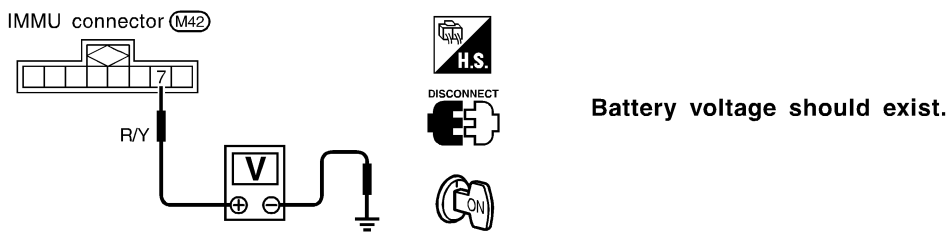
1	CONFIRM SELF-DIAGNOSTIC RESULTS											
<p>Confirm SELF-DIAGNOSTIC RESULTS “CHAIN OF ECM-IMMU” displayed on CONSULT-II screen.</p> <p>NOTE: In rare case, “CHAIN OF ECM-IMMU” might be stored during key registration procedure, even if the system is not malfunctioning.</p>												
<table border="1"> <thead> <tr> <th colspan="2">SELF DIAGNOSIS</th> </tr> <tr> <th>DTC RESULTS</th> <th>TIME</th> </tr> </thead> <tbody> <tr> <td>CHAIN OF ECM-IMMU</td> <td>0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>			SELF DIAGNOSIS		DTC RESULTS	TIME	CHAIN OF ECM-IMMU	0				
SELF DIAGNOSIS												
DTC RESULTS	TIME											
CHAIN OF ECM-IMMU	0											
SEL292W												
Is CONSULT-II screen displayed as above?												
Yes	▶	GO TO 2.										
No	▶	GO TO SYMPTOM MATRIX CHART 1.										

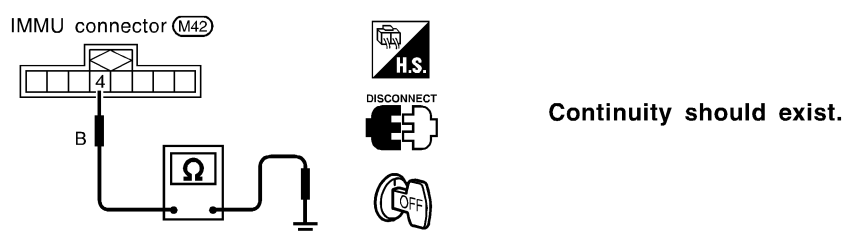
2	CHECK POWER SUPPLY CIRCUIT FOR IMMU	
<p>1. Disconnect IMMU connector.</p> <p>2. Check voltage between terminal 8 of IMMU and ground with CONSULT-II or tester.</p>		
SEL302W		
OK or NG		
OK	▶	GO TO 3.
NG	▶	<p>Check the following</p> <ul style="list-style-type: none"> ● 15A fuse (No. 59, located in the fuse and fusible link box) ● Harness for open or short between fuse and IMMU connector <p>Ref. Part No. C1</p>

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IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

3	CHECK IGN SW. ON SIGNAL		
<p>1. Turn ignition switch ON. 2. Check voltage between terminal 7 of IMMU and ground with CONSULT-II or tester.</p>			
			
SEL303W			
OK or NG			
OK	▶	GO TO 4.	
NG	▶	<p>Check the following</p> <ul style="list-style-type: none"> ● 15A fuse [No. 20, located in the fuse block (J/B)] ● Harness for open or short between fuse and IMMU connector <p>Ref. part No. C2</p>	

4	CHECK GROUND CIRCUIT FOR IMMU		
<p>1. Turn ignition OFF. 2. Check harness continuity between IMMU terminal 4 and ground.</p>			
			
SEL304W			
OK or NG			
OK	▶	GO TO 5.	
NG	▶	Repair harness. Ref. part No. C3	

IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

5	CHECK COMMUNICATION LINE OPEN CIRCUIT	
<p>1. Disconnect ECM connector. 2. Check harness continuity between ECM terminal 116 and IMMU terminal 1.</p>		
Continuity should exist.		
SEL305W		
OK or NG		
OK	▶	GO TO 6.
NG	▶	Repair harness or connector. Ref. part No. C4

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6	CHECK COMMUNICATION LINE BATTERY SHORT CIRCUIT	
<p>1. Turn ignition ON. 2. Check voltage between ECM terminal 116 or IMMU terminal 1 and ground.</p>		
Voltage: 0V		
SEL306W		
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

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IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

7	CHECK COMMUNICATION LINE GROUND SHORT CIRCUIT	
<p>1. Turn ignition switch OFF. 2. Check continuity between ECM terminal 116 or IMMU terminal 1 and ground.</p>		
SEL307W		
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 IMMU CHECK	
<p>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".</p>		
SEL730W		
OK or NG		
OK	▶	IMMU is malfunctioning. Replace 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".

IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 3

=NHLE0177S08

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.												
<table border="1" style="margin: auto;"> <thead> <tr> <th colspan="2">SELF DIAGNOSIS</th> </tr> <tr> <th>DTC RESULTS</th> <th>TIME</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">DIFFERENCE OF KEY</td> <td style="text-align: center;">0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>			SELF DIAGNOSIS		DTC RESULTS	TIME	DIFFERENCE OF KEY	0				
SELF DIAGNOSIS												
DTC RESULTS	TIME											
DIFFERENCE OF KEY	0											
SEL293W												
Is CONSULT-II screen displayed as above?												
Yes	▶	GO TO 2.										
No	▶	GO TO SYMPTOM MATRIX CHART 1.										

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2	PERFORM INITIALIZATION WITH CONSULT-II				
Perform initialization with CONSULT-II. Re-register all IVIS (NATS) ignition key IDs. For initialization and registration of IVIS (NATS) ignition key IDs, refer to “CONSULT-II operation manual IVIS/NVIS”.					
<table border="1" style="margin: auto;"> <thead> <tr> <th>IMMU INITIALIZATION</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">INITIALIZATION FAIL</td> </tr> <tr> <td style="text-align: center;">THEN IGN KEY SW ‘OFF’ AND ‘ON’, AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.</td> </tr> </tbody> </table>			IMMU INITIALIZATION	INITIALIZATION FAIL	THEN IGN KEY SW ‘OFF’ AND ‘ON’, AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.
IMMU INITIALIZATION					
INITIALIZATION FAIL					
THEN IGN KEY SW ‘OFF’ AND ‘ON’, AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.					
SEL297W					
NOTE: If the initialization is not completed or fails, CONSULT-II shows above message on the screen.					
Can the system be initialized and can the engine be started with re-registered IVIS (NATS) ignition key?					
Yes	▶	Ignition key ID was unregistered. Ref. part No. D			
No	▶	IMMU is malfunctioning. Replace IMMU. Ref. part No. A Perform initialization with CONSULT-II. For initialization, refer to “CONSULT-II operation manual IVIS/NVIS”.			

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IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 4

=NHLE0177S09

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.												
<table border="1"> <thead> <tr> <th colspan="2">SELF DIAGNOSIS</th> </tr> <tr> <th>DTC RESULTS</th> <th>TIME</th> </tr> </thead> <tbody> <tr> <td>CHAIN OF IMMU-KEY</td> <td>0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>			SELF DIAGNOSIS		DTC RESULTS	TIME	CHAIN OF IMMU-KEY	0				
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 SYMPTOM MATRIX CHART 1.										

2	CHECK IVIS (NATS) IGNITION KEY ID CHIP	
Start engine with another registered IVIS (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 IMMU INSTALLATION	
Check IMMU installation. Refer to “How to Replace IMMU” in EL-431.		
OK or NG		
OK	▶	IMMU is malfunctioning. Replace IMMU. Ref. part No. A Perform initialization with CONSULT-II. For initialization, refer to “CONSULT-II Operation Manual IVIS/NVIS”.
NG	▶	Reinstall IMMU correctly.

IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 5

=NHLE0177S10

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.												
<table border="1"> <thead> <tr> <th colspan="2">SELF DIAGNOSIS</th> </tr> <tr> <th>DTC RESULTS</th> <th>TIME</th> </tr> </thead> <tbody> <tr> <td>ID DISCORD, IMM-ECM</td> <td style="text-align: center;">0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>			SELF DIAGNOSIS		DTC RESULTS	TIME	ID DISCORD, IMM-ECM	0				
SELF DIAGNOSIS												
DTC RESULTS	TIME											
ID DISCORD, IMM-ECM	0											
SEL298W												
<p>NOTE: “ID DISCORD IMM-ECM”: Registered ID of IMM-ECM is in discord with that of ECM.</p>												
Is CONSULT-II screen displayed as above?												
Yes	▶	GO TO 2.										
No	▶	GO TO SYMPTOM MATRIX CHART 1.										

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2	PERFORM INITIALIZATION WITH CONSULT-II				
Perform initialization with CONSULT-II. Re-register all IVIS (NATS) ignition key IDs. For initialization, refer to “CONSULT-II operation manual IVIS/NVIS”.					
<table border="1"> <thead> <tr> <th>IMMU INITIALIZATION</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">INITIALIZATION FAIL</td> </tr> <tr> <td>THEN IGN KEY SW ‘OFF’ AND ‘ON’, AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.</td> </tr> </tbody> </table>			IMMU INITIALIZATION	INITIALIZATION FAIL	THEN IGN KEY SW ‘OFF’ AND ‘ON’, AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.
IMMU INITIALIZATION					
INITIALIZATION FAIL					
THEN IGN KEY SW ‘OFF’ AND ‘ON’, AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.					
SEL297W					
<p>NOTE: If the initialization is not completed or fails, CONSULT-II shows above message on the screen.</p>					
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”.			

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IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

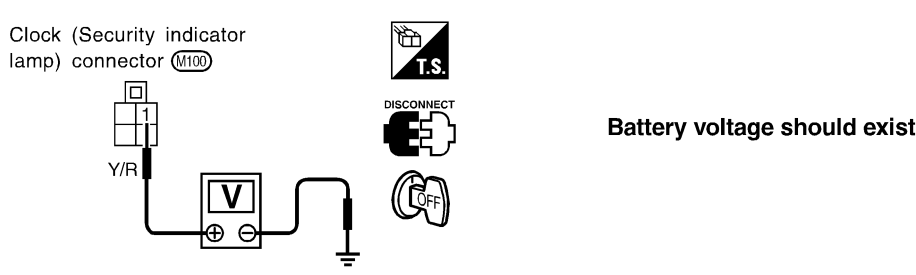
Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 6 “SECURITY INDICATOR LAMP DOES NOT LIGHT UP”

=NHLE0177S12

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.

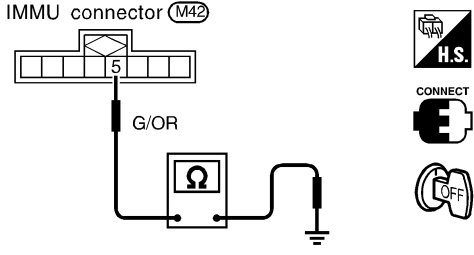
2	CHECK SECURITY INDICATOR LAMP	
<ol style="list-style-type: none"> 1. Install 10A fuse. 2. Perform initialization with CONSULT-II. For initialization, refer to “CONSULT-II Operation Manual IVIS/NVIS”. 3. Turn ignition switch OFF. 4. Start engine and turn ignition switch OFF. 5. Check the security indicator lamp lighting. Security indicator lamp should be blinking.		
OK or NG		
OK	▶	INSPECTION END
NG	▶	GO TO 3.

3	CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT	
<ol style="list-style-type: none"> 1. Disconnect security indicator lamp connector. 2. Check voltage between security indicator lamp connector terminal 1 and ground. 		
		
SEL653W		
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.

IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

5	CHECK IMMU FUNCTION	
<ol style="list-style-type: none"> 1. Connect IMMU connector. 2. Disconnect security indicator lamp connector. 3. Check continuity between IMMU terminal 5 and ground. 		<p style="text-align: center;">Continuity should exist intermittently.</p> <p style="text-align: right;">SEL300W</p> <p style="text-align: center;">OK or NG</p>
OK	▶	Check harness for open or short between security indicator lamp and IMMU.
NG	▶	IMMU is malfunctioning. Replace IMMU. Perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II operation manual IVIS/NVIS".

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IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

DIAGNOSTIC PROCEDURE 7

=NHLE0177S13

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.												
<table border="1"> <thead> <tr> <th colspan="2">SELF DIAGNOSIS</th> </tr> <tr> <th>DTC RESULTS</th> <th>TIME</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">LOCK MODE</td> <td style="text-align: center;">0</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>			SELF DIAGNOSIS		DTC RESULTS	TIME	LOCK MODE	0				
SELF DIAGNOSIS												
DTC RESULTS	TIME											
LOCK MODE	0											
SEL295W												
Is CONSULT-II screen displayed as above?												
Yes	▶	GO TO 2.										
No	▶	GO TO SYMPTOM MATRIX CHART 1.										

2	ESCAPE FROM LOCK MODE	
<ol style="list-style-type: none"> 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.

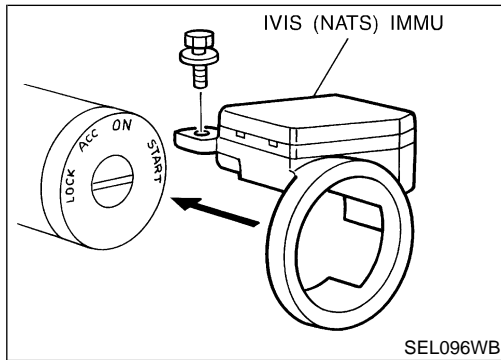
3	CHECK IMMU ILLUSTRATION	
Check IMMU installation. Refer to "How to Replace IMMU" in EL-431.		
OK or NG		
OK	▶	GO TO 4.
NG	▶	Reinstall IMMU correctly.

IVIS (INFINITI VEHICLE IMMOBILIZER SYSTEM — NATS)

Trouble Diagnoses (Cont'd)

4	PERFORM INITIALIZATION WITH CONSULT-II				
Perform initialization with CONSULT-II. For initialization, refer to "CONSULT-II operation manual IVIS/NVIS".					
<table border="1" style="margin: auto;"> <tr> <td style="text-align: center;">IMMU INITIALIZATION</td> </tr> <tr> <td style="text-align: center;">INITIALIZATION FAIL</td> </tr> <tr> <td style="text-align: center;">THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.</td> </tr> </table>			IMMU INITIALIZATION	INITIALIZATION FAIL	THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.
IMMU INITIALIZATION					
INITIALIZATION FAIL					
THEN IGN KEY SW 'OFF' AND 'ON', AFTER CONFIRMING SELF-DIAG AND PASSWORD, PERFORM C/U INITIALIZATION AGAIN.					
<p>NOTE: If the initialization is not completed or fails, CONSULT-II shows the above message on the screen.</p> <p style="text-align: right;">SEL297W</p>					
Can the system be initialized?					
Yes	▶	System is OK.			
No	▶	GO TO DIAGNOSTIC PROCEDURE 5 to check "CHAIN OF IMMU-KEY", refer to EL-426.			

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How to Replace IVIS (NATS) IMMU

NHEL0178

NOTE:

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

INFINITI COMMUNICATOR (IVCS)

Precaution

Precaution

NHEL0282

CAUTION:

- Use CONSULT-II to set the system “Demonstration mode” if INFINITI Communicator needs to be activated during service procedures. (For details of the demonstration mode, refer to EL-461.)
- Make sure to turn the demonstration mode OFF before returning the vehicle to the owner.
- In the demonstration mode, no service from the Communicator Response Center is available. Therefore, even if the customer encounters an emergency, no service will be dispatched.
- If the theft warning system is activated for more than 7 seconds, INFINITI Communicator will dial to the Communicator Response Center automatically. The operator will contact the customer to confirm whether the vehicle has been stolen or not.
- When “Mayday” emergency dialing is activated (if the system is not in the demonstration mode), the Communicator Response Center operator will come online. If there is no emergency, the operator will ask the occupant for the user password (option). Failure to provide the correct password results in a police response.
- IVCS unit memory includes VIN (Vehicle Identification Number) and other such vehicle specific data. Therefore, the IVCS unit cannot be transferred to another vehicle. When the IVCS unit is replaced, the new unit must be set up and programmed. The INFINITI Communicator system automatically contacts the Communicator Response Center the first time the vehicle is started after a phone number has been changed or a module (IVCS unit) is replaced. The VIN will be written in the memory of the new unit by transmitting data from the Communicator Response Center. For details, refer to “System Setting”, EL-463.
- Before servicing the vehicle, confirm that the VIN memorized by the IVCS unit is the same as the VIN on the vehicle’s identification plate.

Communicator Response Center Telephone Number for Technicians

NHEL0283

The Communicator Response Center telephone number for technicians is **1-888-427-4812**.

Whenever an INFINITI dealer technician dials the above number, the following information will be required by the Communicator Response Center operator.

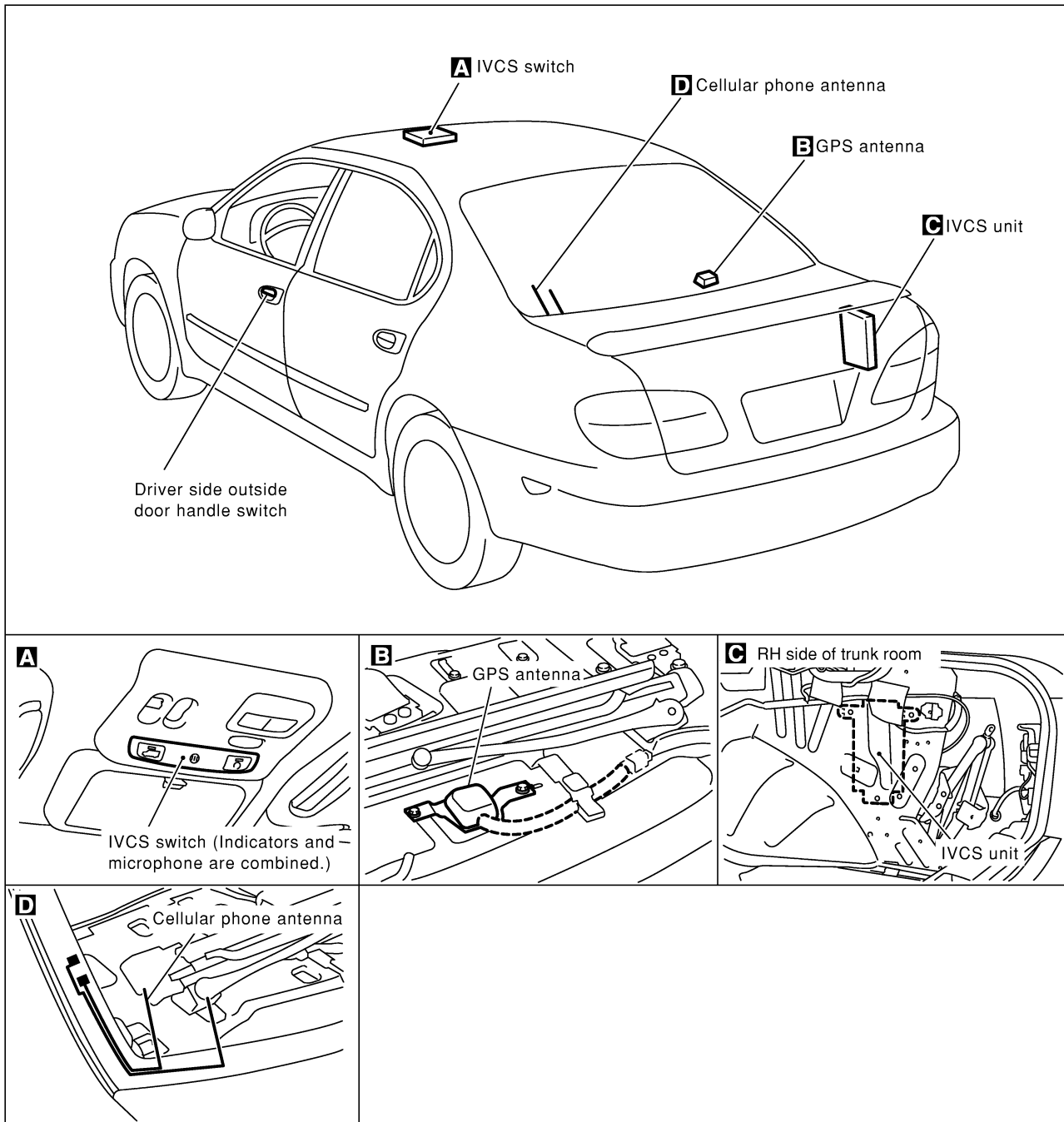
- Customer name
- Unit ID number of old IVCS unit (For details, refer to EL-448.)
- Unit ID number of new IVCS unit
- VIN
- Dealer name and code (For security purposes)
- Dealer contact person (technician)
- Dealer phone and fax numbers

INFINITI COMMUNICATOR (IVCS)

Component Parts and Harness Connector Location

Component Parts and Harness Connector Location

NHEL0284



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System Description

OUTLINE

INFINITI Communicator system uses the Global Positioning System (GPS), cellular phone technology and the Communicator Response Center to provide the following functions.

- One touch "Information" dialing
- One touch "Mayday" emergency dialing
- Automatic air bag inflation notification
- Stolen vehicle tracking
- Alarm notification

EL-433

NHEL0285

NHEL0285S01

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INFINITI COMMUNICATOR (IVCS)

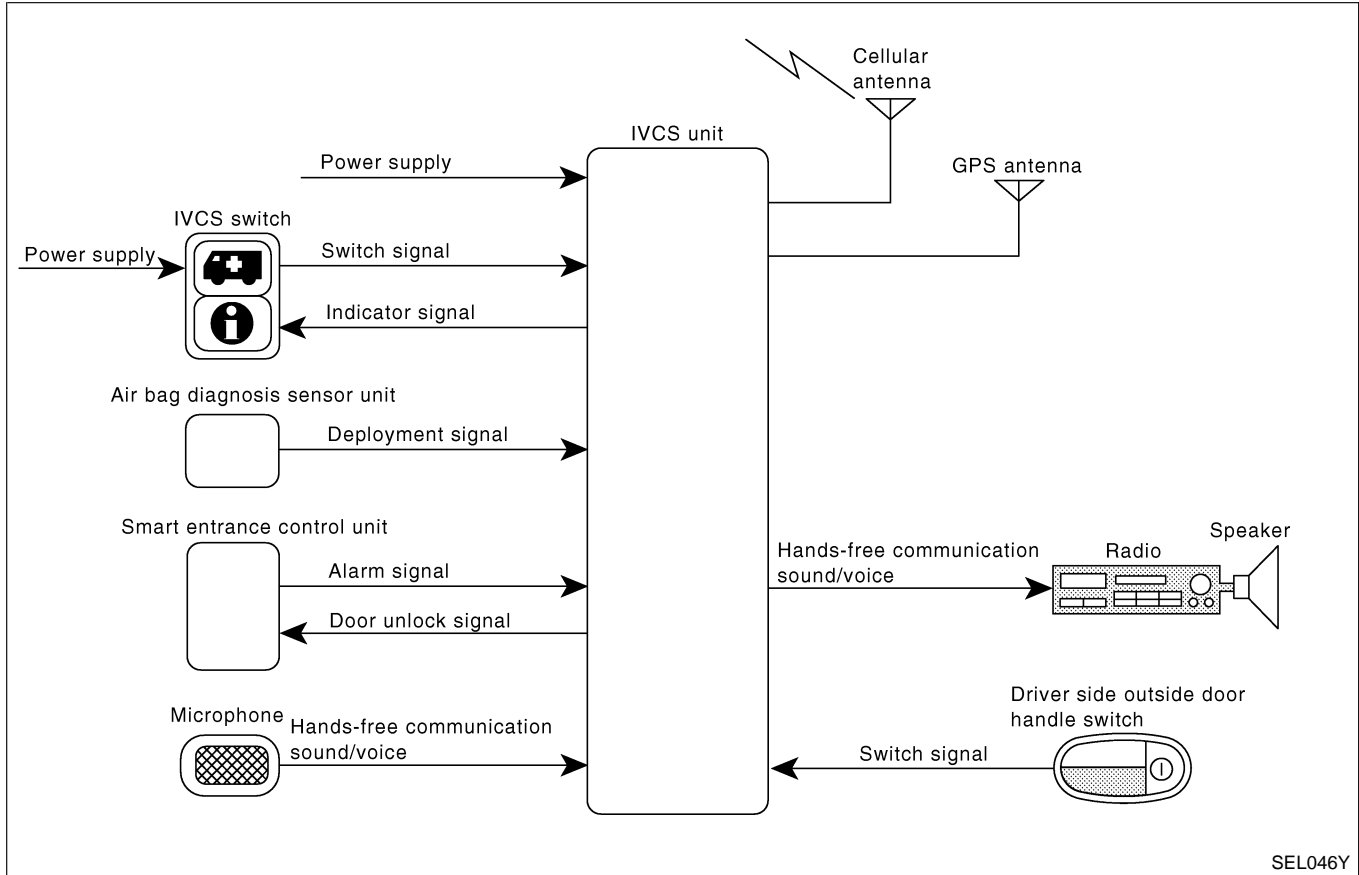
System Description (Cont'd)

- Remote door unlock

There are limitations to the INFINITI Communicator system. To understand the system, read SYSTEM LIMITATIONS (EL-434) thoroughly.

SYSTEM COMPOSITION

- The INFINITI Communicator system is controlled by the ^{NH0285S02}IVCS (In Vehicle Communication System) unit. System status (“May-day”-emergency dialing, or re-dialing, etc.) is displayed by the indicators in the IVCS switch.
- The INFINITI Communicator system can only make calls to the Communicator Response Center and receive calls from the center.



SYSTEM LIMITATIONS

Service Area

Depending on the cellular provider chosen, service is provided in the 48 contiguous states. Service is not available in Alaska, Hawaii, Canada, or Mexico. The Communicator Response Center will not be able to locate the customer's vehicle outside of the continental United States.

Inoperative if Cellular Phone is Inactive or Inoperative

INFINITI Communicator will be inoperative if the customer does not have an active account with cellular provider, since INFINITI Communicator relies on the cellular network. When the INFINITI Communicator system is outside of cellular service, the “NO SERVICE” indicator will illuminate. If you try to activate INFINITI Communicator, the REQUEST will be cancelled. Cellular phone transmission may become temporarily disabled, or interrupted by

environmental factors like tunnels, bridges, or tall buildings. In such cases, INFINITI Communicator will re-dial up to four times. After several failed attempts, the system will quit dialing and return to normal mode.

Inoperative if The System is in The Demonstration Mode

The INFINITI Communicator system remains in the demonstration mode until the setup procedures are completed. If the system is activated in this mode, the Communicator Response Center will recognize this operation as a demonstration and will not provide any service. The system can be changed to the demonstration mode by using CONSULT-II to check the system operation. Do not forget to turn off the demonstration mode after confirmation.

Battery

Since INFINITI Communicator is powered by the vehicle's battery, if the battery is removed, damaged or discharged, the system will not work.

Inoperative if Cellular System is Busy

When INFINITI Communicator tries to contact the Communicator Response Center, but the cellular network is busy, the system attempts to re-dial for up to two hours. This time varies greatly depending on the cellular network and cellular signal strength. The system resets to ready when the system completes the re-dialing attempts.

Roaming

If the customer's cellular provider does not have a roaming agreement with the provider where the vehicle locates, it may not be possible to use the lines of a different cellular provider. Therefore, it is impossible that INFINITI Communicator will contact the Communicator Response Center.

Special Cellular Features

Some cellular carriers offer custom phone numbers that are assigned a Personal Identification Number (PIN). The cellular phone user is required to enter the PIN anytime a phone call is made. The INFINITI Communicator system is not compatible with the PIN feature. A PIN requirement on the cellular phone will cause the INFINITI Communicator system to be inoperative.

Other special features such as call waiting, voice mail, call forwarding, etc. can interfere with INFINITI Communicator system operation.

Cellular Airwave Interference

At times someone other than the Communicator Response Center operator may be heard. This is caused by Cellular Airwave Interference and is not caused by an INFINITI Communicator system malfunction.

Possibility of Positioning Capability Degraded

Vehicle positioning is accomplished using the GPS (Global Positioning System). If the signal from the GPS satellite is obstructed by a tunnel or building, positioning capability may be degraded or lost. In this case, the last valid position obtained before the obstruction is transmitted to the Communicator Response Center. The precision is also influenced by the location of GPS satellites.

Once the battery cable is disconnected, it will take about 5 minutes to determine the vehicle location. This is because the memory related to GPS is lost when the battery cable is disconnected.

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OPERATION

One Touch “Information” Dialing

NHEL0285S04

NHEL0285S0401

- If the vehicle becomes disabled due to problems such as engine trouble, press the “Information” switch to connect to the Communicator Response Center and receive the desired service.
- When the indicator lamp on the switch lights up, it means that the system has started to contact the Communicator Response Center. (Voice communication with Communicator Response Center operator is not available while DATA is being transmitted even if the indicator lamp is lit.)
- When the indicator lamp blinks, it means that the system is preparing for cellular connection or attempting to re-dial.

One Touch “Mayday” Emergency Dialing

NHEL0285S0402

- When an emergency occurs, press the “Mayday” emergency switch to connect to the Communicator Response Center. With this report, the Communicator Response Center recognizes that an emergency has occurred and provides necessary service.
- The operator will request a password (if the customer chooses to establish a password). If the wrong password or if no password is provided, the Communicator Response Center will assume the customer is in a duress situation and dispatch police.
- When no voice reply is heard from the vehicle or the sound heard indicates an emergency situation, the Communicator Response Center will have the police rush to the scene.
- Other operations are the same as service dialing.

Automatic Air Bag Inflation Notification

NHEL0285S0403

- When an air bag inflates, the air bag diagnosis sensor unit sends the air bag inflation signal to the IVCS unit, and the system automatically dials the Communicator Response Center to report the occurrence of an accident.

Stolen Vehicle Tracking

NHEL0285S0404

- When a vehicle is stolen, the owner can contact the Communicator Response Center to attempt to locate the stolen vehicle. The Communicator Response Center will activate the stolen vehicle tracking to locate the vehicle. If the Communicator Response Center successfully locates the vehicle, they will contact the police to provide the location.
- The vehicle location data is calculated using GPS.
- The vehicle ignition switch must be turned to the ON position to obtain the vehicle location. (This is because the system is in the sleep mode when the ignition switch is OFF.)
- Once this function starts up, regardless of the ignition switch position, the system keeps transmitting the vehicle location until the cancel signal is transmitted from the Communicator Response Center.
- While this function is operating, the operator can covertly monitor what is happening inside the vehicle through the hands-free microphone.

Alarm Notification

NHEL0285S0405

- When theft warning system sounds an alarm for more than 7 seconds because of improper access, the alarm signal is transmitted from the smart entrance control unit to the IVCS

unit, and the system executes automatic dialing to the Communicator Response Center.

If the alarm is reset before 7 seconds has elapsed, the INFINITI Communicator will not place a call to the Communicator Response Center.

- This function operates regardless of ignition switch position.
- While this function is operating, the operator can covertly monitor what is happening inside the vehicle through the hands-free microphone.

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Remote Door Unlock

NHELO285S0406

- When the door is locked with the key inside the vehicle, the door can be unlocked by contacting the Communicator Response Center (Proof that the person calling is the owner must be received by the Communicator Response Center.)
- When the ignition key is in the "OFF" position, the system is in the sleep mode. Therefore, driver side outside door handle must be pulled for more than 10 seconds to wake up the system.
- To perform remote door unlock, call the Communicator Response Center and follow the operator's instructions.

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NOTE:

- **When the system contacts the Communicator Response Center, data including the vehicle location is transmitted to the Communicator Response Center.**
- **Communication with the Communicator Response Center is not completed until the completion signal is transmitted from the Communicator Response Center. (Any calls to the Communicator Response Center can only be terminated by Communicator Response Center.)**
- **Functions other than alarm notification and remote door unlock operate while the ignition switch is ON and only for three minutes after the switch is turned OFF.**
- **Once a call to the Communicator Response Center is made, the communication continues regardless of the ignition key switch position.**
- **All the voice communication with the Communicator Response Center is made through the hands-free telephone.**

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DATA TRANSMITTING

NHELO285S05

When contact to the Communicator Response Center is made, vehicle sends electrical data including type of activation (i.e., emergency call or alarm notification), vehicle location, time, etc.

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SLEEP/WAKE UP CONTROL

NHELO285S06

3 minutes after the ignition switch is turned OFF, the system goes into the SLEEP MODE to save battery power supply. Communication with Communicator Response Center is not available in the SLEEP MODE.

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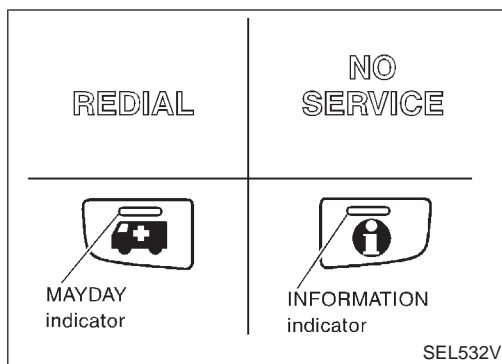
To wake up the system, perform either of the following operations.

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- Turn Ignition switch ON.
- Pull driver side outside door handle for more than 10 seconds. (Operation for door unlock function)

INFINITI COMMUNICATOR (IVCS)

System Description (Cont'd)



INDICATOR LAMPS OPERATION

The system status is displayed as below by the indicator lamps. NH0285S07

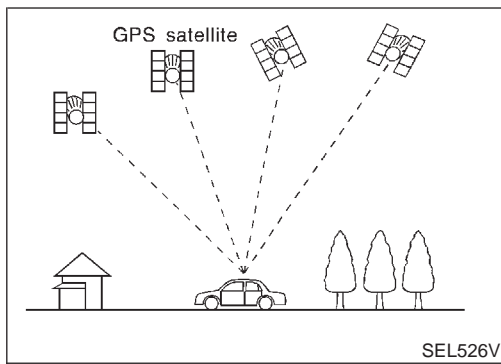
Indicator	Condition	Description
MAYDAY	Blinks.	System is trying to acquire an available cellular channel by "Mayday" switch operation.
	Lights up. (See NOTE.)	System is connected to a cellular channel and is communicating information to the Communicator Response Center.
INFORMATION	Blinks.	System is trying to acquire an available cellular channel by "Information" switch operation.
	Lights up. (See NOTE.)	System is connected to a cellular channel and is communicating information to the Communicator Response Center.
REDIAL	Lights up.	Re-dialing
	Blinks.	Waiting for re-dial
NO SERVICE	Lights up.	Out of CELLULAR PHONE service area or signal is too weak.

NOTE:

- When connection to Communicator Response Center by re-dial ends in failure, all the indicators are turned off.
- All indicators illuminate for up to 30 seconds or more when ignition switch is turned from OFF to ON and the system performs a self check.
- If both of MAYDAY and INFORMATION indicators do not turn off 30 seconds or more after the ignition switch is turned to ON, the system is malfunctioning.

AUTOMATIC RE-DIAL/AUTO RESET TO READY

- When INFINITI Communicator tries to contact the Communicator Response Center, but the cellular network is busy, the system attempts to dial for up to 2 hours. This time varies greatly depending on the cellular network and cellular signal strength. The system resets to ready when the system completes the dialing attempts. The vehicle owner can press the button again if he or she still needs to contact the Communicator Response Center.
- INFINITI Communicator automatically redials if communication between the vehicle owner and Communicator Response Center is lost for some reason.
- The only way for a transmission to be officially terminated is for the Communicator Response Center to send an end transmission signal, which turns off the indicator in the switch. (Communication with Communicator Response Center can not be terminated by the occupant.)
- If the vehicle owner start the engine during a call, the conversation may be interrupted. When this happens the system may try to resume transmission once after the engine has been started.



GPS (GLOBAL POSITIONING SYSTEM)

NHLE0285S09

GPS is the global positioning system developed and operated by the US Department of Defense. GPS satellites (NAVSTAR) transmit radio waves and orbit around the earth at an altitude of approximately 21,000 km (13,000 miles).

GPS receiver calculates the three-dimensional position of the vehicle (latitude, longitude, and altitude from the sea level) by the time difference of the radio wave arriving from more than four GPS satellites (three-dimensional positioning).

When the radio wave is received from only three GPS satellites, the two-dimensional position (latitude and longitude) is calculated, using the altitude from the sea level data calculated by using four GPS satellites (two-dimensional positioning).

Positioning capability is degraded in the following cases.

- In two-dimensional positioning, when the vehicle's altitude from the sea level changes, the precision becomes lower.
- The location detection performance can have an error of about 100 m (300 ft) even in three-dimensional positioning with high precision. Because the precision is influenced by the location of GPS satellites used for positioning, the location detection performance may drop depending on the location of GPS satellites.
- When the radio wave from GPS satellites cannot be received, for example, when the vehicle is in a tunnel, in a parking lot inside building, under an elevated superhighway or near strong power lines, the location may not be detected. Turbulent/electric weather conditions may also affect positioning performance. If something is placed on the antenna, the radio wave from GPS satellites may not be received.

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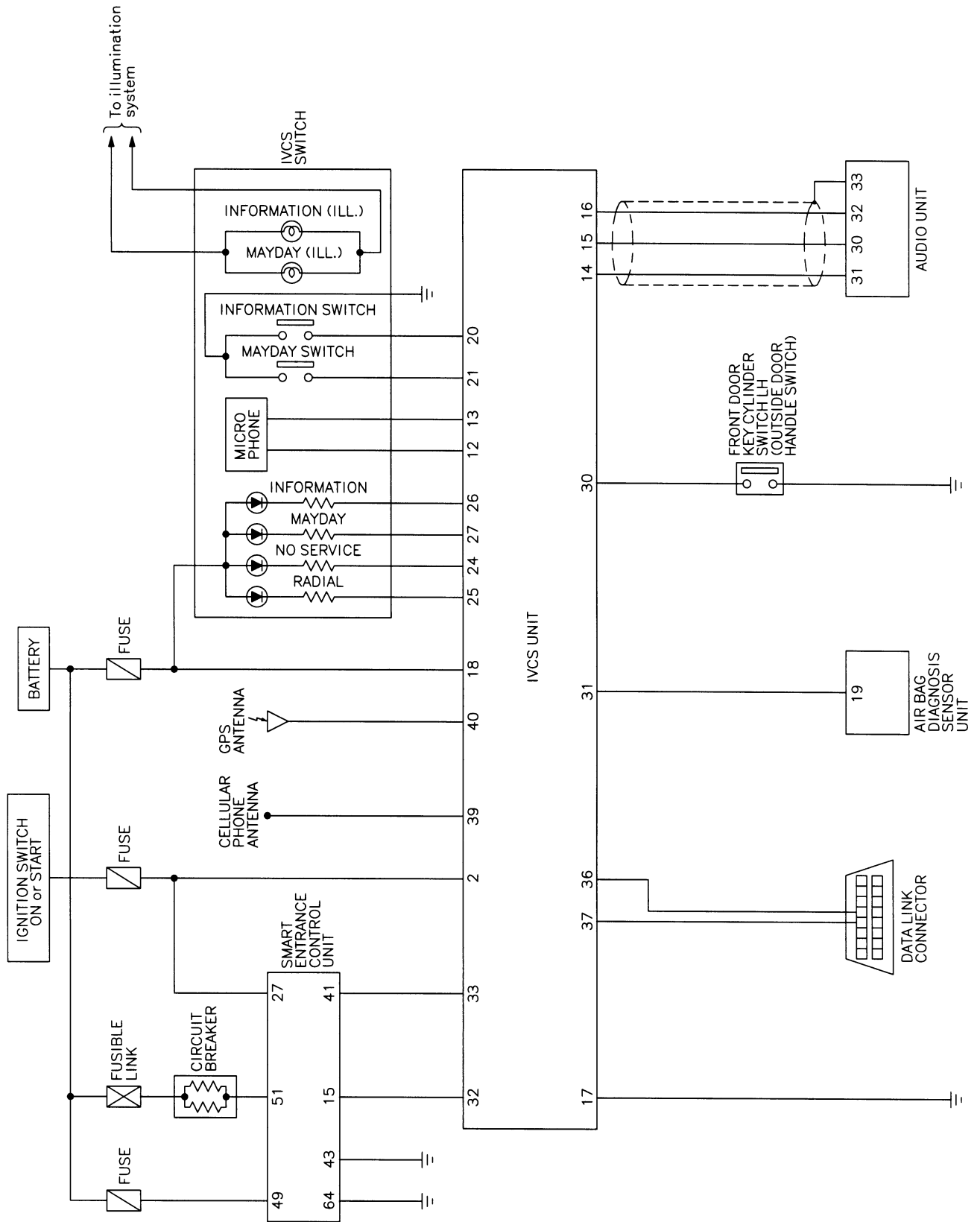
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INFINITI COMMUNICATOR (IVCS)

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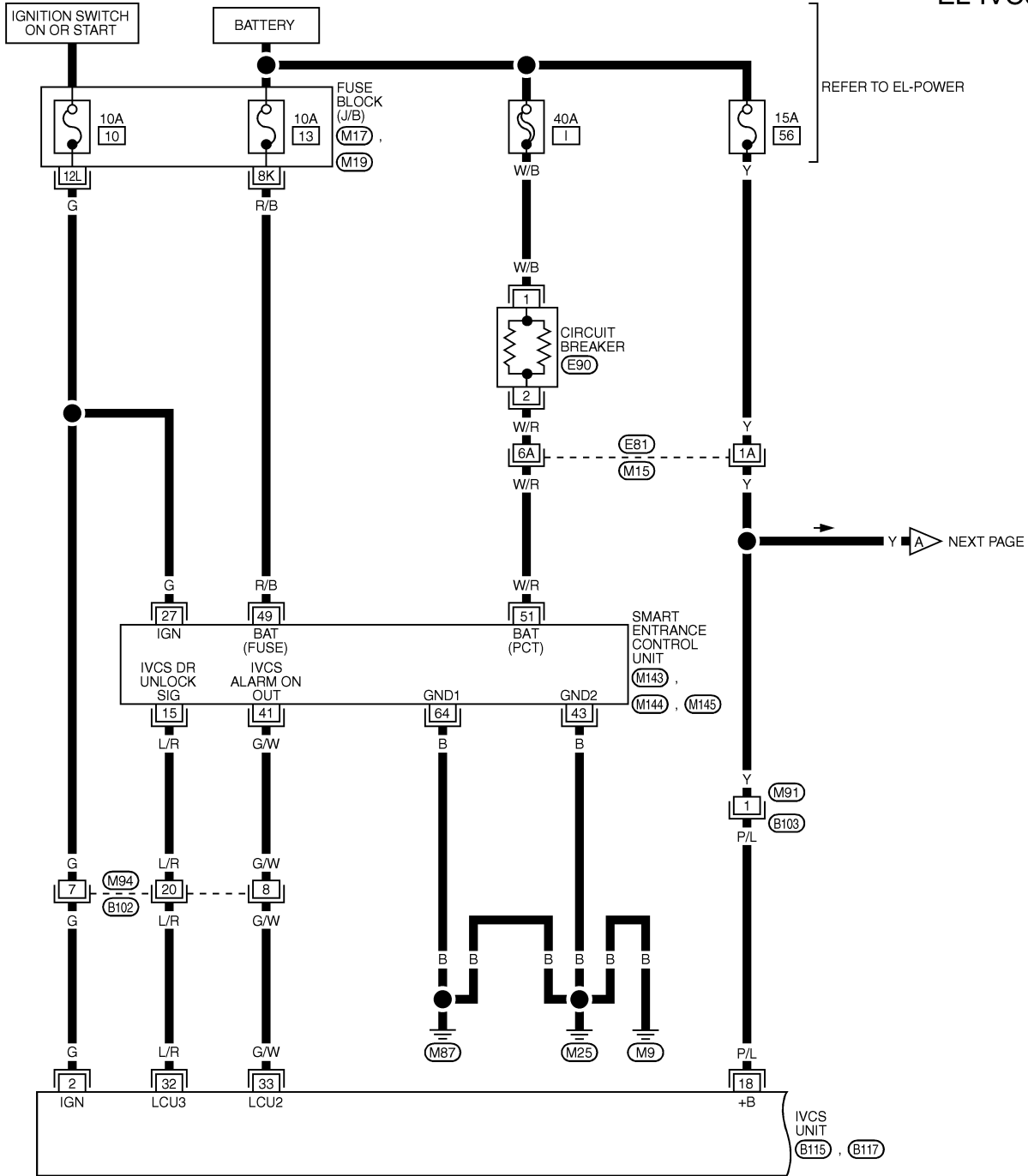
INFINITI COMMUNICATOR (IVCS)

Wiring Diagram — IVCS —

Wiring Diagram — IVCS —

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EL-IVCS-01



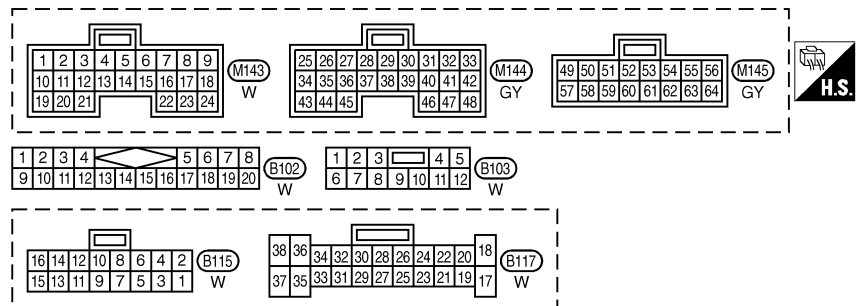
REFER TO EL-POWER

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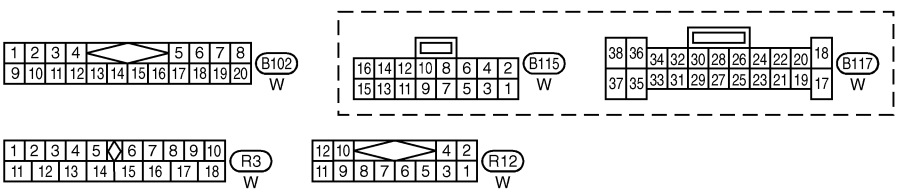
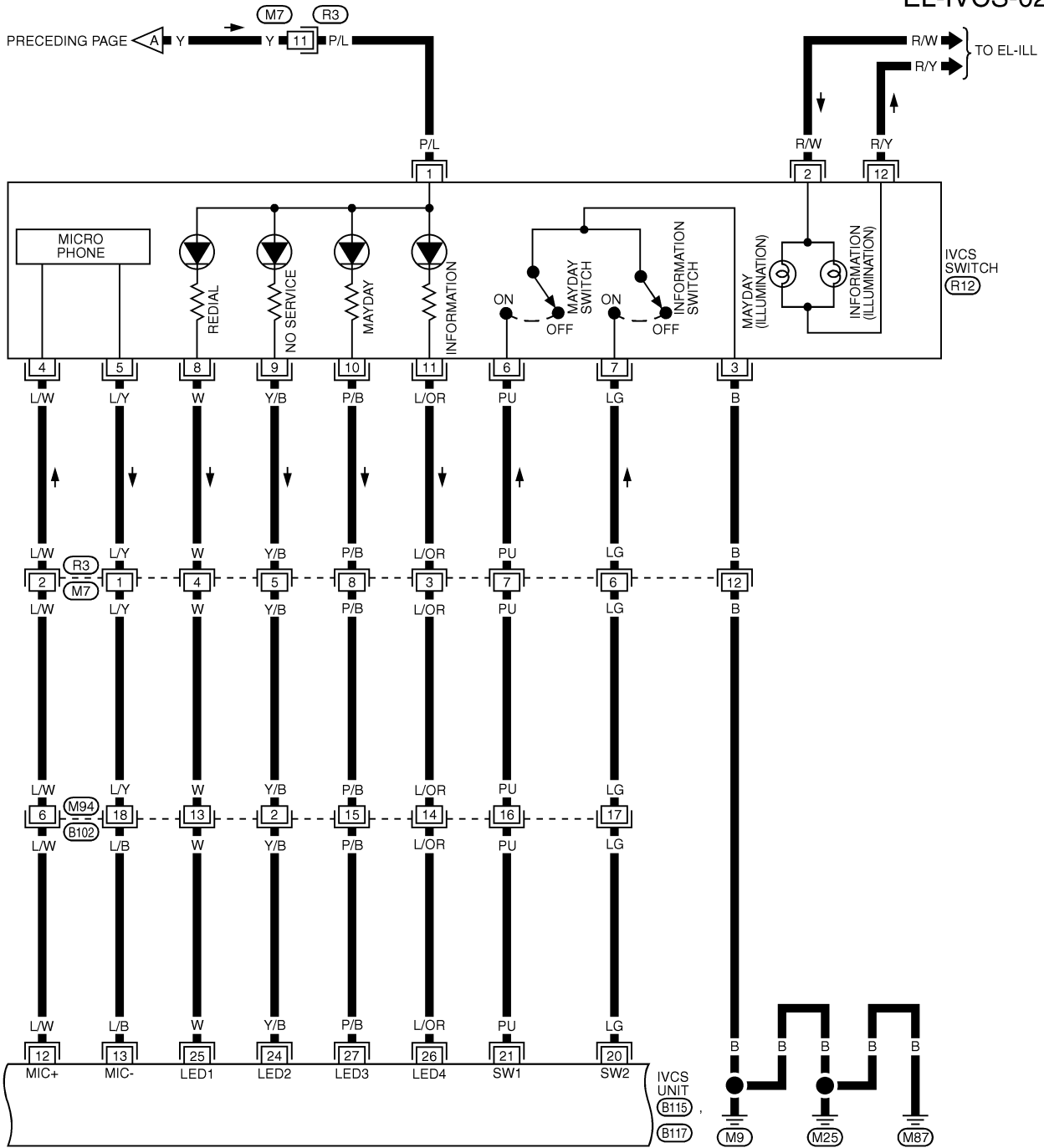
REFER TO THE FOLLOWING.
 (M15) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M17), (M19) -FUSE BLOCK-
 JUNCTION BOX (J/B)

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INFINITI COMMUNICATOR (IVCS)

Wiring Diagram — IVCS — (Cont'd)

EL-IVCS-02

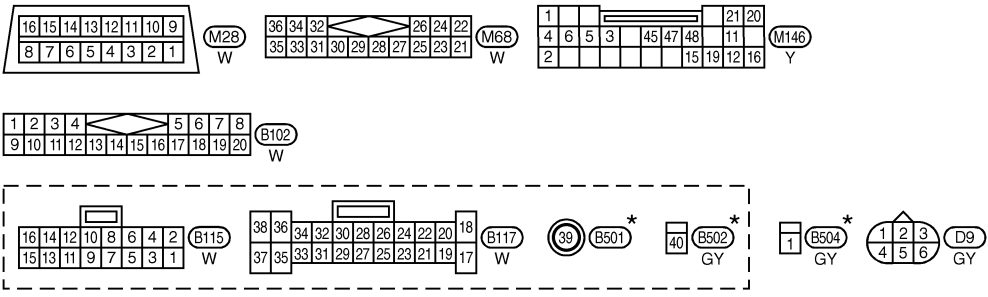
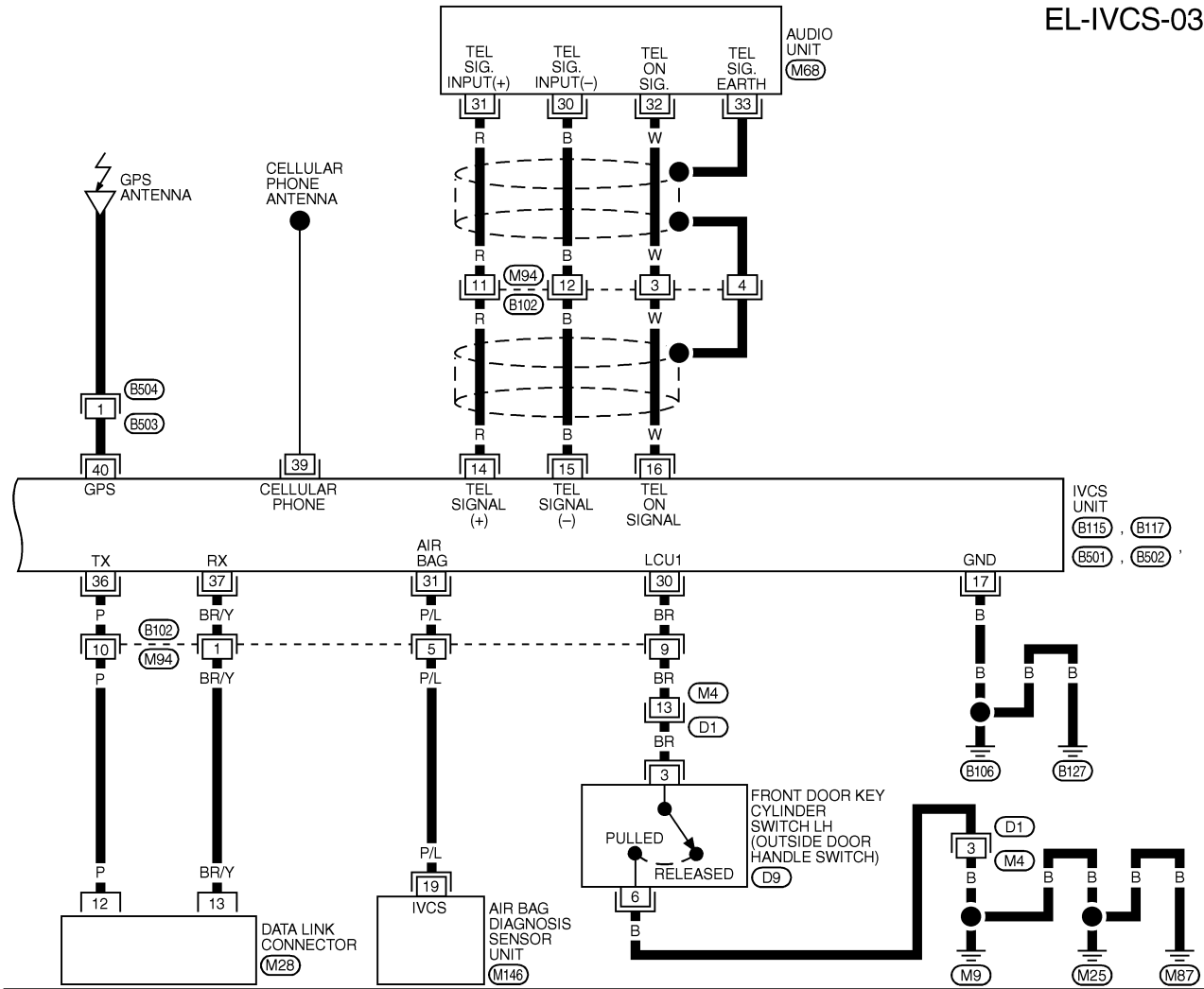


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INFINITI COMMUNICATOR (IVCS)

Wiring Diagram — IVCS — (Cont'd)

EL-IVCS-03



REFER TO THE FOLLOWING.
 (D1) - SUPER
 MULTIPLE JUNCTION (SMJ)

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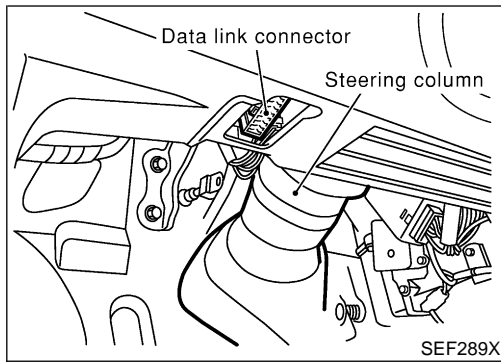
SMART ENTRANCE CONTROL UNIT TERMINALS AND REFERENCE VALUE BETWEEN EACH TERMINAL AND GROUND

TERMINAL	WIRE COLOR	ITEM	CONDITION	DATA (DC)
27	G	IGNITION SWITCH (ON)	IGNITION KEY IS IN "ON" POSITION	12V
49	R/B	POWER SOURCE (FUSE)	-	12V
51	W/R	POWER SOURCE (PTC)	-	12V
64	B	GROUND	-	-

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INFINITI COMMUNICATOR (IVCS)

CONSULT-II



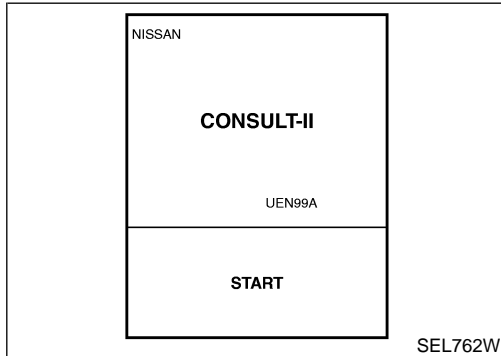
CONSULT-II

CONSULT-II INSPECTION PROCEDURE

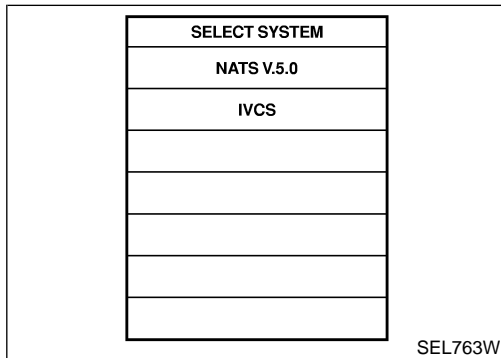
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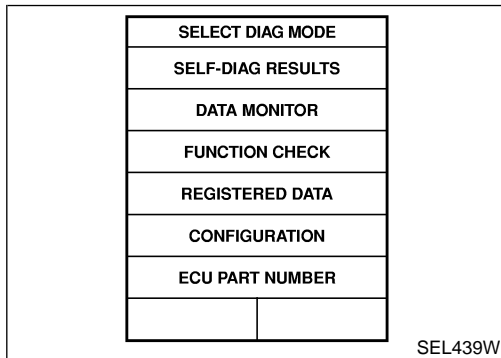
1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" to the data link connector.



3. Insert UEN99A program card into CONSULT-II.
4. Turn ignition switch "ON".
5. Touch "START".



6. Touch "IVCS".



7. Perform each diagnostic item according to the item application chart as follows:

8. When CONSULT-II inspection is terminated, follow the procedure shown below.
 - a. Touch "BACK" key of CONSULT-II until "SELECT SYSTEM" appears, then turn off CONSULT-II.
 - b. Turn ignition switch to OFF position.
 - c. Disconnect CONSULT-II DDL connector.

NOTE:

If the DDL connector is disconnected before turning ignition switch to "OFF" position, INFINITI communicator may not operate properly.

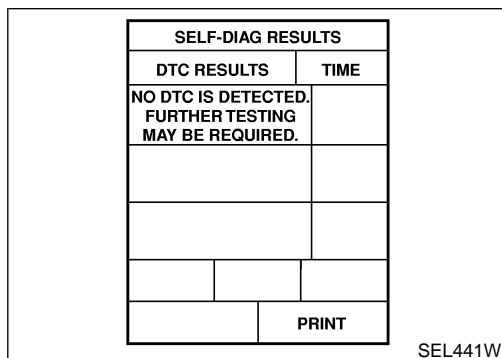
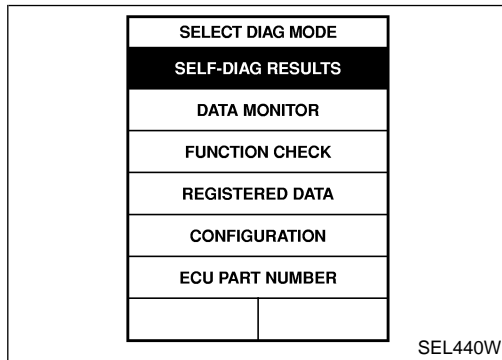
APPLICATION ITEMS

NHLE0288S02

Mode	Description	Reference page
SELF DIAG RESULTS	Displays the result of self-diagnosis.	EL-445
DATA MONITOR	Two modes, "GPS MONITOR" and "SWITCH MONITOR" can be selected in this mode. <ul style="list-style-type: none"> ● Displays current data related to GPS in "GPS MONITOR" mode. ● Displays IVCS switch and outside door handle switch condition in "SWITCH MONITOR" mode. 	EL-447
FUNCTION CHECK	In this mode, "Remote door unlock function" can be checked using CONSULT-II. Door can be unlocked according to the commands to the smart entrance control unit by the IVCS unit. This check verifies communication circuit between smart entrance control unit and IVCS unit.	EL-456
REGISTERED DATA	Displays the following data registered in the IVCS unit. In this mode the data cannot be re-written. <ul style="list-style-type: none"> ● Unit ID ● Cellular phone number ● VIN (Vehicle Identification Number) 	EL-448
CONFIGURATION (See Note.)	In this mode, the system can be set up in the demonstration mode to confirm system operation.	EL-461
	Various data related to both the Communicator Response Center contract and cellular provider can be written/updated in this mode. <ul style="list-style-type: none"> ● Phone number ● NAM (Number Assignment Module) ● Stolen vehicle tracking setting (Default should always be on.) ● Alarm notification setting (Default should always be on.) 	EL-463
ECU PART NUMBER	Displays the part number of the IVCS unit.	—

NOTE:

Data must not be rewritten without prior approval from the customer.



“SELF-DIAG RESULTS” MODE
How to Perform Self-diagnosis

1. Touch “SELF-DIAG RESULTS”.
2. Touch “START”.

3. If no malfunction is detected, CONSULT-II will show “NO DTC IS DETECTED.”

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INFINITI COMMUNICATOR (IVCS)

CONSULT-II (Cont'd)

SELF-DIAG RESULTS	
DTC RESULTS	TIME
CONNECTION ERROR [GPS ANTENNA]	0
CONNECTION ERROR [AIR BAG]	0
	PRINT

SEL442W

- If trouble codes are displayed with “TIME = 0”, repair/replace the system according to “SYMPTOM CHART 1 (SELF-DIAGNOSIS ITEM)”, EL-450.
- In this case, both “MAYDAY” and “INFORMATION” indicator lamps illuminate for more than 30 seconds while the ignition switch is in the ON position.

NOTE:

The time data in CONSULT-II “SELF-DIAG RESULTS” mode displays the number of ignition switch cycles without the same malfunctioning occurring.

SELF-DIAG RESULTS	
DTC RESULTS	TIME
CONNECTION ERROR [GPS ANTENNA]	1
CONNECTION ERROR [AIR BAG]	1
	PRINT

SEL443W

- If trouble codes are displayed with “TIME = 1 or greater”, it means that the trouble code is historical data. So no further diagnosis is required.

NOTE:

If trouble codes are displayed with “TIME = 1 or greater” even though the INFINITI Communicator has never been serviced. Intermittent incidents may occur. Check the system, refer to “Trouble Diagnoses for Intermittent Incident”, EL-459.

- If the system does not detect any trouble, the IVCS indicators will turn off after bulb check (self-diagnosis) is completed while the ignition switch is in the ON position.

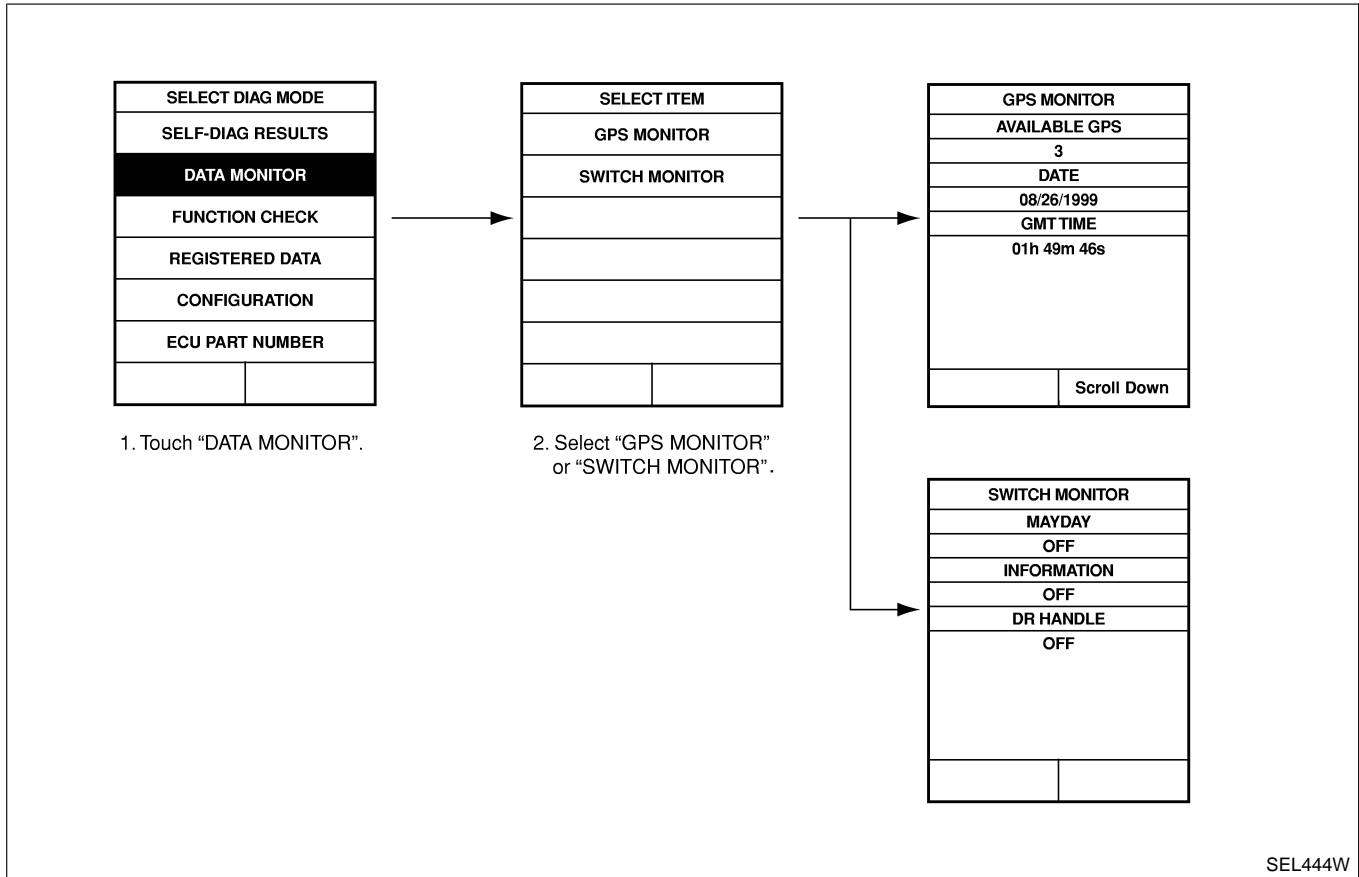
NOTE:

- The trouble codes cannot be erased by CONSULT-II.
- After 50 ignition cycles, the trouble codes are no longer displayed in the CONSULT-II “SELF-DIAG RESULTS” mode.
- The IVCS unit does not count the ignition switch cycles unless the ignition switch is OFF for more than 3 minutes between each ignition switch cycle.

“DATA MONITOR” MODE How to Perform Data Monitor

NHLE0288S04

NHLE0288S0401



Data Monitor Item Chart

NHLE0288S0402

Mode	Monitor item	Description
GPS MONITOR	AVAILABLE GPS	The number of GPS satellites captured by GPS antenna
	DATE	Date of Greenwich mean time
	GMT TIME	Greenwich mean time (Different from local time)
	LAT.	Latitude
	LONG.	Longitude
	DOP	Index of precision (an index of location status of GPS satellites. The smaller the value is, the higher the positioning precision is.)
SWITCH MONITOR	MAYDAY	"MAYDAY" emergency switch condition
	INFORMATION	"INFORMATION" switch condition
	DR HANDLE	Driver side outside door handle switch condition

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INFINITI COMMUNICATOR (IVCS)

CONSULT-II (Cont'd)

REGISTERED DATA	
UNIT ID	
SSNSXXXXXX	
CELLULAR PHONE#	
XXX-XXX-XXXX	
VIN#	
XXXXXXXXXXXXXXXXXX	
PRINT	

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“REGISTERED DATA” MODE

NHEL0288S05

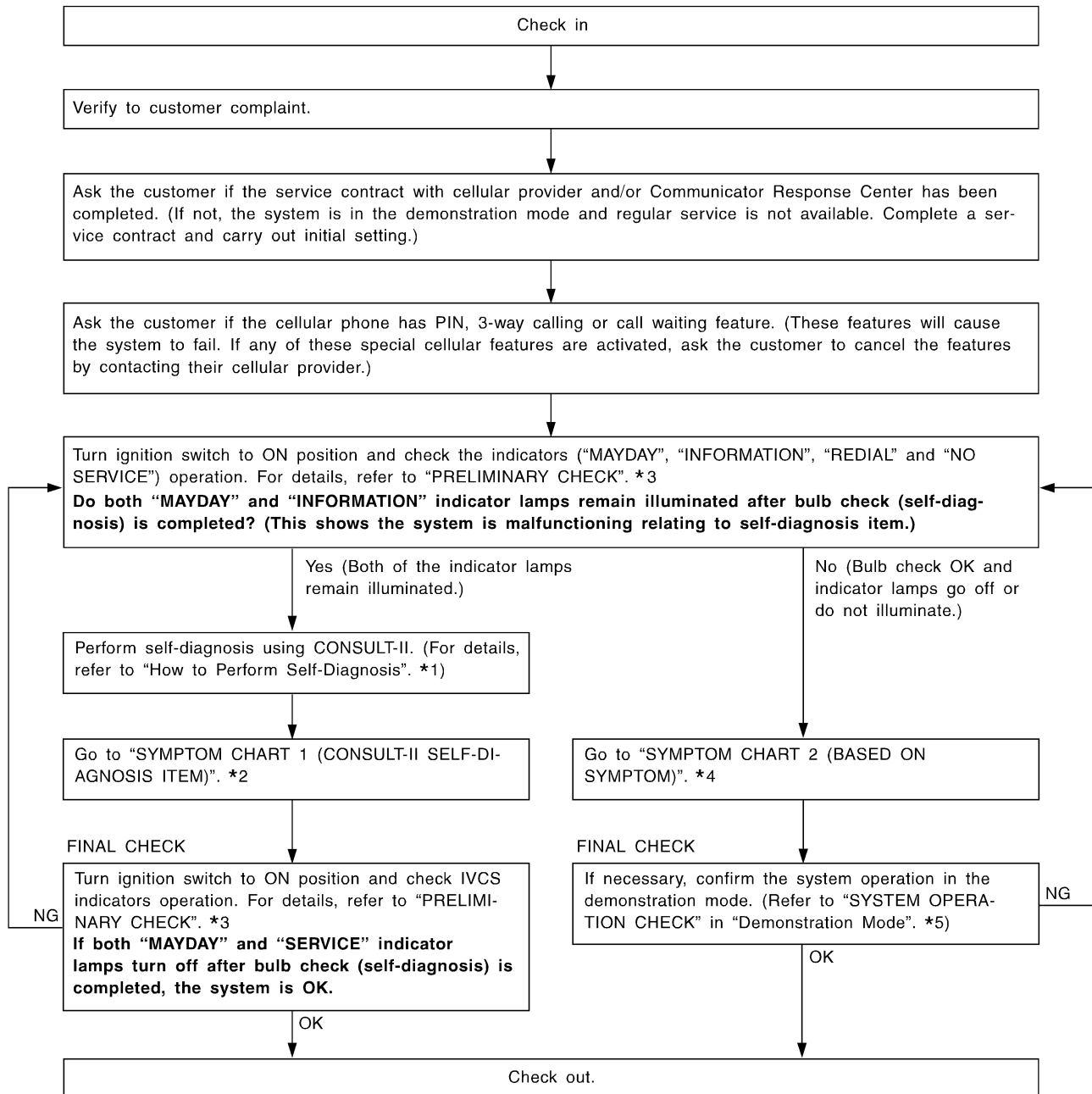
Item	Description
UNIT ID	ID number of the IVCS unit. ID number is unique to each unit and differs for each unit.
CELLULAR PHONE #	—
VIN #	Vehicle Identification Number. When the IVCS unit is replaced, VIN # is written in the memory of the replaced unit by transmitting data from the Communicator Response Center.

NOTE:
No data can be changed in this CONSULT-II mode.

Trouble Diagnoses WORK FLOW

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*1 EL-445

*3 EL-450

*5 EL-461

*2 EL-450

*4 EL-451

WARNING:

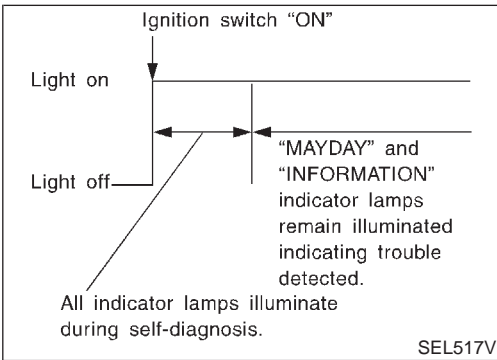
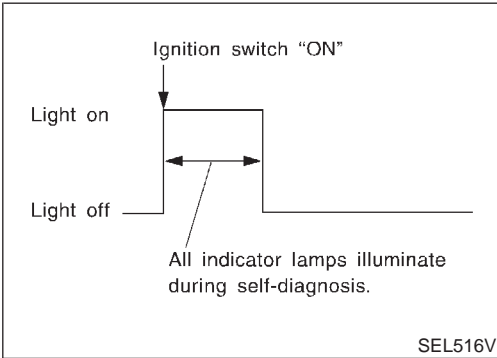
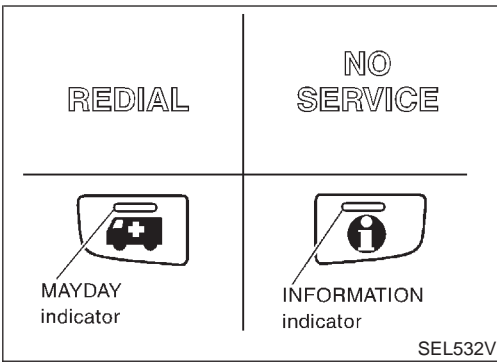
- Whenever possible, set the system to "Demonstration mode" if INFINITI Communicator system needs to be activated during service procedures. (For details of the demonstration mode, refer to EL-461.)
- If you activate the INFINITI Communicator system (when the system is not in the demonstration mode), the Communicator Response Center operator may dispatch police.

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INFINITI COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)



PRELIMINARY CHECK

NHLE0289S02

1. Turn ignition switch ON.
2. Check "MAYDAY", "INFORMATION", "REDIAL" and "NO SERVICE" indicator lamps operation.

- If no malfunction is detected, indicator lamps will turn off after the bulb check (self-diagnosis) is terminated for about 30 seconds or more.

NOTE:

- Bulb check (self-diagnosis) is not performed unless the ignition switch has been turned off for at least 3 minutes.
- Bulb check is not performed during contact with Communicator Response Center.

- If the system detects malfunctions, both "MAYDAY" and "INFORMATION" indicator lamps remain illuminated. Perform self-diagnosis using CONSULT-II and repair or replace the system. Refer to "How to Perform Self-diagnosis", EL-445.

NOTE:

For details of indicator lamps operation, refer to "INDICATOR LAMPS OPERATION", EL-438.

SYMPTOM CHART 1 (CONSULT-II SELF-DIAGNOSIS ITEM)

NHLE0289S03

Detected items (Screen items)	Description	Service procedure
CONNECTION ERROR [GPS ANTENNA]	Connection error between GPS antenna and IVCS unit.	Go to GPS ANTENNA CHECK, EL-458.
CELLULAR PHONE [TWB ERROR]	Communication error between CPU in the IVCS unit and transceiver	Replace IVCS unit.
MEMORY ERROR	Inner memory error of the IVCS unit	Replace IVCS unit.
CONNECTION ERROR [AIR BAG]	Connection error between air bag diagnosis sensor unit and IVCS unit.	Go to AIR BAG DIAGNOSIS SENSOR COMMUNICATION CHECK, EL-458.
CONNECTION ERROR [IVMS or S/ENT]	Connection error between smart entrance control unit and IVCS unit. If this error occurs, alarm notification and auto door unlock may not operate.	Go to SMART ENTRANCE CONTROL UNIT COMMUNICATION CHECK, EL-458.

INFINITI COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)

NOTE:

After replacing IVCS unit, set up the replaced IVCS unit. Refer to "System Setting (When IVCS Unit is Replaced.)" in EL-463.

SYMPTOM CHART 2 (BASED ON SYMPTOM)

NHLE0289S04

Before referencing this chart, confirm the operation of the indicator lamps. Refer to "PRELIMINARY CHECK" in EL-450. If the indicators show the system is malfunctioning, perform the self-diagnosis using CONSULT-II.

Symptom	Diagnoses/service procedure	Reference page
"MAYDAY", "INFORMATION", "RE-DIAL", "NO SERVICE" indicator lamps do not illuminate when ignition switch is turned to ON position. (Bulb check is NG.)	1. Power supply and ground circuit for IVCS unit check	EL-452
	2. Indicator lamps check	EL-453
Mayday/Information call does not operate.	1. IVCS switch check	EL-454
	2. INFINITI Communicator operation check in demonstration mode	EL-461
Remote door unlocking function does not operate.	1. Driver side outside door handle switch check	EL-455
	2. Remote door unlock function check	EL-456
	3. INFINITI Communicator operation check in demonstration mode	EL-461
Stolen vehicle tracking function does not operate.	1. Stolen vehicle tracking setting check (Check whether the function is disabled or not.)	EL-457
	2. INFINITI Communicator operation check in demonstration mode	EL-461
Alarm notification function does not operate.	1. Alarm notification setting check (Check whether the function is disabled or not.)	EL-457
	2. INFINITI Communicator operation check in demonstration mode	EL-461
Hands free telephone cannot be operated by using steering switch.	1. Telephone steering switch check	EL-459
No sounds related to the telephone are heard from Front RH speaker. (If the audio does not operate properly, check the audio system.)	1. Check harness for open or short between IVCS unit and audio unit.	—
The "NO SERVICE" indicator lamp is not turned off. (Even if a contract with telephone carrier has not been made, the indicator lamp remains illuminated.)	1. Make sure the vehicle is in an area with cellular service.	—
	2. Check cellular phone antenna feeder cable connection.	—
No sound is transmitted to the other party by hands free telephone.	1. Check harness for open or short between IVCS unit and microphone.	—
	2. Replace microphone. (IVCS switch assembly)	—

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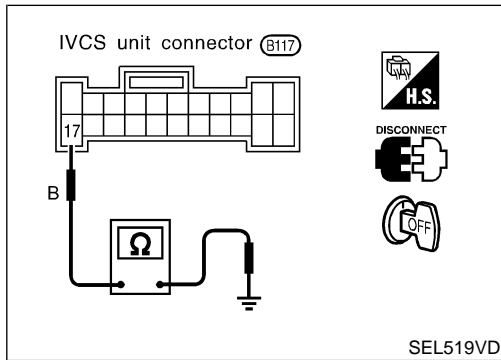
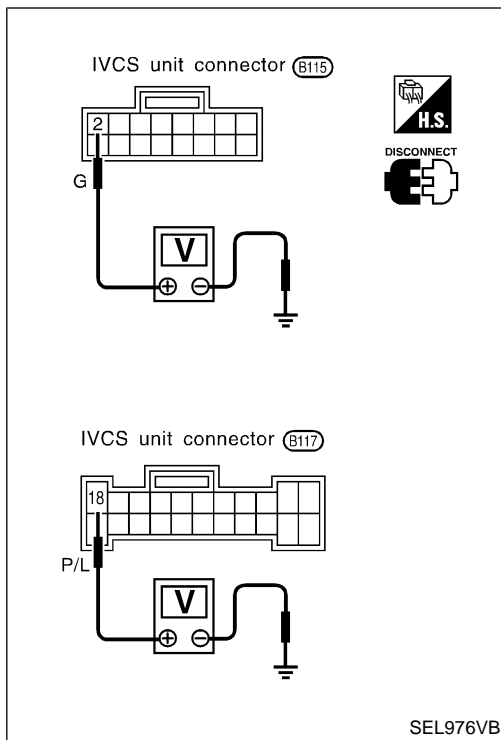
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INFINITI COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)



POWER SUPPLY AND GROUND CIRCUIT FOR IVCS UNIT CHECK

NHEL0289S05

Main Power Supply Circuit Check

NHEL0289S0501

Terminal		Ignition switch		
(+)	(-)	OFF	ACC	ON
18	Ground	Battery voltage	Battery voltage	Battery voltage
2	Ground	0V	0V	Battery voltage

If NG, check the following:

- 15A fuse [No. 56, located in fuse and fusible link box]
- 10A fuse [No. 10, located in fuse block (J/B)]
- Harness for open or short between fuse and IVCS unit




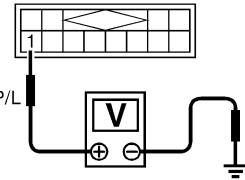
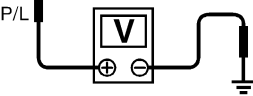
Ground Circuit Check

NHEL0289S0502




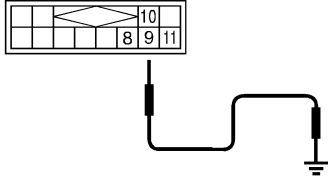
Terminals	Continuity
17 - Ground	Yes

INDICATOR LAMPS CHECK

=NHLE0289S06

1	CHECK POWER SUPPLY FOR INDICATOR LAMPS	
<p>Check voltage between IVCS switch terminal 1 and ground.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">    </div> <div> <p>IVCS switch connector (R12)</p>  </div> <div> <p>Does battery voltage exist?</p>  </div> </div> <p style="text-align: right;">SEL446WA</p> <p style="text-align: center;">Yes or No</p>		
Yes	▶	GO TO 2.
No	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● 15A fuse [No. 56, located in fuse and fusible link box] ● Harness for open or short between fuse and IVCS switch

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2	CHECK INDICATOR LAMPS											
<p>1. Disconnect IVCS unit connector (Control unit connector). 2. Apply ground to IVCS switch each terminal and check illumination.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">    </div> <div> <p>IVCS switch connector (R12)</p>  </div> <div> <table border="1" style="border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 5px;">Indicator</th> <th style="padding: 5px;">Terminal</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">REDIAL</td> <td style="padding: 5px;">8</td> </tr> <tr> <td style="padding: 5px;">NO SERVICE</td> <td style="padding: 5px;">9</td> </tr> <tr> <td style="padding: 5px;">MAYDAY</td> <td style="padding: 5px;">10</td> </tr> <tr> <td style="padding: 5px;">INFORMATION</td> <td style="padding: 5px;">11</td> </tr> </tbody> </table> </div> </div> <p style="text-align: right;">SEL447W</p> <p style="text-align: center;">OK or NG</p>			Indicator	Terminal	REDIAL	8	NO SERVICE	9	MAYDAY	10	INFORMATION	11
Indicator	Terminal											
REDIAL	8											
NO SERVICE	9											
MAYDAY	10											
INFORMATION	11											
OK	▶	Check harness for open or short between indicators and IVCS unit.										
NG	▶	Replace IVCS switch assembly.										

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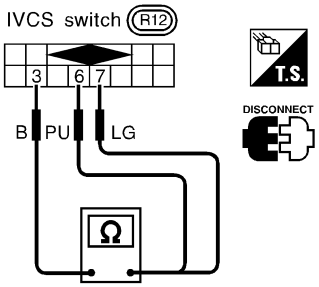
INFINITI COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)

IVCS SWITCH CHECK

=NHLE0289S07

1	CHECK IVCS SWITCH INPUT SIGNAL	
<p>1. Turn ignition switch "ON". 2. Select "SWITCH MONITOR" in "DATA MONITOR" mode. 3. Check each switch signal.</p> <p>Condition: When MAYDAY/INFORMATION switch is pushed: MAYDAY/INFORMATION ON When MAYDAY/INFORMATION switch is released: MAYDAY/INFORMATION OFF</p> <p>NOTE: When CONSULT-II "DATA MONITOR" mode is operating, INFINITI Communicator does not dial to Communicator Response Center when the switches are operated.</p> <p style="text-align: center;">OK or NG</p>		
OK	▶	IVCS switch is OK.
NG	▶	GO TO 2.

2	CHECK IVCS SWITCH.	
<p>1. Disconnect IVCS switch. 2. Check continuity between IVCS switch terminals.</p>		
		
SEL448W		
OK or NG		
OK	▶	<p>Check the following.</p> <ul style="list-style-type: none"> ● IVCS switch ground circuit ● Harness for open or short between IVCS switch and IVCS unit
NG	▶	Replace IVCS switch assembly.

INFINITI COMMUNICATOR (IVCS)

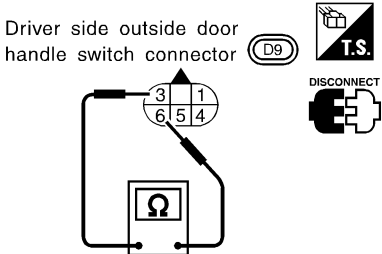

Trouble Diagnoses (Cont'd)

DRIVER SIDE OUTSIDE DOOR HANDLE SWITCH CHECK

=NHLE0289S08

1	CHECK DRIVER SIDE OUTSIDE DOOR HANDLE SWITCH INPUT SIGNAL											
<p>1. Turn ignition switch ON. 2. Select "SWITCH MONITOR" in "DATA MONITOR" mode. 3. Check the switch operation.</p>												
<table border="1" style="margin: auto;"> <tr><td style="text-align: center;">SWITCH MONITOR</td></tr> <tr><td style="text-align: center;">MAYDAY</td></tr> <tr><td style="text-align: center;">OFF</td></tr> <tr><td style="text-align: center;">INFORMATION</td></tr> <tr><td style="text-align: center;">OFF</td></tr> <tr><td style="text-align: center;">DR HANDLE</td></tr> <tr><td style="text-align: center;">OFF</td></tr> <tr><td style="text-align: center;"> </td></tr> <tr><td style="text-align: center;"> </td></tr> <tr><td style="text-align: center;"> </td></tr> <tr><td style="text-align: center;"> </td></tr> </table>		SWITCH MONITOR	MAYDAY	OFF	INFORMATION	OFF	DR HANDLE	OFF				
SWITCH MONITOR												
MAYDAY												
OFF												
INFORMATION												
OFF												
DR HANDLE												
OFF												
SEL468W												
<p>Condition: When driver side outside door handle switch is pushed: DR HANDLE ON When driver side outside door handle switch is released: DR HANDLE OFF</p>												
<p>NOTE: When CONSULT-II "DATA MONITOR" mode is operating, INFINITI Communicator does not dial to Communicator Response Center when the switches are operated.</p>												
OK or NG												
OK	▶ Driver side outside door handle switch is OK.											
NG	▶ GO TO 2.											

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2	CHECK DRIVER SIDE OUTSIDE DOOR HANDLE SWITCH
<p>1. Disconnect driver side outside door handle switch connector. 2. Check continuity between driver side outside door handle switch terminals 3 and 6.</p>	
<div style="display: flex; align-items: center; justify-content: space-around;"> <div style="text-align: center;"> <p>Driver side outside door handle switch connector (D9)</p>  </div> <div style="text-align: center;">  </div> </div>	
SEL449W	
OK or NG	
OK	▶ Check the following.
<ul style="list-style-type: none"> ● Driver side outside door handle switch ground circuit ● Harness for open or short between driver side outside door handle switch and IVCS unit 	
NG	▶ Replace driver side outside door handle switch.

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INFINITI COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)

REMOTE DOOR UNLOCK FUNCTION CHECK (CONSULT-II "FUNCTION CHECK" MODE)

NHEL0289S09

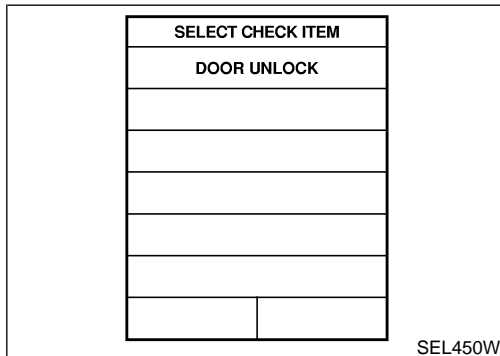
Description

NHEL0289S0901

"Remote door unlock function" can be checked using CONSULT-II. Driver side door can be unlocked according to the commands to the smart entrance control unit by the IVCS unit.

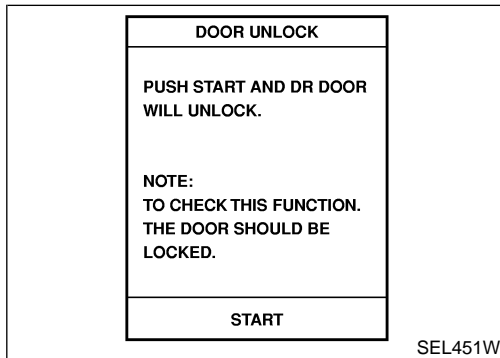
NOTE:

Before performing the function check, confirm that power door lock system operates properly.



How to perform function check.

1. Lock the doors with door lock/unlock switch on driver's door trim.
2. Touch "FUNCTION CHECK".
3. Touch "DOOR UNLOCK".
4. Touch "START". Then driver side door will be unlocked.
 - If the door cannot be unlocked using CONSULT-II, check harness for open or short between smart entrance control unit terminal 20 and IVCS unit terminal 32.



INFINITI COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)

STOLEN VEHICLE TRACKING/ALARM NOTIFICATION SETTING CHECK (CONSULT-II "CONFIGURATION" MODE)

NHEL0289S10

1	CHECK SYSTEM SETTING								
<p>1. Turn ignition switch ON. 2. Select "VHCL TRACKING" or "ALARM NOTIFICATION" in "CONFIGURATION" mode. 3. Check the function setting.</p> <div style="text-align: center; border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <table border="1"> <tr><td style="text-align: center;">VEHICLE TRACKING</td></tr> <tr><td style="text-align: center;">CURRENT SETTING IS</td></tr> <tr><td style="text-align: center;">ON</td></tr> <tr><td style="text-align: center;">VEHICLE TRACKING FUNCTION IS ACTIVE.</td></tr> <tr> <td style="width: 50px;"></td> <td style="text-align: center;">OFF</td> <td style="text-align: center;">PRINT</td> </tr> </table> </div> <p>● ON shows the function is activated. ● OFF shows the function is deactivated.</p> <p>Does the system setting comply with the customer's contract? NOTE: Setting of "VEHICLE TRACKING" must be ON at all times.</p> <p style="text-align: center;">OK or NG</p>			VEHICLE TRACKING	CURRENT SETTING IS	ON	VEHICLE TRACKING FUNCTION IS ACTIVE.		OFF	PRINT
VEHICLE TRACKING									
CURRENT SETTING IS									
ON									
VEHICLE TRACKING FUNCTION IS ACTIVE.									
	OFF	PRINT							
OK	▶	System setting is OK.							
NG	▶	If either setting is OFF, contact the Communicator Response Center at 1-888-427-4812 to verify the system setting. NOTE: Whenever dialing the above number, some information about the vehicle will be required by the operator. For details, refer to EL-432.							

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INFINITI COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)

GPS ANTENNA CHECK

=NH0289S11

1	CHECK VOLTAGE FOR GPS ANTENNA	
<p>1. Disconnect GPS feeder cable connector from IVCS unit. 2. Turn ignition switch ON. 3. Check voltage at IVCS unit GPS feeder cable terminal.</p>		
<p>The diagram illustrates the setup for checking the voltage at the IVCS unit's GPS feeder cable terminal. It shows the IVCS unit with a voltmeter connected to the terminal. Above the unit, there are three icons: a square with 'T.S.' (Turn Switch), a plug with 'DISCONNECT' (GPS connector), and a switch with 'ON' (Ignition switch).</p>		
Does approx. 5V exist?		
Yes	▶	Replace GPS antenna.
No	▶	Replace IVCS unit.

SEL106W

AIR BAG DIAGNOSES SENSOR UNIT COMMUNICATION CHECK

NH0289S12

1	AIR BAG OPERATION CHECK	
Turn ignition switch ON and check air bag warning lamp operation. (For details, refer to RS-44, "SRS Operation Check".)		
Does air bag warning lamp operate properly?		
Yes	▶	Check harness connector connection between air bag diagnosis sensor unit and IVCS unit.
No	▶	Check supplemental restraint system. Refer to RS-44, "SRS Operation Check".

SMART ENTRANCE CONTROL UNIT COMMUNICATION CHECK

NH0289S13

1	CHECK SMART ENTRANCE CONTROL UNIT OPERATION	
Check the system related smart entrance control unit operation. (e.g.: power door lock, power window)		
Does the system operate properly?		
Yes	▶	Check harness for open or short between smart entrance control unit and IVCS unit.
No	▶	Check smart entrance control unit. Refer to EL-400, "SMART ENTRANCE CONTROL UNIT".

INFINITI COMMUNICATOR (IVCS)

Trouble Diagnoses (Cont'd)

TELEPHONE STEERING SWITCH CHECK

=NHLE0289S14

1	CHECK POWER SUPPLY FOR STEERING SWITCH	
Check power supply for steering switch.		
Does horn work?		
Yes	▶	Check the following. <ul style="list-style-type: none"> ● 10A fuse (No. 57, located in fuse and fusible link box) ● Horn relay ● Harness for open or short
No	▶	GO TO 2.

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2	CHECK STEERING SWITCH SUB-HARNESS	
1. Remove driver's air bag module. For removal procedure, refer to RS-20, "REMOVAL AND INSTALLATION". 2. Check steering switch sub-harness for open or short and ground screw. For details of the harness circuit, refer to "STEERING SWITCH", EL-33.		
OK or NG		
OK	▶	Check harness for open or short between telephone steering switch and IVCS unit. If the circuit is OK, replace telephone steering switch.
NG	▶	Replace or repair the harness.

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Trouble Diagnoses for Intermittent Incident

NHLE0290

DESCRIPTION

An intermittent incident may be occurring if all of the following conditions exist.

- Both "MAYDAY" emergency and "INFORMATION" indicators have shown that the system is malfunctioning.
- CONSULT-II self-diagnosis result screen indicates a trouble code with "TIME = 1 or greater".
- The INFINITI Communicator system has not been previously serviced.

To find out the cause of a malfunction, follow the procedures shown below.

NHLE0290S01

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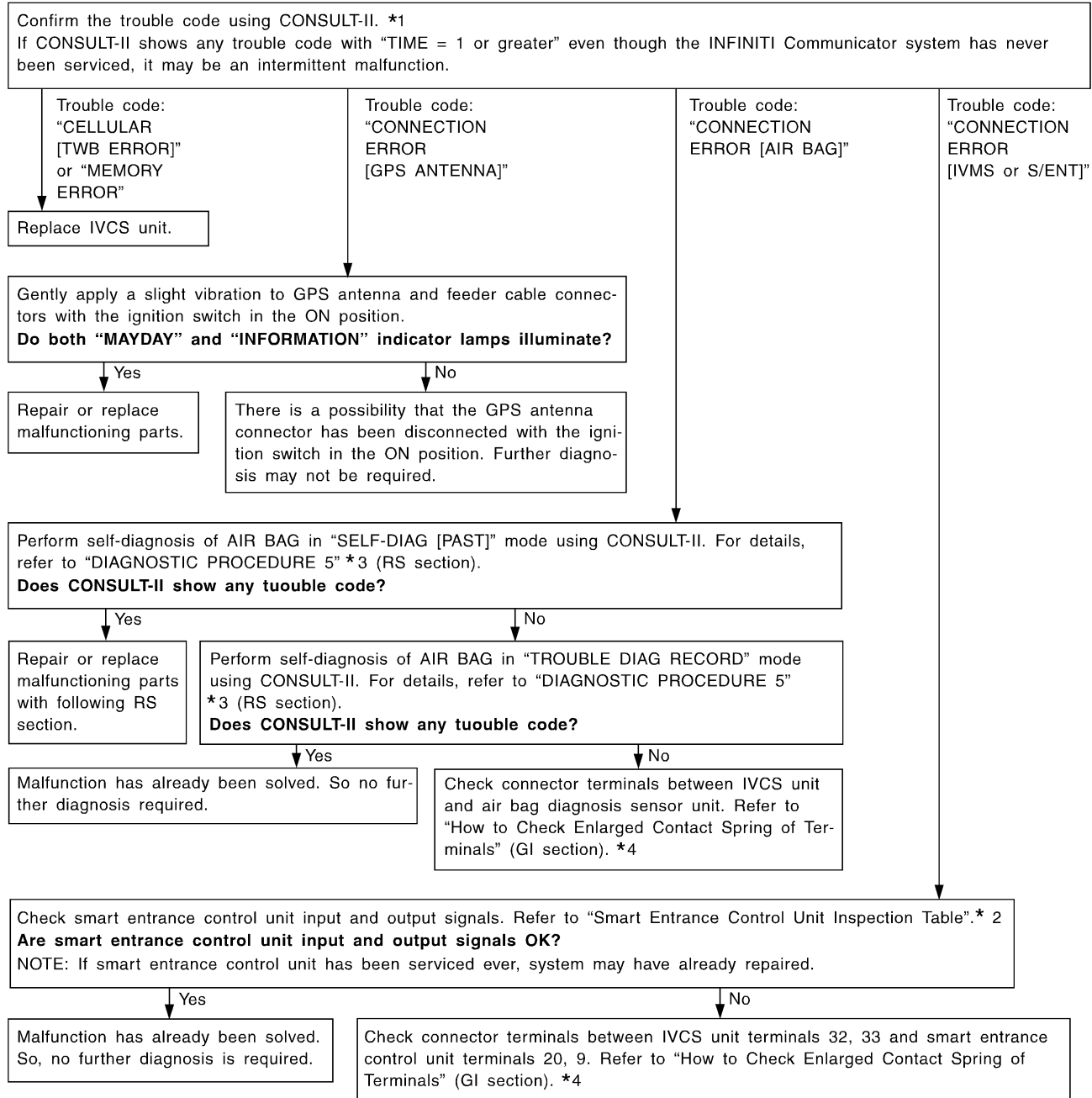
IDX

INFINITI COMMUNICATOR (IVCS)

Trouble Diagnoses for Intermittent Incident (Cont'd)

NH0290S02

DIAGNOSTIC PROCEDURE



SEL107WE

*1 EL-445

*3 RS-50

*4 GI-22

*2 EL-406

NOTE:

Enlarged spring contact of terminals may be cause of intermittent malfunction for "CONNECTION ERROR [AIR BAG]/[IVMS or S/ENT]". When you inspect terminals for enlarged contact, refer to GI-22, "How to Check Enlarged Contact Spring of Terminals".

Demonstration Mode

DESCRIPTION

NHEL0291

NHEL0291S01

By setting up the system in the demonstration mode, automatic dialing operation can be confirmed by “MAYDAY” emergency and “INFORMATION” switch operation.

Automatic dialing in this mode is connected to the demonstration center of Communicator Response Center, and is different from the normal service.

When the contract with Communicator Response Center is not concluded, all the INFINITI Communicator operations are connected to the demonstration center.

Connection to Communicator Response Center in this mode will not be charged by Communicator Response Center nor will the call be handled as an emergency.

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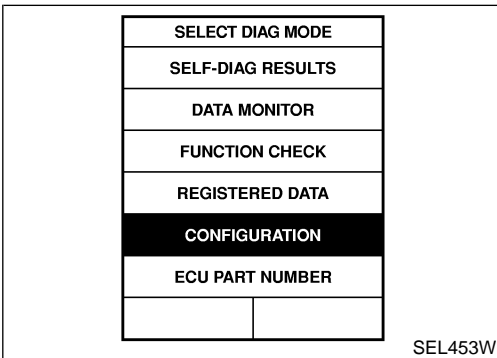
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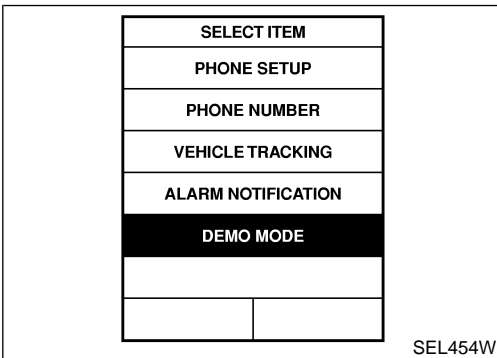
NHEL0291S02

SYSTEM OPERATION CHECK

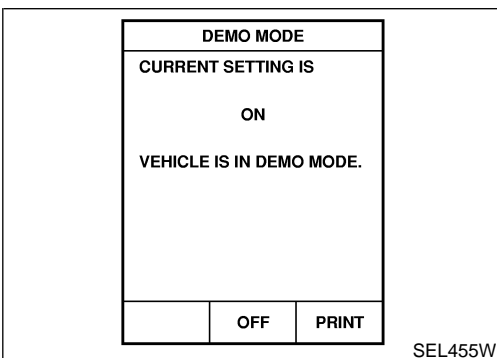
1. Touch “CONFIGURATION”.



2. Touch “DEMO MODE”.



3. Touch “ON”. Now, the system is in demonstration mode. (To return to normal mode, touch “OFF”.)



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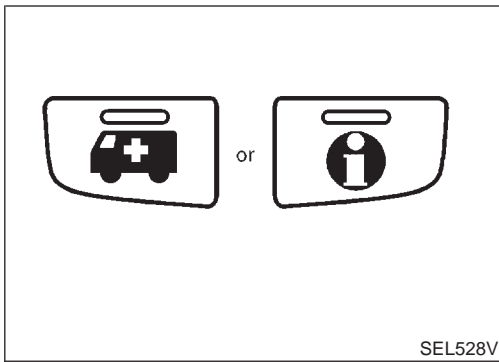
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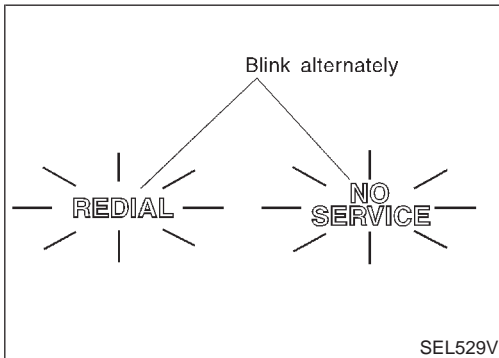
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INFINITI COMMUNICATOR (IVCS)

Demonstration Mode (Cont'd)



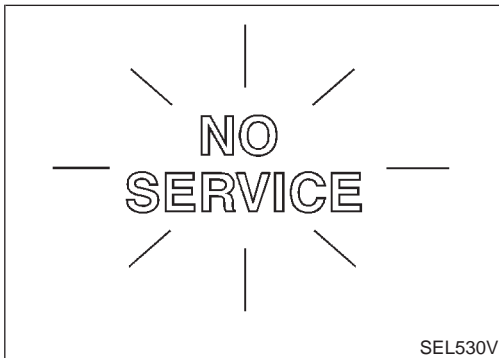
4. Touch "BACK" key of CONSULT-II until "SELECT SYSTEM" appears, then turn off CONSULT-II.
5. Turn ignition switch to the OFF position.
6. Disconnect CONSULT-II DDL connector.
7. Start the engine.
8. Touch the "MAYDAY" or "INFORMATION" switches. Then the system will call the demonstration center.



9. Check INFINITI Communicator operation.
 - If contact with Communicator Response Center is successful, system is OK.

NOTE:

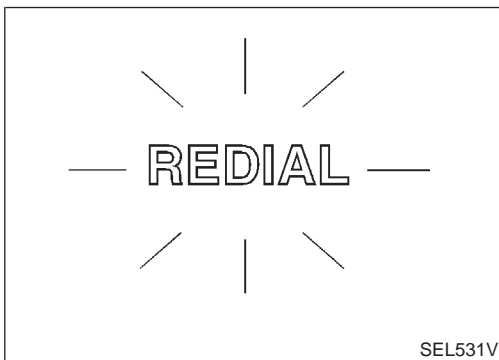
During the system contact to Communicator Response Center in demonstration mode, "REDIAL" and "NO SERVICE" indicators blink alternately.



- If "NO SERVICE" indicator illuminates and the contact to Communicator Response Center is unsuccessful, retry from other location where the cellular connection seems good. (e.g.; move the vehicle outside of the workshop and retry.)

NOTE:

If "NO SERVICE" indicator frequently illuminates from a location where the cellular connection seems good, check the connection of the feeder cable for the cellular phone antenna.



- If "REDIAL" indicator lamp illuminates and the contact to Communicator Response Center is unsuccessful, the cellular network is busy or there are no open cellular channels. The system will redial automatically.

NOTE:

If redial fails several times, confirm whether the roaming agreement of customer's cellular provider at the vehicle location is available or not.

WARNING:

- Make sure to turn the demonstration mode OFF before returning the vehicle to the owner.
- In the demonstration mode, any service from Communicator Response Center is not available. Therefore, even if the customer encounters an emergency, no service will be dispatched.

INFINITI COMMUNICATOR (IVCS)

System Setting (When IVCS Unit is Replaced)

System Setting (When IVCS Unit is Replaced)

NHEL0292

DESCRIPTION

NHEL0292S01

When the IVCS unit is replaced, carry out the following data settings.

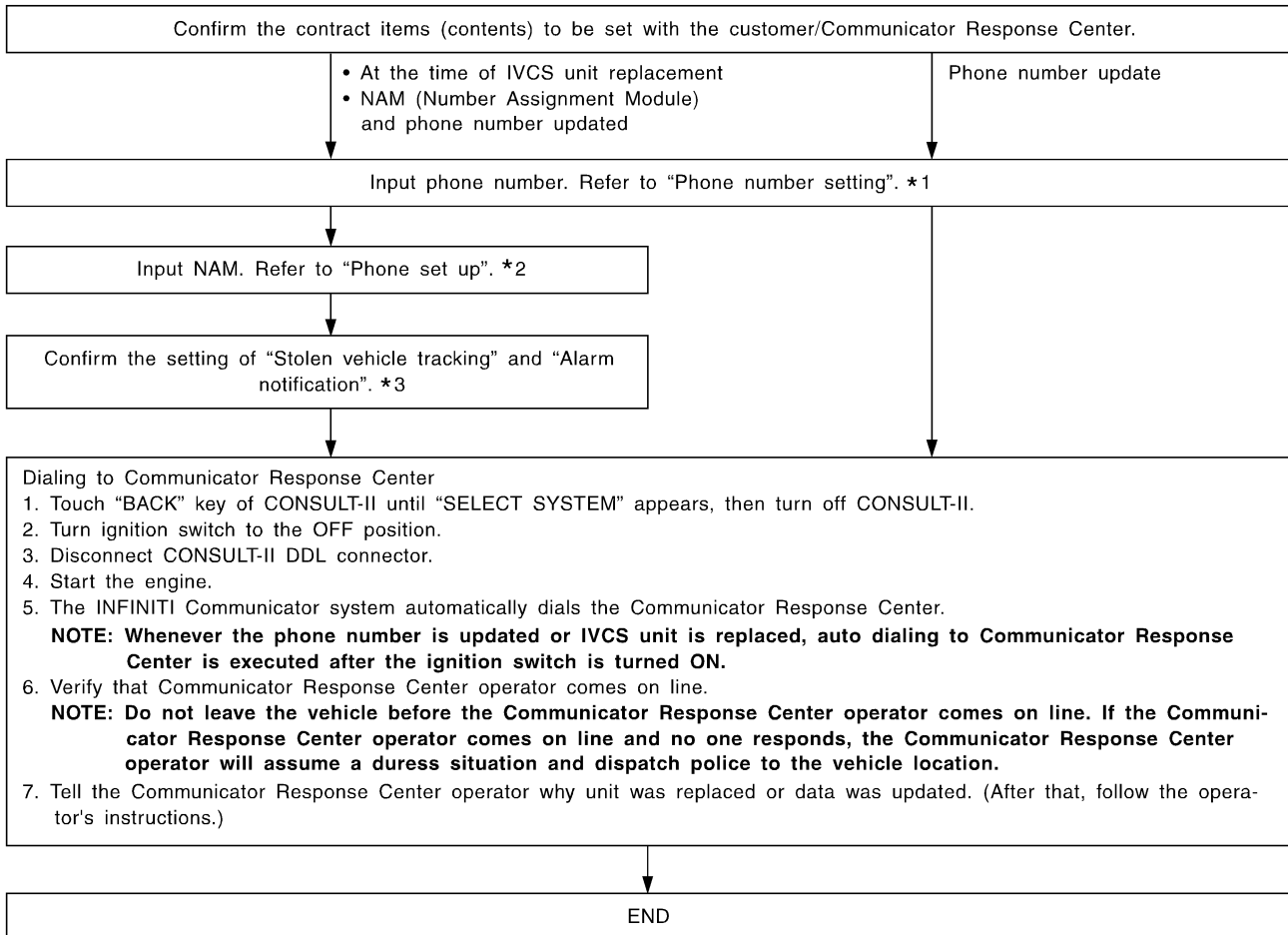
- Phone setup — Data setting regarding NAM (Number Assignment Module)
- Phone number — Phone number setting

NOTE:

- Data must not be updated without prior approval from the customer.
- The IVCS unit does not permit updating of NAM more than 15 times.

WORK FLOW

NHEL0292S02



SEL108WB

*1 EL-464

*2 EL-465

*3 EL-466

NOTE:

- If a Communicator Response Center operator does not come on line even though the system activates, the system may not be properly configured. Call the Communicator Response Center at 1-888-427-4812 to verify the configuration information.
- Whenever dialing the above number, information about

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INFINITI COMMUNICATOR (IVCS)

System Setting (When IVCS Unit is Replaced) (Cont'd)

PHONE NUMBER	
NEW PHONE#	
XXX - XXX - XXXX	
THE ABOVE CELLULAR PHONE NUMBER WILL BE PROGRAMMED. OK?	
CANCEL	OK

SEL460W

6. Touch "OK".
7. Carry out the next system setting or contact Communicator Response Center and inform them that data has been updated or the IVCS unit has been replaced. For details, refer to EL-463.

NOTE:

Whenever the phone number is updated or the IVCS unit is replaced, the INFINITI Communicator system automatically contacts the Communicator Response Center the first time the vehicle is started.

SELECT ITEM	
PHONE SETUP	
PHONE NUMBER	
VEHICLE TRACKING	
ALARM NOTIFICATION	
DEMO MODE	

SEL461W

PHONE SET UP

1. Touch "CONFIGURATION".
2. Touch "PHONE SET UP".

PHONE SETUP		
THIS UNIT HAS NO REQUIRED DATA PROGRAMMED.		
ERASE	REWRITE	PRINT
Scroll Down		

SEL716W

3. Touch "WRITE" or "REWRITE".
 - If no data is previously memorized, the display shows "This unit has no required data programmed".

PHONE SETUP		
SYS.ID:		
11111		
GR.ID:		
11		
OVERLOAD CLASS:		
11		
THIS UNIT HAS THE ABOVE DATA PROGRAMMED.		
ERASE	REWRITE	PRINT
Scroll Down		

SEL463W

- If NAM (Number Assignment Module) data is previously memorized, the display shows the current NAM data.
- To erase the NAM, touch "ERASE".

PHONE SETUP					
SYS.ID:					
GR.ID:					
OVERLOAD CLASS:					
1	2	3	4	5	6
7	8	9	0	BS	
CANCEL				ENTER	
Scroll Down					

SEL464W

4. Input new NAM data.
 - SYS ID (Carrier system ID number) — Available number: 0 to 32765
 - GR ID (Group ID mark) — Available number: 0 to 15
 - OVERLOAD CLASS (Access overload class) — Available number: 0 to 15
 - SECURITY CODE (User security code)
 - UNLOCK CODE
 - INIT PAGE CH (Initial paging channel)

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INFINITI COMMUNICATOR (IVCS)

System Setting (When IVCS Unit is Replaced) (Cont'd)

NOTE:

If an unavailable number is input as "SYS ID", "GR ID" or "OVERLOAD CLASS", CONSULT-II may be locked. In such cases, disconnect the vehicle battery cable once and then setup the system again.

5. Touch "ENTER".

PHONE SETUP	
SYS.ID:	
11111	
GR.ID:	
11	
OVERLOAD CLASS:	
11	
THE ABOVE DATA WILL BE PROGRAMMED. OK?	
CANCEL	OK
Scroll Down	

SEL465W

6. Touch "OK".

7. Carry out the next system setting or contact Communicator Response Center and inform them that data has been updated or IVCS unit has been replaced. For details, refer to EL-463.

NOTE:

Whenever the phone number is updated or the IVCS unit is replaced, the INFINITI Communicator system automatically contacts the Communicator Response Center the first time the vehicle is started.

SELECT ITEM
PHONE SETUP
PHONE NUMBER
VEHICLE TRACKING
ALARM NOTIFICATION
DEMO MODE

SEL466W

STOLEN VEHICLE TRACKING/ALARM NOTIFICATION SETTING CHECK

NHEL0292S05

1. Touch "CONFIGURATION".

2. Touch "VEHICLE TRACKING" or "ALARM NOTIFICATION".

ALARM NOTIFICATION	
CURRENT SETTING IS	
ON	
ALARM NOTIFICATION FUNCTION IS ACTIVE.	
OFF	PRINT

SEL467W

3. This function should always be "ON" (function activate).

NOTE:

- If either setting is "OFF", contact the Communicator Response Center at 1-888-427-4812 to verify the system setting.

- Whenever dialing the above number, information about the vehicle is required by the operator. For details, refer to EL-432.

Precautions

NH0295

WARNING:

Do not attempt to disassemble the monitor. Parts of the monitor have high voltages that can result in severe and dangerous electric shock.

CAUTION:

- Do not reverse battery connections.
- Do not attach unauthorized parts.
- Protect the unit from severe impact.

NOTE:

Before beginning repair, determine whether or not the unit is defective. Refer to “This Condition Is Not Abnormal” (EL-510).

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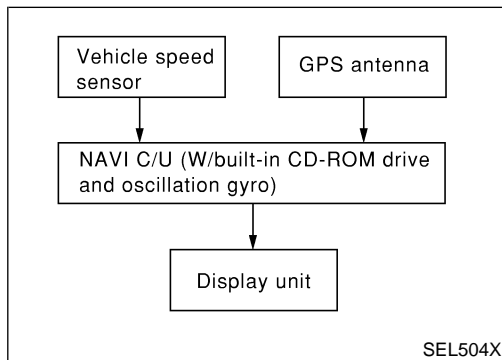
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System Description

NH0296

OUTLINE

NH0296S01

The Navigation System (Multi-AV System) relies upon three sensing devices in order to determine vehicle location at regular time intervals.

1. Vehicle speed sensor: Determines the distance the vehicle has traveled.
2. Gyro (Angular velocity sensor): Determines vehicle steering angle and directional change.
3. GPS antenna (GPS data): Determines vehicle forward movement and direction.

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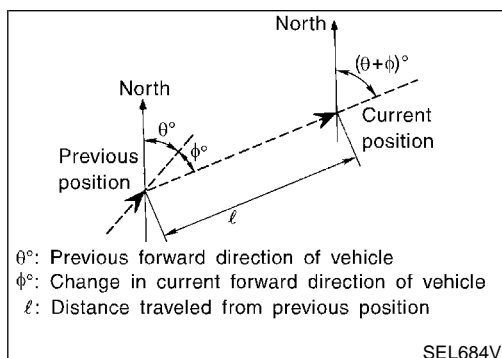
The data provided by the three sensing functions together with a comparison of the mapping information read from the CD-ROM drive permit accurate determination of the vehicle's current location and subsequent course (map matching). The information appears on a liquid crystal display.

BT

This comparison of GPS data (vehicle position sensing) and map matching permits precise determination of vehicle location.

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Position Sensor Operating Principles

NH0296S0101

The sensor determines current vehicle location by calculating the previously sensed position, the distance traveled from this position, and the directional changes occurring during this travel.

1. Distance traveled
The distance traveled is calculated using signals received from the vehicle speed sensor. The sensor automatically compensates for the slightly reduced wheel and tire diameter resulting from tire wear.
2. Forward movement (Direction)
Changes in the direction of forward movement are calculated

EL

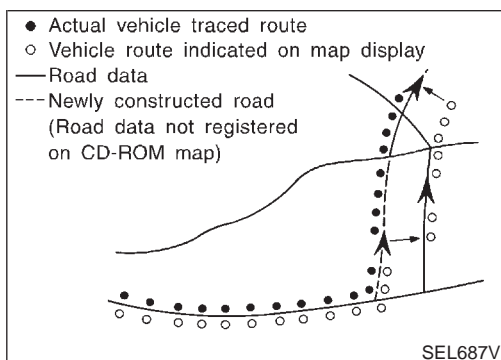
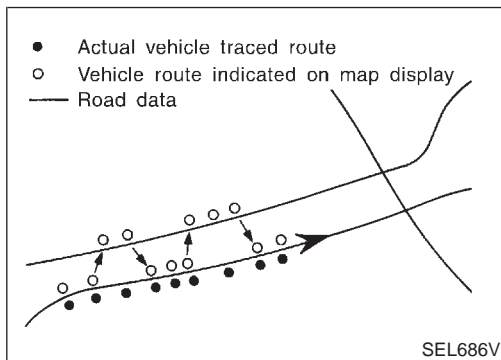
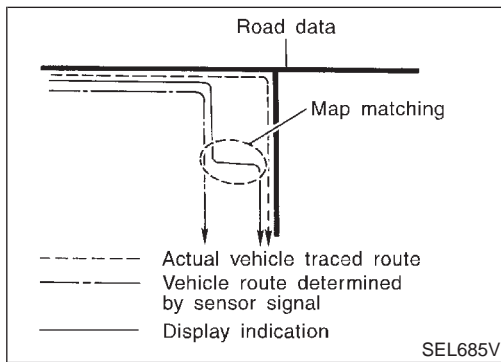
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NAVIGATION SYSTEM

System Description (Cont'd)

by the gyro (angular velocity sensor) and the GPS antenna (GPS data). Each of these functions has its advantage and disadvantages. Depending upon conditions, one function takes precedence over the other to accurately determine the direction of forward movement.

Function type	Advantage	Disadvantage
Gyro (Angular velocity sensor)	<ul style="list-style-type: none"> • Able to accurately detect minute changes in steering angle and direction. 	<ul style="list-style-type: none"> • Calculation errors may accumulate over a long period of continuous vehicle travel.
GPS antenna (GPS data)	<ul style="list-style-type: none"> • Able to sense vehicle travel in four general directions (North, South, East, and West) 	<ul style="list-style-type: none"> • Unable to detect direction of vehicle travel at low vehicle speeds.



Map Matching

NHLE0296S0102

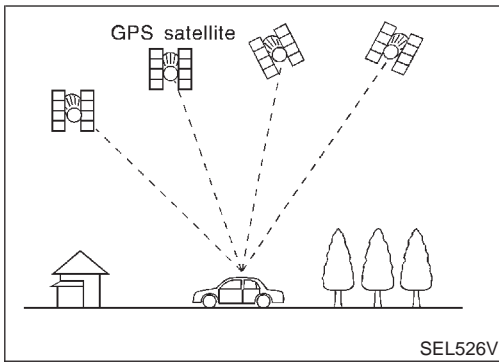
Map matching allows the driver to compare the sensed vehicle location data with the road map contained in the CD-ROM drive. Vehicle position is marked on the CD-ROM map. This permits the driver to accurately determine his/her present position on the highway and to make appropriate course decisions. When GPS data reception is poor during travel, the vehicle position is not amended. At this time, manual manipulation of the CD-ROM map position marker is required.

Map matching permits the driver to make priority judgments about possible appropriate roads other than the one currently being traveled.

If there is an error in the distance or direction of travel, there will also be an error in the relative position of other routes. When two routes are closely parallel to one another, the indicated position for both routes will be nearly the same priority. This is so that, slight changes in the steering direction may cause the marker to indicate both routes alternately.

Newly constructed roads may not appear on the CD-ROM map. In this case, map matching is not possible. Changes in the course of a road will also prevent accurate map matching.

When driving on a road not shown on the CD-ROM map, the position marker used for map matching may indicate a different route. Even after returning to a route shown on the map, the position marker may jump to the position currently detected.



GPS (Global Positioning System)

NHEL0296S0103

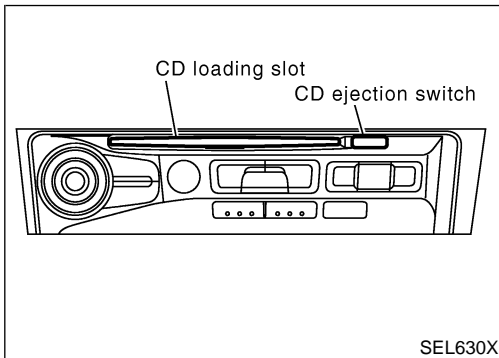
GPS is the global positioning system developed and operated by the US Department of Defense. GPS satellites (NAVSTAR) transmit radio waves and orbit around the earth at an altitude of approximately 21,000 km (13,000 miles).

GPS receiver calculates the three-dimensional position of the vehicle (latitude, longitude, and altitude from the sea level) by the time difference of the radio wave arriving from more than four GPS satellites (three-dimensional positioning).

When the radio wave is received from only three GPS satellites, the two-dimensional position (latitude and longitude) is calculated, using the altitude from the sea level data calculated by using four GPS satellites (two-dimensional positioning).

Positioning capability is degraded in the following cases.

- In two-dimensional positioning, when the vehicle's altitude from the sea level changes, the precision becomes lower.
- The location detection performance can have an error of about 100 m (300 ft) even in three-dimensional positioning with high precision. Because the precision is influenced by the location of GPS satellites used for positioning, the location detection performance may drop depending on the location of GPS satellites.
- When the radio wave from GPS satellites cannot be received, for example, when the vehicle is in a tunnel, in a parking lot inside building, under an elevated superhighway or near strong power lines, the location may not be detected. Turbulent/electric weather conditions may also affect positioning performance. If something is placed on the antenna, the radio wave from GPS satellites may not be received.



COMPONENT DESCRIPTION

NHEL0296S02

NAVI Control Unit

NHEL0296S0201

- The gyro (angular speed sensor) and the CD-ROM drive are built-in units that control the navigation functions.
- Signals are received from the gyro, the vehicle speed sensor, and the GPS antenna. Vehicle location is determined by combining this data with the data contained in the CD-ROM map. Locational information is shown on liquid crystal display panel.

CD-ROM Driver

NHEL0296S0202

Maps, traffic control regulations, and other pertinent information can be easily read from the CD-ROM disc.

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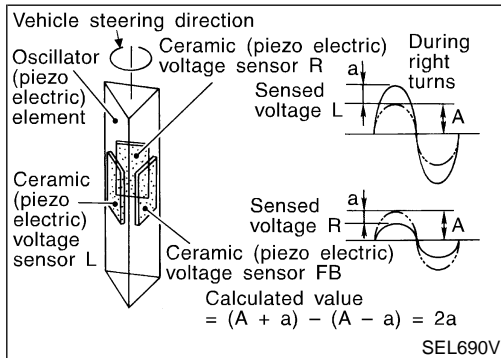
NAVIGATION SYSTEM

System Description (Cont'd)

Map CD-ROM

NH/EL0296S0203

- The map CD-ROM has maps, traffic control regulations, and other pertinent information.
- To improve CD-ROM map matching and route determination functions, the CD-ROM uses an exclusive Nissan format. Therefore, the use of a CD-ROM provided by other manufacturers cannot be used.



Gyro (Angular Speed Sensor)

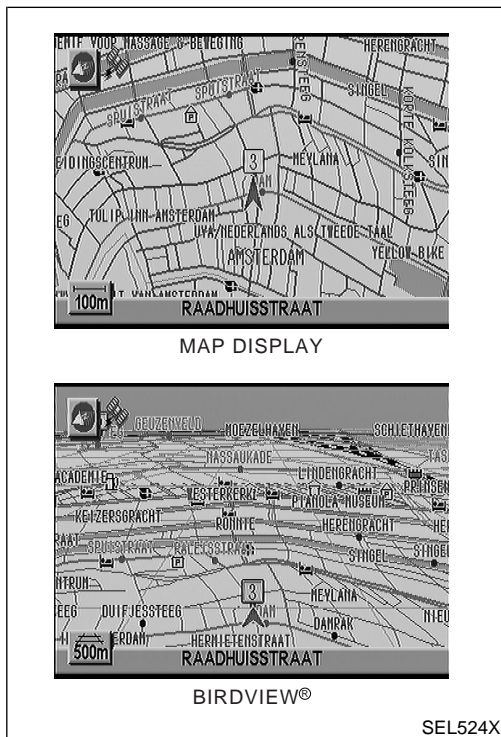
NH/EL0296S0204

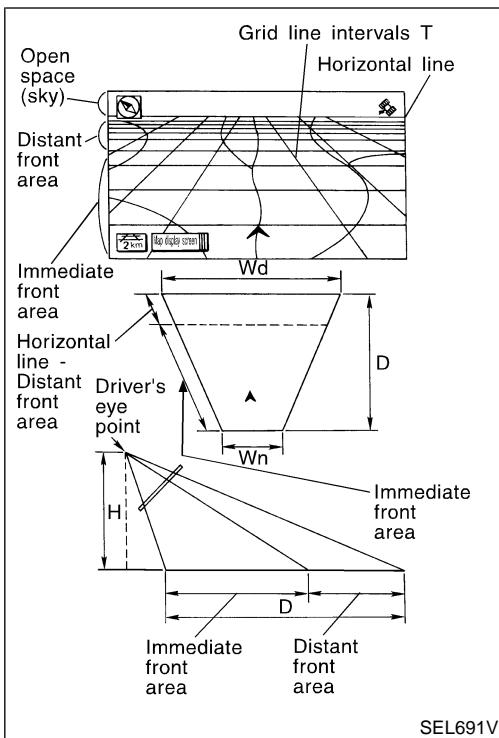
- The oscillator gyro sensor is used to detect changes in vehicle steering angle.
- The oscillator gyro periodically senses oscillatory variation at the oscillation terminals. This variation is caused by changes in the vehicle angular velocity. Voltage variations are sensed by ceramic voltage sensors at the left and right sides of the terminals. Vehicle angular velocity corresponds directly with these changes in voltage.
- The gyro is built into the navigation (NAVI) control unit.

BIRDVIEW®

NH/EL0296S0205

The BIRDVIEW® provides a detailed and easily seen display of road conditions covering the vehicle's immediate to distant area.





Description

NHEL0296S0206

- Display area: Trapezoidal representation showing approximate distances (W_n , D , and W_d).
 - Ten horizontal grid lines indicate display width while six vertical grid lines indicate display depth and direction.
 - Drawing line area shows open space, depth, and immediate front area. Each area is to a scale of approximately 5:6:25.
 - Pushing the "ZOOM IN" button during operation displays the scale change and the view point height on the left side of the screen.
- The height of the view point increases or decreases when "ZOOM" OR "WIDE" is selected with the joystick.

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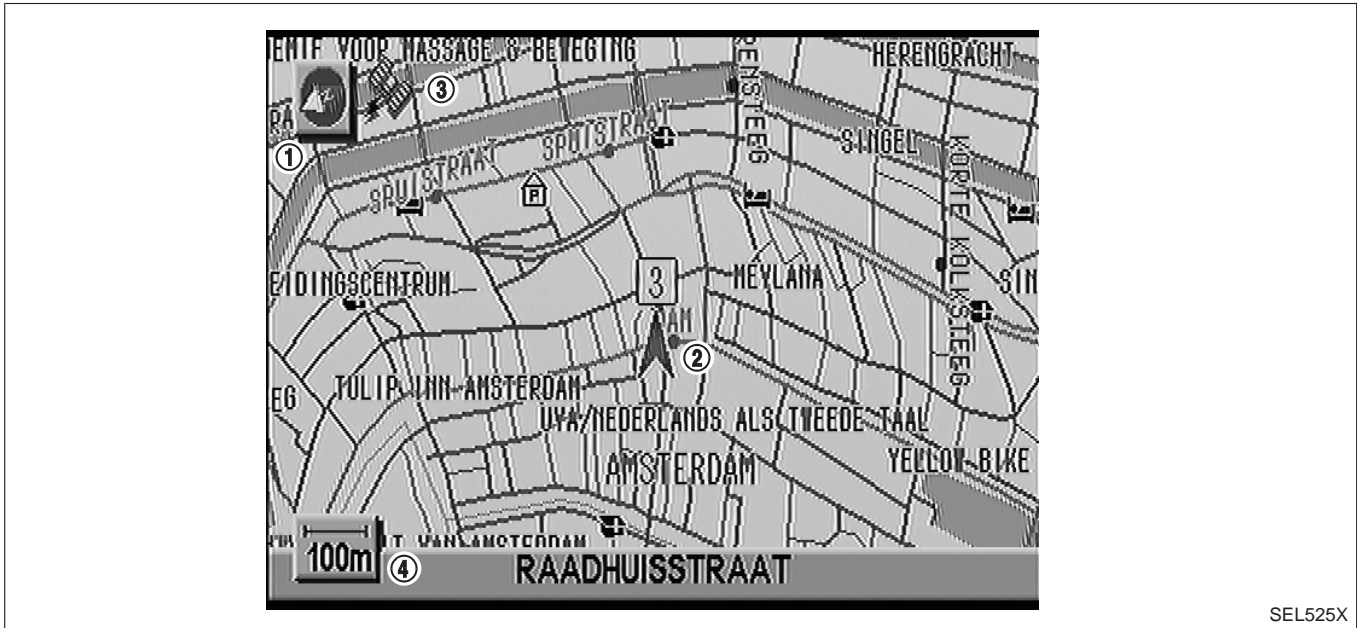
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NAVIGATION SYSTEM

System Description (Cont'd)

MAP DISPLAY

=NH/EL0296S03



SEL525X

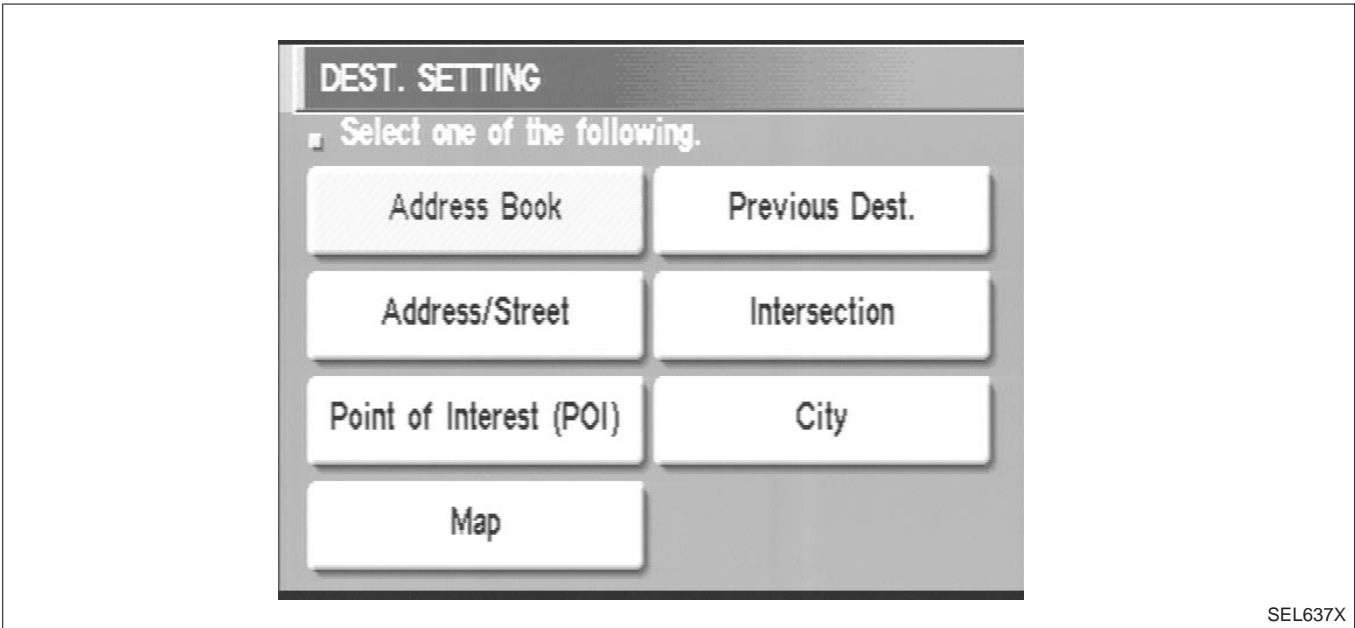
Function of each icon is as follows:

- 1) Azimuth indication
- 2) Position marker
The tip of the arrow shows the current position. The shaft of the arrow indicates the direction in which the vehicle is traveling.
- 3) GPS reception signal (indicates current reception conditions)
- 4) Distance display (shows the distance in a reduced scale)

FUNCTION OF PANEL SWITCH Display with Pushed "DEST" Switch

=NHHEL0296S04

NHHEL0296S0401



SEL637X

The function of each icon is as follows:

Icon	Description
Address Book	Favorite areas can be saved to memory.
Address/Street	The information can be searched from the address.
Point of Interest (POI)	The information of favorite areas can be searched.
Intersection	The destination from the intersection name can be retrieved.
Previous Dest.	The previous ten destinations stored in memory are displayed.
City	The information can be searched from city name.
Map	The information can be searched from the map.

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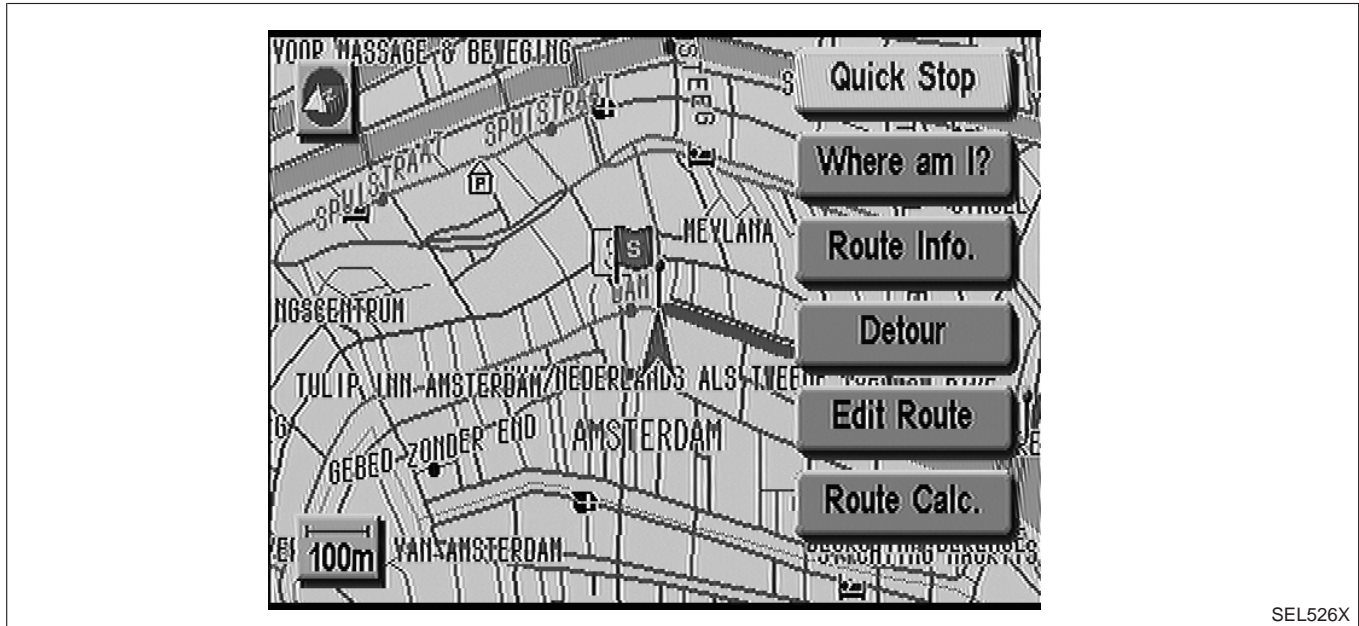
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NAVIGATION SYSTEM

System Description (Cont'd)

Display with Pushed "ROUTE" Switch

=NH0296S0402



SEL526X

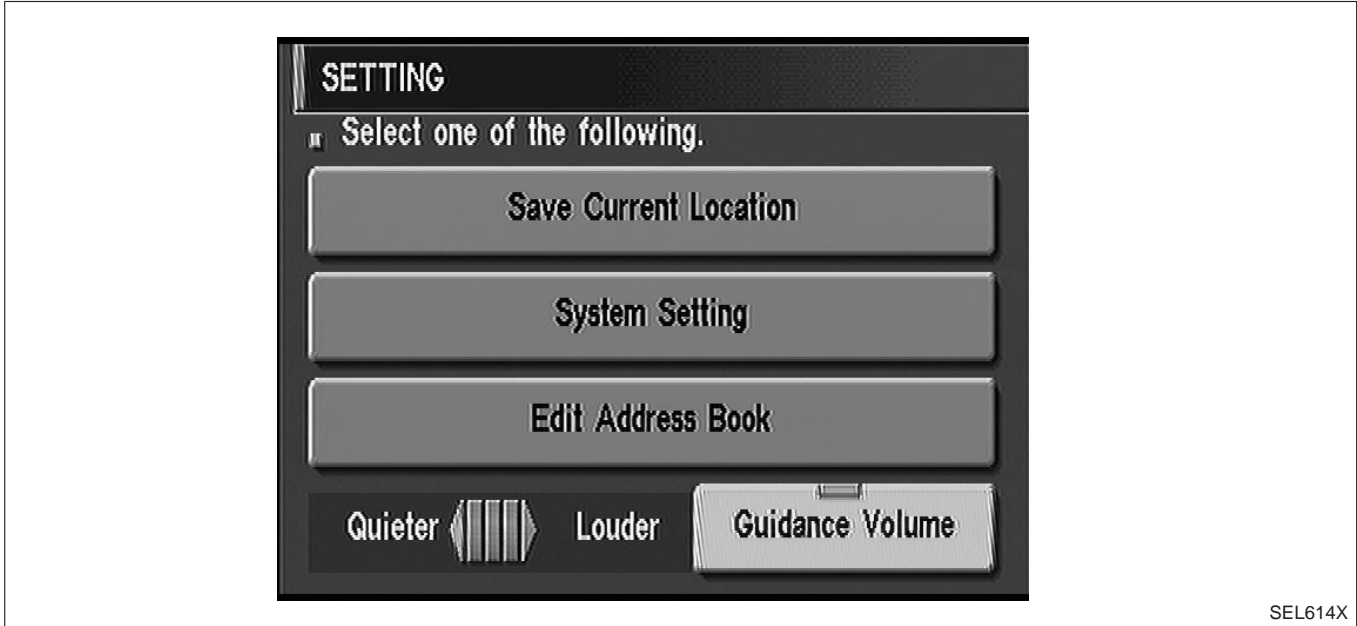
The function of each icon is as follows:

Icon	Description
Quick Stop	The selected facility is set as the destination or way-point. (Route guidance has been turned OFF or the destination has been reached)
Where am I?	Next, current and previous street names can be displayed.
Route Info.*	The following items can be set <ul style="list-style-type: none"> ● Complete Route ● Turn List ● Route Simulation (Displayed only when the destination area has been set.)
Detour*	Based on the selected distance, an alternative route is searched. [Displayed only when the recommended route (not its reverse) is followed.]
Edit Route*	Change the destination, or add the transit points of the route set in the route guide. (Displayed only when the automatic reroute function has been turned OFF and the recommended route is not followed.)
Route Calc.	Search for a recommended route between the vehicle's current location and the destination area. (Displayed only when the destination area has been set.)

*: When destinations have been entered, route guidance OFF or destination have been reached "Route Info.", "Detour", "Edit Route" and "Route Clac." are not displayed.

Display with Pushed "SETTING" Switch

=NH/EL0296S0403



The function of each icon is as follows:

Icon	Description
Save Current Location	The current location can be stored in the Address Book.
System Setting	Many adjustments and settings can be made for maximum driving pleasure and convenience.
Edit Address Book	The Address Book data can be edited.
Guidance Volume	The volume and/or on/off of voice prompt can be controlled by the joystick.

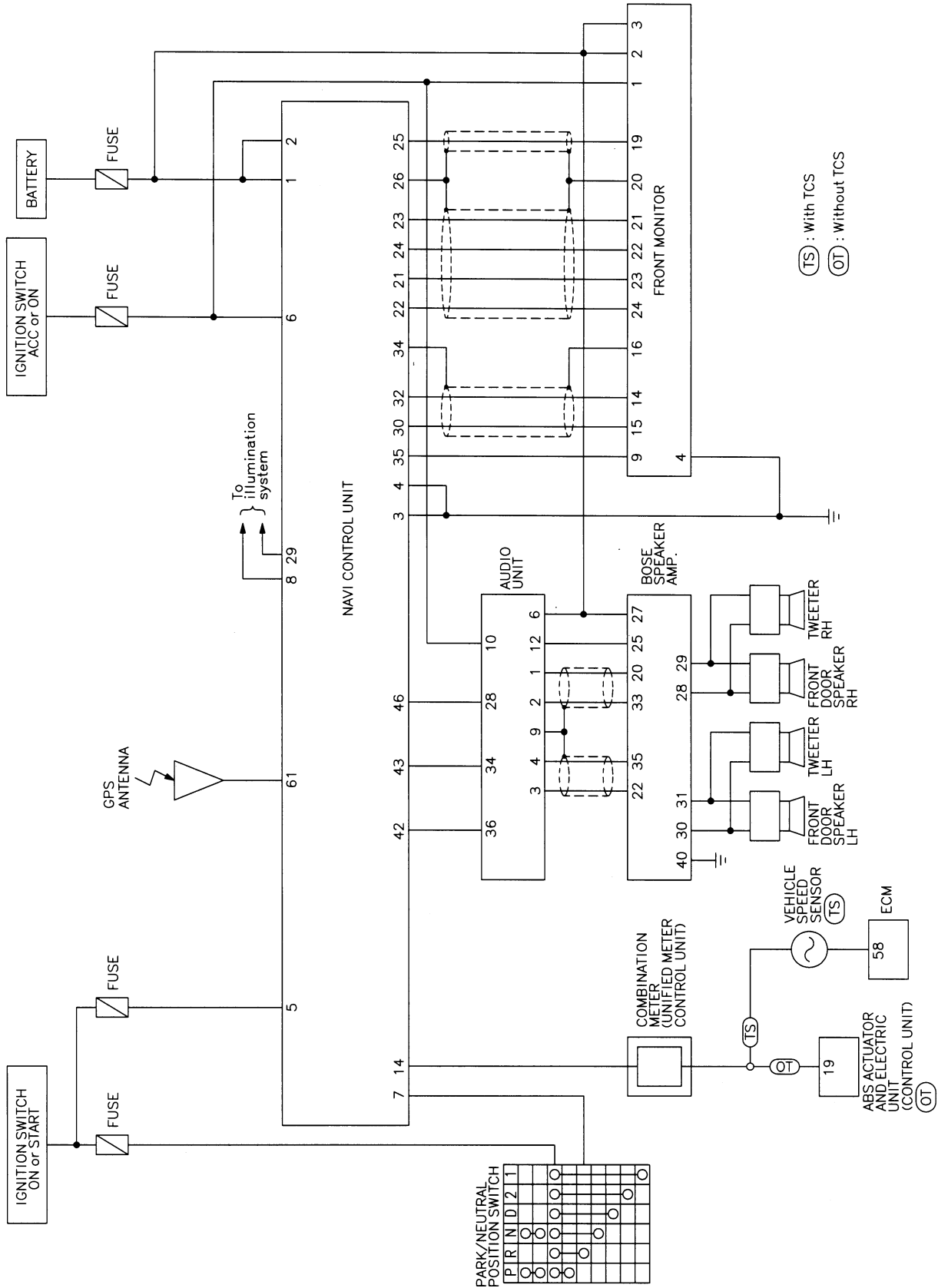
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NAVIGATION SYSTEM

Schematic

NHEL0297

Schematic



MEL095M

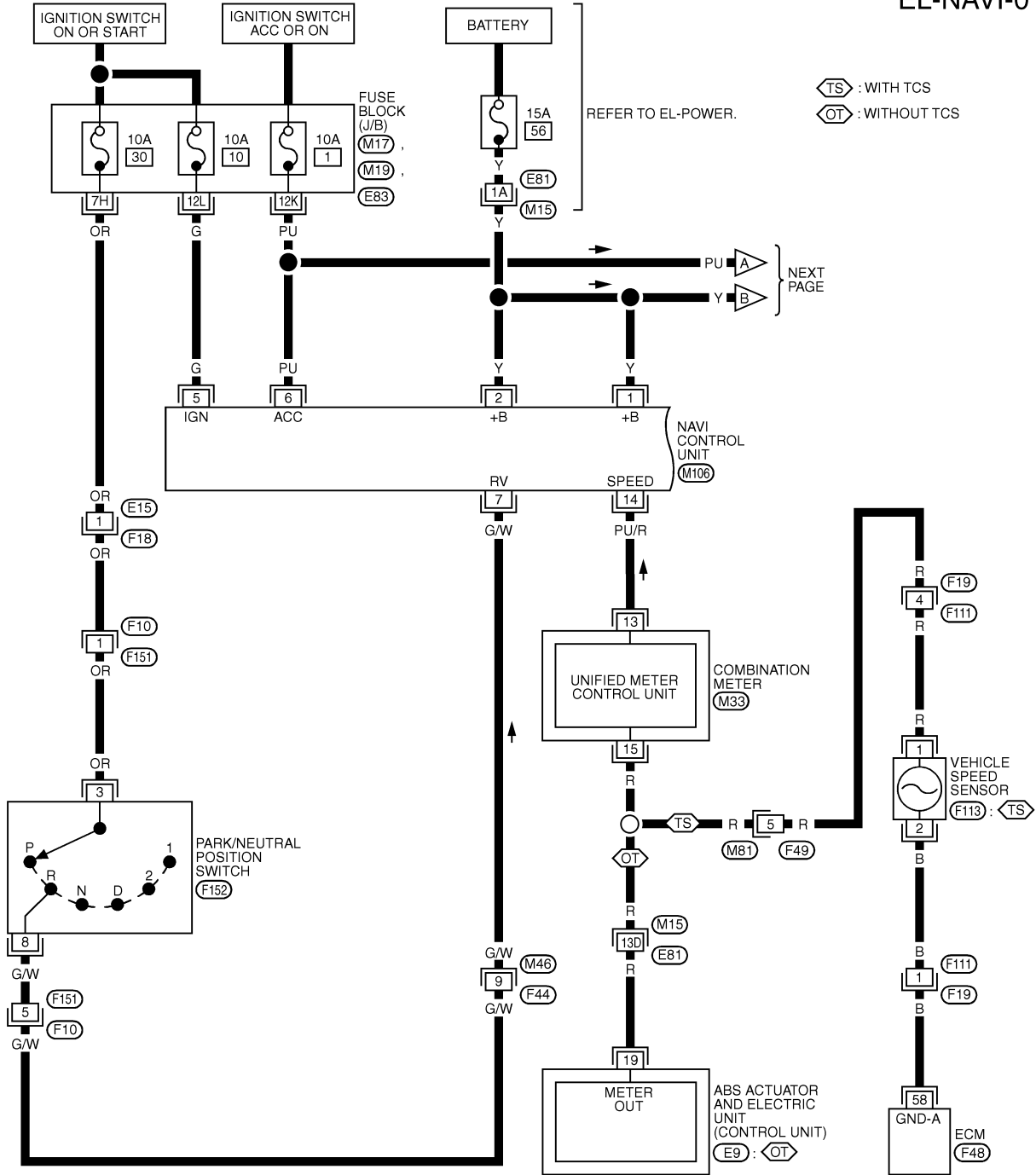
NAVIGATION SYSTEM

Wiring Diagram — NAVI —

Wiring Diagram — NAVI —

NHEL0298

EL-NAVI-01



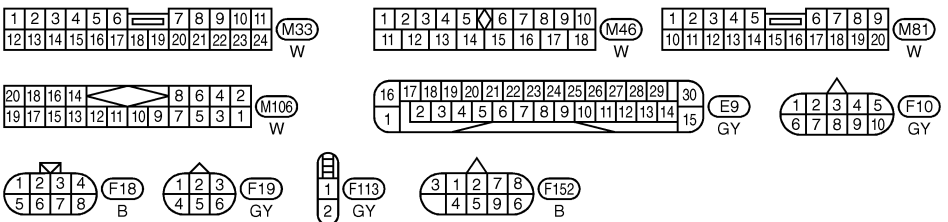
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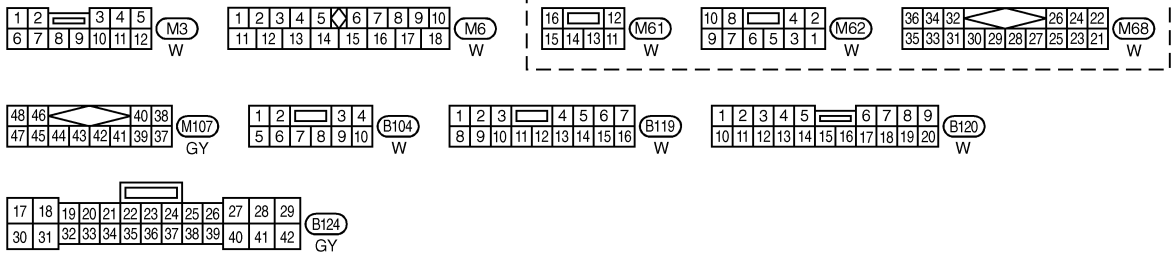
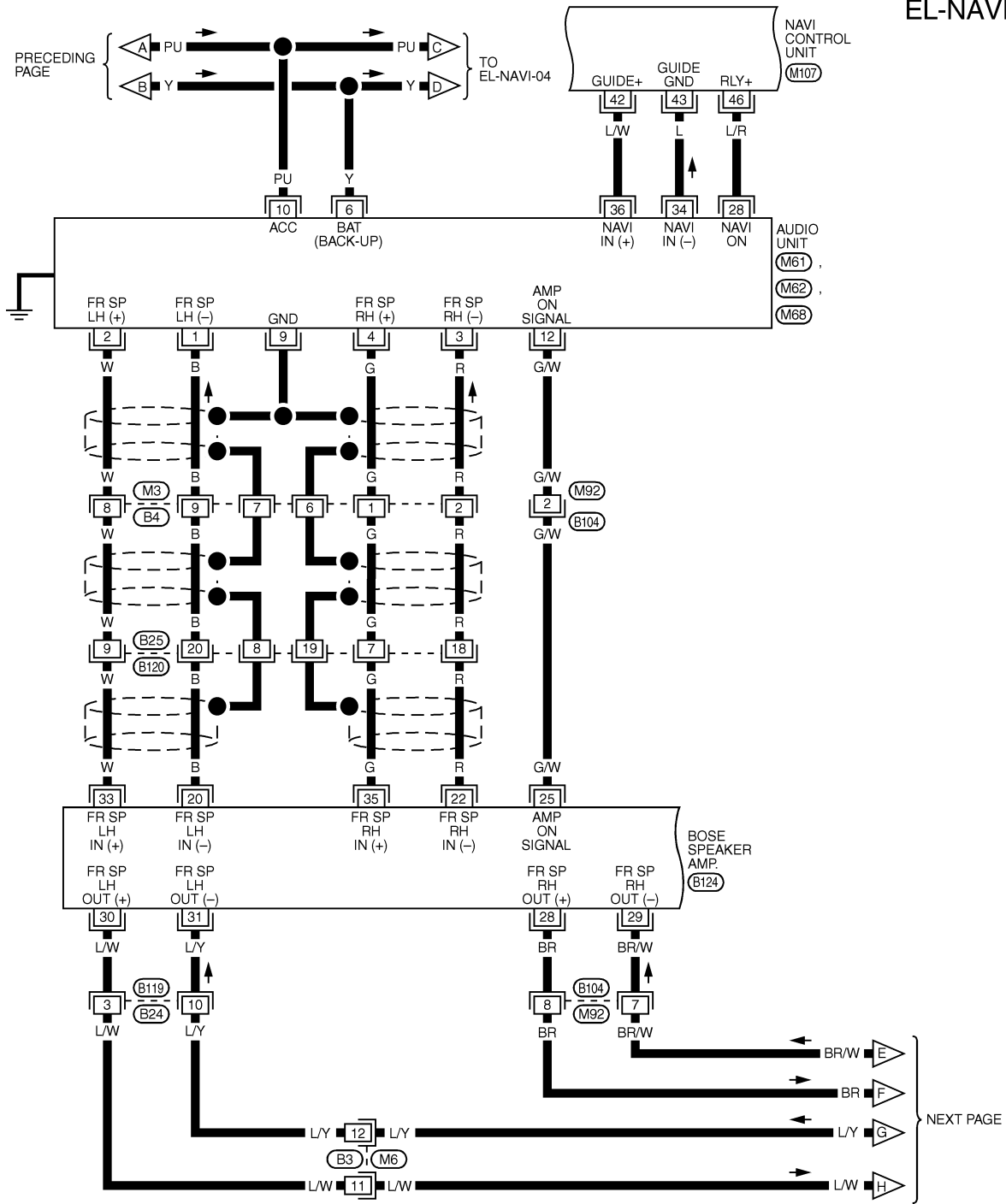
REFER TO THE FOLLOWING.

- (M15) -SUPER
- MULTIPLE JUNCTION (SMJ)
- (M17, M19, E83)
- FUSE BLOCK-
- JUNCTION BOX (J/B)
- (F48) -ELECTRICAL UNITS-

NAVIGATION SYSTEM

Wiring Diagram — NAVI — (Cont'd)

EL-NAVI-02



MEL445M

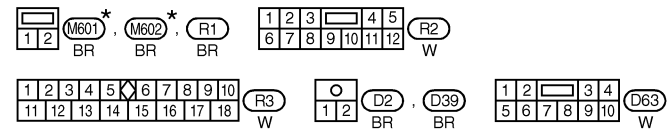
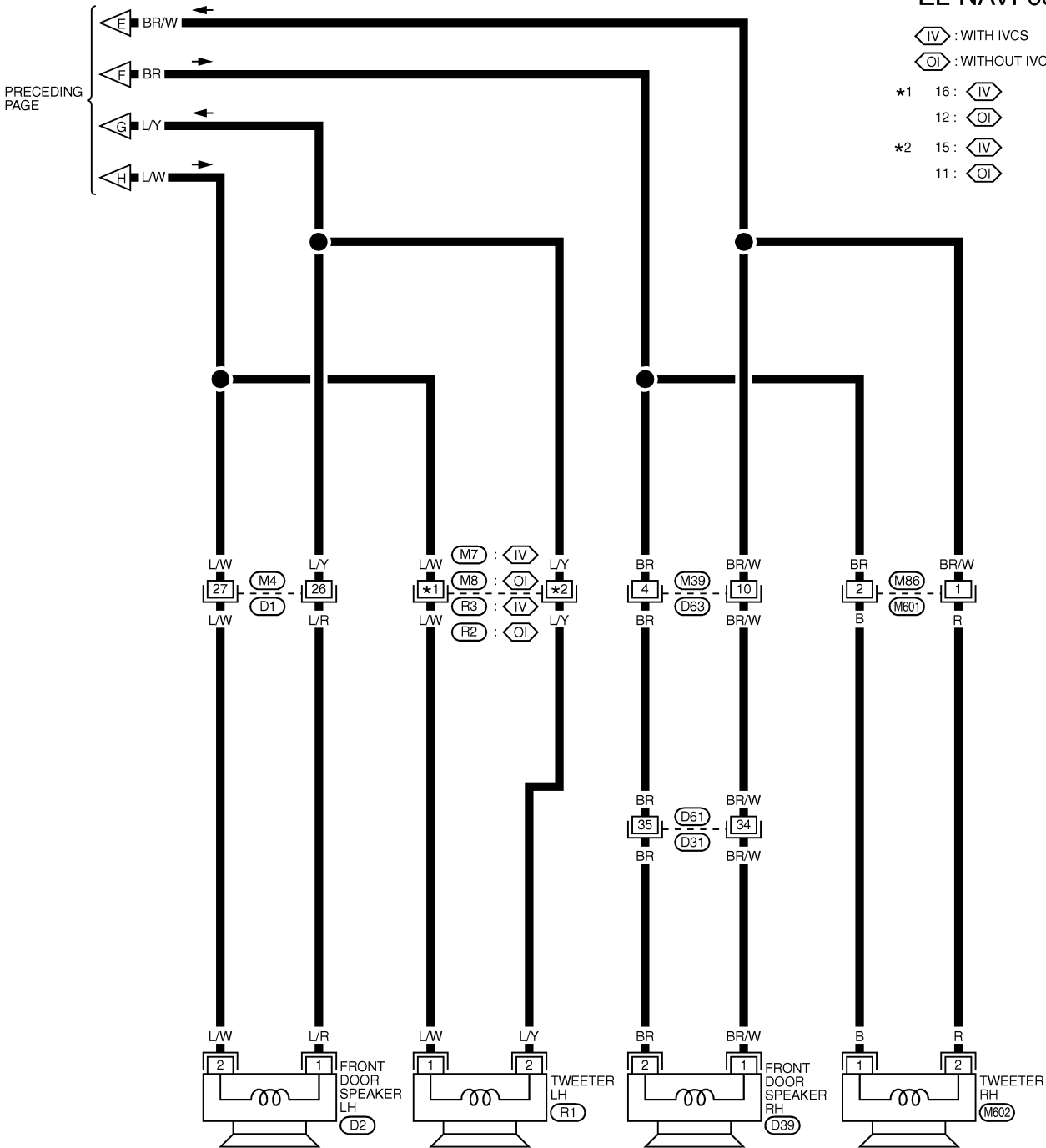
NAVIGATION SYSTEM

Wiring Diagram — NAVI — (Cont'd)

EL-NAVI-03

IV : WITH IVCS
OI : WITHOUT IVCS

- *1 16: IV
- 12: OI
- *2 15: IV
- 11: OI



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

REFER TO THE FOLLOWING.
D1 , D31 - SUPER
 MULTIPLE JUNCTION (SMJ)

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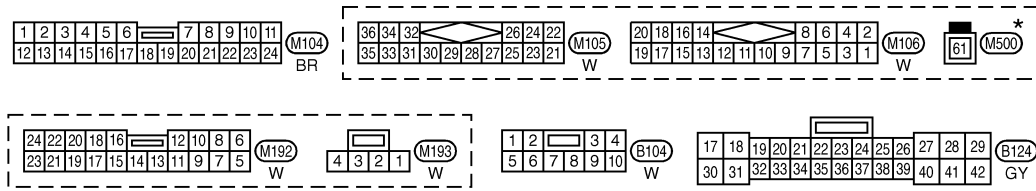
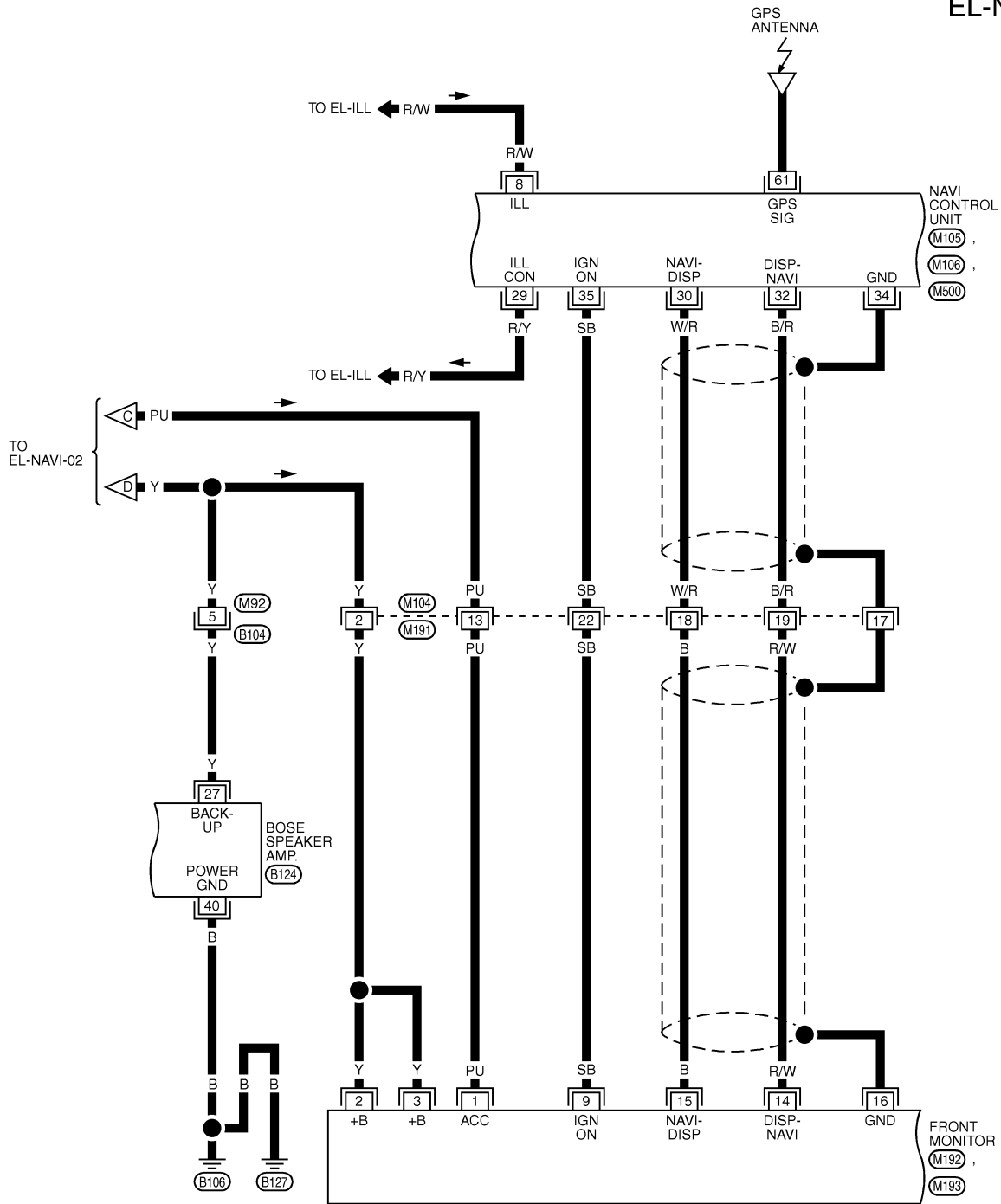
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NAVIGATION SYSTEM

Wiring Diagram — NAVI — (Cont'd)

EL-NAVI-04



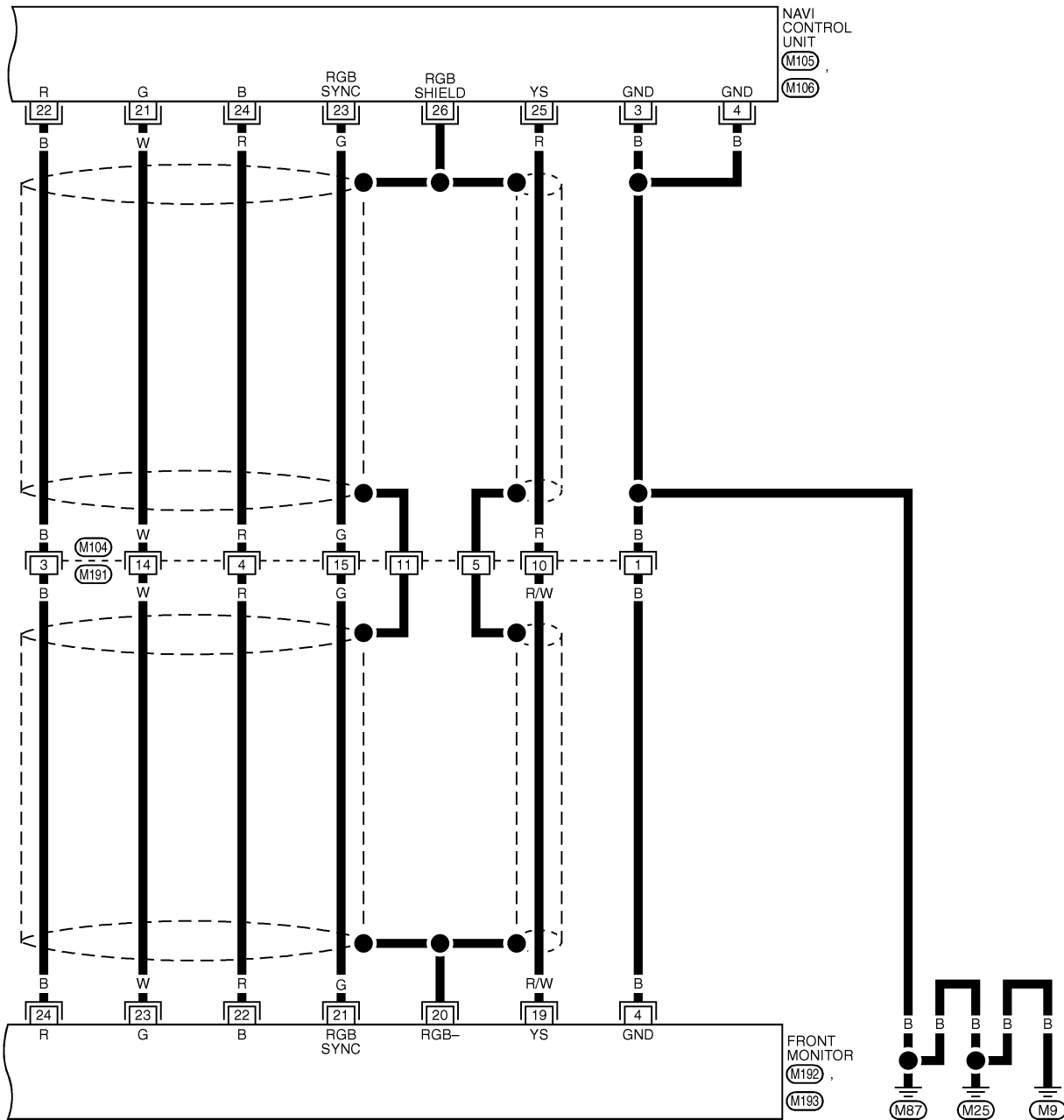
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", EL SECTION.

MEL098M

NAVIGATION SYSTEM

Wiring Diagram — NAVI — (Cont'd)

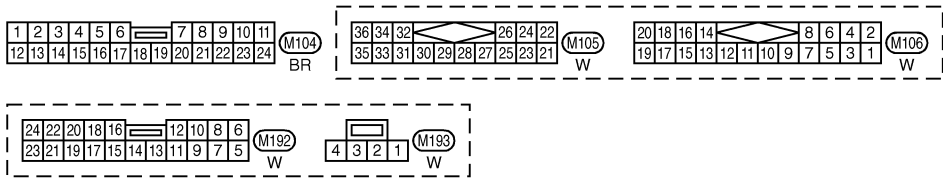
EL-NAVI-05



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NAVIGATION SYSTEM

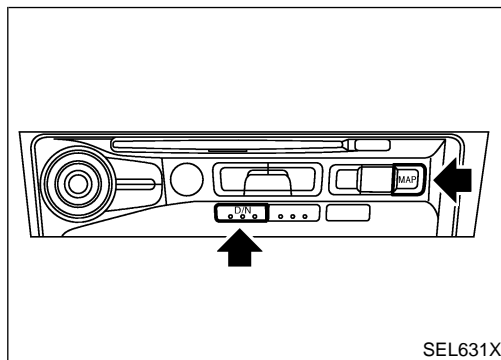
Self-diagnosis Mode

Self-diagnosis Mode APPLICATION ITEMS

NHEL0299

NHEL0299S01

Mode		Description	Reference page	
Self Diagnosis		Self-diagnosis for Navigation, Display and GPS Antenna connection.	EL-483	
Confirmation/ adjustment	Diagnose the Display	Color and gray gradation of display can be checked in this mode.	EL-491	
	Diagnosis for Signals from the Car	Several input signals to NAVI control unit, can be monitored in this mode.	EL-489	
	Navigation	Check the map CD-ROM version	The version (parts number) of inserted CD-ROM can be checked in this model.	EL-490
		Error history	Diagnosis results previously stored in the memory (before turning ignition switch ON) are displayed in this mode. Time and location when/where the errors occurred are also displayed.	EL-485
		Longitude & Latitude	Display the map. Use the joystick to adjust position. Longitude and latitude will be displayed.	EL-492
		Adjust the Angle	Turning angle of the vehicle on the display can be adjusted in this mode.	EL-493
	Speed Calibration	Under ordinary conditions, the navigation system distance measuring function will automatically compensate for minute decreases in wheel and tire diameter caused by tire wear or low pressure. Speed calibration immediately restores system accuracy in cases such as when distance calibration is needed because of the use of tire chains in inclement weather.	EL-494	
Initialize Location	This mode is for initializing the current location. Use when the vehicle is transported a long distance on a trailer, etc.	EL-495		



HOW TO PERFORM SELF-DIAGNOSIS MODE

NHEL0299S02

1. Start the engine.
2. Push "OPEN/CLOSE" switch and then open the display.
3. Push both of "MAP" and "D/N" switches at the same time for more than five seconds.
4. Select "Self Diagnosis" or "Confirmation/ adjustment".
 - For further procedure, refer to the following pages which describe each application item of the self-diagnosis mode.



NHEL0299S0201



“Self Diagnosis”

1. Start the engine.
2. Push “OPEN/CLOSE” switch and then open the display.
3. Push both “MAP” and “D/N” switches at the same time for more than 5 seconds.
4. Select “Self Diagnosis”.

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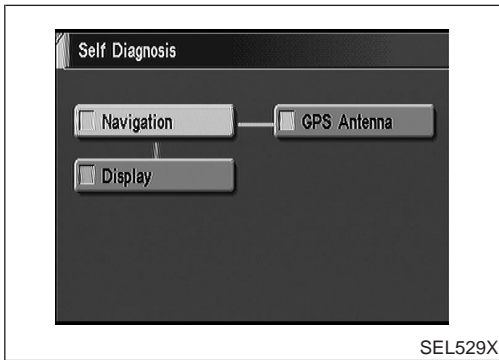
5. Self-diagnosis will be performed.

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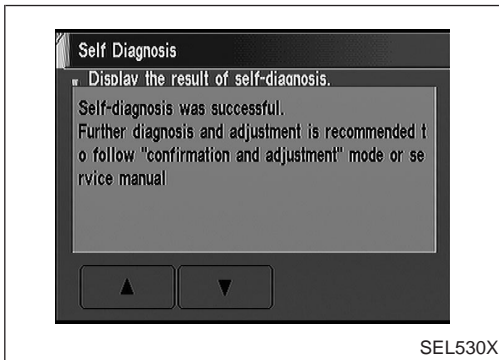
6. Diagnosis results will be displayed. Diagnosis results are indicated by display color. For details refer to EL-484, “SELF-DIAGNOSIS RESULTS”.

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To obtain detailed diagnosis results on the screen, touch “Navigation” or “Display” or “GPS Antenna”.

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NAVIGATION SYSTEM

Self-diagnosis Mode (Cont'd)

SELF-DIAGNOSIS RESULTS

=NHLE0299S03

Diagnosed item	Displayed color	Detailed result	Description	Diagnoses/service procedure Recheck system at each check or replacement (When malfunction is eliminated, further repair work is not required.)
"GPS Antenna" (GPS antenna connection)	Green	—	GPS antenna is connected to NAVI control unit correctly.	—
	Yellow	Connection to the following unit is abnormal. See the Service Manual for further diagnosis.	GPS antenna connection error is detected.	<ol style="list-style-type: none"> 1. Check GPS antenna feeder cable connection at NAVI control unit. 2. Visually check GPS antenna feeder cable. If NG, replace GPS antenna assembly. 3. Replace GPS antenna.
"Navigation"	Green	—	No failure is detected.	—
	Red	[*** is abnormal.]	NAVI control unit is malfunctioning.	Replace NAVI control unit.
	Gray	Self-diagnosis for CD-ROM DRIVER of NAVI was not conducted due to no insertion of CD-ROM.	Any CD-ROM is not inserted or NAVI control unit is malfunctioning.	<ol style="list-style-type: none"> 1. Confirm that map CD-ROM is not inserted into NAVI control unit. 2. Replace NAVI control unit.
	Yellow	CD-ROM or CD-ROM DRIVER of NAVI is abnormal. See the Service Manual for further diagnosis.	NAVI control unit judges that inserted CD-ROM is malfunctioning. Map CD-ROM or CD-ROM driver of the unit is malfunctioning.	<ol style="list-style-type: none"> 1. Confirm the disc is installed correctly (not up side down.) 2. Perform "Check the Map CD-ROM version MODE" in EL-490 to confirm whether correct CD-ROM is inserted or not. 3. Check the disc surface. Are there any scratches, abrasions or pits on the surface? 4. Replace the CD-ROM. 5. Replace NAVI control unit.
		CD-ROM is abnormal. Please check the disc.	Inserted map CD-ROM can not be read. Map CD-ROM or CD-ROM driver of the unit is malfunctioning.	
		Connection to the following unit is abnormal. See the Service Manual for further diagnosis.	GPS antenna connection error is detected.	

NOTE:

Connection between NAVI control unit and display unit should be normal. Therefore, "Display connection error" will not occur when the display can be opened or closed properly.

Confirmation/Adjustment Mode

=NH0300

“ERROR HISTORY” MODE

NH0300S01

Description

NH0300S0101

In this mode, error history of the system are displayed with the following data.

- How many times the error was detected
- The last time data when the error was detected
- The last place where the error was detected

NOTE:

- The number of errors can be counted up to 50 times. More than 51 times will be indicated as 50 times.
- Malfunction of the GPS board (inside the NAVI control unit) will result in the display of incorrect time data.
- When an error occurs, an incorrect position marker appears on the display. The accuracy of the display data (position marker) will be affected.

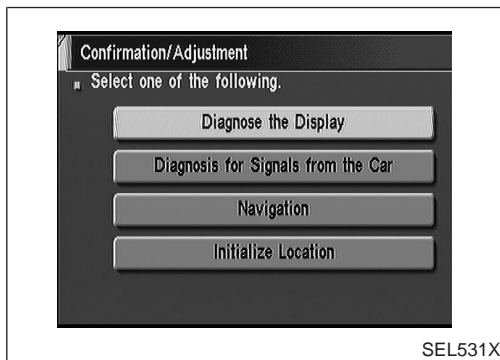
How to Perform

NH0300S0102

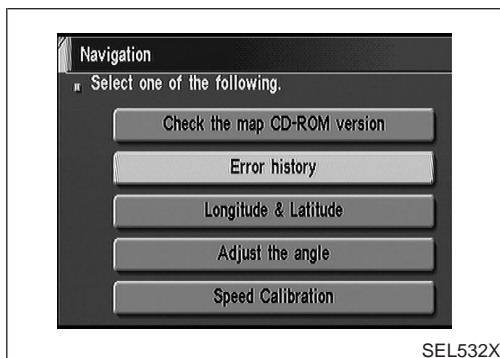
1. Start the engine.
2. Push “OPEN/CLOSE” switch and then open the display.
3. Push both “MAP” and “D/N” switch at the same time for more than 5 seconds.
4. Select “Confirmation/ adjustment”.
5. Select “Navigation”.
6. Select “Error history”.



SEL527X



SEL531X



SEL532X

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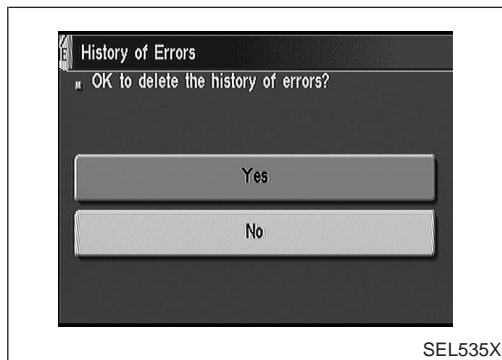
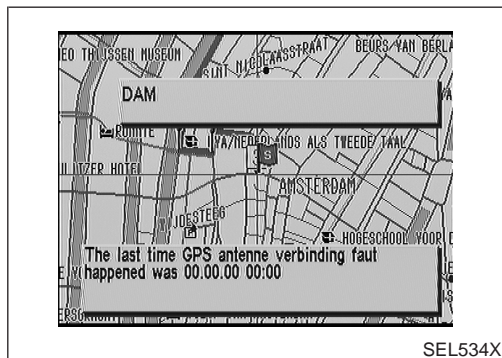
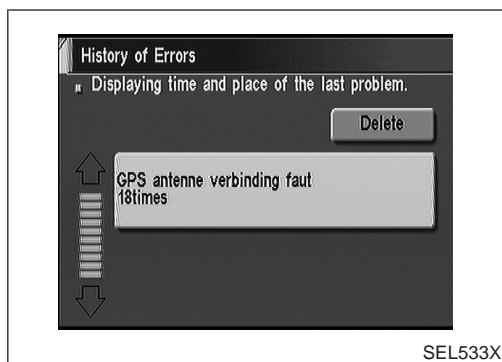
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NAVIGATION SYSTEM

Confirmation/Adjustment Mode (Cont'd)



7. If trouble items are displayed with time count, repair/replace the system according to "ERROR HISTORY" TABLE, EL-487.

8. If necessary, touch error item to display the time when the error was detected and the place where the error was detected.

9. After repairing the system, erase the diagnosis memory.

NOTE:

When the NAVI control unit must be replaced, do not erase the diagnosis memory for further inspection of malfunctions.

- 1) Start the engine.
- 2) Push both "Map" and "D/N" switches at the same time for more than 5 seconds.
- 3) Select "Confirmation/ adjustment".
- 4) Select "Navigation".
- 5) Select "Error history".
- 6) Select "Delete".
- 7) Select "Yes".

NAVIGATION SYSTEM

Confirmation/Adjustment Mode (Cont'd)

“ERROR HISTORY” TABLE

=NHLE0300S02

Detected items	Description	Diagnosis/service procedure	Reference page	
Gyro sensor disconnected	Communications malfunction between NAVI control unit and internal gyro	Perform self-diagnosis to confirm whether the NAVI control unit is malfunctioning or not. If no failure is detected, a momentary and/or temporary malfunction may have been caused by strong electromagnetic wave interference.	EL-482	GI MA EM
Connection problem of speed sensor	Input malfunction of NAVI control unit and speed sensor	Check vehicle speed sensor signal in “Diagnosis for signals from the car” mode. If the input signal is not detected correctly, check harness for open or short between combination meter and NAVI control unit.	EL-489	LC EC
GPS disconnected	Communications malfunction between NAVI control unit and GPS board	Perform self-diagnosis to confirm whether the NAVI control unit is malfunctioning or not. If no failure is detected, a momentary and/or temporary malfunction may have been caused by strong electromagnetic wave interference.	EL-482	FE
GPS transmission cable malfunction				AT
GPS input line connection error				AX
GPS TCXO over	The transmission circuit of the GPS board frequency synchronization oscillator (inside the NAVI control unit) is sending an oscillation frequency that is greater or less than the set value.	A location error occurs. Strong electromagnetic wave interference may have occurred. The GPS antenna may be in a very hot or very cold environment. This is usually a temporary malfunction.	—	SU
GPS TCXO under				BR
GPS ROM malfunction	Internal malfunction of GPS board RAM or ROM inside the NAVI control unit.	Perform self-diagnosis to confirm whether the NAVI control unit is malfunctioning or not. If no failure is detected, a momentary and/or temporary malfunction may have been caused by strong electromagnetic wave interference.	EL-482	ST
GPS RAM malfunction				RS
GPS RTC malfunction	Malfunction of GPS board clock IC inside the NAVI control unit.			BT
GPS antenna disconnected	—	Perform self-diagnosis to confirm GPS antenna connection. If no failure is detected, a momentary and/or temporary malfunction may have been caused by a strong impact.	EL-482	HA
Low voltage of GPS	Power supply voltage for GPS board inside the NAVI control unit is low.	1. Check power supply circuits for NAVI control unit.	EL-507	SC
		2. Perform self-diagnosis to confirm GPS antenna connection.	EL-482	EL
		3. If above diagnosis results are OK, a momentary and/or temporary malfunction may have been caused by a strong impact.	—	IDX
CD-ROM communication error	CD-ROM driver malfunction (inside the NAVI control unit)	Perform self-diagnosis to confirm whether the NAVI control unit is malfunctioning or not. If no failure is detected, a momentary and/or temporary malfunction may have been caused by strong electromagnetic wave interference.	EL-482	

NAVIGATION SYSTEM

Confirmation/Adjustment Mode (Cont'd)

Detected items	Description	Diagnosis/service procedure	Reference page
Loading mechanism malfunction	—	Check that whether the disc can be inserted and ejected correctly. If the loading function does not operate correctly, replace NAVI control unit.	—
CD-ROM reading error	It is confirmed that the appropriate CD-ROM disc is positioned in the CD-ROM loader. However, no data can be read.	Perform self-diagnosis to confirm whether the inserted disc is malfunctioning or not.	EL-482
Malfunctioning of error correction for CD-ROM	Erroneous data is read from the CD-ROM. The errors cannot be corrected.		
CD-ROM focus error	CD-ROM data reading beam is out of focus.	Rough road driving might create CD skipping like music CD audio unit.	—
CD-ROM malfunction	—	Perform self-diagnosis to confirm whether the inserted disc is malfunctioning or not.	EL-482

“DIAGNOSIS FOR SIGNALS FROM THE CAR” MODE

=NHLEL0300S03

Description

NHLEL0300S0301

In “Diagnosis for Signals from the Car” mode, following input signals to the NAVI control unit can be checked on the display.

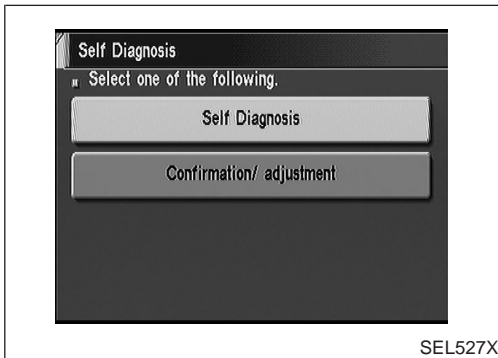
Item	Indication	Vehicle condition
Vehicle Speed*	ON	Vehicle speed is greater than 0 km/h (0 MPH).
	OFF	Vehicle speed is 0 km/h (0 MPH).
Light	ON	Lighting switch is in 1st or 2nd position.
	OFF	Lighting switch is in “OFF” position.
IGN	ON	Ignition switch is in “ON” position.
	OFF	Ignition switch is in “ACC” position.
Reverse*	ON	Selector/shift lever is in “Reverse” position.
	OFF	Selector/shift lever is in other than “Reverse” position.

*: When ignition switch is in “ACC” position, indication will be changed to “-”.

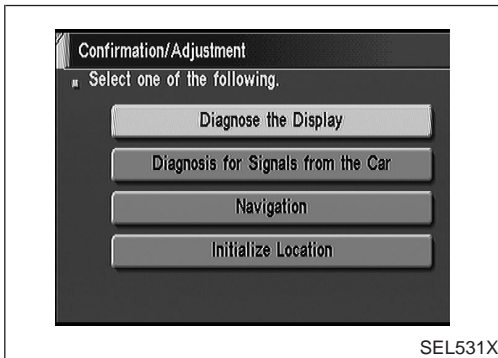
How to Perform

NHLEL0300S0302

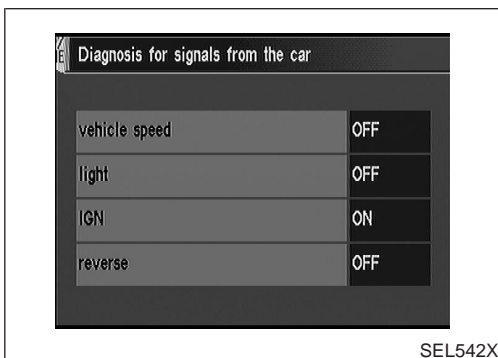
1. Start the engine.
2. Push “OPEN/CLOSE” switch and then open the display.
3. Push both “MAP” and “D/N” switches at the same time for more than 5 seconds.
4. Select “Confirmation/ adjustment”.
5. Select “Diagnosis for Signals from the Car”.
6. Then “Diagnosis for Signals from the Car” mode is performed.



SEL527X



SEL531X



SEL542X

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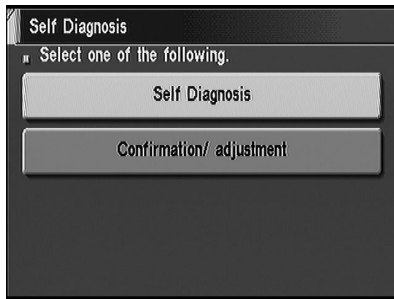
SC

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NAVIGATION SYSTEM

Confirmation/Adjustment Mode (Cont'd)



SEL527X

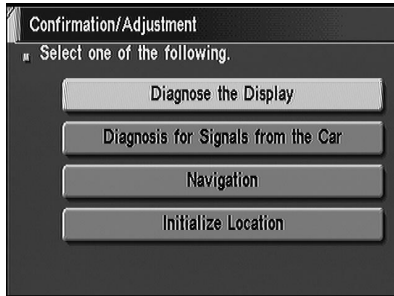
“CHECK THE MAP CD-ROM VERSION” MODE

=NHLE0300S04

How to Perform

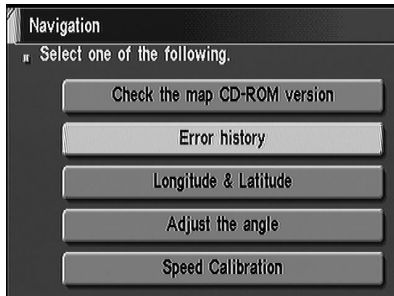
NHLE0300S0401

1. Start the engine.
2. Push “OPEN/CLOSE” switch and then open the display.
3. Push both “MAP” and “D/N” switches at the same time for more than 5 seconds.
4. Select “Confirmation/ adjustment”.



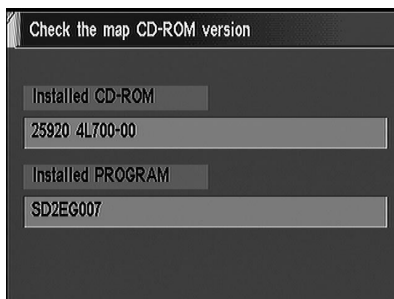
SEL531X

5. Select “Navigation”.



SEL532X

6. Select “Check the map CD-ROM version”.



SEL536X

7. The version (parts number) of CD-ROM loaded to the NAVI control unit will be displayed.

“DIAGNOSE THE DISPLAY” MODE

=NHLE0300S05

Description

NHLE0300S0501

Use the “Diagnose the Display” mode to check the display color brightness and shading. The NAVI control unit must be replaced if the color brightness and shading are abnormal.

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How to Perform

NHLE0300S0502

1. Start the engine.
2. Push “OPEN/CLOSE” switch and then open the display.
3. Push both “MAP” and “D/N” switches at the same time for more than 5 seconds.
4. Select “Confirmation/ adjustment”.

LC

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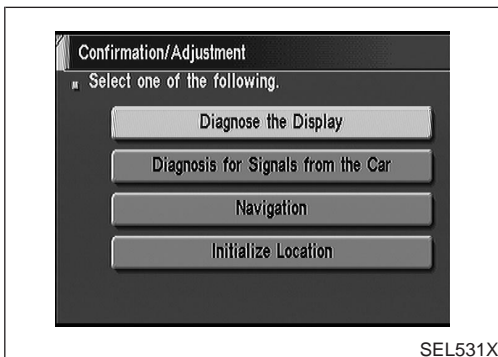
AT



SEL527X

5. Select “Diagnose the Display”.

AX

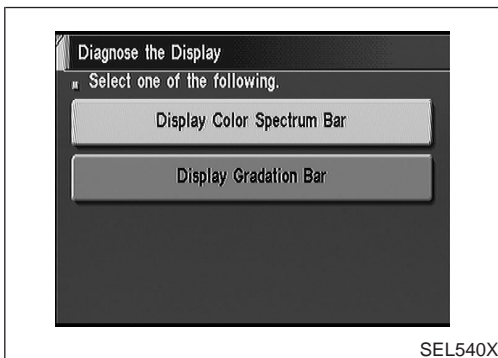


SEL531X

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SEL540X

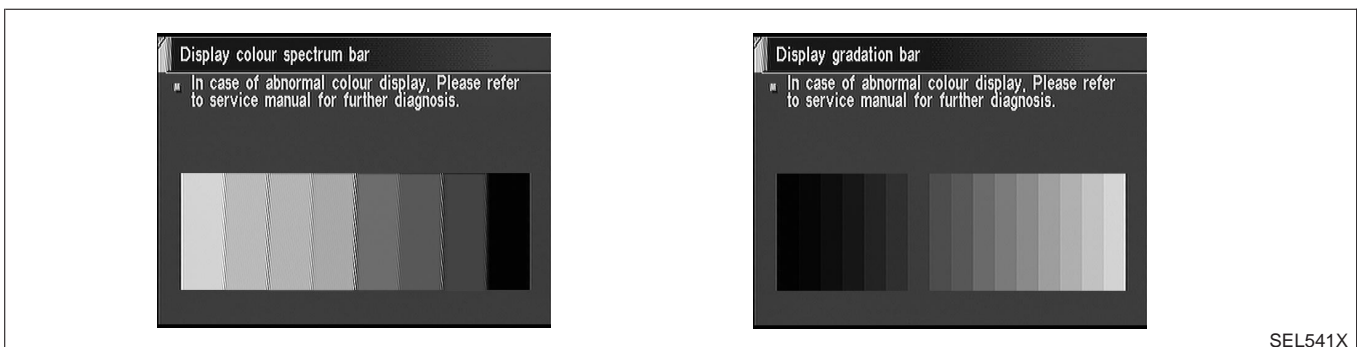
6. Select “Display Color Spectrum Bar” or “Display Gradation Bar”.
7. Then color bar/gray scale will be displayed.

RS

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SEL541X

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NAVIGATION SYSTEM

Confirmation/Adjustment Mode (Cont'd)

“LONGITUDE & LATITUDE” MODE

NHEL0300S06

Description

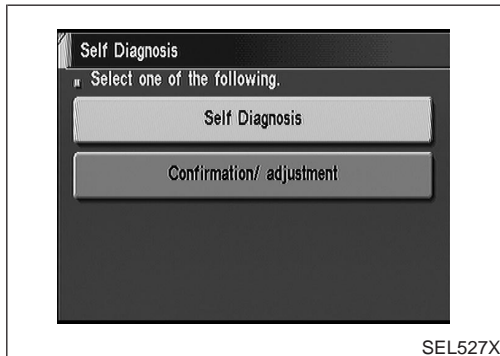
NHEL0300S0601

The “Longitude & Latitude” is used to confirm the longitude and latitude of some optional area point.

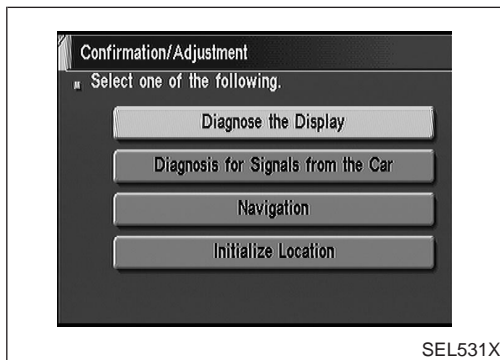
How to Perform

NHEL0300S0602

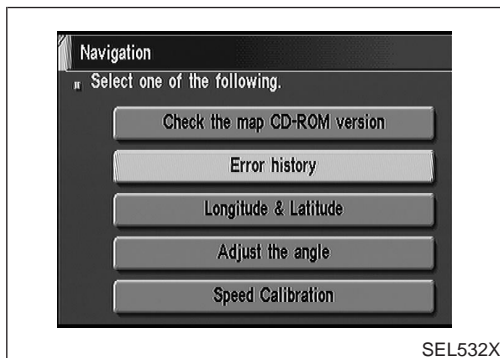
1. Start the engine.
2. Push “OPEN/CLOSE” switch and then open the display.
3. Push both “MAP” and “D/N” switches at the same time for more than 5 seconds.
4. Select “Confirmation/ adjustment”.



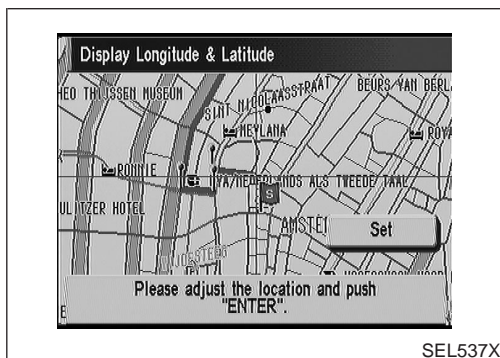
SEL527X



SEL531X



SEL532X



SEL537X

5. Select “Navigation”.
6. Select “Longitude & Latitude”.
7. Adjust the pointer with using the joystick and touch “Set”.
8. The longitude and latitude are displayed.

“ADJUST THE ANGLE” MODE

NHEL0300S07

Description

NHEL0300S0701

If the display indicates a larger or smaller turning angle than the actual turning angle, the gyro (angular speed sensor) sensing values must be checked.

In case that the vehicle on the display makes larger angle turn than reality, touch “-”. In case that the vehicle on the display makes smaller angle turn than reality, touch “+”.

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How to Perform

NHEL0300S0702

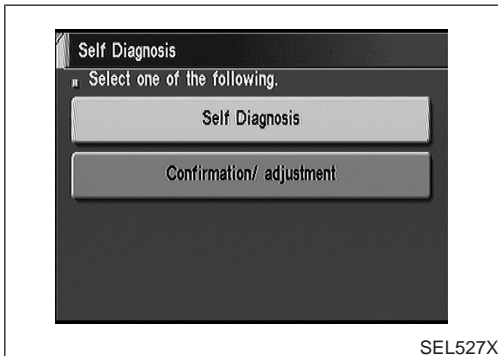
1. Start the engine.
2. Push “OPEN/CLOSE” switch and then open the display.
3. Push both “MAP” and “D/N” switches at the same time for more than 5 seconds.
4. Select “Confirmation/ adjustment”.

LC

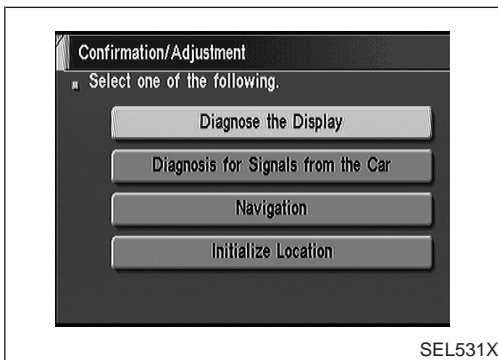
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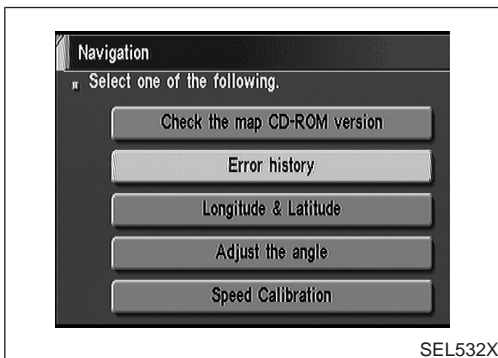
5. Select “Navigation”.

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SEL532X

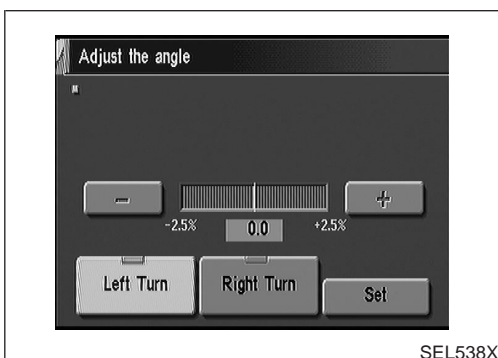
6. Select “Adjust the angle”.

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SEL538X

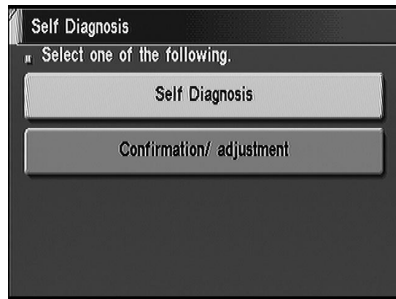
7. Select “Left Turn” to adjust the angle to the left. Touch “Right Turn” to adjust the angle to the right.
8. Select “+” to increase the angle change coefficient or “-” to reduce the angle change coefficient.
9. Select “Set” to save the changed values in memory.
10. Then the vehicle turning angle on the display has adjusted.

EL

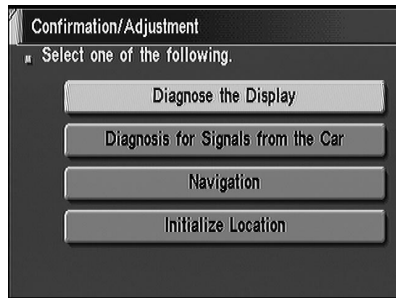
IDX

NAVIGATION SYSTEM

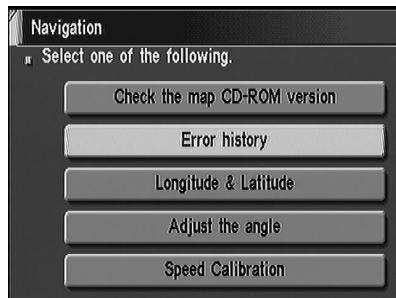
Confirmation/Adjustment Mode (Cont'd)



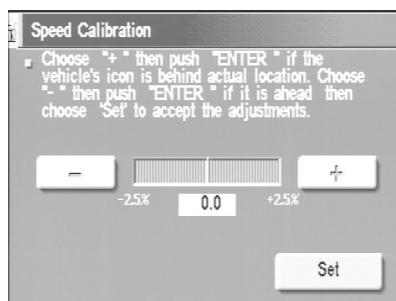
SEL527X



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“SPEED CALIBRATION” MODE

NHEL0300S08

NHEL0300S0801

How to Perform

1. Start the engine.
2. Push “OPEN/CLOSE” switch and then open the display.
3. Push both “MAP” and “D/N” switches at the same time for more than 5 seconds.
4. Select “Confirmation/ adjustment”.
5. Select “Navigation”.
6. Select “Speed Calibration”.
7. Select “+” or “-” to adjust the distance change coefficient.
 - To make the distance change coefficient smaller, touch “-”.
 - To make the distance change coefficient larger, touch “+”.
8. Select “Set”.

“INITIALIZE LOCATION” MODE

=NHLE0300S09

This procedure is for initializing the current location. Perform “Initialize Location” when the vehicle is transported a long distance on a trailer, etc.

Map with grey background appears and the vehicle location can not be adjusted by scrolling the display when the vehicle location in the memory is out of the area of the inserted map data. Perform “Initialize Location” when this occurs.

NOTE:

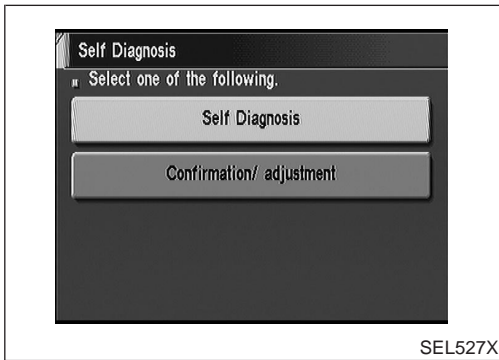
- Only initialize the system when the NAVI control unit is replaced. If the system is initialized in other cases, it may cause inaccurate positioning of the position marker for a while.
- Initialize the system outside for receiving the radio wave from the GPS satellite.

How to Perform

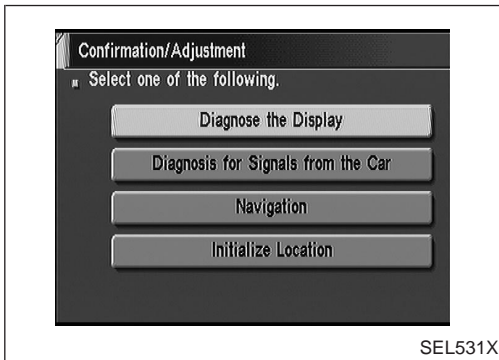
NHLE0300S091

1. Switch the navigation system mode to self-diagnosis by pushing both “MAP” and “D/N” switches at the same time for more than 5 seconds.

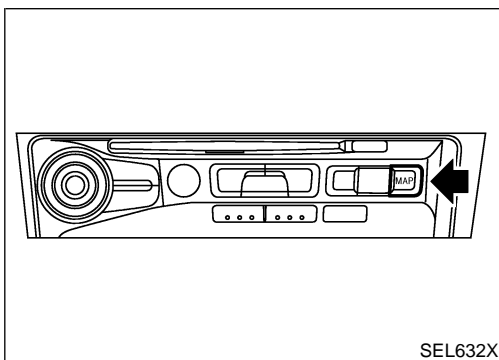
2. Select “Confirmation/ adjustment”.



3. Select “Initialize Location”. Then the previous screen is displayed.



4. Push “MAP” switch, and then push “SETTING” switch.
5. Select “System Setting”.



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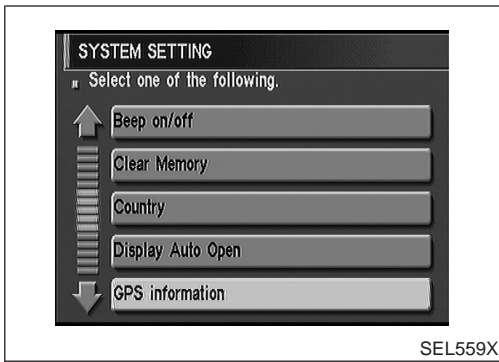
SC

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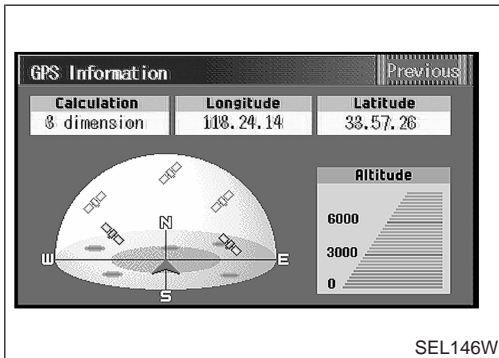
IDX

NAVIGATION SYSTEM

Confirmation/Adjustment Mode (Cont'd)



6. Select "GPS Information".



7. More than one GPS satellite icon turns green. (It may take 1 to 15 minutes.)

NOTE:

Drive the vehicle for a while* in order to change the receiving condition of the radio wave from the GPS satellite if the GPS icon does not turn green.

*** The driving distance which is necessary depends on the receiving condition of the radio wave from the GPS satellite.**

8. Push "MAP" switch and check the following.

- Confirm that the GPS icon on the map turns green.
- Then the position marker should show the current location.
- Position marker rotates corresponding to the movement of the vehicle.

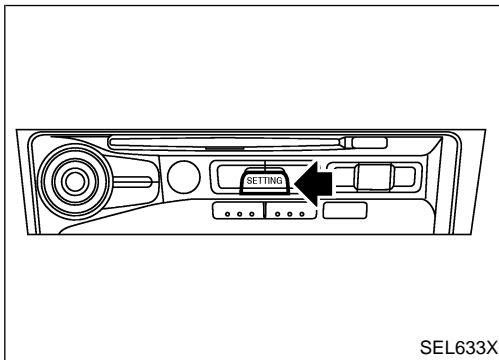
9. Initialization is completed.

Control Panel Mode APPLICATION ITEMS

=NHLE0301

NHLE0301S01

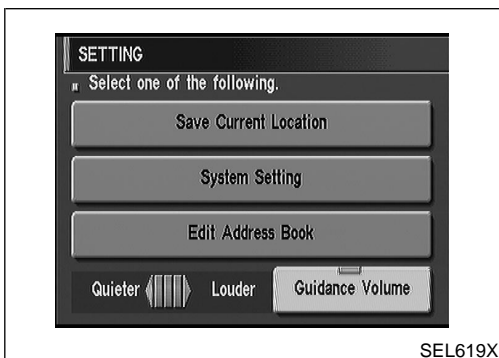
Mode	Description	Reference page
Display Auto Open	Display can be set to open by either of the following controls. <ul style="list-style-type: none"> ● Display will be opened when OPEN/CLOSE SW is selected with Key SW positioned ACC. ● Display will be automatically opened when Key SW is turned from OFF to ACC. 	EL-497
GPS Information	The GPS data includes longitude, latitude and altitude (distance above sea level) of the present vehicle position, and current date and time for the area in which the vehicle is being driven. Also indicated are the GPS reception conditions and the GPS satellite position.	EL-498
Quick Stop Customer Setting	One facility of your selection can be added to your Quick Stop.	EL-498
Route Priorities	Priorities of search request and automatic re-searching can be set for route search.	EL-499
Tracking	Tracking to the present vehicle position can be displayed.	EL-499
Display Setting	The following display settings can be customized. <ul style="list-style-type: none"> ● Display color (Day mode or Night mode) ● Brightness of display 	EL-500
Heading	Heading of the map display can be customized for either north heading or the actual driving direction of the vehicle.	EL-500
Nearby Display Icons	Icons of facilities can be displayed. Facilities to be displayed can be selected from the variety selections.	EL-501
Adjust Current Location	Current location of position marker can be adjusted. Direction of position marker also can be calibrated when heading direction of the vehicle on the display is not matched with the actual direction.	EL-501
Avoid Area Setting	Particular area can be avoided when routing.	—
Beep On/Off	Beep sounds which corresponds to the system operation can be activated/deactivated.	EL-502
Clear Memory	Address book, Previous destination or Avoid area can be deleted.	EL-502



HOW TO PERFORM CONTROL PANEL MODE

NHLE0301S02

1. Start the engine.
2. Push "OPEN/CLOSE" switch and then open the display.
3. Push "SETTING" switch.
- For further procedures, refer to the following pages which describe each application item of the control panel mode.



"DISPLAY AUTO OPEN" MODE

NHLE0301S03

1. Start the engine.
2. Push "OPEN/CLOSE" switch and then open the display.
3. Push "SETTING" switch.
4. Select "System Setting".

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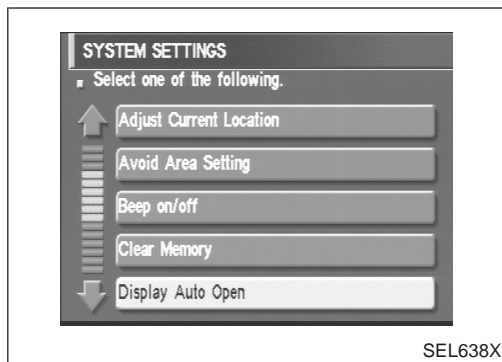
SC

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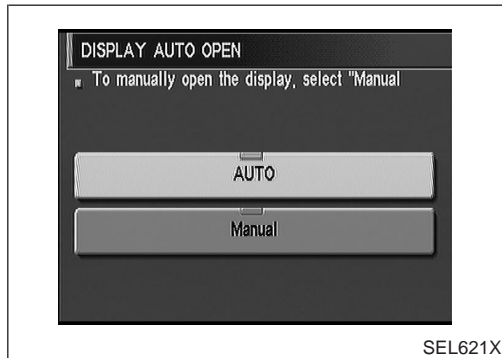
IDX

NAVIGATION SYSTEM

Control Panel Mode (Cont'd)



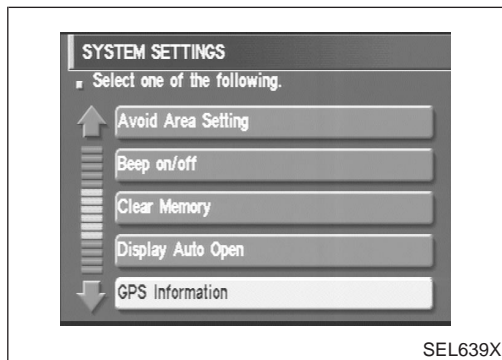
5. Select "Display Auto Open".



6. Select "Auto" or "Manual" icon.

- To manually open the display, select "Manual".
- To automatically open the display, select "Auto".

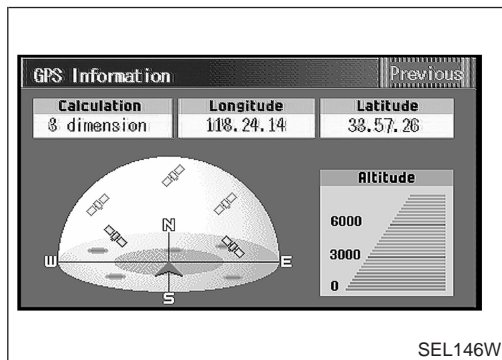
7. Push "MAP" switch, then the display will go back to the current location map.



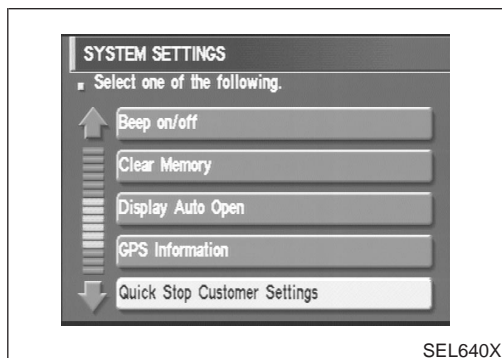
"GPS INFORMATION" MODE

NHEL0301S04

1. Start the engine.
2. Push "OPEN/CLOSE" switch and then open the display.
3. Push "SETTING" switch.
4. Select "System Setting".
5. Select "GPS information".



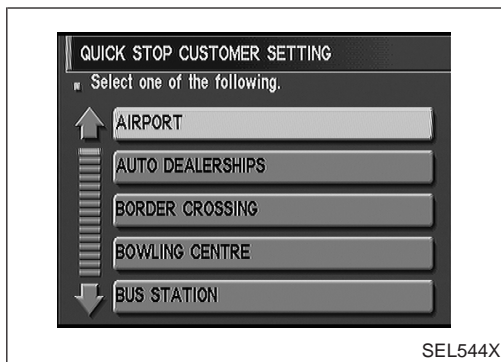
6. Then GPS information will be displayed.



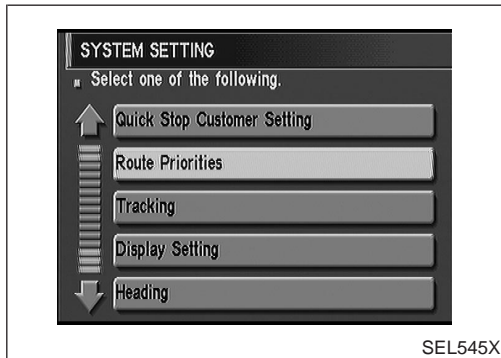
"QUICK STOP CUSTOMER SETTING" MODE

NHEL0301S05

1. Start the engine.
2. Push "OPEN/CLOSE" switch and then open the display.
3. Push "SETTING" switch.
4. Select "System Setting".
5. Select "Quick Stop Customer Setting".



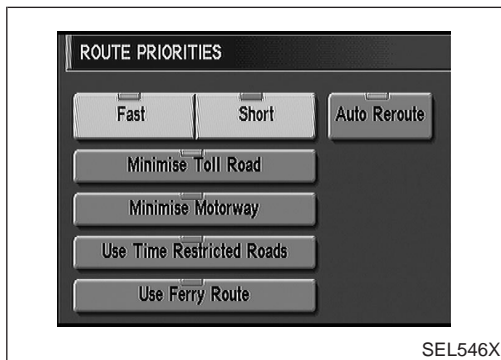
6. Select an item from the list.



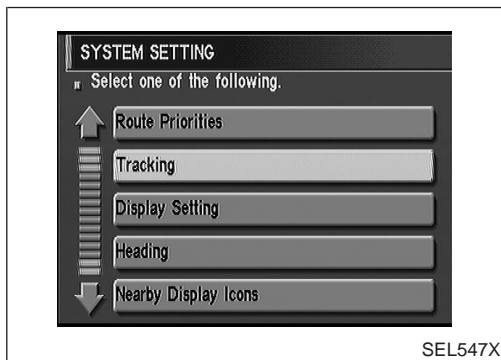
“ROUTE PRIORITIES” MODE

NHEL0301S06

1. Start the engine.
2. Push “OPEN/CLOSE” switch and then open the display.
3. Push “SETTING” switch.
4. Select “System Setting”.
5. Select “Route Priorities”.



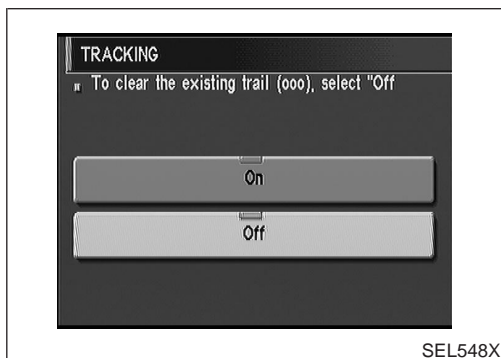
6. Select an item from the list.



“TRACKING” MODE

NHEL0301S07

1. Start the engine.
2. Push “OPEN/CLOSE” switch and then open the display.
3. Push “SETTING” switch.
4. Select “System Setting”.
5. Select “Tracking”.



6. Select “On” or “Off” icon.
 - To leave no trail on the map, select “Off”.
 - To leave a trail in the map, select “On”.
7. Push “MAP” switch, then the display will go back to the current location map.

NOTE:

When a trail display is turned OFF, trail data is erased from the memory.

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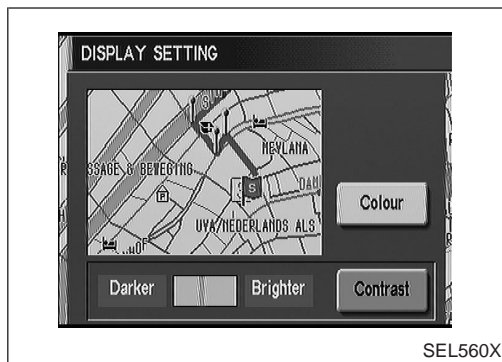
SC

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NAVIGATION SYSTEM

Control Panel Mode (Cont'd)



“DISPLAY SETTING” MODE

NHEL0301S08

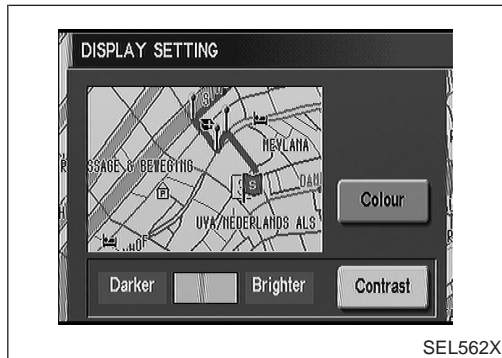
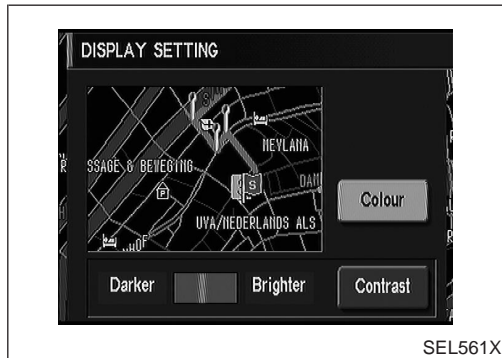
Display Color Setting

NHEL0301S0801

1. Start the engine.
2. Push “OPEN/CLOSE” switch and then open the display.
3. Push “SETTING” switch.
4. Select “System Setting”.
5. Select “Color”. Display color will change to Day mode/Night mode.
6. Select “MAP” switch, then the display will go back to the current location map.

NOTE:

- Display color can be changed independently when lighting switch is turned on and off.
- Initial setting of the color is as follows:
When lighting switch is turned off: Day mode
When lighting switch is turned on: Night mode



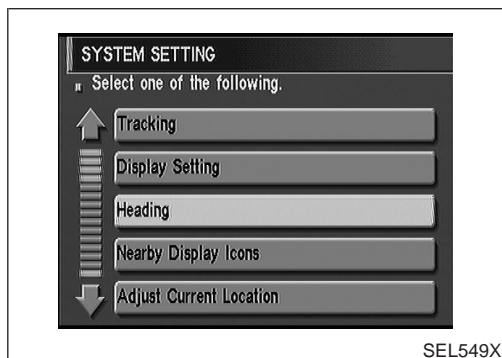
Brightness Setting

NHEL0301S0802

1. Start the engine.
2. Push “OPEN/CLOSE” switch and then open the display.
3. Push “SETTING” switch.
4. Select “System Setting”.
5. Select “Bright” or “Dark” to adjust the brightness of display.
6. Select “MAP” switch, then the display will go back to the current location map.

NOTE:

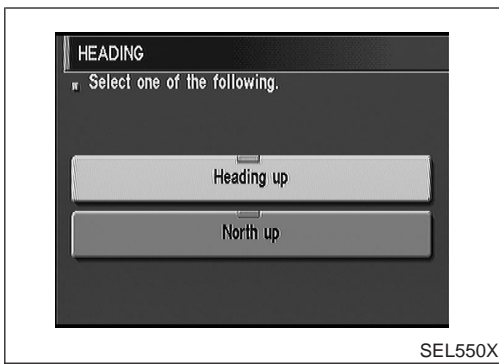
- Display brightness can be adjusted independently when lighting switch is turned on and off.



“HEADING” MODE

NHEL0301S09

1. Start the engine.
2. Push “OPEN/CLOSE” switch and then open the display.
3. Push “SETTING” switch.
4. Select “System Setting”.
5. Select “Heading”.

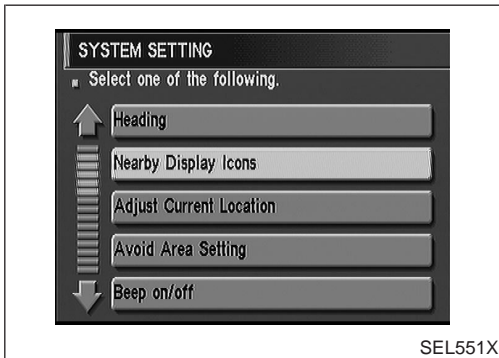


6. Select "Heading up" or "North up" icon.
 - To display North up, select "North up".
 - To display the car heading up, select "Heading up".
7. Push "MAP" switch, then the display will go back to the current location map.

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"NEARBY DISPLAY ICONS" MODE

NHEL0301S10

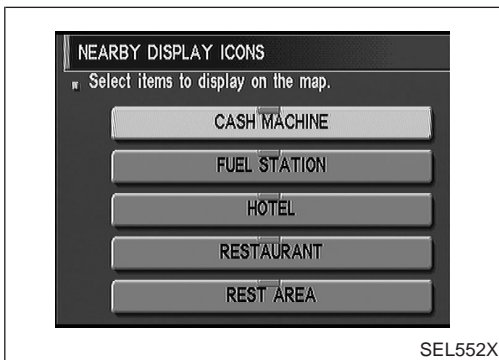
LC

1. Start the engine.
2. Push "OPEN/CLOSE" switch and then open the display.
3. Push "SETTING" switch.
4. Select "System Setting".
5. Select "Nearby Display Icons".

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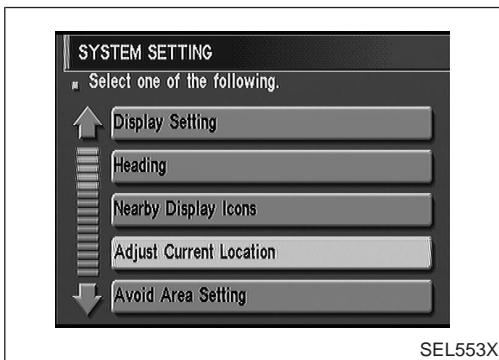
6. Select and touch an item on the list.
7. Push "MAP" switch, then the display will go back to the current location map.

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"ADJUST CURRENT LOCATION" MODE

NHEL0301S11

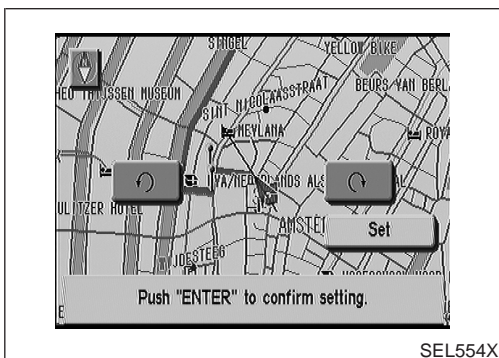
RS

1. Start the engine.
2. Push "OPEN/CLOSE" switch and then open the display.
3. Push "SETTING" switch.
4. Select "System Setting".
5. Select "Adjust Current Location".

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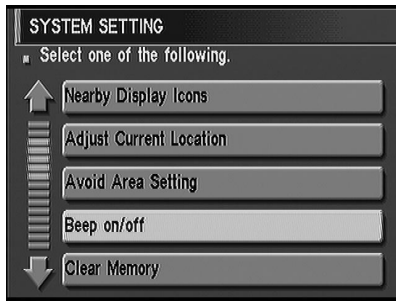
6. Select "↶" or "↷" to calibrate the heading direction. (Arrow marks will rotate corresponding to the calibration key.)
7. Select "Set". Then the vehicle mark will be matched to the arrow mark.
8. Display will show "Heading direction has been calibrated" and then go back to the current location map.

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NAVIGATION SYSTEM

Control Panel Mode (Cont'd)

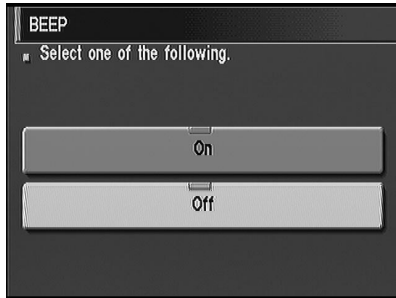


SEL555X

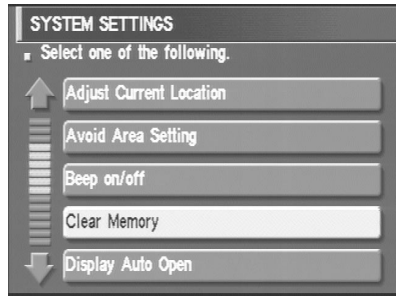
“BEEP ON/OFF” MODE

NHEL0301S12

1. Start the engine.
2. Push “OPEN/CLOSE” switch and then open display.
3. Push “SETTING” switch.
4. Select “System Setting”.
5. Touch “Beep On/Off”.
6. Select “On” or “Off” icon.
 - If you want the beep sound, select “On”.
 - If you do not want the beep sound, select “Off”.
7. Push “PREVIOUS” switch, then the display will go back to the current location map.



SEL556X

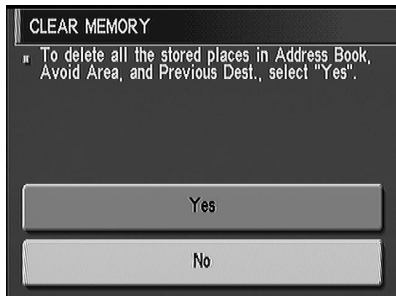


SEL641X

“CLEAR MEMORY” MODE

NHEL0301S13

1. Start the engine.
2. Push “OPEN/CLOSE” switch and then open the display.
3. Push “SETTING” switch.
4. Select “System Setting”.
5. Select “Clear Memory”.
6. To delete all the stored places in “Address Book”, “Avoid Area” and “Previous Dest”, select “Yes”.



SEL558X

Guide Volume Setting

=NHLE0302

DESCRIPTION

NHLE0302S01

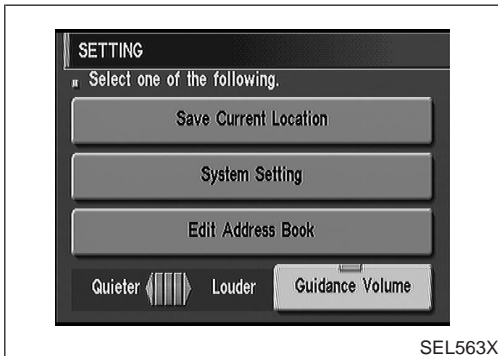
Following voice guidance setting can be changed.

- Voice guidance activation/deactivation
- Voice volume of the guidance

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SEL563X

ACTIVATION/DEACTIVATION SETTING

NHLE0302S02

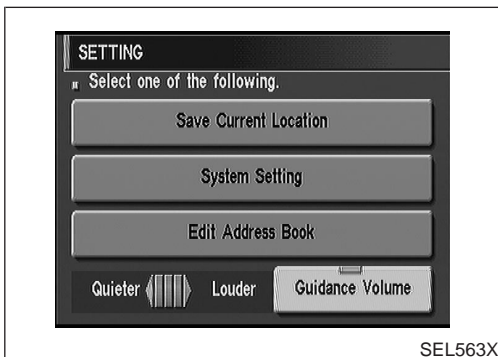
1. Start the engine.
2. Push "OPEN/CLOSE" switch and then open the display.
3. Push "SETTING" switch.
4. The voice prompt can be turned on/off by pressing the "Guidance Volume" button.

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SEL563X

VOICE VOLUME SETTING

NHLE0302S03

1. Start the engine.
2. Push "OPEN/CLOSE" switch and then open the display.
3. Push "SETTING" switch.
4. Volume of the voice can be controlled by bending the joystick to left/right.

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NAVIGATION SYSTEM

Trouble Diagnoses

Trouble Diagnoses SYMPTOM CHART

=NHLE0303

NHLE0303S01

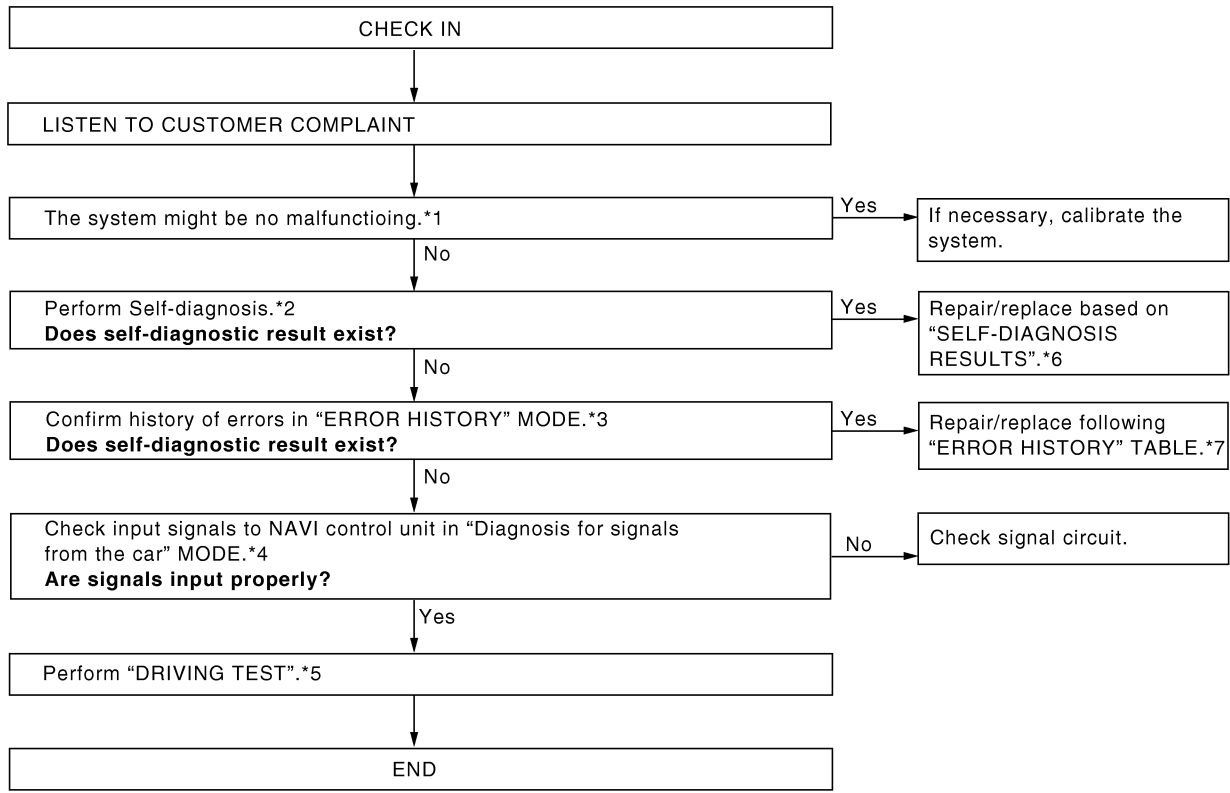
Symptom	Diagnoses/service procedure	Reference page
Any function of the system does not operate.	Check power supply and ground circuit for NAVI control unit.	EL-507
Strange screen color or unusual screen brightness.	1. Check "DISPLAY SETTING" MODE.	EL-500
	2. Check display in "DIAGNOSE THE DISPLAY" MODE.	EL-491
The display is not dimmed when turning lighting switch to ON.	1. Check "DISPLAY SETTING" MODE.	EL-500
	2. Check lighting switch signal input to NAVI control unit correctly in "DIAGNOSIS FOR THE SIGNALS FROM THE CAR" MODE.	EL-489
No navigation guide voice are heard from both front speakers.	1. Check "Guide Volume Setting".	EL-503
	2. Check voice guide operation.	EL-508
Beep does not sound when the system guides route.	Check "BEEP ON/OFF" MODE.	EL-502
Position marker does not trace along the route being traveled.	Go to "WORK FLOW FOR NAVIGATION INSPECTION".	EL-505
Position marker does not indicate forward or backward movement.	Check reverse signal input to NAVI control unit correctly by "DIAGNOSIS FOR THE SIGNALS FROM THE CAR" MODE.	EL-489
Radio wave of GPS cannot be received. (GPS marker on the display does not become green color.)	1. Is there anything obstructing the GPS antenna on the rear parcel finisher? (GPS antenna located under the rear parcel finisher.)	—
	2. Check GPS radio wave receive condition in "GPS INFORMATION MODE".	EL-498
	3. Check GPS antenna in "Self Diagnosis".	EL-483
Heading direction of position marker does not match vehicle direction.	1. Perform "ADJUST CURRENT LOCATION" MODE.	EL-501
	2. Go to "WORK FLOW FOR NAVIGATION INSPECTION".	EL-505
Stored location in the address book and other memory functions are lost when battery is disconnected or becomes discharged.	Stored location in the address book and other memory functions may be lost if the battery is disconnected or becomes discharged. If this should occur, charge or replace the battery as necessary and re-enter the information.	—
Map appears grey and cannot be scrolled	The current location in the memory is out of the map data area. Perform "INITIALIZE LOCATION" MODE.	EL-495

NAVIGATION SYSTEM

Trouble Diagnoses (Cont'd)

WORK FLOW FOR NAVIGATION INSPECTION

NHEL0303S02



*1: EL-510
*2: EL-482
*3: EL-485

*4: EL-489
*5: EL-506

*6: EL-484
*7: EL-487

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DRIVING TEST

During the driving test, diagnose the system by checking the difference of symptoms with each sensor ON or OFF. =NHHEL0303S03

Test Pattern 1

Test method in which current position adjustment is not made according to GPS data. NHHEL0303S0301

- Remove the GPS antenna connector from the NAVI control unit. Drive the vehicle.
Before driving the vehicle, perform "Adjust Current Location" MODE (EL-501).

Test Pattern 2

Test procedure in which map matching is not used. NHHEL0303S0302

- Before driving the vehicle, perform "Adjust Current Location" MODE (EL-501). With the ignition switch OFF and the map CD-ROM removed from the NAVI control unit, drive the vehicle. After driving the vehicle, reinstall the map CD-ROM. Compare the saved driving tracks for the vehicle's current location with roads on the map.

Example

<The position marker consistently indicates the wrong position when driving in the same area. Determine if this is the result of the map matching function or the GPS function.> NHHEL0303S0303

→ Perform test pattern 1.

<To verify the accuracy of the road configuration shown on the display>

→ Perform test patterns 1 and 2.

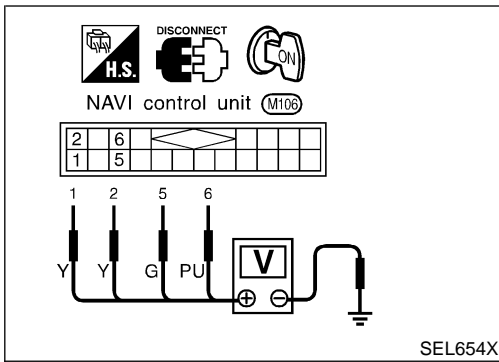
- Compare the map and the saved driving tracks. The precision of the saved driving tracks is within several hundred meters.

<To make distance calibration and adjustments>

→ Perform test patterns 1 and 2.

- Make adjustments by driving the vehicle over a known course (highway or other road where distances are clearly marked). Calibrate the distance against the known distance. Use the formula below.

Calibration value = Screen display distance/Actual distance



POWER SUPPLY AND GROUND CIRCUIT CHECK FOR NAVI CONTROL UNIT

=NHHEL0303S04

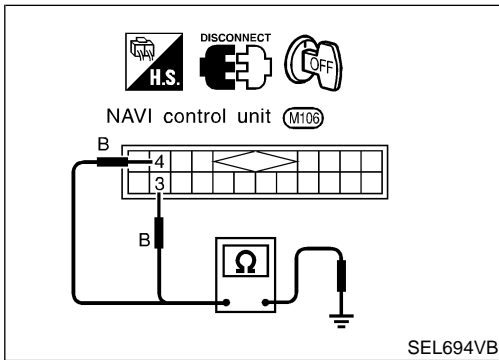
Power Supply Circuit Check

NHHEL0303S0401

Terminal		Ignition switch		
(+)	(-)	OFF	ACC	ON
1	Ground	Battery voltage	Battery voltage	Battery voltage
2	Ground	Battery voltage	Battery voltage	Battery voltage
5	Ground	0V	0V	Battery voltage
6	Ground	0V	Battery voltage	Battery voltage

If NG, check the following.

- 10A fuse [No. 10, located in the fuse block (J/B)]
- 10A fuse [No. 1, located in the fuse block (J/B)]
- 15A fuse [No. 56, located in the fuse block (J/B)]
- Harness for open or short between fuse and NAVI control unit



Ground Circuit Check

NHHEL0303S0402

Terminals	Continuity
3 - Ground	Yes
4 - Ground	Yes

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NAVIGATION SYSTEM

Trouble Diagnoses (Cont'd)


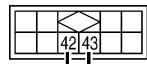
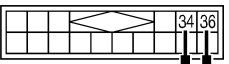

VOICE GUIDE OPERATION CHECK

=NHLE0303S05

1	PRELIMINARY CHECK	
<p>1. Turn ignition switch to ACC position. 2. Insert the music CD into the radio and CD player. 3. Try to play the music CD. Is the sound emitted from all speakers?</p> <p style="text-align: center;">Yes or No</p>		
OK	▶	GO TO 2.
NG	▶	Repair or replace audio system. Refer to "AUDIO" in EL section of Service Manual (SM0E-1C33U1).

2	CHECK NAVI OPERATION ON SIGNAL	
<p>1. Disconnect audio unit connector. 2. Push "VOICE" button. 3. check voltage between terminal 28 and ground.</p>		
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: center;"> </div> <div style="text-align: center;"> <p>Voltage [V]: Condition of VOICE button: Push. Approx. More than 0 - 10 Condition of VOICE button: Do not push. 0</p> </div> </div> <p style="text-align: right;">SEL645X</p> <p style="text-align: center;">OK or NG</p>		
OK	▶	GO TO 3.
NG	▶	Repair or replace harness or NAVI control unit.

3	CHECK VOICE SIGNAL	
<p>1. Push "VOICE" button. 2. Check voltage between NAVI control unit terminal 42 or 43 and ground.</p>		
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: center;"> </div> <div style="text-align: center;"> <p>Voltage [V]: Condition of VOICE button: Push. Approx. 5 Condition of VOICE button: Do not push. 0</p> </div> </div> <p style="text-align: right;">SEL646X</p> <p style="text-align: center;">OK or NG</p>		
OK	▶	GO TO 4.
NG	▶	Repair or replace NAVI control unit.

4	CHECK VOICE SIGNAL CIRCUIT
<p>1. Turn ignition switch OFF. 2. Disconnect NAVI control unit connector and AUDIO unit connector. 3. Check continuity between NAVI control unit terminal 42 and AUDIO unit terminal 36. 4. Check continuity between NAVI control unit terminal 43 and AUDIO unit terminal 34.</p> <div style="display: flex; align-items: center; justify-content: space-around;"> <div style="text-align: center;">  <p>H.S. DISCONNECT</p> </div> <div style="text-align: center;"> <p>NAVI control unit connector (M107)</p>  <p>42 43 L/W L</p> </div> <div style="text-align: center;"> <p>AUDIO unit connector (M68)</p>  <p>34 36 L L/W</p> </div> <div style="text-align: center;">  </div> <div style="text-align: center;"> <p>Does continuity exist?</p> </div> </div> <p style="text-align: right; margin-top: 10px;">SEL647X</p>	
Yes or No	
Yes	▶ Repair or replace audio unit. Refer to "AUDIO" in EL section of Service Manual (SM0E-1C33U1).
No	▶ Repair or replace harness or connector.

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NAVIGATION SYSTEM

This Condition Is Not Abnormal

This Condition Is Not Abnormal

=NHLE0304

EXAMPLE OF BASIC OPERATIONAL ERRORS

NHLE0304S01

Symptom	Possible cause	Repair order
No image is displayed.	Monitor brightness control is set to full dark.	Readjust monitor brightness.
Map does not appear on display.	Map CD is not inserted or inserted upside down.	Insert the map CD with the label facing up.
	Map mode is turned OFF.	Press the "MAP" button.
No guide tone is heard.	Voice guide adjustment OFF/Volume is set to the lowest or highest level.	Adjust the voice guide level.
Voice guide volume is too high or too low.		
Dark display/Slow image movement	Low vehicle interior temperature	Wait until vehicle interior temperature rises to appropriate level.
Small black or white dots appear on the screen.	Unique liquid crystal display phenomena	No problem
"Unable to read CD" message appears only during specified operation.	Map CD surface is tainted/CD surface is partially scratched.	Check map CD surface. If dirty, wipe clean with a soft cloth.
		If map CD surface is damaged, replace the CD.

Area place names are not displayed.

If area place names do not appear on the map display, these names may not be available. Use the BIRDVIEW[®] flat surface map display function. Display output may differ. Note the items related to BIRDVIEW[®] below.

- Priority is given to the display of place names in the direction of vehicle travel.
- Extended display of vehicle travel distance for both surfaces and steering angle (flat directional changes). This phenomenon disappears after the display image has been replaced by another one.
- The names of route and area might vary between the immediate front area and distance front area.
- Alphanumeric display characters are limited to maintain display simplicity and clarity. Display details may differ with time and place.
- Identical place and road names may appear on the display at more than one location.

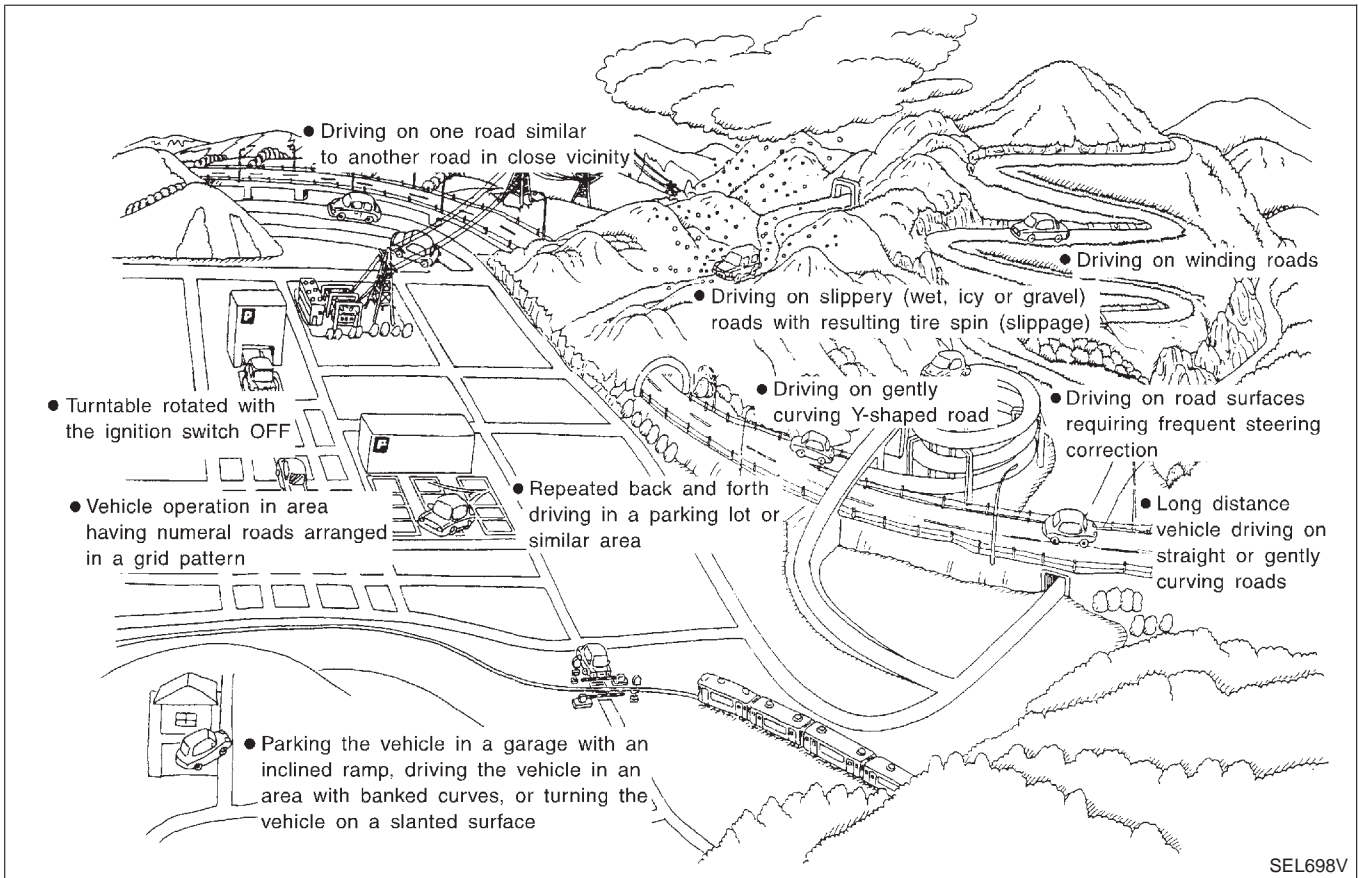
NAVIGATION SYSTEM

This Condition Is Not Abnormal (Cont'd)

EXAMPLE OF CURRENT VEHICLE POSITION MARKER ERROR

=NHHEL0304S02

The navigation system reads the vehicle distance and steering angle data. Because the vehicle is moving, there will be an error in the current position indication. After the error appears, drive the vehicle for a short distance. Stop the vehicle. If the position marker does not return to its original position, perform "Adjust Current Location" MODE (EL-501).



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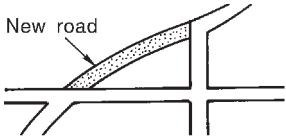

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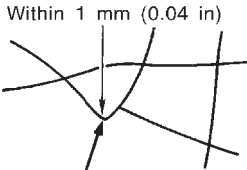
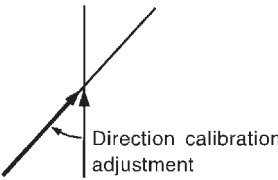
NAVIGATION SYSTEM

This Condition Is Not Abnormal (Cont'd)

	Possible cause	Drive condition	Service procedure
Area	Slippery road surface	On wet, icy, or gravel road where frequent wheel slippage occurs, distance calculations may be erroneous. The position marker may show the vehicle to be in inaccurate position.	
	Slanted area	Hilly areas where the road has banked curves. When the vehicle enters these banked curves, there may be an error in steering angle measurement. The position marker may show the vehicle to be in inaccurate position.	
Map data	Map display for a given road does not appear.  SEL699V	When the vehicle is driven on a newly constructed road that does not appear on the existing map. Map marking and calibration are not possible. The position marker may indicate inaccurate position in close proximity to the actual position. Subsequently, when the vehicle is driven on a road which is available as map data, the position marker may still indicate an inaccurate position.	If the position marker does not move to the correct position even after the vehicle has been driven approximately 10 km (6 miles), perform "Adjust Current Location" MODE (EL-501). If necessary, perform "Speed Calibration" (EL-494).
	The vehicle is driven on a road whose course has been altered (usually to improve the road or to eliminate some hazard).  SEL700V	When the map data shown on the display and the actual conditions are different. Map matching will not be possible. The position marker may indicate inaccurate position in close proximity to the actual position. If the vehicle is driven on the indicated road, further errors may occur.	
Vehicle	Use of tire chains (Stormy weather)	Tire chains will affect distance sensing. The position marker may indicate inaccurate position.	If the position marker does not move to the correct position even after the vehicle has been driven approximately 10 km (6 miles), perform "Speed Calibration" (EL-494). After removing the tire chains, sensing accuracy may recover by itself.

NAVIGATION SYSTEM

This Condition Is Not Abnormal (Cont'd)

	Possible cause	Drive condition	Service procedure
Operation	Driving immediately after starting engine.	The gyro (angular velocity sensor) needs about 15 seconds after the engine is started to precisely sense the angular velocity. Directional sensing errors will occur if the vehicle is moved immediately after starting the engine. The position marker may indicate inaccurate position.	Wait a few moments between starting the engine and actually driving the vehicle.
	Continuous driving for long distances (non-stop)	When the vehicle is driven continuously without stopping over a long distance, errors in directional sensing may occur. The position marker may indicate inaccurate position.	Stop the vehicle. Perform "Speed Calibration" (EL-494).
	Rough or violent driving	Wheel spinning (peeling out) or similar rough driving techniques can adversely affect sensing accuracy. The position marker may indicate inaccurate position.	If the position marker does not move to the correct position even after the vehicle has been driven approximately 10 km (6 miles), perform "Adjust Current Location" MODE (EL-501).
Positional calibration procedures	Positional calibration precision  Within 1 mm (0.04 in) SEL701V	If current vehicle location is roughly set, the system may be unable to locate the road that the vehicle is traveling on. (This is especially true in an area where there are many roads.)	Perform "Adjust Current Location" MODE (EL-501) within a precision standard of 1 mm (0.04 in) on the display. NOTE: During calibration, use the most detailed map possible.
	Position calibration direction  Direction calibration adjustment SEL702V	When calibrating the position, check the vehicle direction. If the vehicle direction is not correct, subsequent precision of current location will be affected.	Perform "Adjust Current Location" MODE, refer to EL-501.

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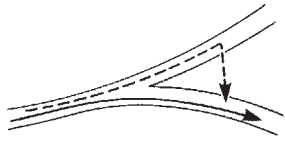
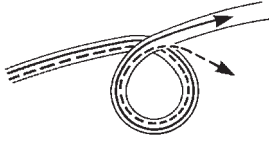
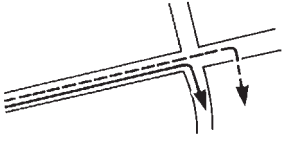
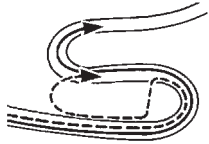

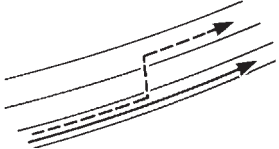
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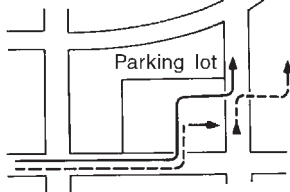
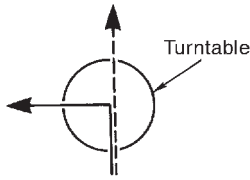
NAVIGATION SYSTEM

This Condition Is Not Abnormal (Cont'd)

Possible cause: —: Vehicle running ---: Indication		Drive condition	Service procedure
Road shapes	<p>Y-intersection</p>  <p style="text-align: right;">SEL703V</p>	<p>In Y-intersections with a very gradual change in course, a directional sensing may be inaccurate. This may result in the position marker giving the wrong road indication.</p>	<p>If the position marker does not move to the correct position even after the vehicle has been driven approximately 10 km (6 miles), perform "Store place". If required, also perform "Adjust Current Location" MODE (EL-501).</p>
	<p>Spiral road</p>  <p style="text-align: right;">SEL704V</p>	<p>On loop bridges and similar structures which result in a large and continuous turn, turning angle may be sensed inaccurately. As a result, the position marker may separate from the route on the map.</p>	
	<p>Straight road</p>  <p style="text-align: right;">SEL705V</p>	<p>In long distance driving on a straight road or road with very gradual curves, map marking inaccuracies may occur. In such cases, the position marker may stray from the route being traveled during subsequent turns due to inaccurate distance calculation.</p>	
	<p>Winding road</p>  <p style="text-align: right;">SEL706V</p>	<p>Directional sensing precision errors may occur when traveling on winding roads. During map matching, the position marker may stray to an adjacent road having a similar shape. Subsequent position marker error may occur.</p>	
	<p>Grid-like road shape</p>  <p style="text-align: right;">SEL707V</p>	<p>Directional sensing and distance sensing, precision errors may occur because of many roads having a similar shape in the immediate area. During map matching, the position marker may stray to an adjacent road having a similar shape. Subsequent position marker error may occur.</p>	
	<p>Parallel roads</p>  <p style="text-align: right;">SEL708V</p>	<p>When driving on a parallel road, map matching errors may occur. Subsequent position marker error may also occur.</p>	

NAVIGATION SYSTEM

This Condition Is Not Abnormal (Cont'd)

	Possible cause: —: Vehicle running ---: Indication	Drive condition	Service procedure
Location	Parking lot or similar area 	When the vehicle is driven in a parking lot or similar area, such as in an area not normally marked as a road on map, during map matching, the system may select nearby roads. This error may continue after the vehicle exits the parking area and begins to run on ordinary roads. Vehicle operation in a parking area may involve frequent turns and up and/or down operation. Directional sensing errors may occur leading to subsequent route and position mistakes.	If the position marker does not move to the correct position even after the vehicle has been driven approximately 10 km (6 miles), perform "Store place". If required, also perform "Adjust Current Location" MODE (EL-501).
	Turntable 	When the ignition switch is OFF (the usual situation when the vehicle is on a turntable), the navigation system receives no data from the gyro (angular velocity sensor). When the turntable rotates, no directional change is sensed. During subsequent vehicle operation, directional and route errors may occur.	

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Position marker displays a completely different location

In circumstances such as those described below, GPS signal reception conditions may result in an erroneous position of the position marker. Perform "Adjust Current Location" MODE (EL-501).

NOTE:

- When GPS satellite signal reception conditions are poor, the position of position marker may be erroneous. If correction is not made immediately, the position marker error will be compounded and a completely different location will be indicated. In an area where GPS satellite signal reception conditions are good, the system can be returned to normal operation.
- The vehicle is driven aboard a car ferry or is towed for some distance with the ignition switch OFF. Vehicle movement is not sensed. Current location calculations do not occur and current location data does not appear on the display screen. Use GPS to accurately determine actual vehicle position. The system can be returned to normal operation when the GPS satellite signal reception conditions are good.

SU
BR
ST
RS

Position marker jumps

In circumstances such as those described below, the position marker may jump as a result of automatic current location corrections made by the system.

During map matching

- During map matching, the position marker may jump from one spot to another. In this case, it may be corrected to a wrong road or to an area where no road exist.

BT
HA

GPS location correcting

- Vehicle current location is sensed using the GPS data. Positional calibration is performed. The position marker continues to be in the wrong position. It may jump about from one area of the screen to another. In this case, it may be corrected to a wrong road or to an area where no road exist.

SC
EL

Position marker indicates that the vehicle is in the middle of an ocean or large river

The navigation system does not distinguish between land and water surfaces. In some cases, a position marker error may cause the display to show the vehicle above a water surface.

IDX

Position of position marker varies when the vehicle is repeatedly operated on the same road

Driving lane and steering wheel movement results in a variety of different positions of the position mark when traveling on the same road based on sensing results by the GPS antenna and gyro (angular velocity sensor). Slow locational correction using map matching

- The map matching function requires verification of local data. To make the map matching function, some distance needs to be driven.
- The map matching function may not provide accurate performance in an area where there are numerous parallel roads. Until the system judges the road characteristics, an incorrect position may be shown.

NAVIGATION SYSTEM

This Condition Is Not Abnormal (Cont'd)

GPS signal reception conditions are good. However, the position mark does not return to its proper position.

- The system senses the vehicle location with an error of approximately 100 m (328 ft). Due to the limitation of precision, the position marker may be inaccurate even if the GPS signal reception condition is good.
- The navigation system uses GPS data to determine vehicle location. GPS data is compared with other locational sensing data during the map matching process. The system decides which data is more precise and uses that data.
- When the vehicle is stationary, GPS data cannot be used to make system corrections.

Area designations on the map display and the BIRDVIEW® display differ.

To prevent the display from becoming congested, alphanumeric information is abridged.

[No problem]

Correct position of your vehicle is not displayed.

Vehicle position changed after ignition key was turned to the OFF position (Vehicle is transported on car ferry, car train, or by some other means).

[Operate vehicle for short time under GPS receiving conditions.]

The display does not change to night-time mode even though the light switch has been turned ON.

Lights have been turned on. In "DISPLAY CHANGE" mode, night-time mode on display has been switched to day-time mode and still is.

[Turn lights on again. Set the display to night-time mode. Refer to EL-500.]

Map does not scroll even though the position of your vehicle is changed.

Present area does not appear on the display.

[Press the "MAP" switch.]

Vehicle position marker does not appear.

Present area does not appear on the display.

[Press the "MAP" switch.]

The map surface precision display (GPS satellite marker) still remains gray.

Vehicle is parked inside a building or in the shadow of a large building. This intercepts the GPS signal.

[Move the vehicle to a more open position.]

GPS signal is not received because objects are placed on the rear parcel shelf.

[Remove objects from the rear parcel shelf.]

GPS satellite position is bad.

[Wait until GPS satellite position improves.]

Vehicle position precision is bad.

The map surface precision display (GPS satellite marker) still remains gray.

[Refer to "The map surface precision display (GPS satellite marker) still remains gray" item (Symptoms)]

Vehicle speed and elapsed distance is calculated from the vehicle speed pulse. This pulse is dependent upon tire size. If tire chains are used on the vehicle, accuracy will be affected (pulse rate will be too fast or too slow). The same is true if the system installed to your vehicle is removed and installed on another vehicle.

[Drive the vehicle at a speed higher than 30 km/h (19 MPH) for approximately 30 minutes. Automatic readjustment should occur. If it does not (remains too fast or too slow), distance calibration is required. Or, drive the vehicle for a short distance. Perform "SPEED CALIBRATION" (EL-494). After removing the tire chains, sensing accuracy may recover by itself.]

Bad map data or system defect (same error consistently occurs in the same area)

ROUTE SEARCH/ROUTE GUIDE

NHEL0304S03

- If the present location or the destination location is displayed in the avoid area, it is not possible to search routes.
- If the avoid area is set to wide range area, it may not be possible to find appropriate routes or search for alternate routes.
- The automatic re-route calculates a return to the original route. Because of this, it may not be possible to search appropriate new routes. If you deviate from the original route and wish to select an appropriate new route, touch "Route Calculation".
- The automatic re-route function may sometimes require considerable time.
- Displayed route number and directional information at a highway junction may differ from the information posted on the actual road signs.
- Displayed street name information at a highway exit may differ from the information posted on the actual road signs.
- Street name information displayed on the enlarged intersection map may differ from the information posted on the actual road signs.

NAVIGATION SYSTEM

This Condition Is Not Abnormal (Cont'd)

- The enlarged intersection map may display an “Unknown Street” message at some street intersections.
- Because of road configuration, etc. the guide may finish early. If this occurs, follow the marker to reach your destination.
- Destination area side information (left side and right side) may differ from actual conditions because of data error.

Unable to Set Destination, Way Point, and/or menu items

NHEL0304S0301

Symptom	Possible cause	Repair order
Unable to search way points in re-search mode	A way point already crossed or determined to have been crossed.	If you desire to pass through a way point for a second time, reperform route edit.
Turn list is not displayed.	Route search does not occur.	Set designation areas and perform route search.
	Car marker does not appear on recommended route.	Drive on the recommended route.
	Route guide is canceled.	Turn the route guide ON. (Push “VOICE” switch.)
Automatic search does not function.	Vehicle is not running on search object route (road indicated by orange, brown or red line).	Drive the vehicle on the search object route or perform a manual route search. Note that all routes will be re-searched at this time.
Unable to select detour route.	Vehicle is not running on recommended route.	Use the “RE-ROUTE” mode to search again or return to the recommended route.
Detour route search results are identical to previous search.	All possible conditions were considered, but results are the same.	This is not abnormal.
Unable to set a way point.	More than five way points have been previously set (and not cleared).	More than five way points cannot be specified at the same time. Break down into smaller segments and perform search.
Unable to select starting point during route edit.	Starting point will normally be your present location during route edit.	This is not abnormal.
Cannot select certain menu items.	While vehicle is running.	Park the vehicle in a safe area and perform operation.

Voice Guide Information

NHEL0304S0302

Symptom	Possible cause	Repair order
Voice guide does not function.	Voice guide is only available at certain intersections (marked with ♯). In some cases, the guide is not available even when the vehicle makes a turn.	This is not abnormal.
	Vehicle is not running on recommended route.	Return to recommended route or reperform route search.
	Voice guide is OFF.	Set voice guide to the ON position.
	Route guide is canceled.	Turn the route guide ON. (Push “VOICE” switch.)
The guide content does not correspond to actual conditions.	The content of the voice guide may vary depending on the type of junction.	Operate vehicle following the traffic rules and regulation.

Route Search Information

NHEL0304S0303

Symptom	Possible cause	Repair order
Proceeding in desired direction. However, route search in desired direction does not function.	Unable to find appropriate route in the desired direction.	This is not abnormal.

NAVIGATION SYSTEM

This Condition Is Not Abnormal (Cont'd)

Symptom	Possible cause	Repair order
No route is displayed.	No object route is searched near destination area.	Adjust position to wide road (brown) near destination area. In an area where traffic direction is displayed separately, pay close attention to the direction of travel. Set the destination area and the way point over the road.
	Starting point and destination areas are very near.	Move destination areas away from starting point on the screen.
Recommended route which has been passed disappears from the display.	The recommended route is divided into individual control segments. When way point 1 is passed, the data from the starting point to the way point 1 is erased.	This is not abnormal.
Search recommends roundabout route.	There may be special conditions for roads near the starting point and destination area (one-way traffic, etc.). A roundabout route may be displayed.	Slightly change starting point and destination area settings.
Landmark display does not show actual conditions.	Mistaken or missing map data may result in erroneous display.	Change map CD.
Recommended route drawn slightly away from starting point, way points, and destination area.	Course search data may not exist for closely positioned starting point, way points, and destination area shown on the map. Route guide starting point, way point, and destination point may be separated.	Set the destination area to the general route (indicated by a thick brown line). However, even if the selected route is a major one, appropriate route search data may not be available.

LOCATION OF CAR MARKER

NHLE0304S04

- If the vehicle has been parked in a multi-level parking facility or underground parking facility, the car marker position may be inaccurate immediately after exiting the parking facility.
- The GPS accuracy is within ± 100 m (300 ft). Even when receiving conditions are excellent, further positional correction may not occur.

STREET INDICATION

NHLE0304S05

- Street names displayed on the map may differ from the actual street names.
- An "Unknown Street" message may appear on the map in place of street name information.

RESEARCH

NHLE0304S06

- Position may be searched by house number. However, the displayed position and street may differ from the actual position and street.
- When position is searched using Point of Interest (POI), the displayed position may differ from the actual position.
- Some data may not be available for new buildings and other structures in a map.

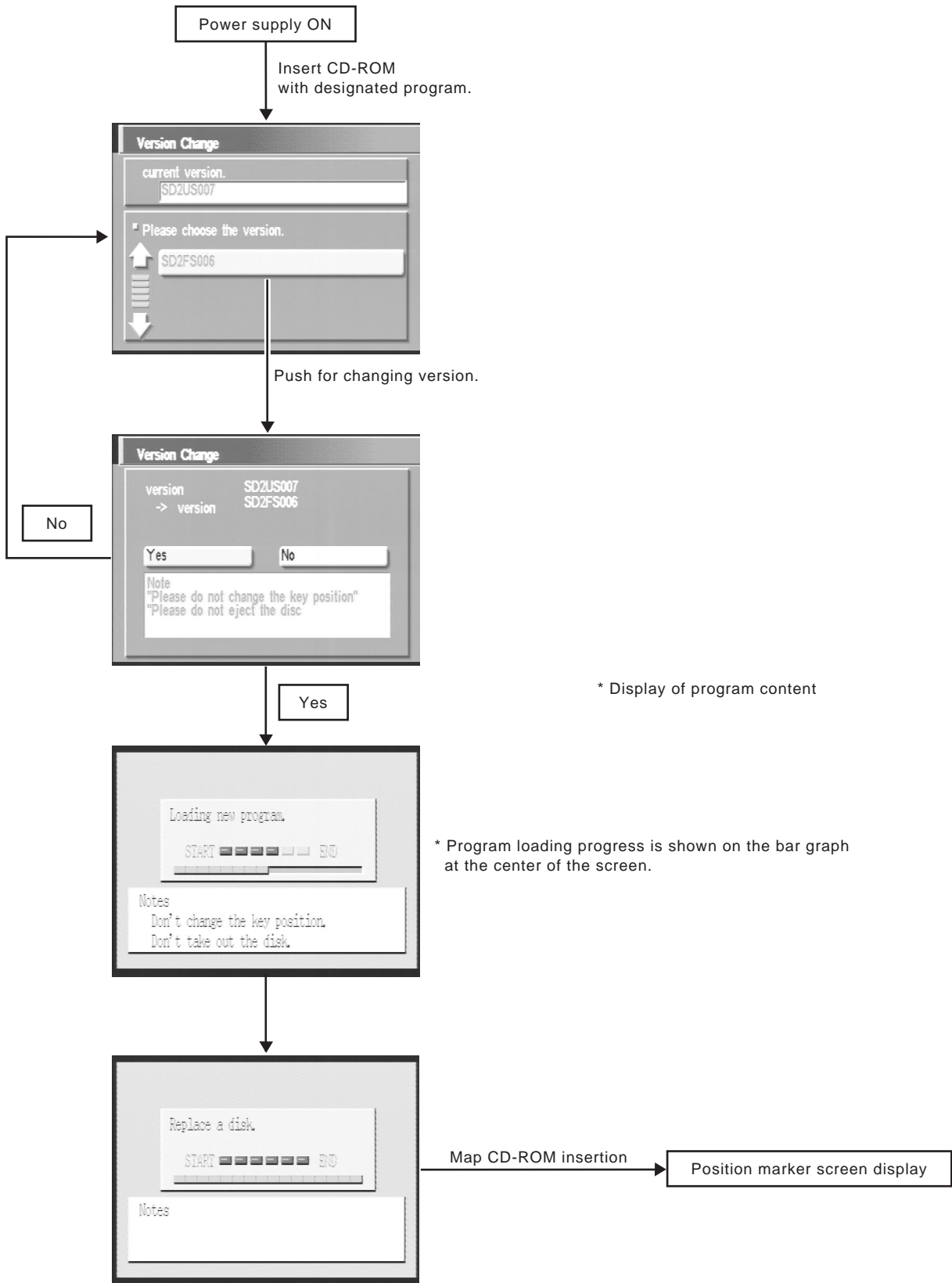
GPS ANTENNA

NHLE0304S07

- Do not place metal objects above the GPS antenna mounted on the rear parcel shelf. This will cause interference with signal reception.
- Do not place mobile telephones or vehicle radio transceivers in close proximity to the GPS antenna mounted on the rear parcel shelf. This may cause interference with signal reception.

Program Loading

NHEL0305



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Note: Load the program only after the engine has been started.

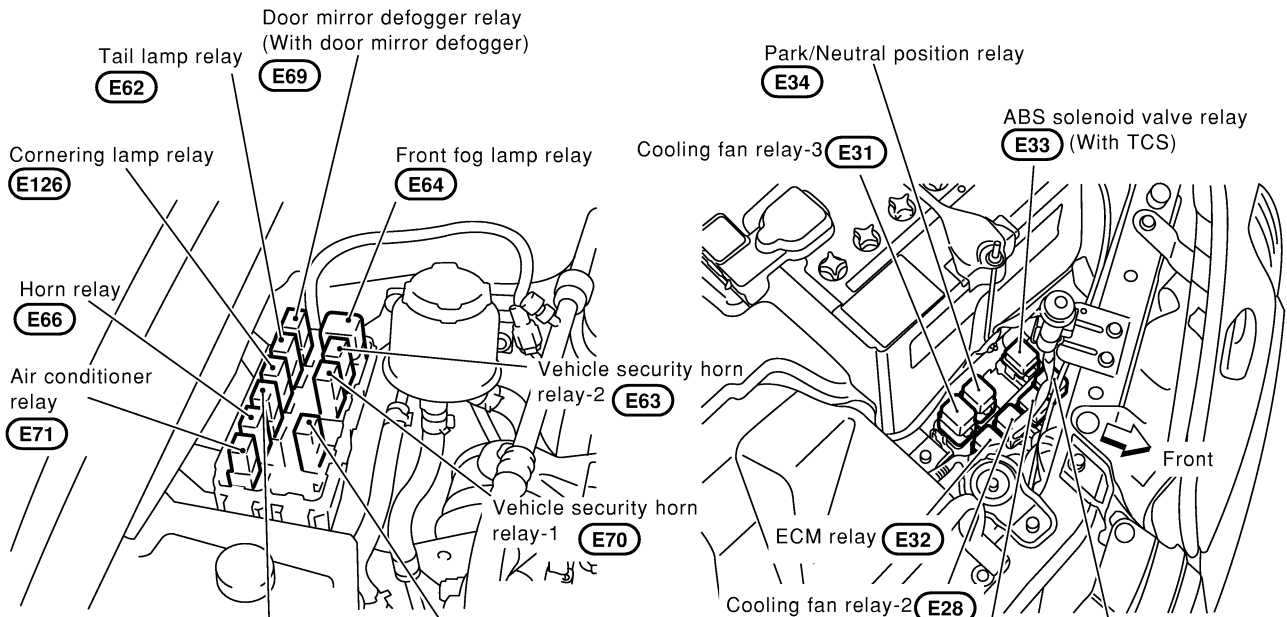
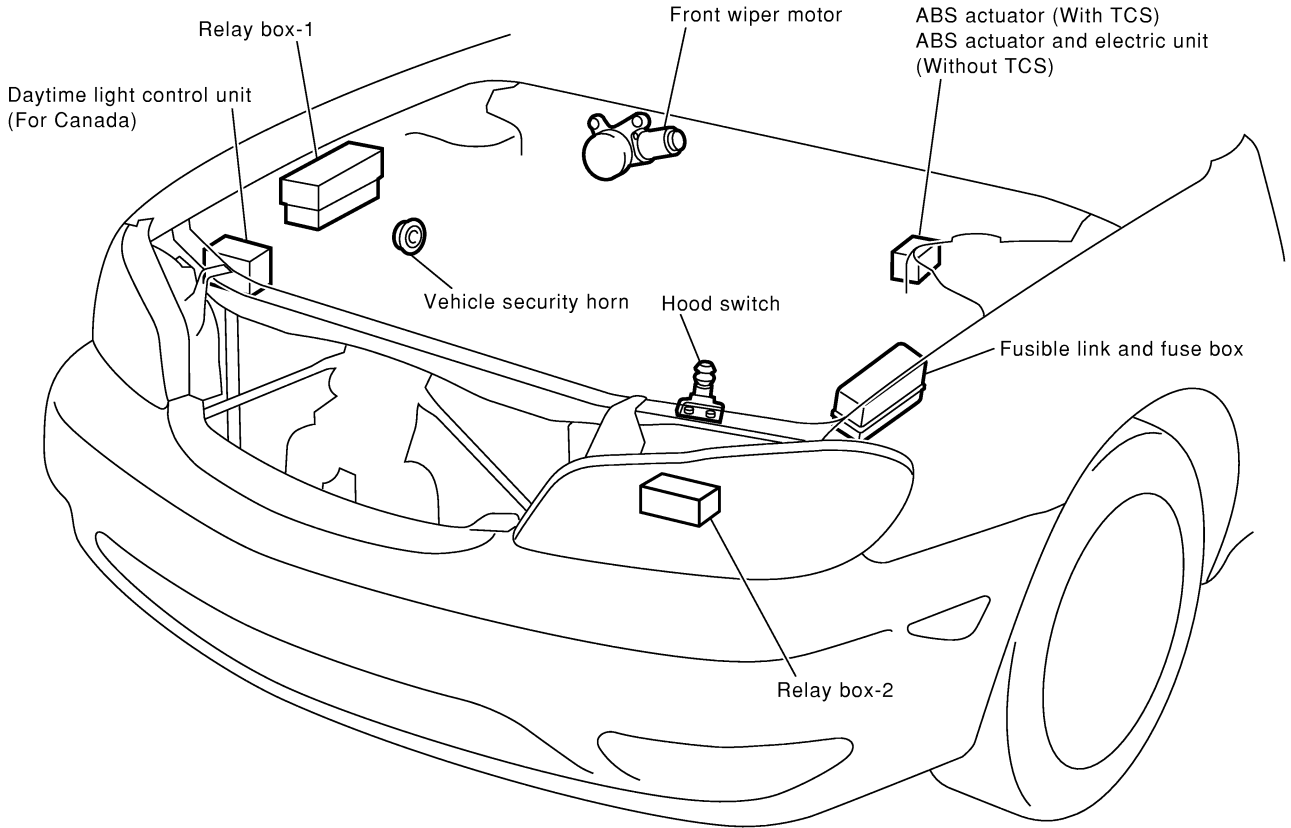
SEL564X

ELECTRICAL UNITS LOCATION

Engine Compartment

Engine Compartment

NHEL0129



- | | | |
|--|--|----------------------------------|
| Headlamp RH relay (E65) (For USA without xenon headlamp) | Headlamp LH relay (E61) (For USA without xenon headlamp) | ABS motor relay (E29) (With TCS) |
| (E123) (For Canada with xenon headlamp) | (E120) (For Canada with xenon headlamp) | |
| (E124) (For USA with xenon headlamp) | (E121) (For USA with xenon headlamp) | Cooling fan relay-1 (E27) |
| (E125) (For Canada without xenon headlamp) | (E122) (For Canada without xenon headlamp) | |

MEL794M

ELECTRICAL UNITS LOCATION

Engine Compartment (Cont'd)

NOTE:

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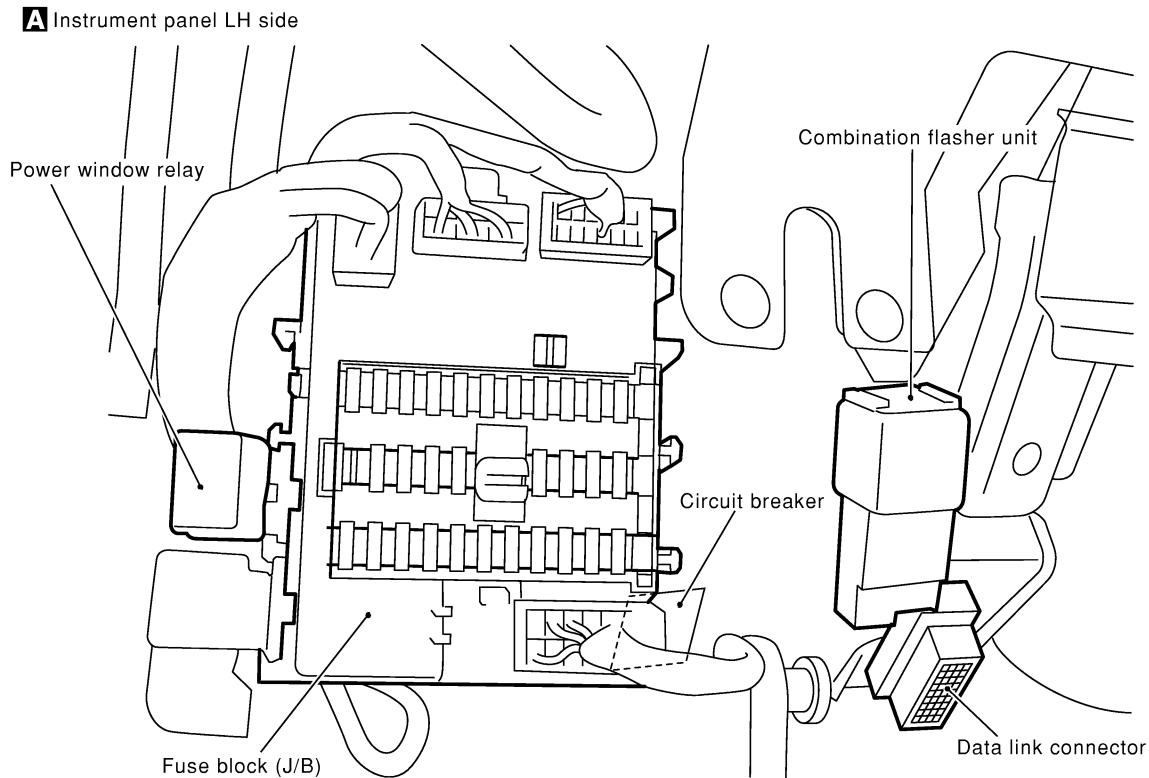
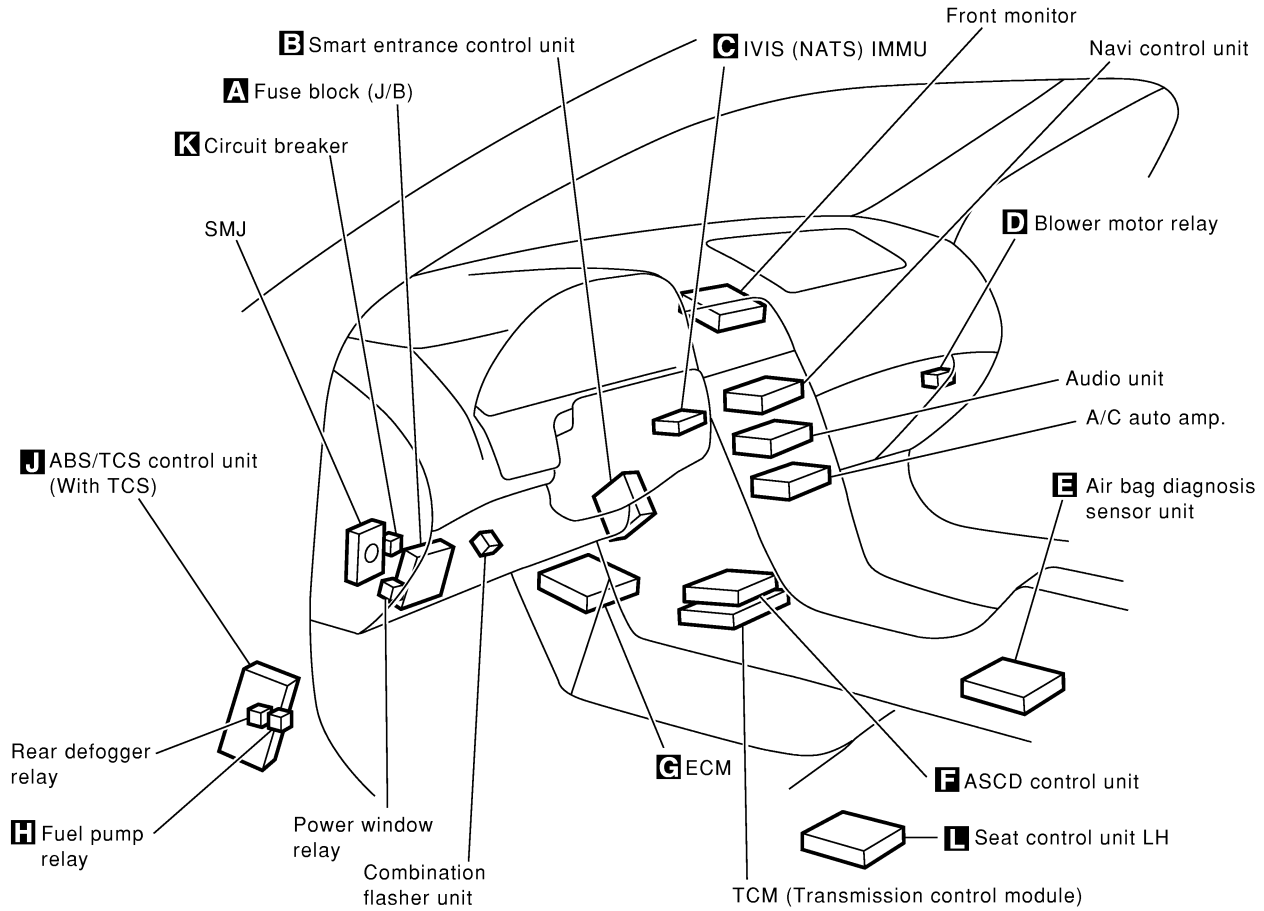
IDX

ELECTRICAL UNITS LOCATION

Passenger Compartment

Passenger Compartment

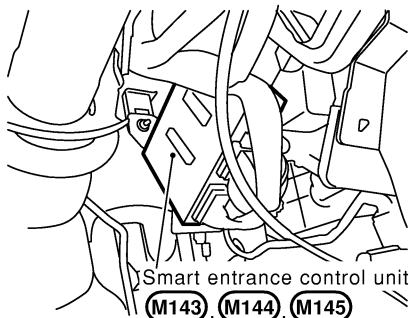
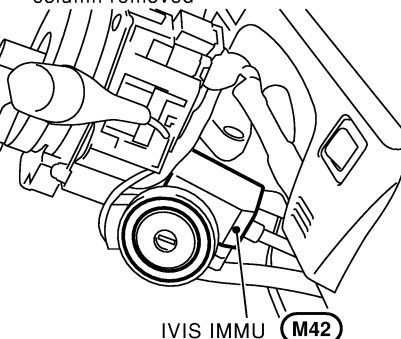
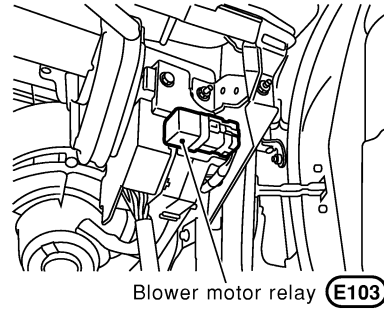
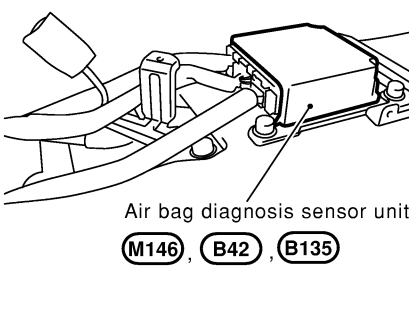
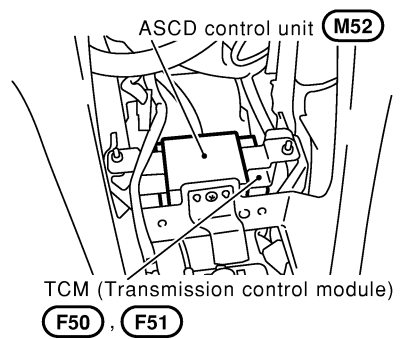
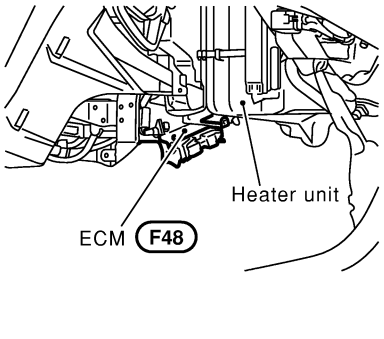
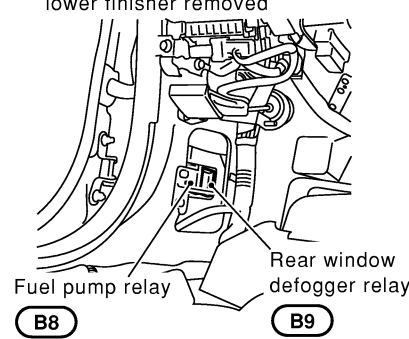
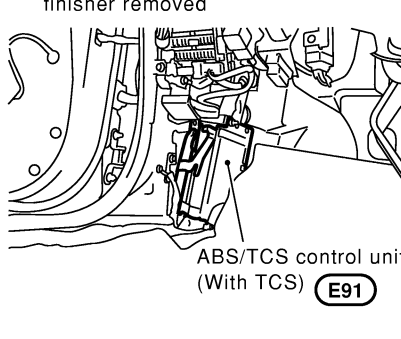
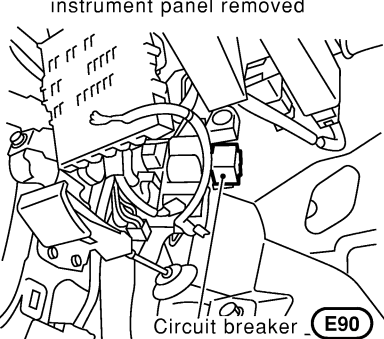
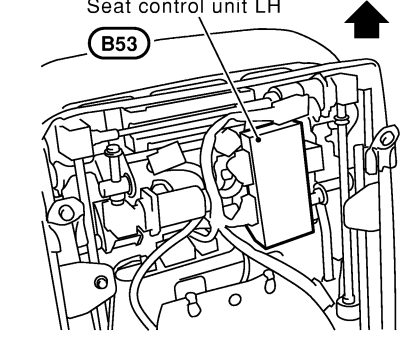
NHEL0130



MEL795M

ELECTRICAL UNITS LOCATION

Passenger Compartment (Cont'd)

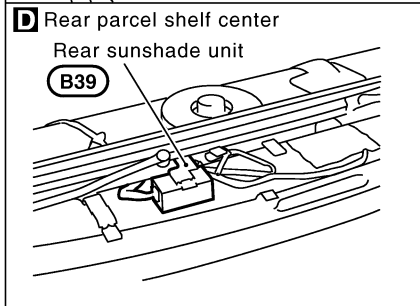
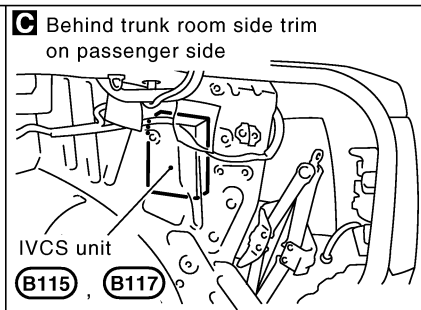
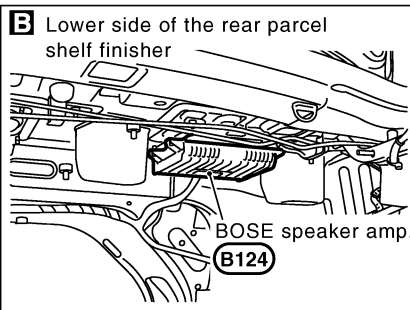
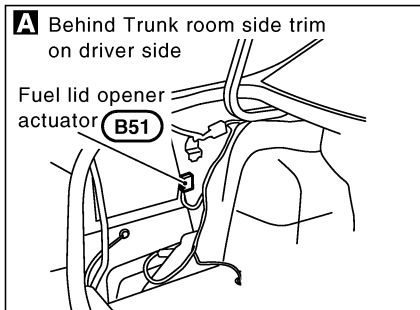
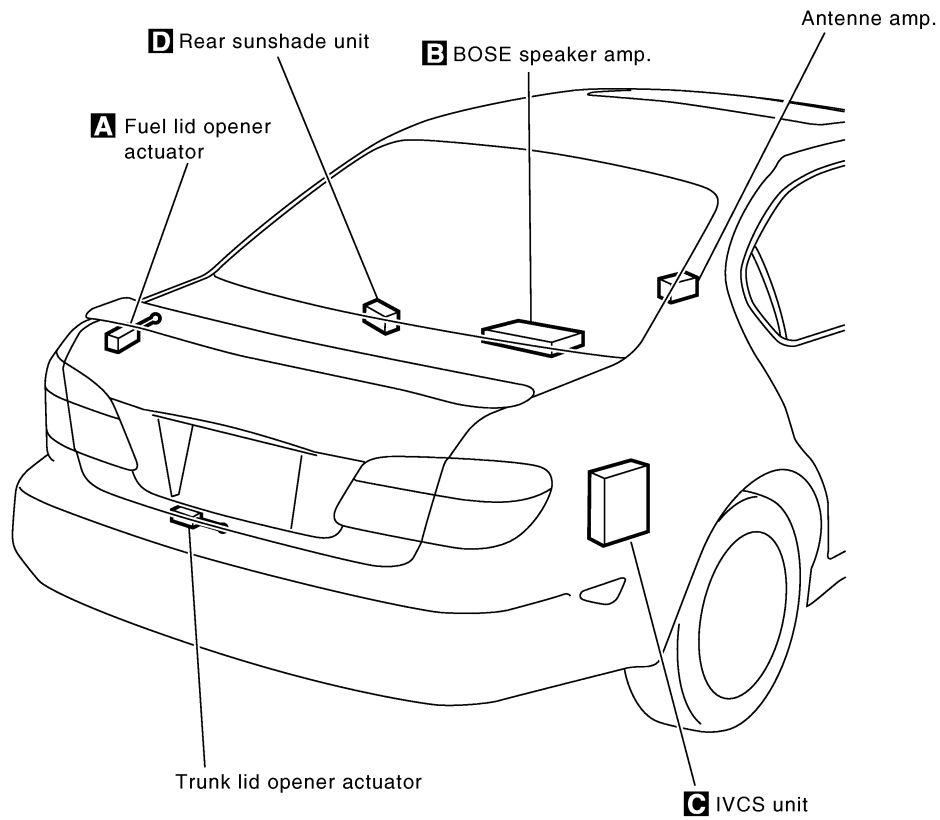
<p>B Driver side view with lower instrument panel removed</p>  <p>Smart entrance control unit M143, M144, M145</p>	<p>C View with steering wheel and steering column removed</p>  <p>IVIS IMMU M42</p>	<p>D Passenger side view with dash side lower finisher removed</p>  <p>Blower motor relay E103</p>
<p>E View with console box assembly removed</p>  <p>Air bag diagnosis sensor unit M146, B42, B135</p>	<p>F View with lower instrument center panel removed</p>  <p>ASCD control unit M52 TCM (Transmission control module) F50, F51</p>	<p>G Passenger side view with lower instrument panel removed</p>  <p>ECM F48 Heater unit</p>
<p>H Driver side view with dash side lower finisher removed</p>  <p>Fuel pump relay B8 Rear window defogger relay B9</p>	<p>J Driver side view with dash side lower finisher removed</p>  <p>ABS/TCS control unit (With TCS) E91</p>	<p>K Driver side view with lower instrument panel removed</p>  <p>Circuit breaker E90</p>
<p>L Under driver's seat</p> <p>Seat control unit LH</p> <p>Front ↑</p>  <p>B53</p>		

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ELECTRICAL UNITS LOCATION

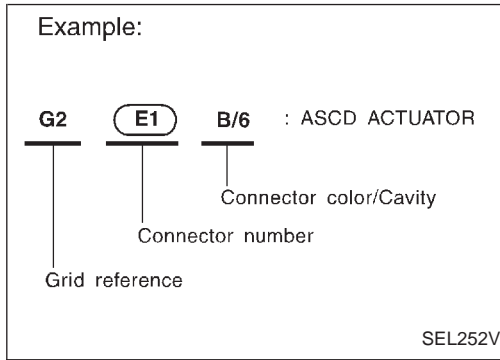
Passenger Compartment (Cont'd)



MEL269L

How to Read Harness Layout

NHEL0131



The following Harness Layouts use a map style grid to help locate connectors on the drawings:

- Main Harness
- Engine Room Harness (Engine Compartment)

TO USE THE GRID REFERENCE

1. Find the desired connector number on the connector list.
2. Find the grid reference.
3. On the drawing, find the crossing of the grid reference letter column and number row.
4. Find the connector number in the crossing zone.
5. Follow the line (if used) to the connector.

CONNECTOR SYMBOL

Main symbols of connector (in Harness Layout) are indicated in the below.

Connector type	Water proof type		Standard type	
	Male	Female	Male	Female
<ul style="list-style-type: none"> ● Cavity: Less than 4 ● Relay connector 				
<ul style="list-style-type: none"> ● Cavity: From 5 to 8 				
<ul style="list-style-type: none"> ● Cavity: More than 9 	—	—		
<ul style="list-style-type: none"> ● Ground terminal etc. 	—			

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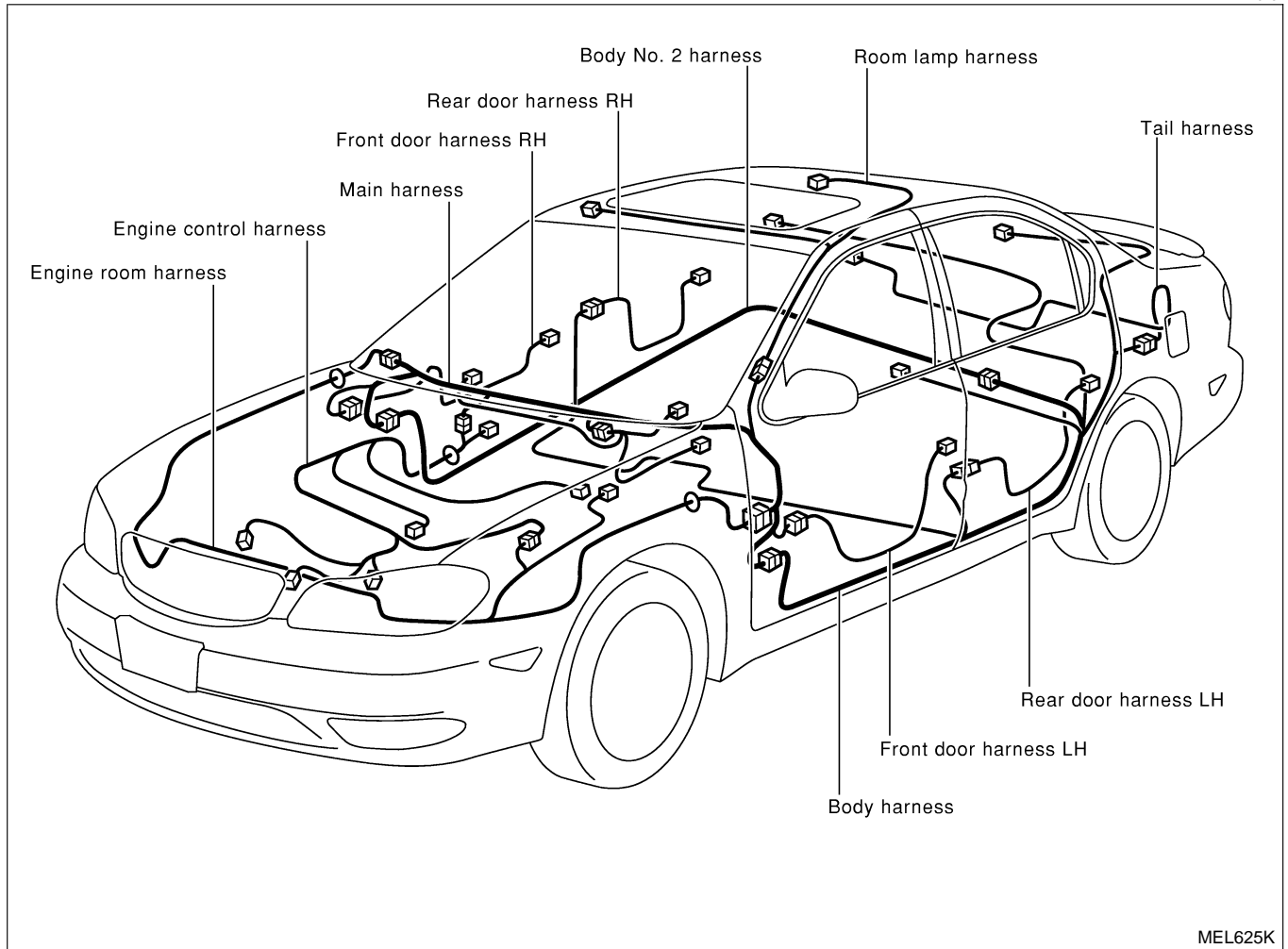
IDX

HARNES LAYOUT

Outline

Outline

NHEL0132



MEL625K

NOTE:

For detailed ground distribution information, refer to "Ground Distribution", "GROUND", EL-19.

HARNES LAYOUT

Outline (Cont'd)

NOTE:

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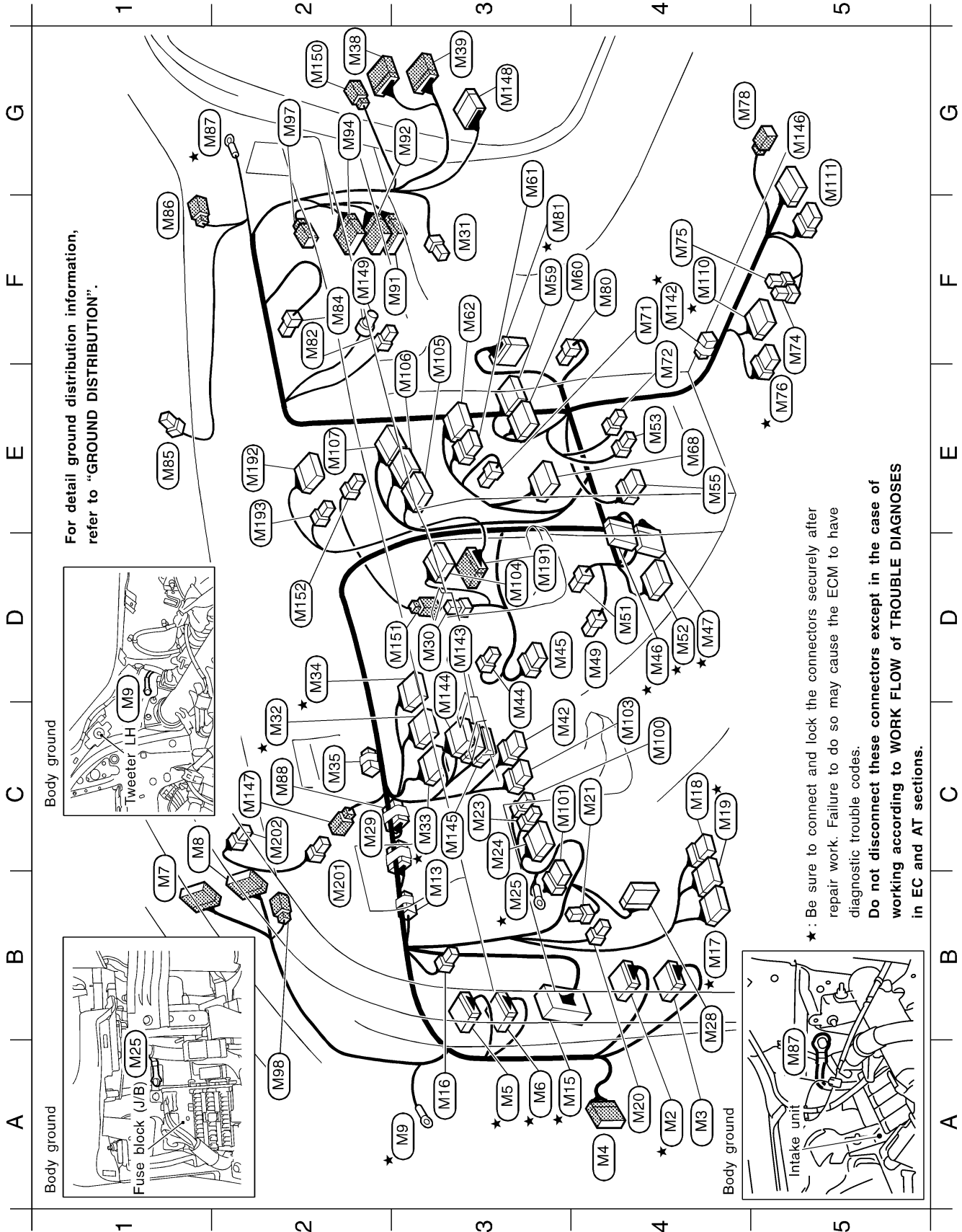
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HARNESS LAYOUT

Main Harness

NHEL0133

Main Harness



For detail ground distribution information, refer to "GROUND DISTRIBUTION".

Body ground

Body ground

Body ground

*: Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes.

Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

HARNES LAYOUT

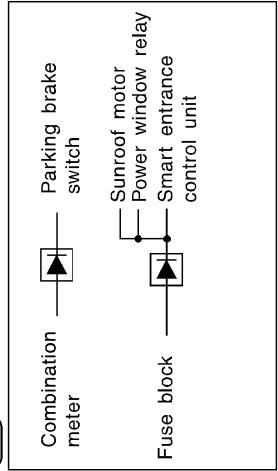
Main Harness (Cont'd)

Main harness

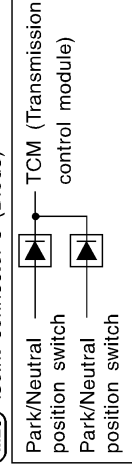
★ A4	M2	BR/24	: To	B2
A4	M3	W/12	: To	B4
A4	M4	SMJ	: To	D1
★ A3	M5	W/16	: To	B1
★ A3	M6	W/18	: To	B3
C1	M7	W/18	: To	R3 (With IVCS)
C2	M8	W/12	: To	R2 (Without IVCS)
★ A3	M9	-	: Body ground	
B3	M13	L/4	: Diode	
★ A3	M15	SMJ	: To	E81
A3	M16	W/4	: Telephone	
★ B4	M17	W/12	: Fuse block (J/B)	
C4	M18	W/6	: Fuse block (J/B)	
★ C4	M19	W/16	: Fuse block (J/B)	
A4	M20	L/4	: Power window relay	
C4	M21	B/3	: Combination flasher unit	
C3	M23	W/3	: Illumination control switch	
C3	M24	W/10	: Door mirror remote control switch	
★ B3	M25	-	: Body ground	
B4	M28	W/16	: Data link connector	
C2	M29	★ 1	: Joint connector-3 (Diode)	
D3	M30	W/4	: To	M151
F3	M31	W/4	: Fan control amp.	
★ C2	M32	BR/20	: Combination meter	
★ C3	M33	W/24	: Combination meter	
★ D2	M34	BR/24	: Combination meter	

C2	M35	W/2	: Diode	
G2	M38	W/16	: To	D62
G3	M39	W/10	: To	D63
C3	M42	W/8	: IVIS IMMU	
D3	M44	W/2	: In-vehicle sensor	
D3	M45	L/6	: TCS on/off switch (With TCS)	
D4	M46	W/18	: To	F44
★ D4	M47	W/20	: To	F45
D4	M49	W/3	: Mode door motor	
D4	M51	W/3	: Air mix door motor	
D4	M52	BR/24	: ASCD control unit	
E4	M53	B/2	: Cigarette lighter	
E4	M55	W/8	: Hazard switch	
F3	M59	GY/20	: A/C auto amp.	
F4	M60	GY/16	: A/C auto amp.	
G3	M61	W/6	: Audio unit	
F3	M62	W/10	: Audio unit	
E4	M68	W/16	: Audio unit (With IVCS or With navigation system)	
F4	M71	W/2	: Antenna amp. (Via sub-harness)	
F4	M72	W/2	: Asitray illumination	
F5	M74	L/4	: Heated seat switch LH	
F4	M75	W/4	: Heated seat switch RH	
E5	M76	GY/8	: A/T device	
G4	M78	B/2	: Power socket	
F4	M80	W/3	: Intake sensor	

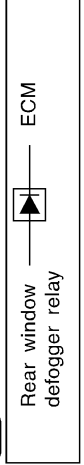
M13 : Diode



M29 : Joint connector-3 (Diode)



M35 : Diode



★ : Be sure to connect and lock the connectors securely after repair work.
 Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

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HARNESS LAYOUT

Main Harness (Cont'd)

Main harness

F3	(M81)	W/20	: To (F49)
F2	(M82)	W/2	: Glove box lamp
F2	(M84)	W/3	: Intake door motor
E1	(M85)	B/2	: Sunload sensor
F1	(M86)	BR/2	: Tweeter RH (Via sub-harness)
G1	(M87)	-	: Body ground
C2	(M88)	★ 1	: Joint connector-4 (Diode) (With TCS)
F3	(M91)	W/12	: To (B103)
G3	(M92)	W/10	: To (B104)
G2	(M94)	W/20	: To (B102) (With IVCS)
G2	(M97)	G/2	: To (E105)
A2	(M98)	W/3	: To (R14) (With IVCS)
C4	(M100)	W/4	: Security indicator
C4	(M101)	GY/6	: Memory seat cancel switch
C4	(M103)	Y/7	: Spiral cable (Via sub-harness)
D3	(M104)	BR/24	: To (M191)
F3	(M105)	W/16	: Navi control unit (Via sub-harness)
E3	(M109)	W/20	: Navi control unit (Via sub-harness)
E2	(M107)	GY/12	: Navi control unit (Via sub-harness)

★ 1 : SB/6 or -/3

F4	★ (M110)	W/16	: To (B43)
G5	(M111)	L/6	: Rear sunshade switch
F4	★ (M142)	W/2	: Diode
D3	(M143)	W/24	: Smart entrance control unit
D3	(M144)	GY/24	: Smart entrance control unit
C3	(M145)	GY/16	: Smart entrance control unit
G5	(M146)	Y/28	: Air bag diagnosis sensor unit
C2	(M147)	W/3	: To (M201)
G3	(M148)	GY/20	: Steering wheel receiver control switch
F2	(M149)	Y/4	: Passenger air bag module
G2	(M150)	Y/4	: To (E147)

Main sub-harness-1

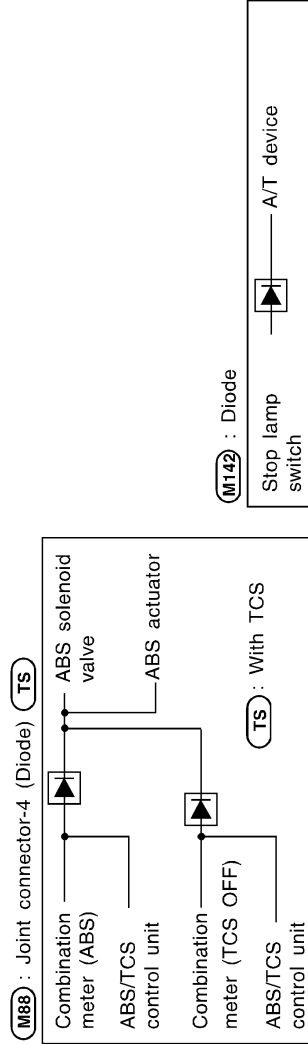
D3	(M151)	W/4	: To (M30)
D2	(M152)	W/4	: Clock

Main sub-harness-2

D3	(M191)	BR/24	: To (M104)
E2	(M192)	W/20	: Front monitor
E2	(M193)	W/4	: Front monitor

Main sub-harness-3

B2	(M201)	W/3	: To (M147)
C2	(M202)	W/3	: Auto light sensor



MEL935N

HARNESS LAYOUT

Main Harness (Cont'd)

NOTE:

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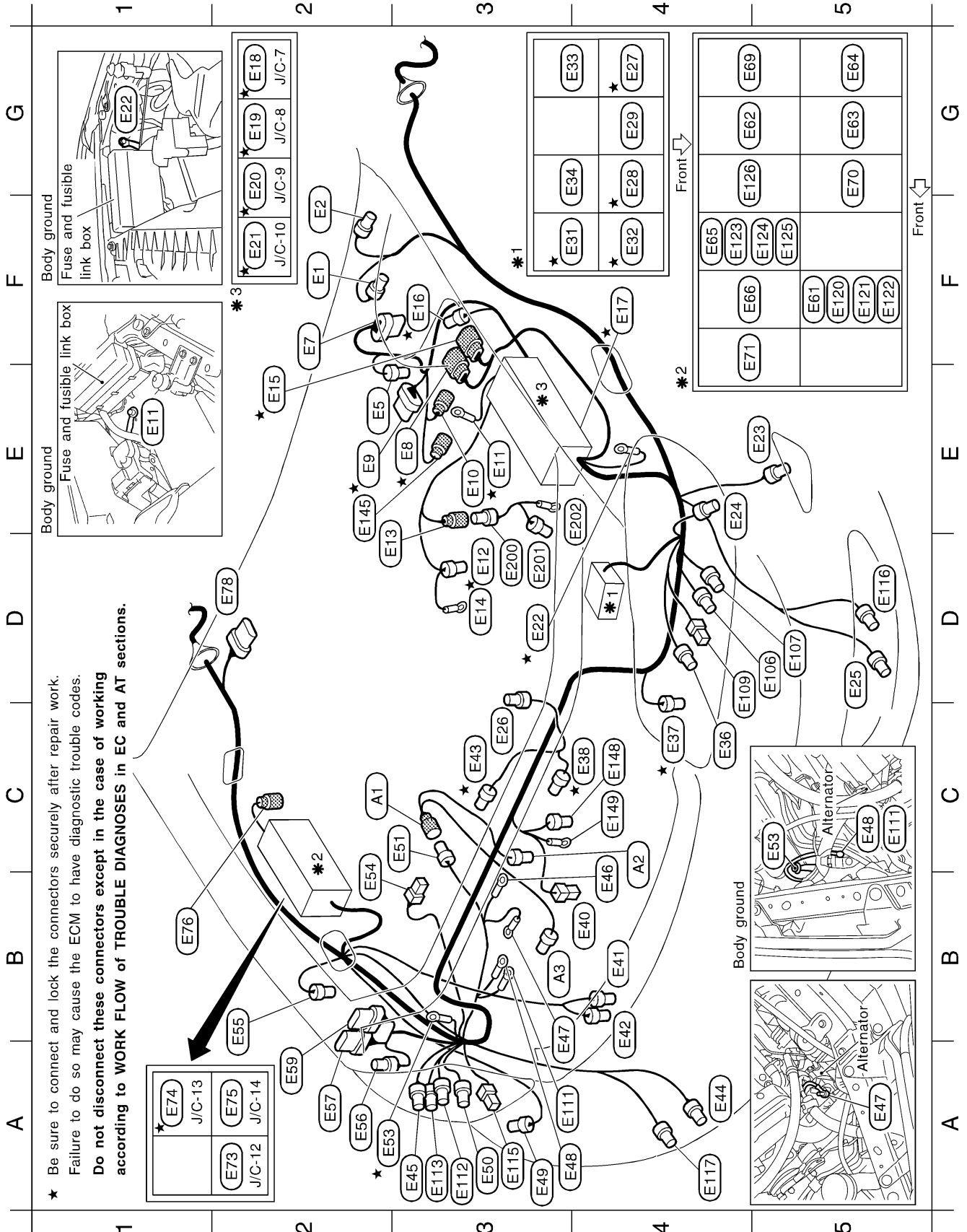
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HARNESS LAYOUT

Engine Room Harness

Engine Room Harness

NHEL0134



MEL800M

HARNES LAYOUT

Engine Room Harness (Cont'd)

Engine room harness

F2	(E1)	GY/2	: Brake fluid level switch	A4	(E44)	BR/2	: Front fog lamp RH	A3	(E111)	-	: Body ground
F2	(E2)	GY/4	: ASCD pump	A3	(E45)	BR/2	: Front turn signal lamp RH	A3	(E112)	BR/2	: Headlamp RH
E2	(E5)	W/2	: ABS actuator (With TCS)	C4	(E46)	-	: Alternator	A3	(E113)	GY/2	: (Low beam without xenon headlamp)
F2	(E7)	GY/8	: ABS actuator (With TCS)	B3	(E47)	-	: Alternator	A3	(E113)	GY/2	: Headlamp RH
E3	(E8)	GY/8	: To (F17)	A3	(E48)	-	: Body ground	A3	(E115)	B/2	: (Low beam with xenon headlamp)
E2	(E9)	GY/30	: ABS actuator and electric unit (Without TCS)	A3	(E49)	BR/2	: Front side marker lamp RH	D5	(E116)	BR/2	: Parking lamp RH
E3	(E10)	BR/2	: Front wheel sensor LH (With TCS)	A3	(E50)	B/2	: Headlamp RH (High beam)	A4	(E117)	BR/2	: Cornering lamp LH
E3	(E11)	-	: Body ground	C3	(E51)	GY/3	: To (A1)	F5	(E120)	BR/6	: Cornering lamp RH
D3	(E12)	GY/2	: Intake air temperature sensor	A2	(E53)	-	: Body ground	F5	(E120)	BR/6	: Headlamp LH relay
D3	(E13)	GY/1	: To (E200)	B2	(E54)	B/1	: Vehicle security horn	F5	(E121)	BR/6	: (For Canada with xenon headlamp)
D3	(E14)	-	: Battery (Fusible link 120A)	B2	(E55)	B/2	: Ambient sensor	F5	(E121)	BR/6	: Headlamp LH relay
E2	(E15)	B/8	: To (F18)	A2	(E56)	GY/4	: Daytime light control unit (For Canada)	F5	(E122)	L/4	: (For USA with xenon headlamp)
F3	(E16)	GY/2	: Dropping resistor	A2	(E57)	GY/6	: Daytime light control unit (For Canada)	F4	(E123)	BR/6	: Headlamp LH relay
F4	(E17)	-	: Fuse and fusible link box	F5	(E59)	GY/8	: Daytime light control unit (For Canada)	F4	(E123)	BR/6	: Headlamp RH relay
G2	(E18)	GY/6	: Joint connector-7	G5	(E62)	L/4	: Tail lamp relay	F5	(E124)	BR/6	: (For Canada with xenon headlamp)
G2	(E19)	GY/6	: Joint connector-8	G5	(E63)	L/4	: Vehicle security horn relay-2	F5	(E124)	BR/6	: Headlamp RH relay
G2	(E20)	W/6	: Joint connector-9	G5	(E64)	L/4	: Front fog lamp relay	F5	(E125)	L/4	: (For USA with xenon headlamp)
F2	(E21)	W/6	: Joint connector-10	F4	(E65)	L/4	: Headlamp RH relay	F5	(E125)	L/4	: Headlamp RH relay
D3	(E22)	-	: Body ground	F5	(E66)	W/3	: Horn relay	G5	(E126)	L/4	: (For Canada without xenon headlamp)
E5	(E23)	BR/2	: Front side marker lamp LH	F5	(E66)	W/3	: Horn relay	E2	(E145)	BR/2	: Cornering lamp relay
E4	(E24)	BR/2	: Front turn signal lamp LH	G5	(E69)	L/4	: Door mirror defogger relay	E2	(E145)	BR/2	: Front wheel sensor LH (Without TCS)
D5	(E25)	B/2	: Front fog lamp LH	G5	(E70)	L/4	: Vehicle security horn relay-1	C4	(E148)	Y/2	: Crash zone sensor
C3	(E26)	W/2	: Hood switch	F5	(E71)	L/4	: Air conditioner relay	C4	(E149)	-	: Body ground
G4	(E27)	BR/6	: Cooling fan relay-1	A2	(E73)	W/6	: Joint connector-12				
G4	(E28)	BR/6	: Cooling fan relay-2	A1	(E74)	W/6	: Joint connector-13				
G4	(E29)	B/5	: ABS motor relay (With TCS)	A2	(E75)	W/6	: Joint connector-14				
F4	(E31)	BR/6	: Cooling fan relay-3	B1	(E76)	GY/2	: Front wheel sensor RH				
F4	(E32)	BR/6	: ECM relay	D2	(E78)	GY/6	: Front wiper motor				
G4	(E33)	B/5	: ABS solenoid valve relay (With TCS)	D4	(E106)	GY/2	: Headlamp LH				
G4	(E34)	GY/6	: Park/Neutral position relay	D5	(E107)	BR/2	: (Low beam with xenon headlamp)				
C4	(E36)	B/2	: Headlamp LH (High beam)	D5	(E107)	BR/2	: Headlamp LH				
C4	(E37)	B/3	: Refrigerant pressure sensor	D4	(E109)	B/2	: (Low beam without xenon headlamp)				
C4	(E38)	GY/4	: Cooling fan motor-1				: Parking lamp LH				
B4	(E40)	B/1	: Horn (High)								
B4	(E41)	GY/2	: Front washer motor								
B4	(E42)	BR/2	: Washer level switch								
C3	(E43)	GY/4	: Cooling fan motor-2								

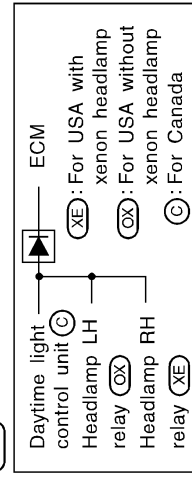
Engine room sub-harness

D3	(E200)	GY/1	: To (E13)
D3	(E201)	GY/1	: Starter motor
E4	(E202)	-	: Starter motor

Alternator harness

C2	(A1)	GY/3	: To (E51)
C4	(A2)	GY/4	: Alternator
B3	(A3)	B/1	: Compressor

(E79) : Diode

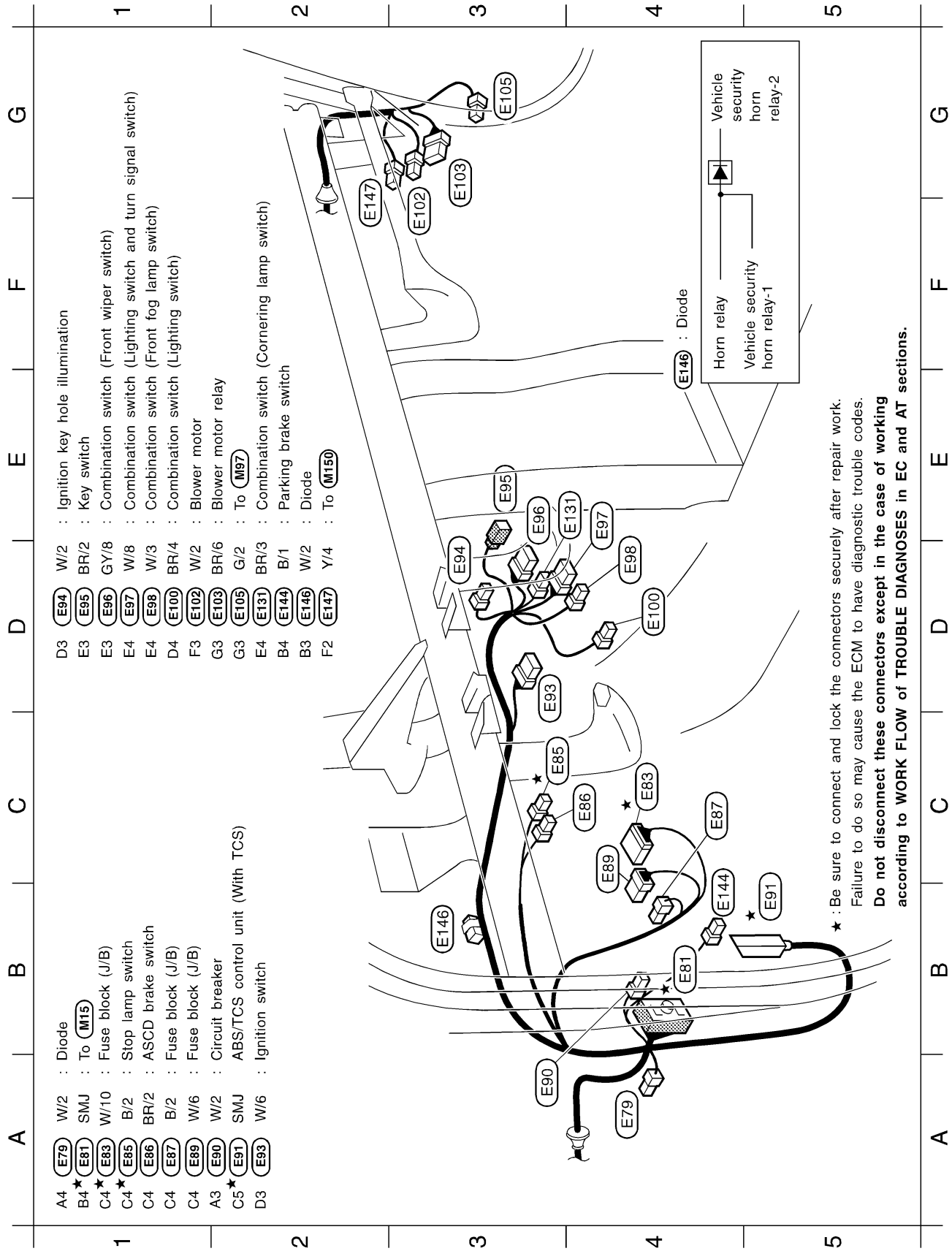


★ : Be sure to connect and lock the connectors securely after repair work. Failure to do so may cause the ECM to have diagnostic trouble codes. **Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.**

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HARNESS LAYOUT

Engine Room Harness (Cont'd)



MEL802M

HARNESS LAYOUT

Engine Room Harness (Cont'd)

NOTE:

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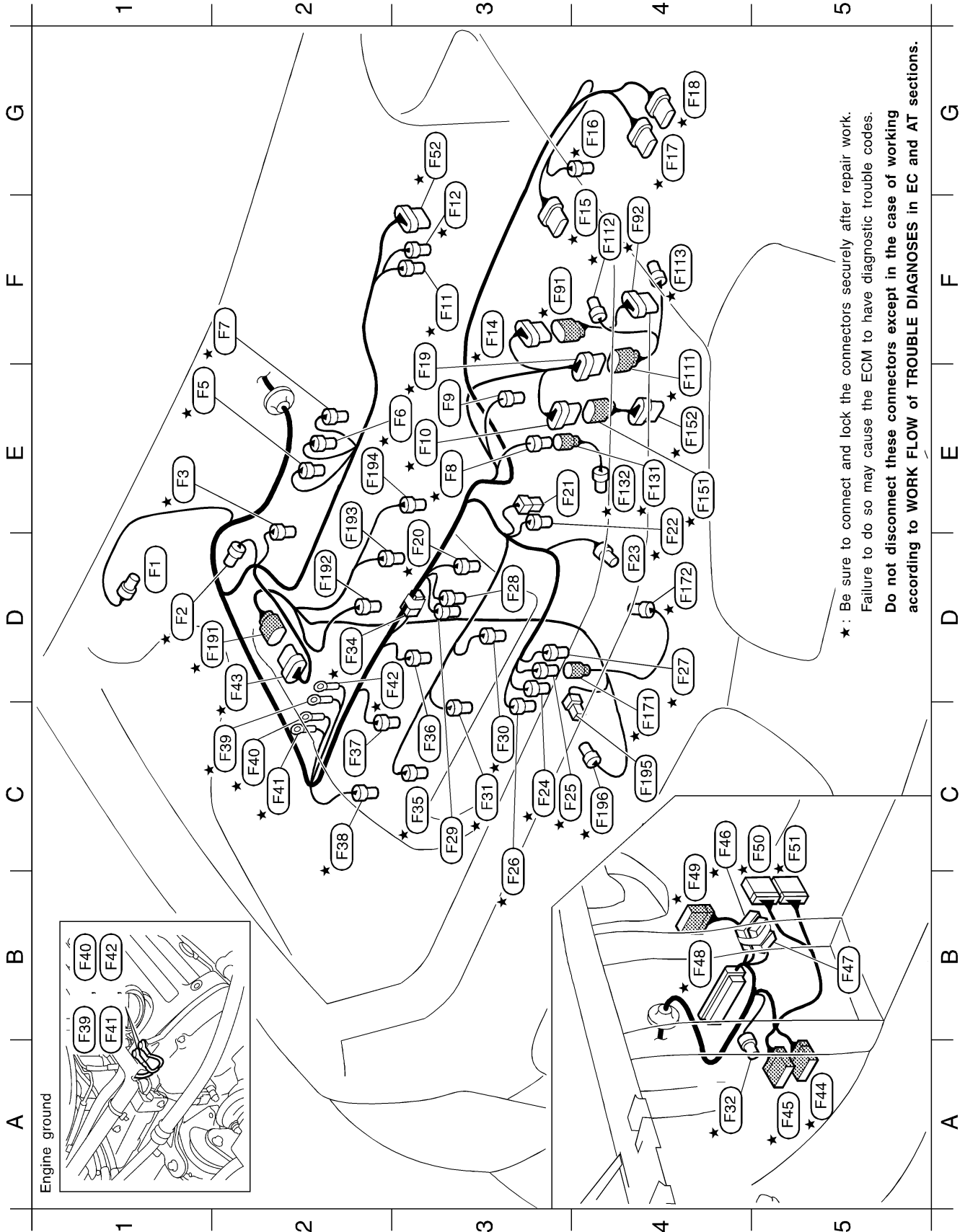
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HARNESS LAYOUT

Engine Control Harness

Engine Control Harness

NHEL0135



MEL936N

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Engine control harness

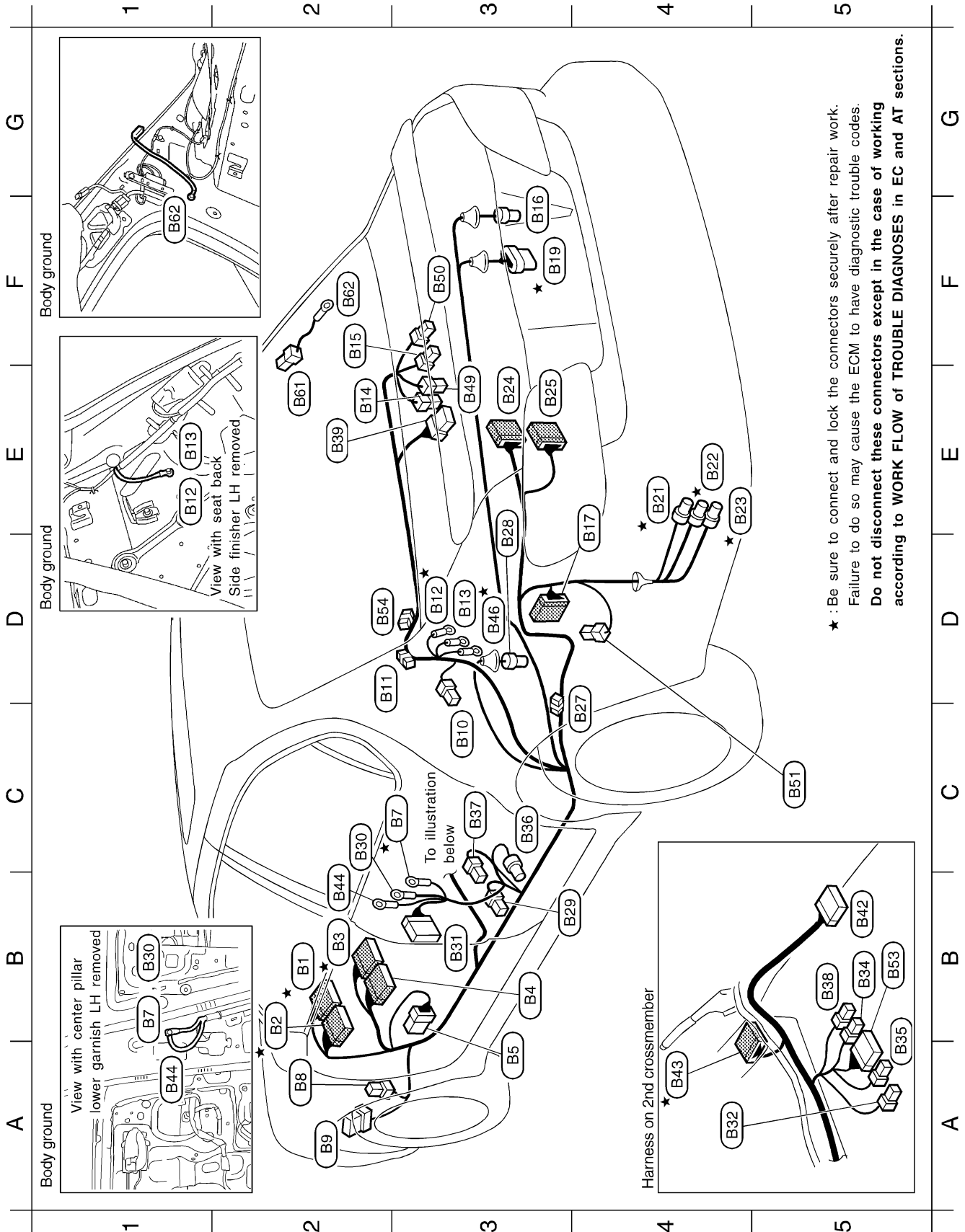
D1	(F1)	B/2	: Power steering oil pressure switch	D2★	(F43)	L/8	: To (F191)
D1★	(F2)	GY/3	: Heated oxygen sensor 1 (Front) (Bank 1)	A5★	(F44)	W/18	: To (M46)
E1★	(F3)	GY/3	: Ignition coil No. 1	A5★	(F45)	W/20	: To (M47)
E1★	(F5)	GY/3	: Ignition coil No. 3	C4★	(F46)	L/12	: Joint connector-18(For the initial production models)
E3★	(F6)	GY/3	: Ignition coil No. 5	B5	(F47)	GY/6	: Joint connector-17
F2★	(F7)	L/2	: EVAP canister purge volume control solenoid valve	B4★	(F48)	SMJ	: ECM
E3★	(F8)	B/2	: To (F131)	B4★	(F49)	W/20	: To (M81)
E3	(F9)	BR/3	: Rear electronic controlled engine mount	C5★	(F50)	GY/24	: TCM (Transmission control module)
E3★	(F10)	GY/10	: To (F151)	C5★	(F51)	W/24	: TCM (Transmission control module)
F3★	(F11)	BR/3	: Throttle position sensor	G3★	(F52)	GY/6	: IACV-AAC valve
F3★	(F12)	GY/3	: Throttle position switch	Engine control sub-harness-2			
F3★	(F14)	BR/8	: To (F91)	F3★	(F91)	BR/8	: To (F14)
F4★	(F15)	GY/5	: Mass air flow sensor	F4★	(F92)	B/8	: Terminal cord assembly
G4★	(F16)	SB/2	: Swirl control valve control vacuum check switch	Engine control sub-harness-3			
G4★	(F17)	GY/8	: To (E8)	F4★	(F11)	GY/6	: To (F19)
G4★	(F18)	B/8	: To (E15)	F4★	(F12)	B/3	: Revolution sensor
F3★	(F19)	GY/6	: To (F111)	F4★	(F13)	GY/2	: Vehicle speed sensor (With TCS)
D3★	(F20)	BR/2	: Swirl control valve control solenoid valve	Engine control sub-harness-4			
E3	(F21)	B/1	: Thermal transmitter	E4★	(F131)	B/2	: To (F8)
E4★	(F22)	GY/2	: Engine coolant temperature sensor	E4★	(F132)	GY/2	: Knock sensor
D4	(F23)	BR/3	: Front electronic controlled engine mount	Engine control sub-harness-5			
C3★	(F24)	B/4	: Heated oxygen sensor 2 (Rear) (Bank 1)	E4★	(F151)	GY/10	: To (F10)
C4★	(F25)	G/4	: To (F171)	E4★	(F152)	B/10	: Park/Neutral position switch
C3★	(F26)	GY/3	: Heated oxygen sensor 1 (Front) (Bank 2)	Engine control sub-harness-6			
D4★	(F27)	GY/4	: Heated oxygen sensor 2 (Rear) (Bank 2)	C4★	(F171)	G/4	: To (F25)
D3	(F28)	GY/2	: Injector No. 6	D4★	(F172)	GY/3	: Crankshaft position sensor (POS)
C3	(F29)	B/2	: VIAS control solenoid valve	Engine control sub-harness-7			
C3★	(F30)	GY/3	: Ignition coil No. 6	D2★	(F191)	L/8	: To (F43)
C3★	(F31)	GY/3	: Ignition coil No. 4	D2	(F192)	GY/2	: Injector No. 1
A4★	(F32)	GY/3	: Absolute pressure sensor	E2	(F193)	GY/2	: Injector No. 3
D2★	(F34)	W/2	: Condenser	E2	(F194)	GY/2	: Injector No. 5
C3★	(F35)	GY/3	: Ignition coil No. 2	C4	(F195)	B/1	: Oil pressure switch
C3	(F36)	GY/2	: Injector No. 4	C4★	(F196)	GY/2	: Crankshaft position sensor (REF)
C2	(F37)	GY/2	: Injector No. 2	Engine control sub-harness-8			
C2★	(F38)	GY/2	: Camshaft position sensor (PHASE)	★ : Be sure to connect and lock the connectors securely after repair work.			
C2★	(F39)	-	: Engine ground	Failure to do so may cause the ECM to have diagnostic trouble codes.			
C2★	(F40)	-	: Engine ground	Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.			
C2★	(F41)	-	: Engine ground				
D3★	(F42)	-	: Engine ground				

HARNESS LAYOUT

Body Harness

Body Harness

NHEL0136



MEL805M

Body harness

B2★	(B1)	W/16	:	To	(M5)
B2★	(B2)	BR/24	:	To	(M2)
B2★	(B3)	W/18	:	To	(M6)
B3	(B4)	W/12	:	To	(M3)
B3	(B5)	W/8	:	Fuse block (J/B)	
C3★	(B7)	-	:	Body ground	
A2	(B8)	L/4	:	Fuel pump relay	
A2	(B9)	BR/6	:	Rear window defogger relay	
C3	(B10)	W/1	:	Rear door switch LH	
D3	(B11)	W/1	:	Condenser (Rear window defogger) (Without rear sunshade)	
D3★	(B12)	-	:	Body ground (Without rear sunshade)	
D3	(B13)	-	:	Body ground	
E2	(B14)	BR/2	:	High-mounted stop lamp (Without rear air spoiler) (Without rear sunshade)	
F2	(B15)	W/2	:	Trunk room lamp (Without rear sunshade)	
F3	(B16)	GY/2	:	Rear wheel sensor RH	
E4	(B17)	W/10	:	To	(T3)
F3★	(B19)	GY/5	:	Fuel level sensor unit and fuel pump	
E4★	(B21)	G/2	:	Vacuum cut valve bypass valve	
E4★	(B22)	B/2	:	EVAP canister vent control valve	
E4★	(B23)	GY/3	:	EVAP control system pressure sensor	
E3	(B24)	W/16	:	To	(B119)
E3	(B25)	W/20	:	To	(B120)
C4	(B27)	W/2	:	Condenser	
E3	(B28)	BR/2	:	Rear wheel sensor LH	
B4	(B29)	W/3	:	Front door switch LH	
C2	(B30)	-	:	Body ground	
B3	(B31)	W/10	:	To	(D81)
A4	(B32)	W/3	:	Heated seat LH (Via sub-harness)	
B5	(B34)	W/3	:	Seat belt buckle switch LH	
A5	(B35)	W/2	:	Power seat switch LH (Via sub-harness)	
C3	(B36)	OR/2	:	Satellite sensor LH	
C3	(B37)	★ 1	:	Seat belt pre-tensioner LH	
B5	(B38)	Y/2	:	Side air bag module LH (Via sub-harness)	
E2	(B39)	W/6	:	Rear sunshade unit	
B5	(B42)	Y/12	:	Side air bag diagnosis sensor unit LH	
A4★	(B43)	W/16	:	To	(M110)
B2	(B44)	-	:	Body ground	
D3★	(B46)	-	:	Body ground (With rear sunshade)	
E3	(B49)	W/2	:	High-mounted stop lamp (Without rear air spoiler) (With rear sunshade)	
F3	(B50)	W/2	:	Trunk room lamp (With rear sunshade)	
C5	(B51)	W/4	:	Fuel lid opener actuator	
B5	(B53)	W/16	:	Seat control unit LH (Via sub-harness)	
D3	(B54)	W/1	:	Condenser (Rear window defogger)(With rear sunshade)	

Defogger harness

E2	(B61)	B/1	:	Rear window defogger
F2	(B62)	-	:	Body ground

★ 1 W/4 or Y/2

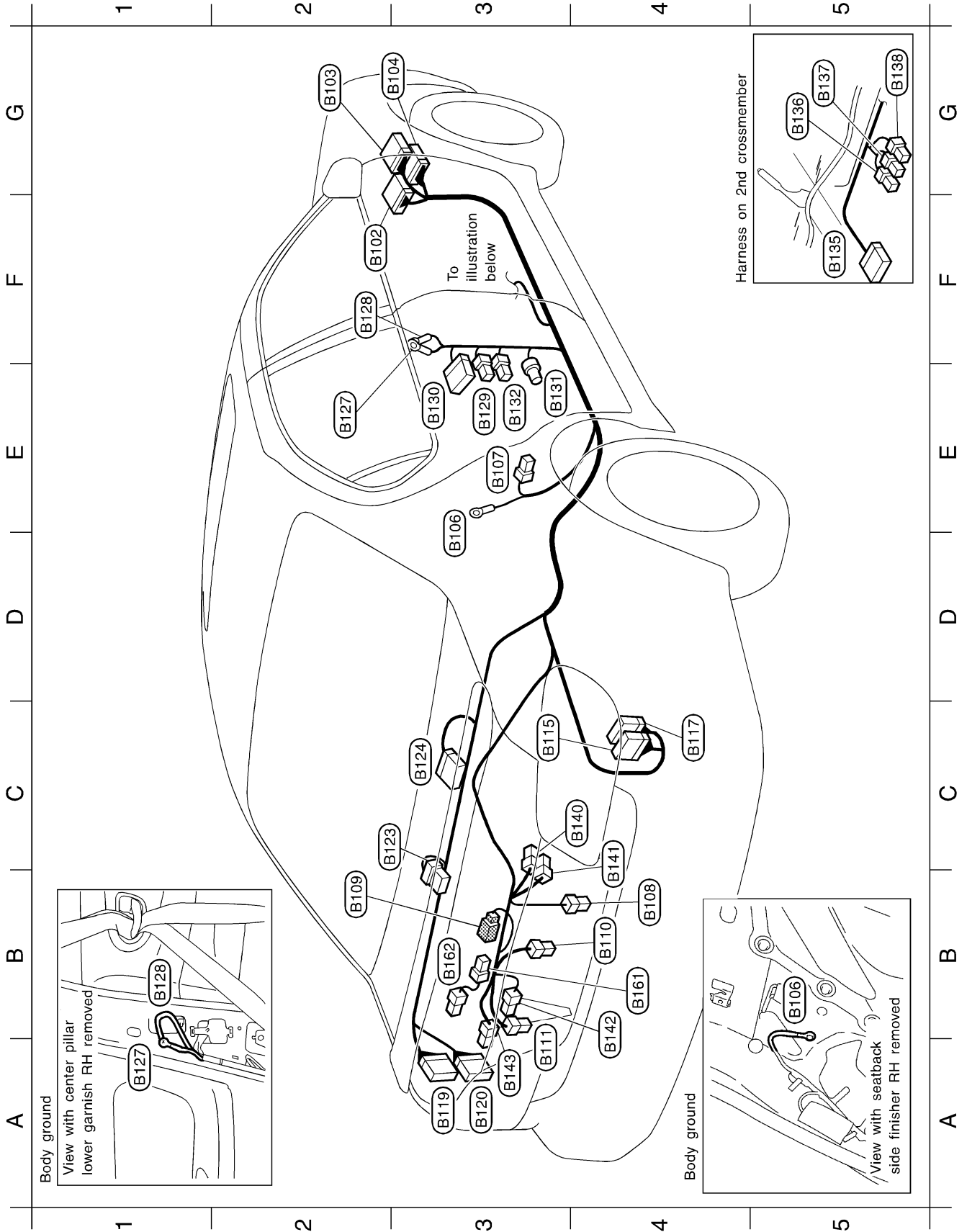
★ : Be sure to connect and lock the connectors securely after repair work.
Failure to do so may cause the ECM to have diagnostic trouble codes.
Do not disconnect these connectors except in the case of working according to WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.

HARNESSES LAYOUT

Body No. 2 Harness

Body No. 2 Harness

NHEL0137



MEL636K

HARNES LAYOUT

Body No. 2 Harness (Cont'd)

Body No. 2 harness

F2	(B102)	W/20	:	To (M94)	(With IVCS)
G2	(B103)	W/12	:	To (M91)	
G3	(B104)	W/10	:	To (M92)	
D3	(B106)	-	:	Body ground	
E3	(B107)	W/1	:	Rear door switch RH	
B4	(B108)	W/2	:	Trunk lid key cylinder switch	
B2	(B109)	BR/2	:	To (B161)	
B4	(B110)	W/2	:	Licence lamp RH	
A3	(B111)	W/2	:	Licence lamp LH	
C3	(B115)	W/16	:	IVCS unit (Via sub-harness)	
C4	(B117)	W/22	:	IVCS unit (Via sub-harness)	
A3	(B119)	W/16	:	To (B24)	
A3	(B120)	W/20	:	To (B25)	
C2	(B123)	BR/6	:	Woofer	
C3	(B124)	GY/26	:	BOSE speaker amp.	
E2	(B127)	-	:	Body ground	
F2	(B128)	-	:	Body ground	
E3	(B129)	W/3	:	Front door switch RH	
E3	(B130)	W/10	:	To (D101)	
E3	(B131)	Y/2	:	Satellite sensor RH	
E3	(B132)	* 1	:	Seat belt pre-tensioner RH	
F5	(B135)	Y/12	:	Side air bag diagnosis sensor unit RH	
G5	(B136)	W/3	:	Heated seat RH (Via sub-harness)	
G5	(B137)	W/2	:	Power seat switch RH (Via sub-harness)	
G5	(B138)	Y/2	:	Side air bag module RH (Via sub-harness)	
C4	(B140)	W/3	:	Trunk lid combination lamp RH (For stop and tail)	
B4	(B141)	W/2	:	Trunk lid combination lamp RH (For back-up)	
B4	(B142)	W/2	:	Trunk lid combination lamp LH (For back-up)	
A3	(B143)	W/3	:	Trunk lid combination lamp LH (For stop and tail)	

* 1 W/4 or Y/2

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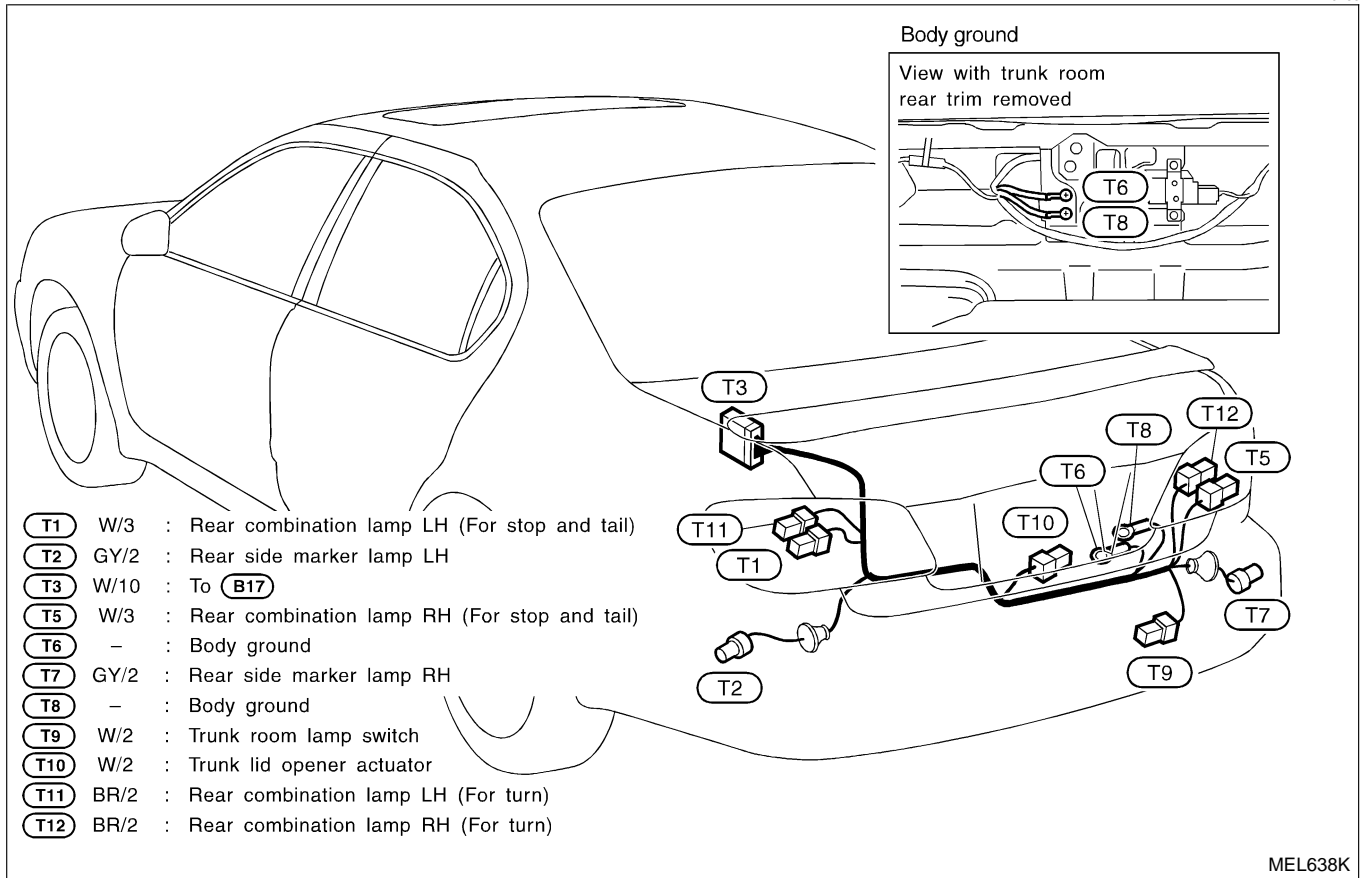
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HARNESS LAYOUT

Tail Harness

Tail Harness

NHEL0138



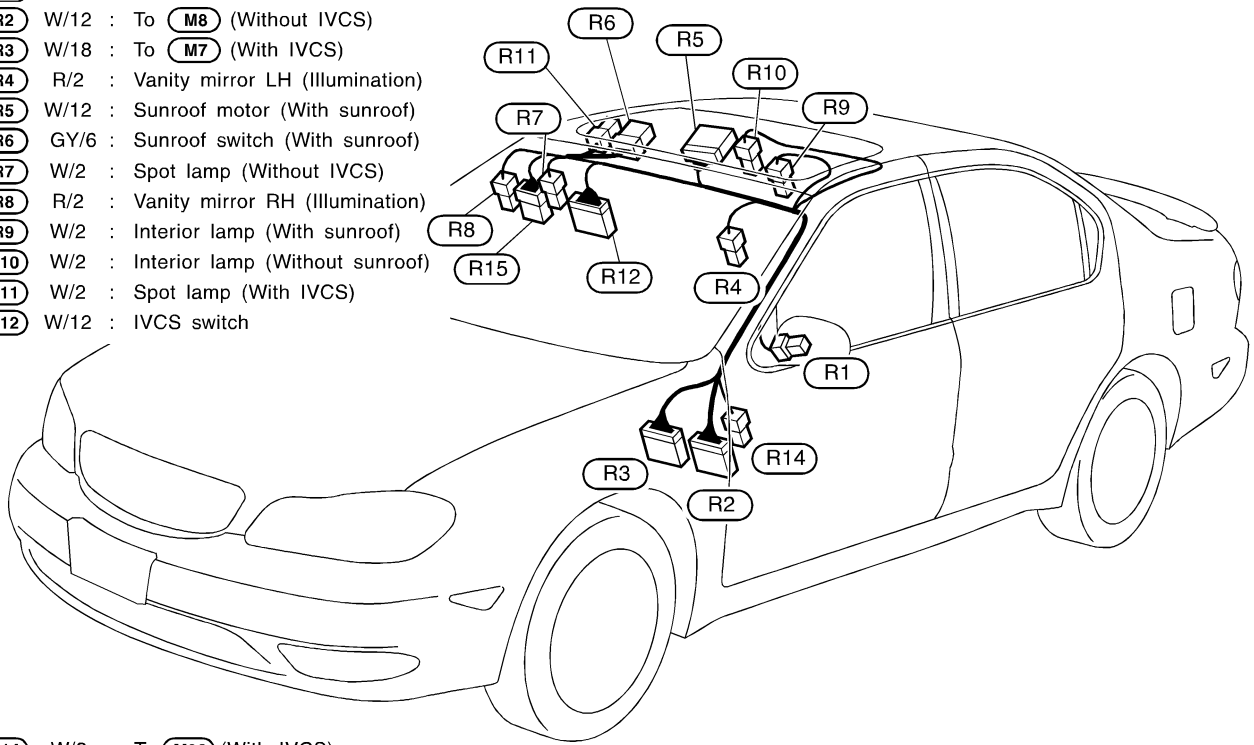
HARNESS LAYOUT

Room Lamp Harness

Room Lamp Harness

NHEL0140

- R1** BR/2 : Tweeter LH
- R2** W/12 : To **M8** (Without IVCS)
- R3** W/18 : To **M7** (With IVCS)
- R4** R/2 : Vanity mirror LH (Illumination)
- R5** W/12 : Sunroof motor (With sunroof)
- R6** GY/6 : Sunroof switch (With sunroof)
- R7** W/2 : Spot lamp (Without IVCS)
- R8** R/2 : Vanity mirror RH (Illumination)
- R9** W/2 : Interior lamp (With sunroof)
- R10** W/2 : Interior lamp (Without sunroof)
- R11** W/2 : Spot lamp (With IVCS)
- R12** W/12 : IVCS switch



- R14** W/3 : To **M98** (With IVCS)
- R15** B/7 : Auto anti-dazzling inside mirror

MEL808M

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HARNESS LAYOUT

Front Door Harness

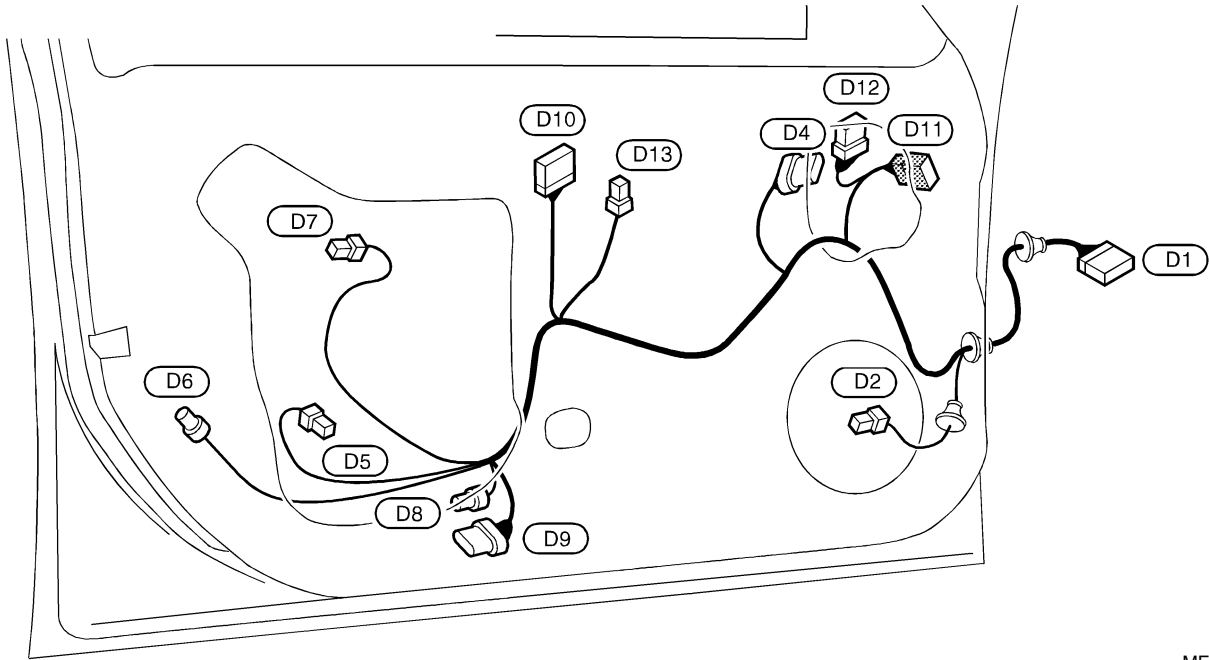
Front Door Harness

NHEL0142

LH SIDE

NHEL0142S03

- | | |
|--|--|
| (D1) SMJ : To (M4) | (D8) BR/3 : Front door key cylinder switch LH (Without IVCS) |
| (D2) BR/2 : Front door speaker LH | (D9) GY/6 : Front door key cylinder switch LH (With IVCS) |
| (D4) GY/6 : Front power window regulator LH | (D10) W/16 : Power window main switch |
| (D5) W/2 : Front step lamp LH | (D11) W/8 : Door mirror actuator LH (With door mirror deffoger) |
| (D6) GY/4 : Front door lock actuator LH | (D12) W/8 : Memory seat switch |
| (D7) W/4 : Trunk and fuel lid opener switch | (D13) W/3 : Power window main switch |



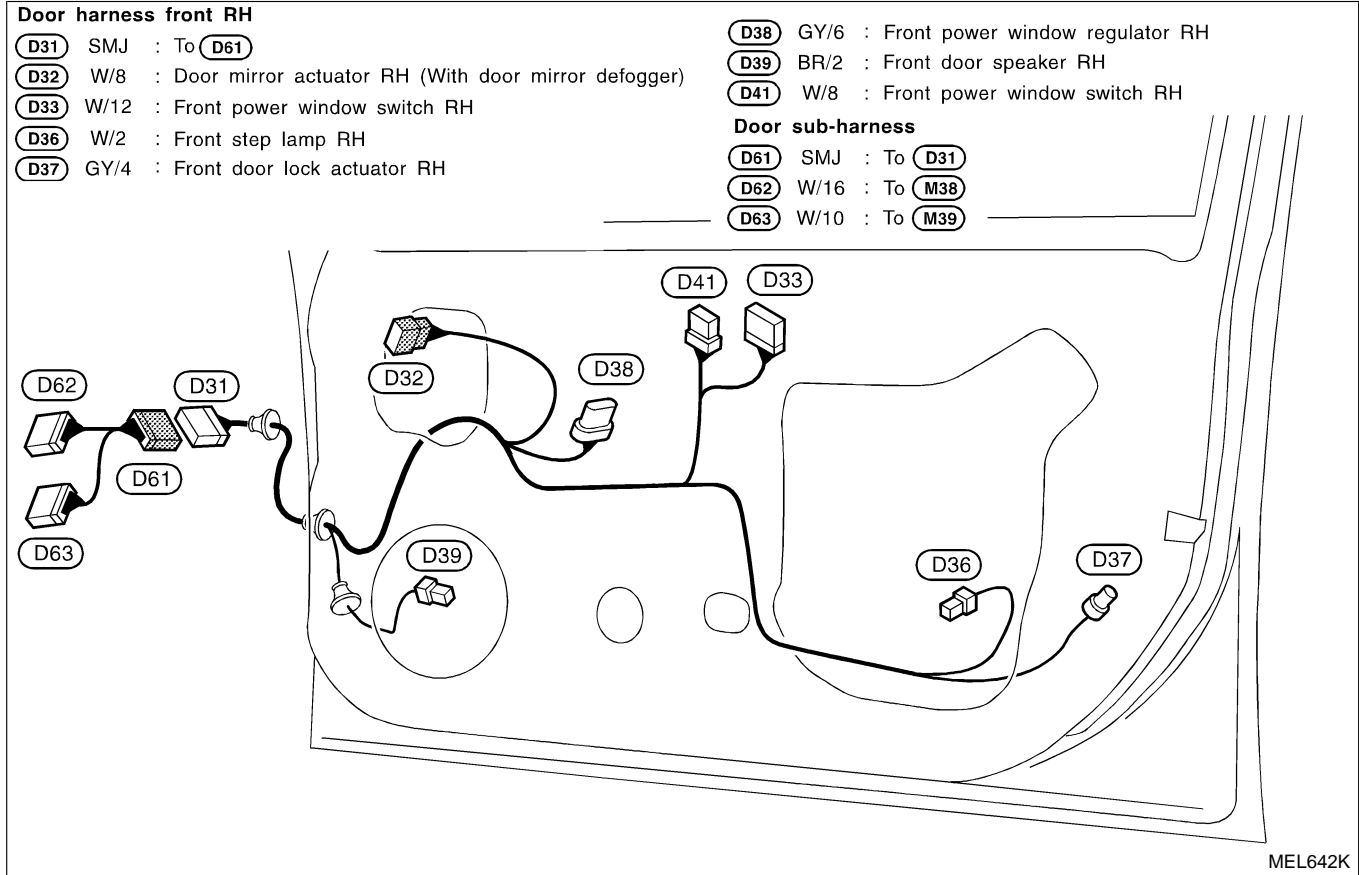
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HARNESS LAYOUT

Front Door Harness (Cont'd)

RH SIDE

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HARNESS LAYOUT

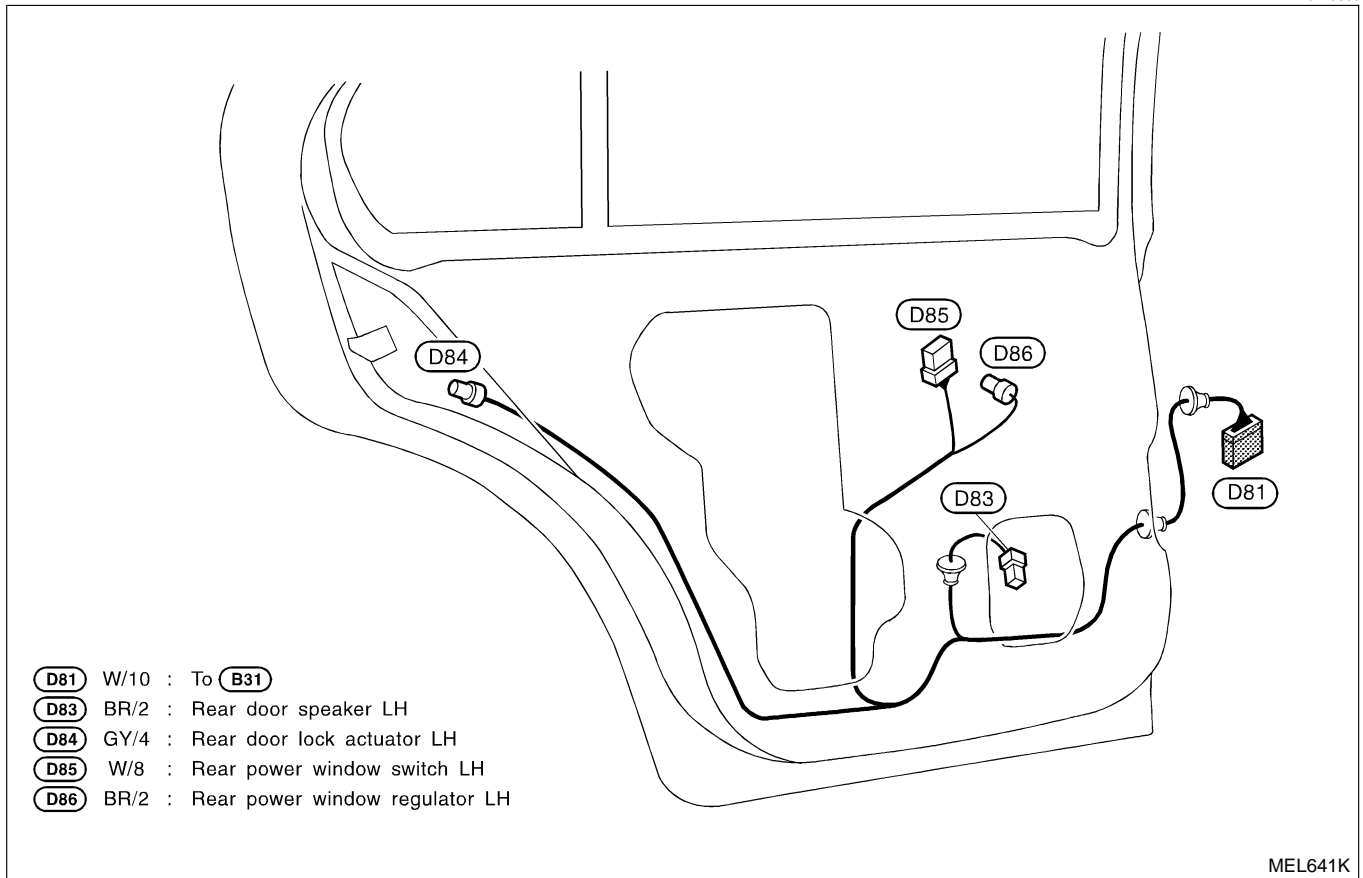
Rear Door Harness

Rear Door Harness

NHEL0143

LH SIDE

NHEL0143S03

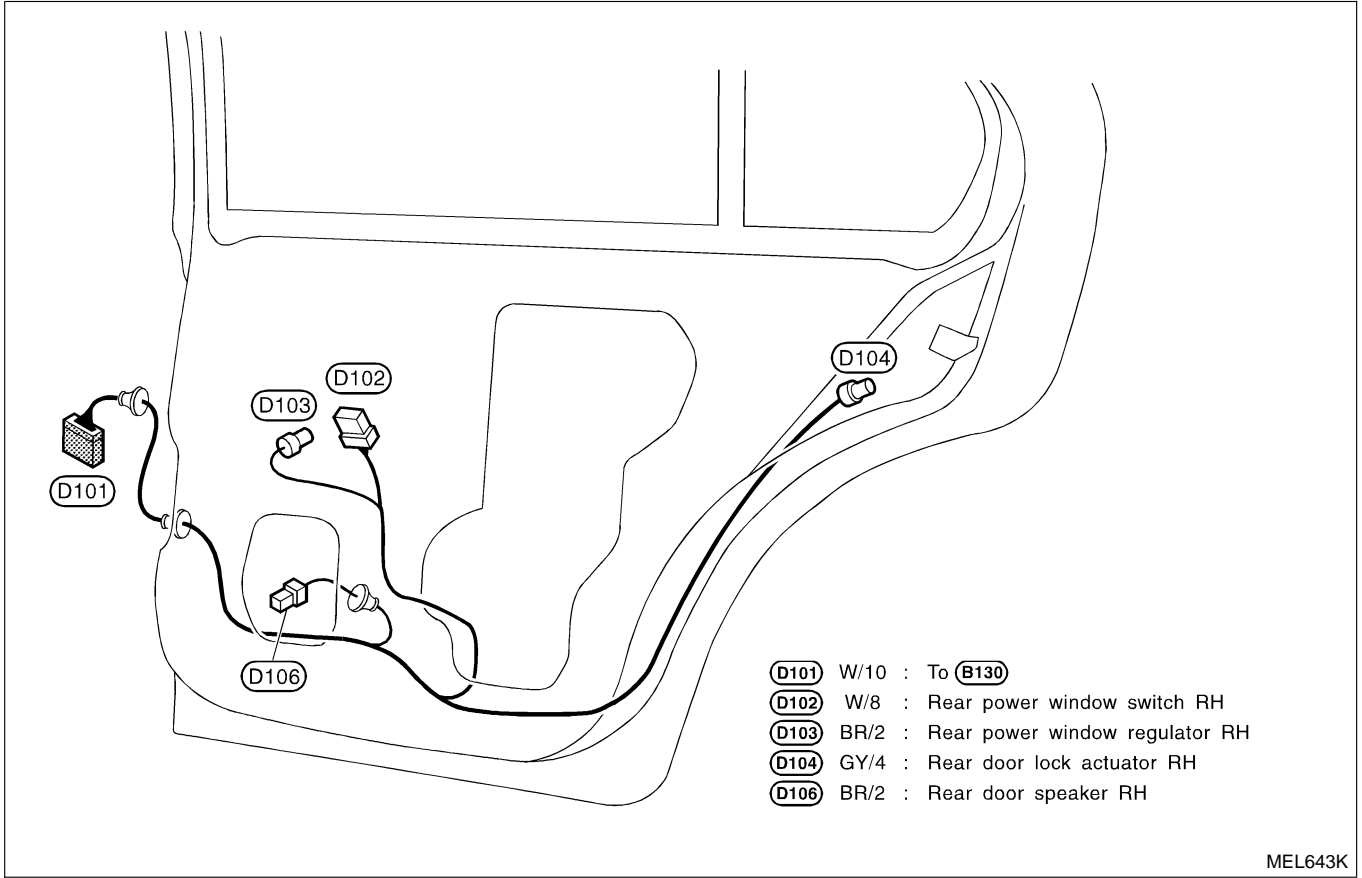


HARNESS LAYOUT

Rear Door Harness (Cont'd)

RH SIDE

NHEL0143S04



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MA

EM

LC

EC

FE

AT

AX

SU

BR

ST

RS

BT

HA

SC

EL

IDX

BULB SPECIFICATIONS*Headlamp***Headlamp**

NHEL0144S03

Item	Wattage (W)
High/Low	60/55 (HB2)

Exterior Lamp

NHEL0144S01

Item	Wattage (W)	
Front fog lamp	35 (H3)	
Front turn signal lamp	21	
Side turn signal lamp	5	
Parking lamp	5	
Front side marker lamp	3.8	
Rear combination lamp	Turn signal	21
	Stop/Tail	21/5
	Back-up	13
Rear side marker lamp	3.8	
License lamp	5	
High-mounted stop lamp (without rear spoiler)	21	

Interior Lamp

NHEL0144S02

Item	Wattage (W)	
Interior room lamp	8	
Map lamp	With sunroof	5
	Without sunroof	8
Vanity mirror lamp	8	
Trunk room lamp	3.4	

WIRING DIAGRAM CODES (CELL CODES)

Use the chart below to find out what each wiring diagram code stands for.

Refer to the wiring diagram code in the alphabetical index to find the location (page number) of each wiring diagram.

Code	Section	Wiring Diagram Name
1STSIG	AT	A/T 1ST Signal
2NDSIG	AT	A/T 2ND Signal
3RDSIG	AT	A/T 3RD Signal
4THSIG	AT	A/T 4TH Signal
AAC/V	EC	IACV-AAC Valve
ABS	BR	Anti-lock Brake System
A/C, A	HA	Auto Air Conditioner
AP/SEN	EC	Absolute Pressure Sensor
ASCD	EL	Automatic Speed Control Device (ASCD)
AT/C	EC	A/T Communication Line
ATDIAG	EC	A/T Diagnosis Communication Line
AT/IND	EL	A/T Indicator Lamp
AUDIO	EL	Audio
AUT/DP	EL	Automatic Drive Positioner
BACK/L	EL	Back-up Lamp
BA/FTS	AT	A/T Fluid Temperature Sensor and TCM Power Supply
BYPS/V	EC	Vacuum Cut Valve Bypass Valve
CHARGE	SC	Charging System
CHIME	EL	Warning Chime
CIGAR	EL	Cigarette Lighter
CLOCK	EL	Clock
COMPAS	EL	Compass
COOL/F	EC	Cooling Fan Control
CORNER	EL	Cornering Lamp
DEF	EL	Rear Window Defogger
D/LOCK	EL	Power Door Lock
DTRL	EL	Headlamp - With Daytime Light System
ECTS	EC	Engine Coolant Temperature Sensor
EMNT	EC	Electronic Controlled Engine Mount
ENGSS	AT	Engine Speed Signal
F/FOG	EL	Front Fog Lamp

Code	Section	Wiring Diagram Name	
FLS1	EC	Fuel Level Sensor	
FLS2	EC	Fuel Level Sensor	GI
FLS3	EC	Fuel Level Sensor	
F/PUMP	EC	Fuel Pump Control	MA
FTS	AT	A/T Fluid Temperature Sensor	
FTTS	EC	Fuel Tank Temperature Sensor	EM
FUELLH	EC	Fuel Injection System Function (Bank 2)	LC
FUELRH	EC	Fuel Injection System Function (Bank 1)	EC
H/LAMP	EL	Headlamp	
HORN	EL	Horn	FE
HSEAT	EL	Heated Seat	
I/MIRR	EL	Inside Mirror (Auto Anti-dazzling Mirror)	AT
IATS	EC	Intake Air Temperature Sensor	AX
IGN/SG	EC	Ignition Signal	
ILL	EL	Illumination	SU
INJECT	EC	Injector	
INT/L	EL	Interior, Step, Spot, Vanity Mirror and Trunk Room Lamps	BR
IVCS	EL	Infiniti Communicator (IVCS)	ST
KS	EC	Knock Sensor	
LAN	AT	A/T Communication Line	RS
LOAD	EC	Electrical Load Signal	
LPSV	AT	Line Pressure Solenoid Valve	BT
MAFS	EC	Mass Air Flow Sensor	
MAIN	AT	Main Power Supply and Ground Circuit	HA
MAIN	EC	Main Power Supply and Ground Circuit	SC
METER	EL	Speedometer, Tachometer, Temp., Oil, and Fuel Gauges	EL
MIL/DL	EC	MIL & Data Link Connector	
MIRROR	EL	Power Door Mirror	IDX
MULTI	EL	Multi-remote Control System	
NATS	EL	IVIS (Infiniti Vehicle Immobilizer System — NATS)	
NAVI	EL	Navigation System	
NONDTC	AT	Non-detectable Items	
O2H1B1	EC	Heated Oxygen Sensor 1 Heater (Front) (Bank 1)	

WIRING DIAGRAM CODES (CELL CODES)

Code	Section	Wiring Diagram Name
O2H1B2	EC	Heated Oxygen Sensor 1 Heater (Front) (Bank 2)
O2H2B1	EC	Heated Oxygen Sensor 2 Heater (Rear) (Bank 1)
O2H2B2	EC	Heated Oxygen Sensor 2 Heater (Rear) (Bank 2)
O2S1B1	EC	Heated Oxygen Sensor 1 (Front) (Bank 1)
O2S1B2	EC	Heated Oxygen Sensor 1 (Front) (Bank 2)
O2S2B1	EC	Heated Oxygen Sensor 2 (Rear) (Bank 1)
O2S2B2	EC	Heated Oxygen Sensor 2 (Rear) (Bank 2)
OVRCSV	AT	Overrun Clutch Solenoid Valve
PHONE	EL	Telephone (Pre-wire)
PGC/V	EC	EVAP Canister Purge Volume Control Solenoid Valve
PHASE	EC	Camshaft Position Sensor (PHASE)
PNP/SW	AT	Park/Neutral Position Switch
PNP/SW	EC	Park/Neutral Position Switch
POS	EC	Crankshaft Position Sensor (CKPS) (POS)
POWER	EL	Power Supply Routing
PRE/SE	EC	EVAP Control System Pressure Sensor
PST/SW	EC	Power Steering Oil Pressure Switch
REF	EC	Crankshaft Position Sensor (CKPS) (REF)
REMOTE	EL	Audio (Remote Control Switch)
RP/SEN	EC	Refrigerant Pressure Sensor
SEAT	EL	Power Seat
SHADE	EL	Rear Sunshade
SHIFT	AT	A/T Shift Lock System
SROOF	EL	Sunroof
SRS	RS	Supplemental Restraint System
S/SIG	EC	Start Signal
SSV/A	AT	Shift Solenoid Valve A
SSV/B	AT	Shift Solenoid Valve B
START	SC	Starting System
STOP/L	EL	Stop Lamp

Code	Section	Wiring Diagram Name
S/VCSW	EC	Swirl Control Valve Control Vacuum Check Switch
SWL/V	EC	Swirl Control Valve Control Solenoid Valve
TAIL/L	EL	Parking, License and Tail Lamps
TCCSIG	AT	A/T TCC Signal (Lock Up)
TCS	EC	ABS/TCS Communication Line
TCS	BR	Traction Control System
TCV	AT	Torque Converter Clutch Solenoid Valve
T&FLID	EL	Trunk Lid and Fuel Filler Lid Opener
TPS	AT	Throttle Position Sensor
TPS	EC	Throttle Position Sensor
TP/SW	EC	Closed Throttle Position Switch
TRNSMT	EL	Integrated Homelink Transmitter
TURN	EL	Turn Signal and Hazard Warning Lamps
VEHSEC	EL	Vehicle Security (Theft Warning) System
VENT/V	EC	EVAP Canister Vent Control Valve
VIAS/V	EC	Variable Induction Air Control System
VSS	EC	Vehicle Speed Sensor
VSSA/T	AT	Vehicle Speed Sensor A/T (Revolution Sensor)
VSSMTR	AT	Vehicle Speed Sensor MTR
W/ANT	EL	Audio Antenna
WARN	EL	Warning Lamps
WINDOW	EL	Power Window
WIPER	EL	Front Wiper and Washer